



CITY OF COOPER CITY, FLORIDA

Invitation to Bid

Laboratory Testing Services – Utilities Department ITB 2018-11-UTL

For information contact the Purchasing Division:

Kerri Anne Fisher - Purchasing Agent
Claudia Portocarrero - Purchasing Assistant
Tel: 954-434-4300 ext. #297
Purchasing@CooperCityFL.org

Release Date: Thursday, August 16, 2018
Due Date: Wednesday, September 12, 2018

**CITY OF COOPER CITY
NOTICE TO BIDDERS**

NOTICE IS HEREBY GIVEN that the City of Cooper City, Florida, will be accepting sealed bids until 3:00PM (EST) on Wednesday, September 12, 2018 from qualified vendors that are able to provide laboratory testing services for Cooper City's Utilities Department.

**LABORATORY TESTING SERVICES – UTILITIES DEPARTMENT
ITB 2018-11-UTL**

The detailed Invitation to Bid (ITB) shall be obtained online at www.DemandStar.com.

Bids must be received in the City Clerk's Office no later than 3:00PM (EST), Wednesday, September 12, 2018. The outside of the envelope or box containing one (1) identified, unbound original, two (2) copies and one (1) electronic copy (CD or flash drive) of your bid must be clearly marked **"ITB 2018-11-UTL, LABORATORY TESTING SERVICES – UTILITIES DEPARTMENT"**.

Questions and requests for information relative to this ITB should be directed to the Purchasing Division. Please email questions to Purchasing@CooperCityFL.org.

The City Commission of the City of Cooper City reserves the right, for any reason, to reject any and all bids/bids and to make awards in the best interest of the City.

A Cone of Silence is hereby imposed prohibiting communication regarding this Invitation to Bid between a potential vendor, service provider, bidder, lobbyist, or; consultant and the City Commissioners, City's professional staff including, but not limited to, the City Manager and his staff, any member of the City's selection or evaluation committee. For further information about the Cone of Silence, please contact the City's Attorney.

CITY OF COOPER CITY
Kathryn Sims, City Clerk

Please publish one (1) time on:

Thursday, August 16, 2018

Please send invoice and proof of publication to:

Jenna Montoya, Assistant City Clerk
City of Cooper City
PO Box 290910
Cooper City, FL 33329-0910
JMontoya@CooperCityFL.org

SECTION I – INTRODUCTION AND INFORMATION

1.1 PURPOSE

The City of Cooper City (the “City”) will receive sealed bids on the date and time specified below for the performance laboratory testing services for the City of Cooper City’s Utility Department, as listed and specified herein and on the Bid Form which is and does become a part of this Bid.

1.2 DUE DATE & SUBMITTALS

1.2.1 All bids are due no later than 3:00PM (EST), Wednesday, September 12, 2018, or any time prior thereto, at the Office of the City Clerk located at 9090 SW 50th Place, Cooper City, FL 33328. Bids shall be opened and publicly read in the Commission Chambers, on the date and at the time specified. All bids received after that time will not be accepted and shall be returned to the Bidder.

1.2.2 Original copy of Bid Form as well as any other pertinent documents must be returned in order for the bid to be considered for award. All bids are subject to the conditions specified herein and on the attached General Conditions, Technical Specifications and Bid Form.

1.2.3 The completed, signed bid must be submitted in a SEALED ENVELOPE clearly marked with the Bid Title. Bids mistakenly opened by City staff, due to failure of the Bidder to correctly identify the package, will be rejected. Telegraphic, facsimile and email bids will not be accepted.

1.2.4 Bids received after the closing time and date, for any reason whatsoever, will not be considered. Any disputes regarding timely receipt of proposals shall be decided in the favor of the City.

1.2.5 The City encourages early submittal of bids. Late bids will be rejected.

1.3 PRE-BID MEETING – NONE

1.4 ELIGIBILITY AND COMPETENCY OF BIDDERS

To be eligible for award of a contract in response to this solicitation, the Bidder must demonstrate that they, or the principals assigned to the project, have successfully completed services, as specified in the Scope of Services/Technical Specifications section of this solicitation, are normally and routinely engaged in performing such services and are properly and legally licensed to perform such work.

1.5 CONTRACT TERM

1.5.1 The contract shall be for an initial period of three (3) years commencing on the date of issuance of a Notice to Proceed. The contract may be extended for two (2) additional one (1) year terms under the same terms and conditions, if mutually agreed upon by both parties.

1.5.2 Prior to extending any contract, and in exercising its discretion in its extension rights, the City shall review the Contractor’s past performance, record of complaints, and compliance with the contract terms.

1.5.3 The form and legal sufficiency of the Contract shall be subject to the approval of the City Attorney.

1.6 SUPPLY/DELIVERY LOCATION

After award, if samples are to be picked up by the vendor, or if document hard copies are to be delivered under this contract, the location will be the Cooper City Utilities Complex, 11791 SW 49th Street, Cooper City, FL 33330. Pickup and deliveries should be pre-scheduled by calling 954-434-5519.

1.7 PRICE

It is requested that bidders quote a fixed price that will be guaranteed to the City for a period of ninety (90) days, commencing on the date of the Bid opening, in order to allow ample time for award of a potentially resulting contract by the City Commission. If the

Bidder is awarded a contract under this bid solicitation, the prices quoted by the Bidder on the Bid Form shall remain fixed and firm during the term of the contract; provided however, that the Bidder may offer incentive discounts from the fixed price to the City at any time during the contractual term

1.8 PRICES SHALL BE FIXED WITH ADJUSTMENTS ALLOWED

Bidder's prices shall remain fixed and firm for the initial contract term which is thirty-six (36) months from the time of contract commencement. After the initial contract term, bidder shall have the option to request price adjustments. Any request for price adjustments must be issued at least sixty (60) days prior to the contract anniversary date. The City will consider a price adjustment based on the most current Consumer Price Index for All Urban Consumers (CPI-U), Miami-Fort Lauderdale report as published by the U.S. Department of Labor, Bureau of Labor Statistics. It is the bidder's responsibility to request any pricing adjustment under this provision. If no price increase has been requested, the City will assume that the bidder has agreed to continue under the same price allowed in the current term. Any adjustment request received after the commencement of a new annual period may not be considered.

1.9 METHOD OF AWARD

1.9.1 The contract will be awarded to the *lowest* responsive, responsible Bidder whose Bid, conforming to the Solicitation, is most advantageous to the City. The *lowest* responsive, responsible Bidder(s) will be determined in conjunction with the methods described below. Tie Bids will be decided as described in the General Conditions.

1.9.2 Bidder must bid on all items listed on Bid Form to qualify for award of the contract.

1.9.3 The City reserves the right to reject all bids or any portion of any bid the City deems necessary for the best interest of the City, to accept any item or group of items unless qualified by the Bidder, to acquire additional quantities at prices quoted on the Bid Form unless additional quantities are not acceptable, in which case the Bid Form must be noted "BID IS FOR SPECIFIED QUANTITY ONLY." All awards made as a result of this bid shall conform to applicable Florida Statutes and the City Code.

1.9.4 Bid prices should be submitted with the understanding that the City is not authorized to pay service charges, which may be imposed due to the late payment of an invoice, which has become delinquent.

1.9.5 The City shall award a contract to a Bidder through action taken by the City Commission of the City of Cooper City (the "City Commission") at a duly authorized meeting.

1.9.6 The General Terms and Conditions, the Special Conditions, the Technical Specifications, the Bidder's Proposal, the Contract referenced and the task orders are collectively an integral part of the contract between the City and the successful Bidder.

1.9.7 While the City Commission may determine to award a contract to a Bidder(s) under this Solicitation, said award may be conditional on the subsequent submission of other documents as specified in the Bid Form of this solicitation. The Bidder shall be in default of the contractual obligations if any of these documents are not submitted in a timely manner and in the form(s) required by the City. If the Bidder is in default, the City, through the Purchasing Agent, will void its acceptance of the Bidder's offer and may determine to accept the offer from the second lowest responsive, responsible Bidder or re-solicit Bids. The City may, at its sole option, seek monetary restitution from the Bidder as a result of damages or excess costs sustained and/or may prohibit the Bidder from submitting future Bids for a period of one year.

1.9.8 The City reserves the right to automatically extend the contract for a maximum period not to exceed one hundred and eighty (180) calendar days, in order to provide City departments with continual service and supplies while a new contract is being solicited, evaluated and/or awarded. If this right is exercised, the City shall notify the Bidder, in writing, of its intent to extend the contract for a definitive period of time prior to the effective date of the extension. By affixing its authorized signature to this Bid Form, the Bidder hereby acknowledges and agrees to this right of the City.

1.10 INVOICES/PAYMENT

Invoices documenting completed work shall be submitted at the completion of each request for work and must contain detailed information including the location and amount of work performed. Contractor shall submit an exact listing of completed work with submission of invoice for payment.

Every effort will be made by the City to remit payment within 30 days of the invoice date, after satisfactory inspection by the using department. BIDDERS WILL NOT BE PERMITTED TO PICK UP CHECKS FROM THE CITY. ALL CHECKS WILL BE MAILED TO THE VENDOR'S REMIT TO ADDRESS ON FILE.

Invoices shall be emailed to Accounting@CooperCityFL.org, or sent via US Mail to City of Cooper City, P.O. Box 290910, Cooper City, FL 33329-0910. All invoices must reference the applicable task order and/or Bid number.

1.11 INFORMATION OR CLARIFICATION

For information concerning procedures for responding to this solicitation, contact the Purchasing Division via telephone at (954) 434-4300 x #297 or email Purchasing@CooperCityFL.org. Such contact shall be for clarification purposes only. Material changes, if any, to the Scope of Services or bidding procedures will only be transmitted by written addendum.

All questions must be submitted in writing. Questions of a material nature must be received prior to the cut-off date specified in the Bid Schedule. No part of your bid can be submitted via fax or e-mail.

[END OF SECTION]

SECTION II – SOLICITATION SCHEDULE

Item	Date
Release Bid	Thursday, August 16, 2018
Last Date for Receipt of Questions of a Material Nature	Wednesday, September 5, 2018
BIDS DUE (Prior to 3:00PM EST)	3:00PM EST Wednesday, September 12, 2018
Recommendation of Award issued to City Commission	Tuesday, September 25, 2018
Anticipated Award of Contract by City Commission	Tuesday, October 9, 2018

[END OF SECTION]

SECTION III - GENERAL CONDITIONS

These instructions are standard for all contracts for commodities or services issued through the City of Cooper City Finance Department - Purchasing Division. The City may delete, supersede, or modify any of these standard instructions for a particular contract by indicating such change in the Special Conditions, Technical Specifications, Instructions, Bid Pages, Addenda, and Legal Advertisement.

3.0 SPECIAL CONDITIONS

Any and all Special Conditions that may vary from these General Conditions shall have precedence.

3.1 BID TABULATIONS

Bidders desiring a copy of the bid tabulation may obtain one online at www.DemandStar.com.

3.2 NO BID

If not submitting a bid, please respond by returning a statement indicating your reason. Repeated failure to respond without sufficient justification shall be cause for removal of a supplier's name from the bid mailing list. NOTE: In order to qualify as a respondent, a Bidder shall submit a "no bid" and same shall be received no later than the stated bid opening date and hour.

3.3 BILLING INSTRUCTIONS

Invoices, unless otherwise indicated, shall show any applicable purchase order number, task order, and respective Bid number and shall be submitted to the Accounts Payable division of Finance located at P.O. Box 290910, Cooper City, FL 33329-0910, with the requesting Department labeled on the mailing envelope. Invoices may be emailed to Accounting@CooperCityFL.org.

3.4 TAXES

The City is exempt from Federal Excise and State taxes. The applicable tax exemption number shall be printed on the task order, Purchase Order, or other authorizing City Document.

3.5 EQUIVALENTS

If Bidder offers makes of equipment or brands of supplies other than those specified in the Invitation to Bid, he shall so indicate on his bid. Specific article(s) of equipment/supplies shall conform in quality, design and construction with all published claims of the manufacturer.

Brand Names: Catalog numbers, manufacturers' and brand names, when listed, are informational guides as to a standard of acceptable product quality level only and should not be construed as an endorsement or a product limitation of recognized and legitimate manufacturers. Bidders shall formally substantiate and verify that product(s) offered conform with or exceed the minimum quality standards listed in the specifications.

Bidder shall indicate on the Bid Form the manufacturer's name and number if bidding other than the specified brands, and shall indicate ANY deviation from the specifications as listed. OTHER THAN SPECIFIED ITEMS OFFERED REQUIRES COMPLETE DESCRIPTIVE TECHNICAL LITERATURE MARKED TO INDICATE DETAIL(S) CONFORMANCE WITH SPECIFICATIONS AND SHALL BE INCLUDED WITH THE BID. NO BIDS WILL BE CONSIDERED WITHOUT THIS DATA.

Lacking any written indication of intent to quote an alternate brand or model number, the bid shall be considered as a bid in complete compliance with the specifications as listed on the attached form.

3.6 MISTAKES

Bidders are expected to examine the specifications, delivery schedules, bid prices and extensions and all instructions pertaining to supplies and services. Failure to do so shall be at the Bidder's risk. In the case of a discrepancy in computing the total amount of the bid, the UNIT PRICE quoted shall govern.

3.7 CONDITIONS AND PACKAGING

It is understood and agreed that any item offered or shipped as a result of this bid shall be latest and most current production model at the time of this bid. All containers shall be suitable for storage or shipment, and all prices shall include standard commercial packaging.

3.8 QUALITY

All materials used for the manufacture or construction of any supplies, materials or equipment covered by this bid shall be new. The items bid shall be new, the latest model, of the best quality, and highest grade workmanship.

3.9 CANCELLATION

In the event that any of the provisions of this bid are violated by the contractor, the Purchasing Agent shall give written notice to the contractor stating the deficiencies and unless deficiencies are corrected within ten (10) days, recommendation will be made to the City Commission for immediate cancellation. The City Commission reserves the right to terminate any contract resulting from this invitation at any time and for any reason, upon giving thirty (30) days prior written notice to the other party and may provide for additional rights and remedies pursuant to Section 3.38/3.39. The City Commission may delegate this authority to the City Manager.

3.10 PROTESTS, APPEALS AND DISPUTES

Protests shall be submitted in writing to the Purchasing Agent no later than five (5) working days prior to scheduled award by the City. Should the matter not be resolved to the satisfaction of the Bidder, the appeal shall be heard by the City Commission. The Purchasing Agent shall act as the City's representative, in the issuance and administration of all contracts, and shall issue and receive all documents, notices, and all correspondence relating to the bidding process. All costs accruing from a Bid or award challenge shall be assumed by the challenger. The decision of the City Commission shall be final and conclusive. The City Commission's decision shall be binding on all parties concerned, subject to review only on the grounds that it constitutes arbitrary action, in a court of competent jurisdiction in Broward County in accordance with laws of the State of Florida.

3.11 PRICES SHALL BE FIXED AND FIRM FOR TERM OF CONTRACT

If the Bidder is awarded a contract under this bid solicitation, the prices quoted by the Bidder on the Bid Form shall remain fixed and firm during the term of the contract; provided however, that the Bidder may offer incentive discounts from the fixed price to the City at any time during the contractual term. Price adjustments may be allowed on multi-year term contracts (See Section 1.7 for details).

3.12 COMPLETE PROJECT REQUIRED

Contractor shall complete the work outlined in the Scope of Work as well as any future task orders. Completed work shall meet all specifications identified therein. Failure to list any item or classes under the Scope of Work shall not relieve the contractor from furnishing, installing or performing such work where required by any part of these specifications, or necessary for the satisfactory completion of the project

3.13 PRICES QUOTED

Bidder shall deduct trade discounts and quote firm net prices. Give both unit price and extended total, when requested. Prices shall be stated in units of quantity specified in the bidding specifications. In case of discrepancy in computing the amount of the bid, the UNIT PRICE quoted will govern. All prices shall be F.O.B. / C.I.F. destination, freight prepaid (unless otherwise stated in special conditions). Award, if made, shall be in accordance with terms and conditions stated herein. Each item shall be bid separately and no attempt is to be made to tie any item or items in with any other item or items. Cash or quantity discounts offered shall not be a consideration in determination of award of bid(s).

3.14 UNDERWRITERS' LABORATORIES (the "UL")

Unless otherwise stipulated in the bid, all manufactured items and fabricated assemblies shall be UL listed or re-examination listing where such has been established by UL for the item(s) offered and furnished.

3.15 NON-CONFORMANCE TO CONTRACT CONDITIONS

Items may be tested for compliance with specifications. Items delivered, not conforming to specifications, may be rejected and returned at vendor's expense. These items and items not delivered as per delivery date in bid and/or Purchase order or Task Order may be purchased on the open market with any increase in cost charged to the Bidder. Any violation of these stipulations may also result in:

- a. Vendor's name being removed from the vendor list;
- b. All City Departments being advised not to do business with vendor.

3.16 DISPUTES

In case of any doubt or difference of opinion as to the items to be furnished hereunder, the decision of the City shall be final and binding on both parties.

3.17 LEGAL REQUIREMENTS

Federal, state, county and city laws, ordinances, rules and regulations that in any manner affect the items covered herein apply. Lack of knowledge by the Bidder shall in no way be a cause for relief from responsibility.

3.18 PATENTS AND ROYALTIES

The Bidder, without exception, shall indemnify and hold harmless the City of Cooper City, Florida and its employees from liability of any nature or kind, including cost and expenses for, or on account of, any copyrighted, patented, or unpatented invention, process, or article manufactured or used in the performance of the contract, including its use by the City of Cooper City, Florida. If the Bidder uses any design, device or materials covered by letters, patent, or copyright, it is mutually understood and agreed, without exception, that the bid prices shall include all royalties or costs arising from the use of such design, device, or materials in any way involved in the work.

3.19 OSHA

The Bidder warrants that the product supplied to the City shall conform in all respects to the standards set forth in the Occupational Safety and Health Act of 1970, as amended, and the failure to comply with this condition shall be considered as a breach of contract. Any fines levied because of inadequacies to comply with these requirements shall be borne solely by the Bidder responsible for same.

3.20 ANTI-DISCRIMINATION

The Bidder certifies that he/she is in compliance with the non-discrimination clause contained in Florida State Statute Section 202, Executive Order 11246, as amended by Executive Order 11375 and applicable laws relative to equal employment opportunity for all persons without regard to race, color, religion, sex or national origin.

3.21 DEFAULT

In the event of default on a contract, the Contractor shall pay all attorneys' fees and court costs incurred by City in collecting any liquidated damages. The City further reserves the right to retain any bonds issued with the Bid.

3.22 SUBSTITUTIONS

The City SHALL NOT accept substitute shipments of any kind. Bidder(s) is expected to furnish the brand quoted in their bid once awarded. Any substitute shipments shall be returned at the Bidder's expense.

3.23 BIDDER'S FACILITIES

The City reserves the right to conduct site visits to Contractor's business location(s) at any time with prior notice and/or may request that Contractor participate in live presentations. The selection of a Contractor may be based wholly or in part upon the results of site visits or live presentations.

3.24 DISCLAIMER

The City may, in its sole and absolute discretion, accept or reject, in whole or in part, for any reason whatsoever any or all Bids; re-advertise this Bid; postpone or cancel at any time this Bid process; or, waive any formalities of or irregularities in the bidding process. Bids that are not submitted on time and/or do not conform to the City's requirements shall not be considered. After all bids are analyzed, organizations submitting bids that appear, solely in the opinion of the City, to be the most competitive, shall be submitted to the City Commission, and the final selection will be made shortly thereafter with a timetable set solely by the City. The selection by the City shall be based on the bid, which is, in the sole opinion of the City Commission, in the best interest of the City. The issuance of this bid constitutes only an invitation to make presentations to the City. The City reserves the right to determine, at its sole discretion, whether any aspect of the bid satisfies the criteria established in this Bid. In all cases the City shall have no liability to any contractor for any costs or expense, incurred in connection with this bid or otherwise.

3.25 EVIDENCE

The submission of a Bid shall be prima facie evidence that the Contractor is familiar with and agrees to comply with the contents of this Bid.

3.26 DEMONSTRATION OF COMPETENCY

3.26.1 Pre-award inspection of the Bidder's facility may be made prior to the award of contract. Bids shall only be considered from firms, which are regularly engaged in the business of providing the goods and/or services as described in this Bid. Bidders shall be able to demonstrate a good record of performance for a reasonable period of time, and have sufficient financial support, equipment and organization to insure that they can satisfactorily execute the services if awarded a contract under the terms and conditions herein stated. The terms "equipment and organization" as used herein shall be construed to mean a fully equipped and well-established company in line with the best business practices in the industry and as determined by the City.

3.26.2 The City shall consider any available evidence regarding the financial and technical qualifications and abilities of a Bidder as well as past performance (experience) with the City and any and all other evidence the City deems pertinent in making the award in the best interest of the City.

3.26.3 The City may require Bidders to show proof that they have been designated as authorized representatives of a manufacturer or supplier, which is the actual source of supply. In these instances, the City may also require material information from the source of supply regarding the quality, packaging, and characteristics of the products to be supplied to the City through the designated representative. Any conflicts between this material information provided by the source of supply and the information contained in the Bidder's Bid may render the Bid non-responsive.

3.26.4 The City may, during the term of the Contract between the City and the Contractor is in force, review the Contractor's record of performance to insure that the Bidder is continuing to provide sufficient financial support, equipment and organization as prescribed in this Solicitation. Irrespective of the Contractor's performance on contracts awarded to it by the City, the City may place said contracts on probationary status and implement termination procedures if the City determines that the Contractor no longer possesses the financial support, equipment and organization which would have been necessary during the term of the Contract in order to comply with this demonstration of competency section.

3.27 ASSIGNMENT

The contractor shall not assign, transfer, convey, sublet or otherwise dispose of the contract, including any or all of its right, title or interest therein, or his or its power to execute such contract to any person, company or corporation without prior written consent of the City.

3.28 INDEMNIFICATION

The successful Bidder shall indemnify and hold harmless the City, its officers, agents, and employees, from and against any and all liabilities, damages, losses and costs, including but not limited to reasonable attorney's fees, to the extent caused by the negligence, recklessness, or intentional wrongful misconduct of the Bidder and persons employed or utilized by the Bidder in the performance of the Contract.

3.29 NON-EXCLUSIVE

The City retains the right to procure services from other providers.

3.30 SUNSHINE LAW

As a political subdivision, the City is subject to the Florida Sunshine Act and Public Records Law. By submitting a Bid, Bidder acknowledges that the materials submitted with the Bid and the results of the City evaluation are open to public inspection upon proper request. Contractor should take special note of this as it relates to proprietary information that might be included in its Bid.

3.31 FORCE MAJEURE

The performance of any act by the City or Contractor hereunder may be delayed or suspended at any time where either party is hindered in or prevented from performance by acts of God, the elements, war, rebellion, strikes, lockouts or any cause beyond the reasonable control of such party. However, the City shall have the right to provide substitute service from third parties or City forces and in such event the City shall withhold payment due Contractor for such period of time. If the condition of force majeure exceeds a period of 14 days the City may, at its option and discretion, cancel or renegotiate the Agreement resulting from the Bid.

3.32 COLLUSION

By offering a submission pursuant to this Invitation to Bid, the Bidder certifies the Bidder has not divulged, discussed, or compared his Bid with other Bidders and has not colluded with any other Bidder or parties to this Bid whatsoever. The Bidder certifies, and in the case of a joint bid, each party thereto certifies, as to his own organization, that in connection with this Bid:

3.32.1 Any prices and/or cost data submitted have been arrived at independently, without consultation, communication or agreement for the purpose of restricting competition, as to any matter relating to such prices and/or cost data, with any other Bidder or with any competitor.

3.32.2 Any prices and/or cost data quoted for this Bid have not knowingly been disclosed by the Bidder and will not knowingly be disclosed by the Bidder prior to the scheduled opening, directly or indirectly to any other Bidder or to any competitor.

3.32.3 No attempt has been made or will be made by the Bidder to induce any other person or firm to submit or not to submit a Bid for the purpose of restricting competition.

3.32.4 The only person or persons interested in this Bid, principal or principals is/are named therein and that no person other than therein mentioned has any interest in this bid or in the contract to be entered into.

3.32.5 No person or agency has been employed or retained to solicit or secure the award of the bid upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee except for bona fide employees maintained by the Bidder.

3.33 CONE OF SILENCE

- A. Definitions: "Cone of Silence," as used herein, means a prohibition on any communication regarding this Invitation to Bid/Invitation to Bid between:
- i. a potential vendor, service provider, Bidder, lobbyist, or consultant, and;
 - ii. the City Commissioners, City's professional staff including, but not limited to, the City Manager and his staff, any member of the City's selection or evaluation committee.
- B. Restriction; Notice: A Cone of Silence shall be imposed upon each solicitation after its advertisement. At the time of imposition of the Cone of Silence, the City Manager or his designee shall provide for public notice of the Cone of Silence by posting a notice at City Hall. Additional notice thereof shall be provided to the affected departments, and to each City Commissioner. The City may include a statement disclosing the requirements of this section in any public solicitation for goods or services.
- C. Termination of Cone of Silence: The Cone of Silence shall terminate at the beginning of the City Commission meeting (whether regular or special meeting) at which the City Manager makes a written recommendation to the City Commission for the award of the Contract. However, if the City Commission refers back to the City Manager or staff for further information, the Cone of Silence shall be re-imposed until such time as the Manager makes a subsequent written recommendation.

Exceptions to Applicability: The provisions of this section shall not apply to:

- i. Oral communications at pre-solicitation meetings;
- ii. Oral presentations before selection or evaluation committees;
- iii. Public presentations made to the City Commissioners during any duly noticed public meeting; Communications in writing at any time with any City employee, unless specifically prohibited by the applicable solicitation

- documents; in which case the Bidder shall file a copy of any written communication with the City Clerk. The City Clerk shall make copies available to any person upon request;
- iv. Communications regarding a particular solicitation between potential vendor, service provider, Bidder, lobbyist or consultant and the City's Purchasing Division or City employee designated responsible for administering the procurement process for such solicitation, provided the communication is limited strictly to matters of process or procedure already contained in the corresponding solicitation document.

D. Penalties: Violation of this section by a particular Bidder shall render any award to said Bidder potentially void by the City Commission or City Manager. Any person who violates a provision of this section may be prohibited from serving on a City selection or evaluation committee. In addition to any other penalty provided herein, violation of any provision of this section by a City employee may subject said employee to disciplinary action.

E. Clarification: Please contact the City Attorney for any questions concerning "Cone of Silence" compliance.

3.34 ELIGIBILITY

All agents, employees and subcontractors of the Bidder retained to perform services pursuant to this bid shall comply with all laws of the United States concerning work eligibility.

3.35 TIE BIDS/PREFERENCE

Whenever two or more Bids which are equal with respect to price, quality and service are received by the City for the procurement of commodities or contractual services, a Bid received from a business that certifies that it has implemented a drug-free workplace program shall be given preference in the award process. Established procedures for processing tie Bids will be followed if none of the tied vendors have a drug-free workplace program. In order to have a drug-free workplace program, a business shall:

3.35.1 Publish a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the workplace and specifying the action that will be taken against employees for violations of such prohibition.

3.35.2 Inform employees about the dangers of drug abuse in the workplace, the business' policy of maintaining a drug-free workplace, any available drug counseling, rehabilitation, and employee assistance programs, and the penalties that may be imposed upon employees for drug abuse violations.

3.35.3 Give each employee engaged in providing the commodities or contractual services that are under Bid a copy of the statement specified in subsection (1).

3.35.4 In the statement specified in subsection (1), notify the employees that, as a condition of working on the commodities or contractual services that are under Bid, the employee will abide by the terms of the statement and will notify the employer of any conviction of, or plea of guilty or nolo-contender to, any violation of Chapter 893 or of any controlled substance law of the United States or any state, for a violation occurring in the workplace no later than five (5) days after such conviction.

3.35.5 Impose a sanction on, or require the satisfactory participation in a drug abuse assistance or rehabilitation program, if such program is available in the employee's community, by any employee who is so convicted.

3.35.6 Make a good faith effort to continue to maintain a drug-free workplace through implementation of this section.

3.36 SPOT MARKET PRICING: N/A

3.37 PROPERTY

Property owned by the City is the responsibility of the City. Such property furnished to a Contractor for repair, modification, study, etc., shall remain the property of the City. Damages to such property occurring while in the possession of the Contractor shall be the responsibility of the Contractor. Damages occurring to such property while in route to the City shall be the responsibility of the Contractor. In the event that such property is destroyed or declared a total loss, the Contractor shall be responsible for replacement value of the property at the current market value, less depreciation of the property if any.

3.38 TERMINATION FOR DEFAULT

If Contractor defaults in its performance under the Contract and does not cure the default within 30 days after written notice of default, the City Manager may terminate the Contract, in whole or in part, upon written notice without penalty to the City. In such event the Contractor shall be liable for damages including the excess cost of procuring similar supplies or services: provided that if, (1) it is determined for any reason that the Contractor was not in default or (2) the Contractor's failure to perform is without his or his subcontractor's control, fault or negligence, the termination will be deemed to be a termination for convenience of the City under Section 3.39.

3.39 TERMINATION FOR CONVENIENCE

The City Manager may terminate the Contract, in whole or in part, upon 30-days prior written notice, when it is in the best interest of the City. If the Contract is for supplies, products, equipment or software, and is terminated for convenience by the City, the Contractor will be compensated in accordance with an agreed upon adjustment of cost. To the extent that the Contract is for services and so terminated, the City shall be liable only for payment in accordance with the payment provisions of the Contract for those services rendered prior to termination.

3.40 CONFIDENTIALITY

As a political subdivision, the City is subject to the Florida Sunshine Act and Public Records Law. If this Contract contains a confidentiality provision, it shall have no application when disclosure is required by Florida law or upon court order.

3.41 GOVERNING LAW AND VENUE

The validity and effect of this Contract shall be governed by the laws of the State of Florida. The parties agree that any action, mediation or arbitration arising out of this Contract shall take place in Broward County, Florida.

3.42 NO PARTNERSHIP OR JOINT VENTURE

Nothing contained in this Bid or the resulting Contract will be deemed or construed to create a partnership or joint venture between the City and Contractor, or to create any other similar relationship between the parties.

3.43 AUDITS

The City shall have access to all books, records, and documents of the Contractor which directly relate to the work to be performed for the purpose of inspection and auditing upon reasonable written notice during normal business hours at the office of the Contractor or at some location mutually agreed upon by the City and the Contractor.

3.44 PUBLIC RECORDS:

- A. Contractor agrees to keep and maintain public records in Contractor's possession or control in connection with Contractor's performance under this Agreement. Contractor additionally agrees to comply specifically with the provisions of Section 119.0701, Florida Statutes. Contractor shall ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed, except as authorized by law, for the duration of the Agreement, and following completion of the Agreement until the records are transferred to the City.
- B. Upon request from the City custodian of public records, Contractor shall provide the City with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided by Chapter 119, Florida Statutes, or as otherwise provided by law.
- C. Unless otherwise provided by law, any and all records, including but not limited to reports, surveys, and other data and documents provided or created in connection with this Agreement are and shall remain the property of the City.
- D. Upon completion of this Agreement or in the event of termination by either party, any and all public records relating to the Agreement in the possession of the Contractor shall be delivered by the Contractor to the City Manager, at no cost to the City, within seven (7) days. All such records stored electronically by Contractor shall be delivered to the City in a format that is compatible with the City's information technology systems. Once the public records have been delivered upon completion or termination of this Agreement, the Contractor shall destroy any and all duplicate public records that are exempt or confidential and exempt from public records disclosure requirements.
- E. Any compensation due to Contractor shall be withheld until all records are received as provided herein.

- F. Contractor's failure or refusal to comply with the provisions of this section shall result in the immediate termination of this Agreement by the City.
- G. In accordance with Section 119.0701(1)(a), Florida Statutes, **IF THE CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT, CONTACT CUSTODIAN OF PUBLIC RECORDS:**

KATHRYN SIMS, CITY CLERK
CITY OF COOPER CITY
9090 SW 50 PLACE
COOPER CITY, FL 33328
954-434-4300 x #291
KSIMS@COOPERCITYFL.ORG

[END OF SECTION]

SECTION IV – SPECIAL CONDITIONS

4.1 GENERAL CONDITIONS

The General Conditions shown above (Section III) are modified as follows.

4.2 TIME OF COMPLETION – **NOT APPLICABLE**

Time is a very important factor in the performance of this work. Upon issuance of each task order by the using agency, the work performed under this Contract shall be commenced upon and complete within thirty (30) calendar days. Failure to achieve timely and substantial and/or final completion shall be regarded as a breach of this Contract and subject to appropriate remedies including but not limited to liability for liquidated damages.

4.3 INSURANCE

Where Contractors are required to enter or go onto the City of Cooper City property (including any property which is owned or leased by the City or upon which the City has a license, easement or right-of-way) to deliver materials or perform work or services as a result of an award, the successful Contractor shall assume the full duty, obligation and expense of obtaining all necessary licenses, permits and insurance and assure all work complies with all applicable Broward County and City of Cooper City building requirements and the Florida Building Code. The Contractor shall be liable for any damages or loss to the City occasioned by negligence of the Contractor or any person the Contractor has designated in the completion of the contract as a result of his or her bid.

Contractors shall furnish insurance certificates indicating satisfactory insurance coverage at its sole cost and expense, maintain in full force and effect during the term of the agreement, policies of insurance of the type and in the minimum amounts stated below. Such policy close(s) shall be issued by an insurer of recognized responsibility and rated no less than "A" by the A.M. Best Company or similar insurance rating firm. Such policy close(s) shall contain appropriate cross liability clauses, be primary without right of contribution, and shall provide that the City shall be given 30 days' advance written notice in the event of cancellation, termination or modification which materially restricts the coverage thereof.

Prior to the execution of this agreement, Contractor shall provide the City with a certificate of insurance and a copy of the policy endorsement naming the City of Cooper City its employees, directors, officers, agents, independent contractors, successors and assigns, and other authorized representatives as additional insured to the extent of the contractual obligation assumed by the Bidder.

4.3.1 Comprehensive General Liability Insurance - \$1,000,000 combined single limit of insurance per occurrence and \$2,000,000 in the general aggregate for Bodily Injury and Property Damage and \$3,000,000 general aggregate for Products/Completed Operations, Comprehensive General Liability insurance shall include endorsements for property damage; personal injury; contractual liability; completed operations; products liability and independent contractor's coverage.

Bidder must provide a copy of the Declaration of Coverage Page containing the policy forms and any exclusions of General Liability.

4.3.2 Workers' Compensation Insurance - Contractor shall provide coverage for its employees with statutory workers' compensation limits, and no less than \$1,000,000.00 for Employers' Liability. Said coverage shall include a waiver of subrogation in favor of the City and its agents, employees and officials.

Proof of Workers Compensation Insurance or Exemption shall be provided, as described in Attachment

4.3.3 Comprehensive Automobile Liability Insurance - Contractor shall provide coverage for all owned, non-owned and hired vehicles with limits of not less than \$1,000,000.00, per occurrence, Combined Single Limits (CSL) or its equivalent.

4.3.4 Professional Liability (Errors & Omissions) - Contractor shall provide coverage for all claims arising out of the services performed with limits not less than \$1,000,000.00 per claim. The aggregate limit shall either apply separately to this contract or shall be at least twice the required per claim limit. The Bidder shall either require of its Subcontractors to procure and to maintain Subcontractor's Comprehensive General Insurance and Automobile Liability Insurance of the type and in the same amounts specified above or insure the activities of its Subcontractors in the Bidder's own policies.

4.3.5 Builder's Risk Insurance - NOT REQUIRED FOR THIS BID - The coverage shall be "All Risk" coverage for 100 percent of the completed value, covering the City, as a named insured, with a deductible of not more than Five Thousand Dollars (\$5,000.00) per claim and the Contractor specifically agrees to pay all deductibles. The Policy must provide that the Builder's Risk coverage will continue to apply until final acceptance of the Project by City.

The Contractor must submit, prior to commencement of any work, a Certificate of Insurance showing the City of Cooper City as additional insured for the insurance required in sections 4.3.1 and 4.3.3 above.

The Contractor shall either require its Subcontractors to procure and to maintain Subcontractor's Comprehensive General Insurance and Automobile Liability Insurance of the type and in the same amounts specified above or insure the activities of its Subcontractors in the Contractor's own policies.

4.4 PERMITS, FEES AND NOTICES

4.4.1 The City shall pay all CITY OF COOPER CITY'S PERMIT FEES required to complete the project; however, the Successful Bidder shall secure and be responsible for obtaining any and all permits and licenses necessary for the proper execution and completion of the work. The Successful Bidder shall use their best efforts to obtain all necessary permits as soon as possible after the date of Contract award. Any delays in obtaining permits must be brought to the attention of the Purchasing Agent and using department without delay.

4.4.2 The Successful bidder shall give all notices and comply with all laws, ordinances, rules, regulations and lawful orders of any public authority bearing on the performance of the work. The CITY shall not be responsible for monitoring the Successful Bidder's compliance with any laws or regulations.

4.4.3 The Successful bidder shall secure, complete and file with the Clerk of Courts of Broward County, a Certified Notice of Commencement required per chapter 96-838, Laws of Florida. This notice must be on file with the City of Cooper City Building Department, and be displayed on the job site prior to the first inspection.

4.5 BONDS

4.5.1 PERFORMANCE/PAYMENT BOND (NOT REQUIRED FOR THIS BID)

In accordance with Florida Statute 255.05 (1), within 15 days of the issuance of the Notice of Award, the Contractor shall provide a Payment and Performance Bond (Attachment L & M), in an amount equal to one-hundred percent (100%) of the Bidder's maximum Bid price. The bond must be written by a surety company authorized to do business in the State of Florida and shall comply with State Statute 287.0935.

Three methods of bonds are acceptable:

- 1) A Surety Bond written by a surety company authorized to do business in the State of Florida. Surety bonds shall comply with Section 287.0935; Florida Statutes;
- 2) An Irrevocable Letter of Credit (ILC) issued by a bank located in Broward County. The ILC shall be in the total amount of the contract and shall clearly state that it cannot be revoked until express written approval has been given by the City. The City, to draw on same, must give written notice to the bank, with a copy to the successful Bidder.
- 3) A Cashier's Check made payable to the City of Cooper City. Cashier's Check will be deposited into an escrow account for the term of the project and refunded to Contractor only upon satisfactory completion of each task order.

4.5.2 BID BOND (NOT REQUIRED FOR THIS BID)

Bids **MUST** be accompanied by a Bid security made payable to the City in an amount equal to five percent (5%) of the Bidder's maximum Bid price and in the form of a certified check, bank money order, or a Bid Bond (Attachment O) issued by an authorized surety.

The Bid security of the Successful Bidder will be retained until such Bidder has executed the Contract Documents, furnished the required contract security (Public Construction Bond) and met the other conditions of the Notice of Award, whereupon the Bid Security will be returned. If the Successful Bidder fails to execute and deliver the Contract Documents and furnish the required security within 15 days of the issuance of the Notice of Award, the City may consider Bidder to be in default, annul the Notice of

Award, and the Bid security of that Bidder shall be forfeited. Such forfeiture shall be City's exclusive remedy if Bidder defaults. The Bid security of Bidders whom the Owner believes to have a reasonable chance of receiving the award may be retained by Owner until the earlier of seven days after the Effective date of the Agreement or 61 days after the Bid opening, whereupon the Bid security furnished by such Bidders will be returned.

The Bid security of Bidders whom the City believes do not have a reasonable chance of receiving the award will be returned within 21 days after the Bid opening.

4.6 VARIANCES

While the City allows Contractors to take variances to the solicitation terms, conditions, and specifications, the number and extent of variances taken shall be considered in determining bid responsiveness and in allocating bid evaluation points.

4.7 INDEPENDENT CONTRACTOR

The Contractor is an independent contractor under this Agreement. Personal services provided by the Contractor shall be by employees of the Contractor and subject to supervision by the Contractor, and not as officers, employees, or agents of the City. Personal policies, tax responsibilities, social security, health insurance, employee benefits, purchasing policies and other similar administrative procedures applicable to services rendered under this Contract shall be those of the Contractor.

4.8 SELLING, TRANSFERRING OR ASSIGNING CONTRACT

No contract awarded under these terms, conditions and specifications shall be sold, transferred or assigned without the written approval of the City Attorney, or City Attorney's designee.

4.9 SUBSTITUTION OF PERSONNEL

It is the intention of the City that the Contractor's personnel proposed for the contract shall be available for the entire contract term. In the event the Contractor wishes to substitute personnel, he shall propose personnel of equal or higher qualifications and all replacement personnel are subject to City approval. In the event substitute personnel are not satisfactory to the City and the matter cannot be resolved to the satisfaction of the City, the City reserves the right to cancel the Contract for cause.

4.10 DAMAGE TO PUBLIC OR PRIVATE PROPERTY

Extreme care shall be taken to safeguard all existing facilities, site amenities, irrigation systems, vehicles, etc. on or around the job site. Damage to public and/or private property shall be the responsibility of the Contractor and shall be repaired and/or replaced at no additional cost to the City.

4.11 CONTRACTORS' COSTS

The City shall not be liable for any costs incurred by bidders in responding to this solicitation.

4.12 INVOICES/PAYMENT

Invoices documenting completed work shall be submitted at the completion of each request for work and must contain detailed information including the location and amount of work performed. Contractor shall submit an exact listing of completed work with submission of invoice for payment.

Every effort will be made by the City to remit payment within 30 days of the invoice date, after satisfactory inspection by the using department. BIDDERS WILL NOT BE PERMITTED TO PICK UP CHECKS FROM THE CITY. ALL CHECKS WILL BE MAILED TO THE VENDOR'S REMIT TO ADDRESS ON FILE.

Invoices shall be emailed to Accounting@CooperCityFL.org, or sent via US Mail to City of Cooper City, P.O. Box 290910, Cooper City, FL 33329-0910. All invoices must reference the applicable task order and/or Bid number. All invoices must reference the applicable task order and/or Bid number.

When task orders are issued, the City shall accept original invoices no more frequently than once per month. Each invoice shall fully detail the hourly costs and all related costs and shall specify the status of the particular task or project as of the date of the invoice as regards the accepted schedule for that task or project. The City will endeavor to make payment on a correct invoice within thirty (30) days after receipt of an invoice acceptable to the City. If, at any time during the contract, the City shall not approve or accept the Contractor's work product, and agreement cannot be reached between the City and the Contractor to resolve the problem to the

City's satisfaction, the City shall negotiate with the Contractor on a payment for the work completed and usable to the City. This negotiated payment shall be based on the overall task or project breakdown, relative to the projected number of hours for each task element, and the percentage of work completed.

4.13 DELETION OR MODIFICATION OF SERVICES

The City reserves the right to delete any portion of this Contract at any time without cause, and if such right is exercised by the City, the total fee shall be reduced in the same ratio as the estimated cost of the work deleted bears to the estimated cost of the work originally planned. If work has already been accomplished on the portion of the Contract to be deleted, the Contractor shall be paid for the deleted portion on the basis of the estimated percentage of completion of such portion. If the Contractor and the City agree on modifications or revisions to the task elements, after the City has approved work to begin on a particular task or project, and a budget has been established for that task or project, the Contractor shall submit a revised budget to the City for approval prior to proceeding with the work.

4.14 REQUESTS FOR MODIFICATION

The City reserves the right to request that the Bidder modify his bid to more fully meet the needs of the City.

4.15 BID ACKNOWLEDGMENT

By submitting a bid, the bidder certifies that he has fully read and understands the bid method and has full knowledge of the scope, nature, and quality of work to be performed.

4.16 REQUESTS FOR ADDITIONAL INFORMATION BY CITY

The bidder shall furnish such additional information as the City may reasonably require. This includes information, which indicates financial resources as well as ability to provide the product(s) and/or services. The City reserves the right to make investigations of the qualifications of the bidder as it deems appropriate, including but not limited to, a background investigation conducted by the Broward Sheriff's Office.

4.17 ACCEPTANCE/REJECTION/MODIFICATION TO BIDS

The City reserves the right to negotiate modifications to bids that it deems acceptable, reject any and all bids, and to waive minor irregularities in the bids.

4.18 ALTERNATE BIDS

An alternate bid is viewed by the City as a bid describing an approach to accomplishing the requirements of the Request for Bid which differs from the approach set forth in the solicitation.

An alternate bid may also be a second bid submitted by the same bidder which differs in some degree from its basic or prime bid.

Alternate bids may be in the area of technical approach, or other provisions or requirements of the solicitation.

The City shall, during the initial evaluation process, consider all alternate bids submitted.

4.19 ADDENDUM OR AMENDMENT TO REQUEST FOR BID

If it becomes necessary to revise or amend any part of this Request for Bid, the City's Purchasing Agent shall furnish the revision by written Addendum and will place it on the City's website.

4.20 PROPRIETARY INFORMATION

In accordance with Chapter 119 of the Florida Statutes (Public Records Law) and except as may be provided by other applicable State and Federal Law, all bidders should be aware that Invitation to Bid and the responses are in the public domain. However, the bidders are required to *identify specifically* any information contained in their bids which they consider confidential and/or proprietary and which they believe to be exempt from disclosure, citing specifically the applicable exempting law.

All bids received from bidders in response to this Request for Bid will become the property of the City and will not be returned to the bidders. In the event of contract award, all documentation produced as part of the contract shall become the exclusive property of the City.

4.21 RECORDS RETENTION

The Contractor awarded this contract shall maintain adequate records to justify all charges, expenses, and costs incurred in estimating and performing the work for at least three (3) years after completion of the contract resulting from this solicitation. All records, documents and information collected and/or maintained by others in the course of the administration of the agreement shall be transferred to electronic data storage media and copies given to the City to retain for its use. This information shall be made accessible at the awardees place of business to the City, including the Comptroller's Office and/or its designees, for purposes of inspection, reproduction and audit without restriction.

4.22 CONTRACT DOCUMENT

The entire contents of this Invitation to Bid, along with the Bidder's Bid and any subsequent task orders or change orders, are collectively an integral part of the contract between the City and the Contractor.

4.23 PERFORMANCE STANDARDS

If it is determined that the Contractor did not perform the work and/or does not comply with the specifications after inspection has been made by the City's Designee, one of the following actions will be taken, if Contractor has not corrected the deficiencies within 24 hours of notification by City's designee:

- i. The Contractor's invoice will be deducted by the amount bid for the deficient location, **OR**;
- ii. the Contractor will be billed, or have deducted, the total cost of labor, materials and equipment required for the City or another Contractor to perform the work due.

4.24 LIQUIDATED DAMAGES – NOT APPLICABLE

Liquidated damages of \$100 per day will be deducted from the contract sum for the unit cost of service for each calendar day elapsing beyond the specified time for completion for each scheduled service visit without prior approval for an extension from the City's Designee.

[END OF SECTION]

SECTION V - SCOPE OF WORK / TECHNICAL SPECIFICATIONS

5.1 SCOPE OF WORK

The City of Cooper City – Utility Department is seeking a certified testing laboratory to provide analysis of raw and treated drinking water, raw and treated wastewater, industrial pretreatment wastewater, wastewater treatment bio solids (sludge), deep injection well injective, groundwater, surface water, reuse water, and other samples collected and delivered by City personnel and/or collected by personnel employed by the laboratory. The laboratory shall collect samples as requested by the City. Sample collection sites could be anywhere within the water and wastewater service area of the City. Laboratories shall provide all labor, expertise, licenses, certifications, facilities, materials, equipment, tools, vehicles and insurance to complete the work.

5.2 METHODS

Awarded bidder shall analyze samples according to project, permit, regulatory agency or City specified requirements using EPA (Environmental Protection Agency) approved methods for the specific parameter being analyzed. Awarded bidder shall ensure analysis of samples within prescribed EPA, Florida Department of Health (DOH), Florida Department of Environmental Protection (FDEP), or method holding time limits.

5.3 DELIVERY LOCATION

The awarded bidder shall either (1) maintain a delivery location within 10 miles of the Cooper City Utilities Department (11791 SW 49 Street, Cooper City, FL 33330), or (2) awarded bidder will pick up the samples collected by City personnel at the Cooper City Utilities Department on the same day but no later than the following business day, or in accordance with the method holding time limits.

5.4 VENDOR DELIVERABLES

5.4.1 SAMPLING PRODUCTS/EQUIPMENT/MATERIALS

Awarded bidder will supply pre-labeled sample bottles and bags as well as bottles and bags with blank labels, as needed, at no additional cost to the City. Awarded bidder will also supply chain of custody forms at no additional cost to the City. Awarded bidder will also supply reagents as indicated in Pricing Sheet Form.

5.4.2 LABORATORY ANALYSIS REPORTS

Awarded bidder will supply a detailed report meeting The NELAC Institute (TNI) requirements for each parameter result with units in electronic format including (if applicable); quality control results, data qualifiers with descriptions, method detection limits, practical quantitation limits, method description, dilutions, sample preparer, preparation date, preparation time, sample analyst, analysis date, analysis time, collector, collection date, collection time, sample location, reporter, reporting date, and unique identification for each sample along with the sample chain-of-custody. Awarded bidder will transmit the detailed reports to the City within maximum three to five (3 to 5) calendar days from the date of sample receipt for total coliform, fecal coliform, and E. coli; and maximum seven to ten (7 to 10) business days from the date of sample receipt for all other parameters. If a test requires more time for analysis the awarded bidder shall inform City personnel at the time of sample receipt. All reports are to be submitted directly to the City, unless otherwise directed by City personnel. Each sample report must include appropriate and acceptable Quality Control (QC) data (at least level II as defined by FDEP) as well as adequate Chain of Custody (COC) records at no additional cost to the City. The City also requires data in an editable electronic deliverable format (EDD) and may request other customized data deliverables. These deliverables must be formatted in such manner as to satisfy compatibility with the reporting requirements of the relevant regulatory agencies, or any other specified format provided by the City. All subcontracted samples shall be analyzed in a lab certified by NELAP in the State of Florida with a specific EPA/State laboratory certification ID. For Drinking water samples, results may be required on FDEP drinking water forms at no additional cost to the City.

5.5 QUALITY ASSURANCE

Awarded bidder shall provide annual updates of Quality Assurance/Quality Control (QA/QC) program and NELAP certification documents and, upon discovery of any unusual or suspect sample results, must notify City personnel by e-mail or phone call. Awarded bidder shall notify the City of the need to resample due to sample handling, analysis errors or any other sampling issues as soon as practical allowing for timely resampling to fulfill regulatory requirements and no later than 48 hours after learning of the issue.

5.6 NOTIFICATION OF ACTIONABLE RESULTS

Awarded bidder shall notify City personnel as soon as Awarded bidder notices that a Total Coliform sample will result in failure (prior to completion of the analysis). Awarded bidder shall notify City personnel within 12 hours when a sample result indicates violation of the Safe Water Drinking Act, the Clean Water Act, FDEP Drinking water rules or other applicable permits and or consent decrees. Examples include but are not limited to: acute or Maximum Contaminant Limit (MCL) violation of Total Coliform rule or Action Limit (AL) violation of Lead and Copper rule or Regulatory Detection Limit (RDL) or MCL exceedance for drinking water samples. City personnel will indicate special permit or other requirements as they arise.

5.7 ADDITIONAL RESPONSIBILITIES

5.7.1 Awarded bidder shall maintain proper custody of all samples submitted for no less than 30 days or as specified by City lab personnel for specific samples or projects.

5.7.2 Awarded bidder shall remain NELAP certified for all analytic/methods and matrices requested and must notify City’s laboratory services within 15 days of loss of any certification that would compromise analytical compliance

5.7.3 Awarded bidder will assume all costs for re-sampling and analysis of samples either mishandled or analyzed incorrectly by Awarded bidder and or their subcontractors.

5.7.4 If needed, the City may request priority processing of samples for a premium charge. Premium charges shall be paid as follows, plus any additional cost for Afterhours/Holidays/Emergency calls charges:

<u>Turnaround Time</u>	<u>Premiums</u>
24 hours	100% above unit cost
48 hours	50% above unit cost
72 hours	25% above unit cost

5.8 EXAMINATION OF RELATED DATA AND SITE

The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Section, that without exception the Bid is premised upon performing and furnishing the Work required by the Bidding Documents and applying any and all specific means, methods, techniques, sequences, and procedures of construction that may be shown or indicated or expressly required by the Bidding Documents, that Bidder had given City written notice of all conflicts, errors, ambiguities, and discrepancies that Bidder has discovered in the Bidding Documents and the written resolutions thereof by City are acceptable to Bidder, and that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work.

[END OF SECTION]

Attachment A
(Page 1 of 12)

City of Cooper City, Florida

Bid Form

Laboratory Testing Services – Utilities Department

ITB 2018-11-UTL

Bids Due: Wednesday, September 12, 2018

For information contact the Purchasing Division:

Kerri Anne Fisher - Purchasing Agent
Claudia Portocarrero - Purchasing Assistant
Tel: 954-434-4300 ext. #297
Purchasing@CooperCityFL.org

Date Release: Thursday, August 16, 2018

Submitted by: _____
(Company name)

Attachment A
(Page 2 of 12)

Project: LABORATORY TESTING SERVICES – UTILITIES DEPARTMENT

Contract Identification: ITB 2018-11-UTL

Bids submitted to: Office of the City Clerk
City of Cooper City
9090 SW 50th Place
Cooper City, Florida, 33328

1. The undersigned BIDDER proposes and agrees, if this Bid is accepted, to enter into an agreement with City in the form included in the contract documents to perform and furnish all work as specified or indicated in the contract documents for the contract price and within the contract time indicated in this bid and in accordance with the other terms and conditions of the contract documents.
2. Bidder accepts all of the terms and conditions of the advertisement of Invitation to Bid and Instruction to Bidders including, without limitation, those dealing with the Bid requirements. This Bid will remain in full force for 90 days from the date of the bid opening. Bidder will sign and submit an agreement with the Bonds and other documents required by the Bidding Requirements within fifteen days after the City's notice of award.
3. In submitting this Bid, Bidder represents, as more fully set forth in the Agreement that:
 - a. Bidder has examined copies of all plans, and bidding documents, contract specifications and instruction to bidders.
 - b. Bidder has familiarized itself with the nature and extent of the Contract Documents, work site, locality, local conditions and the laws and regulations that in any manner may affect the cost, progress, performance or furnishing of the work.
 - c. Bidder has studied carefully all reports and drawings of the project and the physical conditions of the project site areas and accepts the extent of the technical data contained in such reports and drawings upon which Bidder is entitled to rely.
 - d. Bidder has correlated the results of his studies and reviews, observations, investigations, explorations, tests, and studies with the terms and conditions of the contract documents.
 - e. Bidder has given City written notice of all conflicts, errors or discrepancies that is has discovered in these documents and the written resolution thereof by City is acceptable to Bidder.
 - f. This Bid is genuine and not made in the interest of or on behalf of any undisclosed person, firm or corporate and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation; Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false Bid, and Bidder has not sought by collusion to obtain for itself any advantage over any other Bidder or the City.
4. Bid Copies
ONE (1) ORIGINAL, TWO (2) COPIES and ONE (1) ELECTRONIC COPY (Flash Drive or CD) of the Bid should be submitted to the City of Cooper City, City Hall, 9090 SW 50th Place, Cooper City, Florida 33328, to the attention of the Office of the City Clerk. If by US mail, Bids shall be submitted to PO Box 290910, Cooper City, Florida 33329-0910.
5. Addenda, Additional Information-Contact with City Staff
Any addenda or answers to written questions supplied by the City to participating Bidders become part of this Invitation to Bid and the resulting contract. The Bid Form shall be signed by an authorized company representative dated and returned with the proposal Bid.

No negotiations, decisions or actions shall be initiated or executed by the Bidder as result of any discussions with any City employee. Only those communications which are in writing from the City may be considered as a duly authorized expression. Also, only communications from bidder that are signed and in writing will be recognized by the City as duly authorized expressions on behalf of the bidder.

Attachment A
(Page 3 of 12)

Specific questions related to the Scope of Services requested shall be directed in writing to the City of Cooper City Purchasing Division. Questions must be emailed to Purchasing@CooperCityFL.org, who may respond in kind with copies to all Bidders. **The deadline for submission of questions is 5:00PM, Wednesday, September 5, 2018.**

The successful bidder shall be required to execute a City contract covering the scope of services to be provided and setting forth the duties, rights and responsibilities of the parties. This contract must be executed by the successful bidder prior to recommendation of award and presentation to the City Commission. IN MOST CASES THE AWARDED BID WILL SERVE AS THE CONTRACT.

6. Summary of Documents to be submitted with Bid

_____	Bid Form
_____	Reference Form
_____	Public Entity Crimes (PEC) Form
_____	ADA Affidavit
_____	Business Entity Affidavit
_____	Bidder's Foreign (Non-Florida) Corporate Statement (If applicable)
_____	W-9, Request for Taxpayer Identification Number
_____	Proof of Workers Compensation Insurance or Exemption
_____	Proof of Liability Insurance
_____	Ownership Disclosure Affidavit
_____	Drug-Free Workplace Certificate
_____	Employee Background Verification Affidavit

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Attachment A
(Page 4 of 12)

Vendor/ Bidder Contact Information

Name of Company: _____

Address: _____

Primary Contact: _____

Title: _____

Tel: _____ Mobile: _____

Email Address (Required): _____

Alternate Contact: _____

Title: _____

Tel: _____ Mobile: _____

Email Address (Required): _____

Company's Website: _____

Remit to Address (if different from above):

Remit to Contact: _____

Attachment A

(Page 5 of 12)

PRICING SHEET
Laboratory Testing Services – Utilities Department

POTABLE WATER SYSTEM ANALYSES				
Project Name & Parameter	Annual Estimated Quantity	Unit of Measurement (UOM)	Price per UOM	Extended Price
Potable Water System Analyses - Primary Inorganics (FAC 62-550 Table 1)				
Antimony	1	Each	\$	\$
Arsenic	1	Each	\$	\$
Asbestos	1	Each	\$	\$
Barium	1	Each	\$	\$
Beryllium	1	Each	\$	\$
Cadmium	1	Each	\$	\$
Chromium	1	Each	\$	\$
Cyanide (as free Cyanide)	1	Each	\$	\$
Fluoride	1	Each	\$	\$
Lead	1	Each	\$	\$
Mercury	1	Each	\$	\$
Nickel	1	Each	\$	\$
Nitrate	1	Each	\$	\$
Nitrite	1	Each	\$	\$
Total Nitrate and Nitrite	1	Each	\$	\$
Selenium	1	Each	\$	\$
Sodium	1	Each	\$	\$
Thallium	1	Each	\$	\$
Potable Water System Analyses - Primary Inorganics (FAC 62-550 Table 1) Subtotal				\$
Potable Water System Analyses - Disinfectant Residuals				
Chlorine	1	Each	\$	\$
Potable Water System Analyses - Disinfection Byproducts				
TTHM	16	Each	\$	\$
HAA5	16	Each	\$	\$
Potable Water System Analyses - Disinfection Byproducts Subtotal				\$

Attachment A
 (Page 6 of 12)

PRICING SHEET
Laboratory Testing Services – Utilities Department

Potable Water System Analyses - VOC's (FAC 62-550 Table 4)				
Project Name & Parameter	Annual Estimated Quantity	Unit of Measurement (UOM)	Price per UOM	Extended Price
VOC's Annual	1	Each	\$	\$
1,1-Dichloroethylene (75-35-4)			Included	
1,1,1-Trichloroethane (71-55-6)			Included	
1,1,2-Trichloroethane (79-00-5)			Included	
1,2-Dichloroethane (107-06-2)			Included	
1,2-Dichloropropane (78-87-5)			Included	
1,2,4-Trichlorobenzene (120-82-1)			Included	
Benzene (71-43-2)			Included	
Carbon tetrachloride (56-23-5)			Included	
cis-1,2-Dichloroethylene (156-59-2)			Included	
Dichloromethane (75-09-2)			Included	
Ethylbenzene (100-41-4)			Included	
Monochlorobenzene (108-90-7)			Included	
o-Dichlorobenzene (95-50-1)			Included	
para-Dichlorobenzene (106-46-7)			Included	
Styrene (100-42-5)			Included	
Tetrachloroethylene (127-18-4)			Included	
Toluene (108-88-3)			Included	
trans-1,2-Dichloroethylene (156-60-5)			Included	
Trichloroethylene (79-01-6)			Included	
Vinyl chloride (75-01-4)			Included	
Xylenes (total) (1330-20-7)			Included	

Attachment A
 (Page 7 of 12)

PRICING SHEET
Laboratory Testing Services – Utilities Department

Potable Water System Analyses - SOC's (FAC 62-550 Table 5)				
Project Name & Parameter	Annual Estimated Quantity	Unit of Measurement (UOM)	Price per UOM	Extended Price
SOC's Annual	1	Each	\$	\$
2,3,7,8-TCDD (Dioxin) (1746-01-6)		Included		
2,4-D (94-75-7)		Included		
2,4,5-TP (Silvex) (93-72-1)		Included		
Alachlor (15972-60-8)		Included		
Atrazine (1912-24-9)		Included		
Benzo(a)pyrene (50-32-8)		Included		
Carbofuran (1563-66-2)		Included		
Chlordane (57-74-9)		Included		
Dalapon (75-99-0)		Included		
Di(2-ethylhexyl)adipate (103-23-1)		Included		
Di(2-ethylhexyl)phthalate (117-81-7)		Included		
Dibromochloropropane (DBCP) (96-12-8)		Included		
Dinoseb (88-85-7)		Included		
Diquat (85-00-7)		Included		
Endothall (145-73-3)		Included		
Endrin (72-20-8)		Included		
Ethylene dibromide (EDB) (106-93-4)		Included		
Glyphosate (1071-83-6)		Included		
Heptachlor (76-44-8)		Included		
Heptachlor epoxide (1024-57-3)		Included		
Hexachlorobenzene (118-74-1)		Included		
Hexachlorocyclopentadiene (77-47-4)		Included		
Lindane (58-89-9)		Included		
Methoxychlor (72-43-5)		Included		
Oxamyl (vydate) (23135-22-0)		Included		
Pentachlorophenol (87-86-5)		Included		
Picloram (1918-02-1)		Included		
Polychlorinated biphenyls (PCBs)		Included		
Simazine (122-34-9)		Included		
Toxaphene (8001-35-2)		Included		

Attachment A

(Page 8 of 12)

PRICING SHEET
Laboratory Testing Services – Utilities Department

Potable Water System Analyses - Microbiological				
Project Name & Parameter	Annual Estimated Quantity	Unit of Measurement (UOM)	Price per UOM	Extended Price
Total Coliform	540	Each	\$	\$
Fecal Coliform	6	Each	\$	\$
Potable Water System Analyses – Microbiological Subtotal				\$
Potable Water System Analyses - Radionuclides				
Radionuclides Annual	1	Each	\$	\$
Combined radium226 and radium228	Included			
Gross alpha particle activity including radium226 but excluding radon and uranium	Included			
Uranium	Included			
Potable Water System Analyses - Lead and Copper				
Lead	40	Each	\$	\$
Copper	40	Each	\$	\$
Alkalinity	2	Each	\$	\$
Orthophosphate	2	Each	\$	\$
Potable Water System Analyses - Lead and Copper Subtotal				\$
Potable Water System Analyses - Secondary Drinking Water Contaminants (FAC 62-550 Table 6)				
Aluminum	1	Each	\$	\$
Chloride	1	Each	\$	\$
Copper	1	Each	\$	\$
Fluoride	24	Each	\$	\$
Iron	1	Each	\$	\$
Manganese	1	Each	\$	\$
Silver	1	Each	\$	\$
Sulfate	1	Each	\$	\$
Zinc	1	Each	\$	\$
Color	1	Each	\$	\$
pH	1	Each	\$	\$
Total Dissolved Solids	1	Each	\$	\$
Foaming Agents	1	Each	\$	\$
Potable Water System Analyses - Secondary Drinking Water Contaminants (FAC 62-550 Table 6) Subtotal				\$

Attachment A

(Page 9 of 12)

PRICING SHEET
Laboratory Testing Services – Utilities Department

Potable Water System Analyses - Physical Characteristics				
Project Name & Parameter	Annual Estimated Quantity	Unit of Measurement (UOM)	Price per UOM	Extended Price
Turbidity	1	Each	\$	\$
Temperature	1	Each	\$	\$
Conductivity	1	Each	\$	\$
Color	1	Each	\$	\$
TDS	1	Each	\$	\$
Hardness	1	Each	\$	\$
UCMR	1	Each	\$	\$
Composite/Grab Sampling Charges	24	Each	\$	\$
Potable Water System Analyses - Physical Characteristics Subtotal				\$
Potable Water System Analyses Total				\$
WASTEWATER COLLECTION/TREATMENT SYSTEM ANALYSES				
Project Name & Parameter	Annual Estimated Quantity	Unit of Measurement (UOM)	Price per UOM	Extended Price
Wastewater Collection/Treatment System Analyses - Influent, Effluent & Reuse				
BOD5	52	Each	\$	\$
CBOD5	104	Each	\$	\$
Total Suspended Solids	104	Each	\$	\$
Fecal Coliform	120	Each	\$	\$
pH	104	Each	\$	\$
Total Nitrogen	52	Each	\$	\$
Total Phosphorus	52	Each	\$	\$
Nitrate	52	Each	\$	\$
Nitrite	52	Each	\$	\$
% CBOD Efficiency	52	Each	\$	\$
%TSS Efficiency	52	Each	\$	\$
Ammonia	52	Each	\$	\$
Ortho-Phosphates	52	Each	\$	\$
Total Solids	104	Each	\$	\$
Total Kjeldahl Nitrogen (TKN)	52	Each	\$	\$
Wastewater Collection/Treatment System Analyses - Influent, Effluent & Reuse Subtotal				\$

Attachment A

(Page 10 of 12)

PRICING SHEET
Laboratory Testing Services – Utilities Department

Wastewater Collection/Treatment System Analyses - Biosolids				
Project Name & Parameter	Annual Estimated Quantity	Unit of Measurement (UOM)	Price per UOM	Extended Price
Nitrogen	6	Each	\$	\$
Phosphorus	6	Each	\$	\$
Potassium	6	Each	\$	\$
Arsenic Dry Weight	6	Each	\$	\$
Cadmium Dry Weight	6	Each	\$	\$
Copper, Tot, Dry Wt. (as Cu)	6	Each	\$	\$
Lead	6	Each	\$	\$
Mercury, Dry Weight	6	Each	\$	\$
Molybdenum, Dry Weight	6	Each	\$	\$
Nickel, Dry Weight	6	Each	\$	\$
Selenium Dry Weight	6	Each	\$	\$
Zinc Dry Weight	6	Each	\$	\$
pH	6	Each	\$	\$
Coliform, Fecal	28	Each	\$	\$
Volatile Organic Compounds	6	Each	\$	\$
% Volatiles	52	Each	\$	\$
% Total Solids	58	Each	\$	\$
Specific Oxygen Uptake Rate (SOUR)	4	Each	\$	\$
Wastewater Collection/Treatment System Analyses – Biosolids Subtotal				\$
Wastewater Collection/Treatment System Analyses - In-House Laboratory Certification				
DMR-QA	1	Each	\$	\$
Wastewater Collection/Treatment System Analyses Total				\$

Attachment A
 (Page 11 of 12)

PRICING SHEET
Laboratory Testing Services – Utilities Department

DEEP INJECTION WELL/MONITOR WELL ANALYSES				
Project Name & Parameter	Annual Estimated Quantity	Unit of Measurement (UOM)	Price per UOM	Extended Price
pH	36	Each	\$	\$
Specific Conductance	36	Each	\$	\$
Ammonia	36	Each	\$	\$
Calcium Hardness as CaCO3	36	Each	\$	\$
Total Hardness as CaCO3	36	Each	\$	\$
Chloride	36	Each	\$	\$
Magnesium Hardness as CaCO3	36	Each	\$	\$
Nitrate + Nitrite as N	36	Each	\$	\$
Total Kjeldahl Nitrogen (TKN)	36	Each	\$	\$
Sulfate	36	Each	\$	\$
Total Dissolved Solids (TDS)	36	Each	\$	\$
Gross Alpha	12	Each	\$	\$
Radium 226	12	Each	\$	\$
Radium 228	12	Each	\$	\$
Temperature	36	Each	\$	\$
Composit/Grab Sampling	36	Each	\$	\$
Deep Injection Well/Monitor Well Analyses Total				\$
GROUND/SURFACE WATER ANALYSES				
Project Name & Parameter	Annual Estimated Quantity	Unit of Measurement (UOM)	Price per UOM	Extended Price
EPA Method 8270	4	Each	\$	\$
Monitor Well Sampling Charges	16	Each	\$	\$
Ground/Surface Water Analyses Total				\$

Attachment A
(Page 12 of 12)

PRICING SHEET
Laboratory Testing Services – Utilities Department

REAGENTS & SUPPLIES				
Project Name & Parameter	Annual Estimated Quantity	Unit of Measurement (UOM)	Price per UOM	Extended Price
Buffer pH 4.0	20	Quart	\$	\$
Buffer pH 7.0	20	Quart	\$	\$
Buffer pH 10.0	20	Quart	\$	\$
Calcium Hardness Buffer	6	Pint	\$	\$
Total Hardness Buffer	6	Pint	\$	\$
Calcium Hardness Indicator (8 oz powder)	6	Each	\$	\$
Total Hardness Indicator (8 oz powder)	6	Each	\$	\$
Sulfuric Acid	8	Quart	\$	\$
Methyl Purple Indicator	6	Pint	\$	\$
Phenolphthalein Indicator	6	Pint	\$	\$
EDTA	8	1/2 Gallon	\$	\$
Fluoride Standard (1ppm)	12	Quart	\$	\$
Tisab	12	Gallon	\$	\$
Conductivity Solution (1412)	6	Quart	\$	\$
Color Standard	8	Pint	\$	\$
Reagents & Supplies Totals				\$
Grand Total				\$
Additional Service				
Item	Price per Call			
Afterhours/Holidays/Emergency Calls	\$			

Submitted by:

(Print)

Authorized Signature:

(Sign)

Company Name:

Date: _____

STATE: **FLORIDA**

COUNTY: _____

Sworn to (or affirmed) and subscribed before me this ____ day of _____, 20__, by: _____.

Name of person making statement

Signature of Notary Public - State of Florida

(NOTARY SEAL)

Name of Notary Typed, Printed, or Stamped

Personally Known _____ **OR** Produced Identification _____

Type of Identification Produced _____

Attachment B

REFERENCES

All references shall be from entities/companies regularly engaged in the business of providing the goods and/or services as described in this solicitation.

1.

ENTITY/COMPANY NAME:

ADDRESS:

CONTACT NAME:

CONTACT'S TITTLE:

TELEPHONE:

E-MAIL (REQUIRED):

CONTRACT PERIOD:

FROM:

TO:

2.

ENTITY/COMPANY NAME:

ADDRESS:

CONTACT NAME:

CONTACT'S TITTLE:

TELEPHONE:

E-MAIL (REQUIRED):

CONTRACT PERIOD:

FROM:

TO:

3.

ENTITY/COMPANY NAME:

ADDRESS:

CONTACT NAME:

CONTACT'S TITTLE:

TELEPHONE:

E-MAIL (REQUIRED):

CONTRACT PERIOD:

FROM:

TO:

This page shall be completed IN FULL and submitted with your bid.

ATTACHMENT C

(Page 1 of 2)

**SWORN STATEMENT PURSUANT TO SECTION 287.133 (3) (a),
FLORIDA STATUTES, ON PUBLIC ENTITY CRIMES**

THIS FORM MUST BE SIGNED AND SWORN TO IN THE PRESENCE OF A
NOTARY PUBLIC OR OTHER OFFICIAL AUTHORIZED TO ADMINISTER OATHS.

1. This sworn statement is submitted to the CITY OF COOPER CITY, FLORIDA

by: _____
(print individual's name and title)

for: _____
(print name of entity submitting sworn statement)

whose business address is: _____

and (if applicable) its Federal Employer Identification Number (FEIN) is: _____.

(If the entity has no FEIN, include the Social Security Number of the individual signing this sworn statement: _____ - _____).

2. I understand that a "public entity crime" as defined in Paragraph 287.133(1)(g), Florida Statutes, means a violation of any state or federal law by a person with respect to and directly related to the transaction of business with any public entity or with an agency or political subdivision of any other state or of the United States, including but not limited to, any bid or contract for goods or services to be provided to any public entity or an agency or political subdivision of any other state or of the United States and involving antitrust, fraud, theft, bribery, collusion, racketeering, conspiracy, or material misrepresentations.

3. I understand that "convicted" or "conviction" as defined in Paragraph 287.133(1)(b), Florida Statutes, means a finding of guilt or a conviction of a public entity crime, with or without an adjudication of guilt, in any federal or state trial court of record relating to charges brought by indictment or information after July 1, 1989, as a result of a jury verdict, non-jury trial, or entry of a plea of guilty or nolo contendere.

4. I understand that an "affiliate" as defined in Paragraph 287.133(1)(a), Florida Statutes, means:

- a) A predecessor or successor of a person convicted of a public entity crime; or
- b) An entity under the control of any natural person who is active in the management of the entity and who has been convicted of a public entity crime. The term "affiliate" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in the management of an affiliate. The ownership by one person of shares constituting a controlling interest in another person, or a pooling of equipment or income among persons when not for fair market value under an arm's length agreement, shall be a prima facie case that one person controls another person. A person who knowingly enters into a joint venture with a person who has been convicted of a public entity crime in Florida during the preceding 36 months shall be considered an affiliate.

5. I understand that a "person" as defined in Paragraph 287.133(1)(e), Florida Statutes, means any natural person or entity organized under the laws of any state or of the United States with the legal power to enter into a binding contract and which bids or applies to bid on contracts for the provision of goods or services let by a public entity, or which otherwise transacts or applies to transact business with a public entity. The term "person" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in management of an entity.

ATTACHMENT C

(Page 2 of 2)

6. Based on information and belief, the statement that I have marked below is true in relation to the entity submitting this sworn statement. (Indicate which statement applies).

____ Neither the entity submitting this sworn statement, nor any officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, not any affiliate of the entity, has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

____ This entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

____ The entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989. However, there has been a subsequent proceeding before a Hearing Officer of the State of Florida, Division of Administrative Hearings and the Final Order entered by the Hearing Officer determined that it was not in the public interest to place the entity submitting this sworn statement on the convicted vendor list. (attach a copy of the final order).

I UNDERSTAND THAT THE SUBMISSION OF THIS FORM TO THE CONTRACTING OFFICER FOR THE PUBLIC ENTITY IDENTIFIED IN PARAGRAPH 1 ABOVE IS FOR THAT PUBLIC ENTITY ONLY AND THAT THIS FORM IS VALID THROUGH DECEMBER 31 OF THE CALENDAR YEAR IN WHICH IT IS FILED. I ALSO UNDERSTAND THAT I AM REQUIRED TO INFORM THE PUBLIC ENTITY PRIOR TO ENTERING INTO A CONTRACT IN EXCESS OF THE THRESHOLD AMOUNT PROVIDED IN SECTION 287.017, FLORIDA STATUTES FOR CATEGORY TWO OF ANY CHANGE IN THE INFORMATION CONTAINED IN THIS FORM.

Signature

STATE: FLORIDA	
COUNTY:	_____
Sworn to (or affirmed) and subscribed before me this ____ day of _____, 20__, by: _____.	
	<i>Name of person making statement</i>
(NOTARY SEAL)	_____ <i>Signature of Notary Public - State of Florida</i>
	_____ <i>Name of Notary Typed, Printed, or Stamped</i>
Personally Known _____ OR Produced Identification _____	
Type of Identification Produced _____	

ATTACHMENT D

**AMERICANS WITH DISABILITIES ACT (ADA)
DISABILITY NONDISCRIMINATION STATEMENT**

THIS FORM MUST BE SIGNED AND SWORN TO IN THE PRESENCE OF A NOTARY PUBLIC OR OTHER OFFICIAL
AUTHORIZED TO ADMINISTER OATHS.

This sworn statement is submitted to the CITY OF COOPER CITY, FLORIDA

by: _____
(print individual's name and title)

for: _____
(print name of entity submitting sworn statement)

whose business address is: _____

and (if applicable) its Federal Employer Identification Number (FEIN) is: _____
(If the entity has no FEIN, include the Social Security Number of the individual signing this sworn statement: _____ - _____ - _____.)

I, being duly first sworn state:

That the above named firm, corporation or organization is in compliance with and agreed to continue to comply with, and assure that any subcontractor, or third party contractor under this project complies with all applicable requirements of the laws listed below including, but not limited to, those provisions pertaining to employment, provision of programs and services, transportation, communications, access to facilities, renovations, and new construction.

The American with Disabilities Act of 1990 (ADA), Pub. L. 101-336, 104 Stat 327, 42 USC 12101-12213 and 47 USC Sections 225 and 661 including Title I, Employment; Title II, Public Services; Title III, Public Accommodations and Services Operated by Private entities; Title IV, Telecommunications; and Title V, Miscellaneous Provisions.

The Florida Americans with Disabilities Accessibility Implementation Act of 1993, Section 553.501-553.513, Florida Statutes:

The Rehabilitation Act of 1973, 229 USC Section 794;

The Federal Transit Act, as amended 49 USC Section 1612;

The Fair Housing Act as amended 42 USC Section 3601-3631.

Signature

STATE:	FLORIDA
COUNTY:	_____
Sworn to (or affirmed) and subscribed before me this ____ day of _____, 20__, by: _____ <i>Name of person making statement</i>	
(NOTARY SEAL)	_____ <i>Signature of Notary Public - State of Florida</i>
	_____ <i>Name of Notary Typed, Printed, or Stamped</i>
Personally Known _____ OR Produced Identification _____	
Type of Identification Produced _____	

ATTACHMENT E

BUSINESS ENTITY AFFIDAVIT

I, _____, being first duly sworn state:

The full legal name and business address of the person(s) or entity proposing to contract or transact business with the City of Cooper City ("City") are (Post Office addresses are not acceptable), as follows:

Federal Employer Identification Number (FEIN) (If none, Social Security Number)

Name of Entity, Individual, Partners or Corporation

Doing Business As (If same as above, leave blank)

Street Address Suite City State

State and Date of Incorporation:

Signature of Affiant

Date

Print Name

STATE: FLORIDA

COUNTY: _____

Sworn to (or affirmed) and subscribed before me this ____ day of _____, 20__, by: _____

Name of person making statement

(NOTARY SEAL)

Signature of Notary Public - State of Florida

Name of Notary Typed, Printed, or Stamped

Personally Known ____ **OR** Produced Identification ____

Type of Identification Produced _____

Attachment F

FOREIGN (NON-FLORIDA) CORPORATION MUST COMPLETE THIS FORM
DEPARTMENT OF STATE CORPORATE CHARTER NO. _____

If your corporation is exempt from the requirements of Section 607.1501, Florida Statutes, YOU MUST CHECK BELOW the reason(s) for the exemption. Please contact the Department of State, Division of Corporations at (850) 245-6051 for assistance with corporate registration or exemptions. 607.1501 Authority of foreign corporation to transact business required.

- (1) A foreign corporation may not transact business in this state until it obtains a certificate of authority form the Department of State.
- (2) The following activities, among others, do not constitute transacting business within the meaning of subsection one (1):
- _____ (a) Maintaining, defending, or settling any proceedings.
 - _____ (b) Holding meetings of the board of directors or shareholders or carrying on other activities concerning internal corporate affairs.
 - _____ (c) Maintaining bank accounts.
 - _____ (d) Maintaining officers of agencies for the transfer, exchange, and registration of the corporation's own securities or maintaining trustees or depositories with respect to those securities.
 - _____ (e) Selling through independent contractors.
 - _____ (f) Soliciting or obtaining orders, whether by mail or through employees, agents or otherwise, if the orders
 - _____ (g) Creating or acquiring indebtedness, mortgages, and security interests in real or personal property.
 - _____ (h) Securing or collecting debts or enforcing mortgages and security interests in property securing the debts.
 - _____ (i) Transacting business in interstate commerce.
 - _____ (j) Conducting an isolated transaction that is completed within 30 days and that is not one in the course of repeated transactions of a like nature.
 - _____ (k) Owning and controlling a subsidiary corporation incorporated in or transacting business within this state or voting the stock of any corporation which it has lawfully acquired.
 - _____ (l) Owning a limited partnership interest in a limited partnership that is doing business within this state, unless such limited partner manages or controls the partnership or exercises the powers and duties of a general partner.
 - _____ (m) Owning, without more, real or personal property.

The list of activities of subsection (2) is not exhaustive.

- (3) This section has no application to the question of whether any foreign corporation is subject to service of process and suit in this state under any law of this state.

Please check one of the following if your firm in NOT a corporation:

- (I) _____ Partnership, Joint Venture, Estate or Trust
(II) _____ Sole Proprieties of Self Employed

NOTE: This sheet **MUST** be enclosed with your bid if you claim an exemption or have checked I or II above, your firm will be considered a corporation and subject to all requirements listed herein.

SIGNATURE OF AUTHORIZED AGENT OF PROPOSER

BIDDER'S LEGAL NAME

Attachment G

Form W-9 (Rev. December 2014) Department of the Treasury Internal Revenue Service	Request for Taxpayer Identification Number and Certification	Give Form to the requester. Do not send to the IRS.
---	---	--

Print or type See Specific Instructions on page 2.	1	Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.	
	2	Business name/disregarded entity name, if different from above	
	3	Check appropriate box for federal tax classification; check only one of the following seven boxes: <input type="checkbox"/> Individual/sole proprietor or single-member LLC <input type="checkbox"/> Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=partnership) ▶ Note. For a single-member LLC that is disregarded, do not check LLC; check the appropriate box in the line above for the tax classification of the single-member owner. <input type="checkbox"/> Other (see instructions) ▶ 	
	4	Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3): Exempt payee code (if any) Exemption from FATCA reporting code (if any) <small>(Applies to accounts maintained outside the U.S.)</small>	
	5	Address (number, street, and apt. or suite no.) 	Requester's name and address (optional)
	6	City, state, and ZIP code 	
	7	List account number(s) here (optional) 	

Part I Taxpayer Identification Number (TIN)																																																																					
Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the Part I instructions on page 3. For other entities, it is your employer identification number (EIN). If you do not have a number, see <i>How to get a TIN</i> on page 3.																																																																					
Note. If the account is in more than one name, see the instructions for line 1 and the chart on page 4 for guidelines on whose number to enter.																																																																					
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Social security number																																																																					
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Employer identification number																																																																					
				-																																																																	

Part II Certification					
Under penalties of perjury, I certify that:					
1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and					
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and					
3. I am a U.S. citizen or other U.S. person (defined below); and					
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.					
Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions on page 3.					
Sign Here	<table border="1" style="width:100%"><tr><td style="width:30%;">Signature of U.S. person ▶</td><td style="width:70%; text-align: center;">Click Here to Sign</td></tr><tr><td colspan="2">Date ▶ </td></tr></table>	Signature of U.S. person ▶	Click Here to Sign	Date ▶ 	
Signature of U.S. person ▶	Click Here to Sign				
Date ▶ 					

General Instructions Section references are to the Internal Revenue Code unless otherwise noted. Future developments. Information about developments affecting Form W-9 (such as legislation enacted after we release it) is at www.irs.gov/fw9 . Purpose of Form An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following: <ul style="list-style-type: none">• Form 1099-INT (interest earned or paid)• Form 1099-DIV (dividends, including those from stocks or mutual funds)• Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)• Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)• Form 1099-S (proceeds from real estate transactions)• Form 1099-K (merchant card and third party network transactions)	<ul style="list-style-type: none">• Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)• Form 1099-C (canceled debt)• Form 1099-A (acquisition or abandonment of secured property) <p>Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.</p> <p>If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See <i>What is backup withholding?</i> on page 2.</p> <p>By signing the filled-out form, you:</p> <ol style="list-style-type: none">1. Certify that the TIN you are giving is correct (or you are waiting for a number to be issued),2. Certify that you are not subject to backup withholding, or3. Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income, and4. Certify that FATCA code(s) entered on this form (if any) indicating that you are exempt from the FATCA reporting, is correct. See <i>What is FATCA reporting?</i> on page 2 for further information.
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Attachment H

**REQUEST FOR PROOF OF
WORKERS COMPENSATION INSURANCE OR EXEMPTION**

Dear Provider of Services or Goods:

In order to provide services or goods to City of Cooper City, we require that you provide us either proof of workers compensation coverage or proof of exemption.

Workers compensation insurance is required of all employers in Florida that employ 4 or more part or full time employees. In the event that you are an employer in the construction industry, you are required to have workers compensation insurance if you employ one or more workers. Corporate officers and sole proprietors are included when calculating the number of employees. Note: Corporate officers may claim exemption from workers compensation coverage on themselves only, by filing *Form DWC 250, Notice of Election to Be Exempt*. This form can be found at <http://fldfs.com/WC/forms.html>.

If you meet the above criteria to be exempt, you MUST provide us with one of the following:

- If your business is a sole proprietorship or unincorporated business: provide us a Verification of Automatic Exempt Certificate. This verification is a letter that is issued by the State of Florida Department of Financial Services. To receive a letter from the State, complete the following directions: 1) Call the National Council of Compensation Insurance 1-800-622-4123, Option 5, and ask them for the class code for your type of business. 2) Once you have received this code, call the Department of Financial Services at 1-850-413-1601 and provide them your business name, class code, mailing address, and contact phone number. They will send you the Verification of Automatic Exempt Certificate. 3) Provide us a copy of the Verification of Automatic Exempt Certificate.
- If your business is a corporation (including a professional association or limited liability company), and you are not required to have workers compensation insurance as per the requirements as outlined above, you must complete the attached Workers Compensation Exemption Affidavit, have it notarized, and return the original to us.

If you are an employer that meets the requirements of workers compensation and needs to obtain coverage, contact your current business insurance agent, or you may use the following resources to locate an agent: www.faja.com, www.piafl.org/wc-info.pdf, or call (850) 893-8245.

Please be reminded that the furnishing of this information to City of Cooper City is a non-negotiable requirement to perform services for us. Failure to provide this timely may result in either termination of your services or delay of payment for services. Your workers compensation Certificate of Coverage, Workers Compensation Exemption Affidavit, or Verification of Automatic Exempt Certificate must be delivered or mailed to the Purchasing Division located at City Hall, 9090 SW 50 Place, Cooper City, Florida 33328, or emailed to Purchasing@CooperCityFL.org.

ATTACHMENT I

OWNERSHIP DISCLOSURE AFFIDAVIT

1. If the contact or business transaction is with a corporation, the full legal name and business address shall be provided for each officer and director and each stockholder who holds directly or indirectly five percent (5%) or more of the corporation's stock. If the contract or business transaction is with a trust, the full legal name and address shall be provided for each trustee and each beneficiary. All such names and addresses are (Post Office addresses are not acceptable), as follows:

Full Legal Name

Address

Ownership

_____%
_____%
_____%

2. The full legal names and business address of any other individual (other than subcontractors, materialmen, suppliers, laborers, or lenders) who have, or will have, any interest (legal, equitable, beneficial or otherwise) in the contract or business transaction with the City are (Post Office addresses are not acceptable), as follows:

Signature of Affiant

Print Name

Date

STATE: **FLORIDA**

COUNTY: _____

Sworn to (or affirmed) and subscribed before me this ____ day of _____, 20__, by: _____

Name of person making statement

Signature of Notary Public - State of Florida

(NOTARY SEAL)

Name of Notary Typed, Printed, or Stamped

Personally Known _____ **OR** Produced Identification _____

Type of Identification Produced _____

ATTACHMENT J

DRUG FREE WORKPLACE CERTIFICATE

I, the undersigned, in accordance with Florida Statute 287.087, hereby certify that, **(print or type name of firm)**

- Publishes a written statement notifying that the unlawful manufacture, distribution, dispensing, possession or use of a controlled substance is prohibited in the workplace named above, and specifying actions that will be taken against violations of such prohibition.
- Informs employees about the dangers of drug abuse in the work place, the firm's policy of maintaining a drug free working environment, and available drug counseling, rehabilitation, and employee assistance programs, and the penalties that may be imposed upon employees for drug use violations.
- Gives each employee engaged in providing commodities or contractual services that are under bid or proposal, a copy of the statement specified above.
- Notifies the employees that as a condition of working on the commodities or contractual services that are under bid or proposal, the employee will abide by the terms of the statement and will notify the employer of any conviction of, pleas of guilty or nolo contendere to, any violation of Chapter 1893, or of any controlled substance law of the State of Florida or the United States, for a violation occurring in the work place, no later than five (5) days after such conviction, and requires employees to sign copies of such written (*) statement to acknowledge their receipt.
- Imposes a sanction on, or requires the satisfactory participation in, a drug abuse assistance or rehabilitation program, if such is available in the employee's community, by any employee who is so convicted.
- Makes a good faith effort to continue to maintain a drug free work place through the implementation of the drug free workplace program.

"As a person authorized to sign this statement, I certify that the above named business, firm or corporation complies fully with the requirements set forth herein".

Signature of Affiant

Print Name

Date

STATE: FLORIDA

COUNTY: _____

Sworn to (or affirmed) and subscribed before me this ____ day of _____, 20__, by: _____.

Name of person making statement

Signature of Notary Public - State of Florida

(NOTARY SEAL)

Name of Notary Typed, Printed, or Stamped

Personally Known _____ **OR** Produced Identification _____

Type of Identification Produced _____

ATTACHMENT K

EMPLOYEE BACKGROUND VERIFICATION AFFIDAVIT

I, _____ of _____, attest that all personnel used in
(Print Name) (Company Name)
the performance of this work have had a criminal background check with a passing grade and have
been drug tested with a passing grade and are legally documented to work in the United States.

Signature of Affiant

Print Name

Date

STATE: **FLORIDA**

COUNTY: _____

Sworn to (or affirmed) and subscribed before me this ____ day of
_____, 20__, by: _____
Name of person making statement

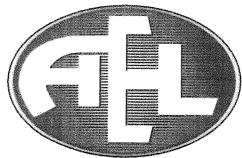
(NOTARY SEAL)

Signature of Notary Public - State of Florida

Name of Notary Typed, Printed, or Stamped

Personally Known _____ **OR** Produced Identification _____

Type of Identification Produced _____



September 7, 2018

City of Cooper City
Purchasing Division
9090 SW 50th Place
Cooper City, FL 33328

RE: ITB 2018-11-UTL Laboratory Testing Services - Utilities Department

To Whom It May Concern:

Advanced Environmental Laboratories, Inc., (AEL) is pleased to provide this proposal to the City of Cooper City for ITB 2018-11-UTL Laboratory Testing Services - Utilities Department. AEL was founded in 1994 in Jacksonville, FL and has since expanded to seven locations around the state (including Miramar), making it the largest laboratory network in Florida.

The AEL Miramar, FL laboratory is located in Broward County and it is within 10 miles of the City of Cooper City.

Although the majority of the analysis will be performed within the AEL laboratory network, AEL purposes to subcontract to KNL Environmental Testing, EM Analytical, Inc., Cape Fear Analytical, LLC, and Northern Lake Service, Inc. who have helped us provide excellent data and service to our customers for the past several years.

AEL is very excited about the opportunity to begin work with the City of Cooper City. Should you need any further information, please do not hesitate to contact our Miramar Client Services Manager - Tiffany Mackie – via email at tmackie@aellab.com or phone at 954-292-1579.

Respectfully,

A handwritten signature in black ink, appearing to read 'Charles M. Ged'.

Charles M. Ged
President
Advanced Environmental Laboratories, Inc.

Attachment A
(Page 1 of 12)

City of Cooper City, Florida

Bid Form

Laboratory Testing Services – Utilities Department ITB 2018-11-UTL

Bids Due: Wednesday, September 12, 2018

For information contact the Purchasing Division:

Kerri Anne Fisher - Purchasing Agent
Claudia Portocarrero - Purchasing Assistant
Tel: 954-434-4300 ext. #297
Purchasing@CooperCityFL.org

Date Release: Thursday, August 16, 2018

Submitted by: Advanced Environmental Laboratories, Inc.
(Company name)

Attachment A
(Page 2 of 12)

Project: LABORATORY TESTING SERVICES – UTILITIES DEPARTMENT
Contract Identification: ITB 2018-11-UTL
Bids submitted to: Office of the City Clerk
City of Cooper City
9090 SW 50th Place
Cooper City, Florida, 33328

1. The undersigned BIDDER proposes and agrees, if this Bid is accepted, to enter into an agreement with City in the form included in the contract documents to perform and furnish all work as specified or indicated in the contract documents for the contract price and within the contract time indicated in this bid and in accordance with the other terms and conditions of the contract documents.
2. Bidder accepts all of the terms and conditions of the advertisement of Invitation to Bid and Instruction to Bidders including, without limitation, those dealing with the Bid requirements. This Bid will remain in full force for 90 days from the date of the bid opening. Bidder will sign and submit an agreement with the Bonds and other documents required by the Bidding Requirements within fifteen days after the City's notice of award.
3. In submitting this Bid, Bidder represents, as more fully set forth in the Agreement that:
 - a. Bidder has examined copies of all plans, and bidding documents, contract specifications and instruction to bidders.
 - b. Bidder has familiarized itself with the nature and extent of the Contract Documents, work site, locality, local conditions and the laws and regulations that in any manner may affect the cost, progress, performance or furnishing of the work.
 - c. Bidder has studied carefully all reports and drawings of the project and the physical conditions of the project site areas and accepts the extent of the technical data contained in such reports and drawings upon which Bidder is entitled to rely.
 - d. Bidder has correlated the results of his studies and reviews, observations, investigations, explorations, tests, and studies with the terms and conditions of the contract documents.
 - e. Bidder has given City written notice of all conflicts, errors or discrepancies that is has discovered in these documents and the written resolution thereof by City is acceptable to Bidder.
 - f. This Bid is genuine and not made in the interest of or on behalf of any undisclosed person, firm or corporate and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation; Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false Bid, and Bidder has not sought by collusion to obtain for itself any advantage over any other Bidder or the City.
4. Bid Copies
ONE (1) ORIGINAL, TWO (2) COPIES and ONE (1) ELECTRONIC COPY (Flash Drive or CD) of the Bid should be submitted to the City of Cooper City, City Hall, 9090 SW 50th Place, Cooper City, Florida 33328, to the attention of the Office of the City Clerk. If by US mail, Bids shall be submitted to PO Box 290910, Cooper City, Florida 33329-0910.
5. Addenda, Additional Information-Contact with City Staff
Any addenda or answers to written questions supplied by the City to participating Bidders become part of this Invitation to Bid and the resulting contract. The Bid Form shall be signed by an authorized company representative dated and returned with the proposal Bid.

No negotiations, decisions or actions shall be initiated or executed by the Bidder as result of any discussions with any City employee. Only those communications which are in writing from the City may be considered as a duly authorized expression. Also, only communications from bidder that are signed and in writing will be recognized by the City as duly authorized expressions on behalf of the bidder.

Attachment A
(Page 3 of 12)

Specific questions related to the Scope of Services requested shall be directed in writing to the City of Cooper City Purchasing Division. Questions must be emailed to Purchasing@CooperCityFL.org, who may respond in kind with copies to all Bidders. **The deadline for submission of questions is 5:00PM, Wednesday, September 5, 2018.**

The successful bidder shall be required to execute a City contract covering the scope of services to be provided and setting forth the duties, rights and responsibilities of the parties. This contract must be executed by the successful bidder prior to recommendation of award and presentation to the City Commission. **IN MOST CASES THE AWARDED BID WILL SERVE AS THE CONTRACT.**

6. Summary of Documents to be submitted with Bid

<u> X </u>	Bid Form
<u> X </u>	Reference Form
<u> X </u>	Public Entity Crimes (PEC) Form
<u> X </u>	ADA Affidavit
<u> X </u>	Business Entity Affidavit
<u> n/a </u>	Bidder's Foreign (Non-Florida) Corporate Statement (If applicable)
<u> X </u>	W-9, Request for Taxpayer Identification Number
<u> X </u>	Proof of Workers Compensation Insurance or Exemption
<u> X </u>	Proof of Liability Insurance
<u> X </u>	Ownership Disclosure Affidavit
<u> X </u>	Drug-Free Workplace Certificate
<u> X </u>	Employee Background Verification Affidavit

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Attachment A
(Page 4 of 12)

Vendor/ Bidder Contact Information

Name of Company: Advanced Environmental Laboratories, Inc.

Address: 10200 USA Today Way
Miramar, FL 33025

Primary Contact: David Radtke

Title: Project Manager

Tel: 954-889-2288 Mobile: 954-889-2288

Email Address (Required): dradtke@aellab.com

Alternate Contact: Tiffany Mackie

Title: Client Services Manager

Tel: 954-889-2288 Mobile: 954-292-1579

Email Address (Required): tmackie@aellab.com

Company's Website: www.aellab.com

Remit to Address (if different from above):
Advanced Environmental Laboratories, Inc.

PO Box 551580 Jacksonville, FL 32255-1580

Remit to Contact: Nandini Amrit

Attachment A
 (Page 5 of 12)

PRICING SHEET
Laboratory Testing Services – Utilities Department

POTABLE WATER SYSTEM ANALYSES				
Project Name & Parameter	Annual Estimated Quantity	Unit of Measurement (UOM)	Price per UOM	Extended Price
Potable Water System Analyses - Primary Inorganics (FAC 62-550 Table 1)				
Antimony	1	Each	\$ 6.00	\$ 6.00
Arsenic	1	Each	\$ 6.00	\$ 6.00
Asbestos	1	Each	\$ 110.00	\$ 110.00
Barium	1	Each	\$ 6.00	\$ 6.00
Beryllium	1	Each	\$ 6.00	\$ 6.00
Cadmium	1	Each	\$ 6.00	\$ 6.00
Chromium	1	Each	\$ 6.00	\$ 6.00
Cyanide (as free Cyanide)	1	Each	\$ 18.00	\$ 18.00
Fluoride	1	Each	\$ 10.00	\$ 10.00
Lead	1	Each	\$ 6.00	\$ 6.00
Mercury	1	Each	\$ 15.00	\$ 15.00
Nickel	1	Each	\$ 6.00	\$ 6.00
Nitrate	1	Each	\$ 10.00	\$ 10.00
Nitrite	1	Each	\$ 10.00	\$ 10.00
Total Nitrate and Nitrite	1	Each	\$ 12.00	\$ 12.00
Selenium	1	Each	\$ 6.00	\$ 6.00
Sodium	1	Each	\$ 6.00	\$ 6.00
Thallium	1	Each	\$ 6.00	\$ 6.00
Potable Water System Analyses - Primary Inorganics (FAC 62-550 Table 1) Subtotal				\$ 251.00
Potable Water System Analyses - Disinfectant Residuals				
Chlorine	1	Each	\$ 12.00	\$ 12.00
Potable Water System Analyses - Disinfection Byproducts				
TTHM	16	Each	\$ 25.00	\$ 400.00
HAA5	16	Each	\$ 45.00	\$ 720.00
Potable Water System Analyses - Disinfection Byproducts Subtotal				\$ 1120.00

Attachment A
 (Page 6 of 12)

PRICING SHEET
Laboratory Testing Services – Utilities Department

Potable Water System Analyses - VOC's (FAC 62-550 Table 4)				
Project Name & Parameter	Annual Estimated Quantity	Unit of Measurement (UOM)	Price per UOM	Extended Price
VOC's Annual	1	Each	\$ 40.00	\$ 40.00
1,1-Dichloroethylene (75-35-4)		Included		
1,1,1-Trichloroethane (71-55-6)		Included		
1,1,2-Trichloroethane (79-00-5)		Included		
1,2-Dichloroethane (107-06-2)		Included		
1,2-Dichloropropane (78-87-5)		Included		
1,2,4-Trichlorobenzene (120-82-1)		Included		
Benzene (71-43-2)		Included		
Carbon tetrachloride (56-23-5)		Included		
cis-1,2-Dichloroethylene (156-59-2)		Included		
Dichloromethane (75-09-2)		Included		
Ethylbenzene (100-41-4)		Included		
Monochlorobenzene (108-90-7)		Included		
o-Dichlorobenzene (95-50-1)		Included		
para-Dichlorobenzene (106-46-7)		Included		
Styrene (100-42-5)		Included		
Tetrachloroethylene (127-18-4)		Included		
Toluene (108-88-3)		Included		
trans-1,2-Dichloroethylene (156-60-5)		Included		
Trichloroethylene (79-01-6)		Included		
Vinyl chloride (75-01-4)		Included		
Xylenes (total) (1330-20-7)		Included		

Attachment A
(Page 7 of 12)

PRICING SHEET
Laboratory Testing Services – Utilities Department

Potable Water System Analyses - SOC's (FAC 62-550 Table 5)				
Project Name & Parameter	Annual Estimated Quantity	Unit of Measurement (UOM)	Price per UOM	Extended Price
SOC's Annual	1	Each	\$ 800.00	\$ 800.00
2,3,7,8-TCDD (Dioxin) (1746-01-6)		Included		
2,4-D (94-75-7)		Included		
2,4,5-TP (Silvex) (93-72-1)		Included		
Alachlor (15972-60-8)		Included		
Atrazine (1912-24-9)		Included		
Benzo(a)pyrene (50-32-8)		Included		
Carbofuran (1563-66-2)		Included		
Chlordane (57-74-9)		Included		
Dalapon (75-99-0)		Included		
Di(2-ethylhexyl)adipate (103-23-1)		Included		
Di(2-ethylhexyl)phthalate (117-81-7)		Included		
Dibromochloropropane (DBCP) (96-12-8)		Included		
Dinoseb (88-85-7)		Included		
Diquat (85-00-7)		Included		
Endothall (145-73-3)		Included		
Endrin (72-20-8)		Included		
Ethylene dibromide (EDB) (106-93-4)		Included		
Glyphosate (1071-83-6)		Included		
Heptachlor (76-44-8)		Included		
Heptachlor epoxide (1024-57-3)		Included		
Hexachlorobenzene (118-74-1)		Included		
Hexachlorocyclopentadiene (77-47-4)		Included		
Lindane (58-89-9)		Included		
Methoxychlor (72-43-5)		Included		
Oxamyl (vydate) (23135-22-0)		Included		
Pentachlorophenol (87-86-5)		Included		
Picloram (1918-02-1)		Included		
Polychlorinated biphenyls (PCBs)		Included		
Simazine (122-34-9)		Included		
Toxaphene (8001-35-2)		Included		

Attachment A

(Page 8 of 12)

PRICING SHEET
Laboratory Testing Services – Utilities Department

Potable Water System Analyses - Microbiological				
Project Name & Parameter	Annual Estimated Quantity	Unit of Measurement (UOM)	Price per UOM	Extended Price
Total Coliform	540	Each	\$ 8.00	\$ 4,320.00
Fecal Coliform	6	Each	\$ 10.00	\$ 60.00
Potable Water System Analyses – Microbiological Subtotal				\$ 4,380.00
Potable Water System Analyses - Radionuclides				
Radionuclides Annual	1	Each	\$ 375.00	\$ 375.00
Combined radium226 and radium228	Included			
Gross alpha particle activity including radium226 but excluding radon and uranium	Included			
Uranium	Included			
Potable Water System Analyses - Lead and Copper				
Lead	40	Each	\$ 6.00	\$ 240.00
Copper	40	Each	\$ 6.00	\$ 240.00
Alkalinity	2	Each	\$ 12.00	\$ 24.00
Orthophosphate	2	Each	\$ 10.00	\$ 20.00
Potable Water System Analyses - Lead and Copper Subtotal				\$ 524.00
Potable Water System Analyses - Secondary Drinking Water Contaminants (FAC 62-550 Table 6)				
Aluminum	1	Each	\$ 6.00	\$ 6.00
Chloride	1	Each	\$ 10.00	\$ 10.00
Copper	1	Each	\$ 6.00	\$ 6.00
Fluoride	24	Each	\$ 10.00	\$ 240.00
Iron	1	Each	\$ 6.00	\$ 6.00
Manganese	1	Each	\$ 6.00	\$ 6.00
Silver	1	Each	\$ 6.00	\$ 6.00
Sulfate	1	Each	\$ 10.00	\$ 10.00
Zinc	1	Each	\$ 6.00	\$ 6.00
Color	1	Each	\$ 15.00	\$ 15.00
pH	1	Each	\$ 5.00	\$ 5.00
Total Dissolved Solids	1	Each	\$ 12.00	\$ 12.00
Foaming Agents	1	Each	\$ 30.00	\$ 30.00
Potable Water System Analyses - Secondary Drinking Water Contaminants (FAC 62-550 Table 6) Subtotal				\$ 358.00

Attachment A
(Page 9 of 12)

PRICING SHEET
Laboratory Testing Services – Utilities Department

Potable Water System Analyses - Physical Characteristics				
Project Name & Parameter	Annual Estimated Quantity	Unit of Measurement (UOM)	Price per UOM	Extended Price
Turbidity	1	Each	\$ 10.00	\$ 10.00
Temperature	1	Each	\$ 0	\$ 0
Conductivity	1	Each	\$ 10.00	\$ 10.00
Color	1	Each	\$ 15.00	\$ 15.00
TDS	1	Each	\$ 12.00	\$ 12.00
Hardness	1	Each	\$ 12.00	\$ 12.00
UCMR	1	Each	\$ 1,750.00	\$ 1,750.00
Composite/Grab Sampling Charges	24	Each	\$ 40.00	\$ 960.00
Potable Water System Analyses - Physical Characteristics Subtotal				\$ 2,769.00
Potable Water System Analyses Total				\$ 10,629.00
WASTEWATER COLLECTION/TREATMENT SYSTEM ANALYSES				
Project Name & Parameter	Annual Estimated Quantity	Unit of Measurement (UOM)	Price per UOM	Extended Price
Wastewater Collection/Treatment System Analyses - Influent, Effluent & Reuse				
BOD5	52	Each	\$ 13.00	\$ 676.00
CBOD5	104	Each	\$ 13.00	\$ 1,352.00
Total Suspended Solids	104	Each	\$ 10.00	\$ 1,040.00
Fecal Coliform	120	Each	\$ 10.00	\$ 1,200.00
pH	104	Each	\$ 5.00	\$ 520.00
Total Nitrogen	52	Each	\$ 20.00	\$ 1,040.00
Total Phosphorus	52	Each	\$ 16.00	\$ 832.00
Nitrate	52	Each	\$ 10.00	\$ 520.00
Nitrite	52	Each	\$ 10.00	\$ 520.00
% CBOD Efficiency	52	Each	\$ 0	\$ 0
%TSS Efficiency	52	Each	\$ 0	\$ 0
Ammonia	52	Each	\$ 15.00	\$ 780.00
Ortho-Phosphates	52	Each	\$ 10.00	\$ 520.00
Total Solids	104	Each	\$ 10.00	\$ 1,040.00
Total Kjeldahl Nitrogen (TKN)	52	Each	\$ 15.00	\$ 780.00
Wastewater Collection/Treatment System Analyses - Influent, Effluent & Reuse Subtotal				\$ 10,820.00

Attachment A

(Page 10 of 12)

PRICING SHEET
Laboratory Testing Services – Utilities Department

Wastewater Collection/Treatment System Analyses - Biosolids				
Project Name & Parameter	Annual Estimated Quantity	Unit of Measurement (UOM)	Price per UOM	Extended Price
Nitrogen	6	Each	\$ 20.00	\$ 120.00
Phosphorus	6	Each	\$ 16.00	\$ 96.00
Potassium	6	Each	\$ 6.00	\$ 36.00
Arsenic Dry Weight	6	Each	\$ 6.00	\$ 36.00
Cadmium Dry Weight	6	Each	\$ 6.00	\$ 36.00
Copper, Tot, Dry Wt. (as Cu)	6	Each	\$ 6.00	\$ 36.00
Lead	6	Each	\$ 6.00	\$ 36.00
Mercury, Dry Weight	6	Each	\$ 15.00	\$ 90.00
Molybdenum, Dry Weight	6	Each	\$ 6.00	\$ 36.00
Nickel, Dry Weight	6	Each	\$ 6.00	\$ 36.00
Selenium Dry Weight	6	Each	\$ 6.00	\$ 36.00
Zinc Dry Weight	6	Each	\$ 6.00	\$ 36.00
pH	6	Each	\$ 5.00	\$ 30.00
Coliform, Fecal	28	Each	\$ 50.00	\$ 1,400.00
Volatile Organic Compounds	6	Each	\$ 50.00	\$ 300.00
% Volatiles	52	Each	\$ 15.00	\$ 780.00
% Total Solids	58	Each	\$ 10.00	\$ 580.00
Specific Oxygen Uptake Rate (SOUR)	4	Each	\$ 10.00	\$ 40.00
Wastewater Collection/Treatment System Analyses – Biosolids Subtotal				\$ 3,760.00
Wastewater Collection/Treatment System Analyses - In-House Laboratory Certification				
DMR-QA	1	Each	\$	\$ 120.00
Wastewater Collection/Treatment System Analyses Total				\$ 14,700.00

Attachment A
 (Page 11 of 12)

PRICING SHEET
Laboratory Testing Services – Utilities Department

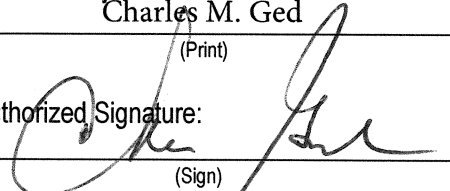
DEEP INJECTION WELL/MONITOR WELL ANALYSES				
Project Name & Parameter	Annual Estimated Quantity	Unit of Measurement (UOM)	Price per UOM	Extended Price
pH	36	Each	\$ 5.00	\$ 180.00
Specific Conductance	36	Each	\$ 5.00	\$ 180.00
Ammonia	36	Each	\$ 15.00	\$ 540.00
Calcium Hardness as CaCO ₃	36	Each	\$ 10.00	\$ 360.00
Total Hardness as CaCO ₃	36	Each	\$ 12.00	\$ 432.00
Chloride	36	Each	\$ 10.00	\$ 360.00
Magnesium Hardness as CaCO ₃	36	Each	\$ 10.00	\$ 360.00
Nitrate + Nitrite as N	36	Each	\$ 12.00	\$ 432.00
Total Kjeldahl Nitrogen (TKN)	36	Each	\$ 15.00	\$ 540.00
Sulfate	36	Each	\$ 10.00	\$ 360.00
Total Dissolved Solids (TDS)	36	Each	\$ 12.00	\$ 432.00
Gross Alpha	12	Each	\$ 50.00	\$ 600.00
Radium 226	12	Each	\$ 100.00	\$ 1200.00
Radium 228	12	Each	\$ 100.00	\$ 1200.00
Temperature	36	Each	\$ 0	\$ 0
Composit/Grab Sampling	36	Each	\$ 40.00	\$ 1,440.00
Deep Injection Well/Monitor Well Analyses Total				\$ 8,616.00
GROUND/SURFACE WATER ANALYSES				
Project Name & Parameter	Annual Estimated Quantity	Unit of Measurement (UOM)	Price per UOM	Extended Price
EPA Method 8270	4	Each	\$ 150.00	\$ 600.00
Monitor Well Sampling Charges	16	Each	\$ 40.00	\$ 640.00
Ground/Surface Water Analyses Total				\$ 1,240.00

Attachment A
(Page 12 of 12)

PRICING SHEET
Laboratory Testing Services – Utilities Department

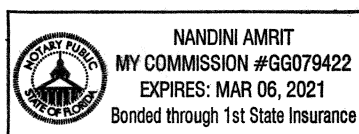
REAGENTS & SUPPLIES				
Project Name & Parameter	Annual Estimated Quantity	Unit of Measurement (UOM)	Price per UOM	Extended Price
Buffer pH 4.0	20	Quart	\$ 20.00	\$ 400.00
Buffer pH 7.0	20	Quart	\$ 20.00	\$ 400.00
Buffer pH 10.0	20	Quart	\$ 20.00	\$ 400.00
Calcium Hardness Buffer	6	Pint	\$ 47.00	\$ 282.00
Total Hardness Buffer	6	Pint	\$ 105.00	\$ 630.00
Calcium Hardness Indicator (8 oz powder)	6	Each	\$ 21.00	\$ 126.00
Total Hardness Indicator (8 oz powder)	6	Each	\$ 105.00	\$ 78.00
Sulfuric Acid	8	Quart	\$ 17.00	\$ 136.00
Methyl Purple Indicator	6	Pint	\$ 49.00	\$ 294.00
Phenolphthalein Indicator	6	Pint	\$ 26.00	\$ 156.00
EDTA	8	1/2 Gallon	\$ 25.00	\$ 200.00
Fluoride Standard (1ppm)	12	Quart	\$ 49.00	\$ 588.00
Tisab	12	Gallon	\$ 131.00	\$ 1,572.00
Conductivity Solution (1412)	6	Quart	\$ 104.00	\$ 624.00
Color Standard	8	Pint	\$ 105.00	\$ 1,400.00
Reagents & Supplies Totals				\$ 7,286.00
Grand Total				\$ 42,471.00
Additional Service				
Item	Price per Call			
Afterhours/Holidays/Emergency Calls	\$ 200.00			

Submitted by: Charles M. Ged
(Print)

Authorized Signature: 
(Sign)

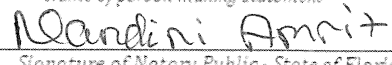
Company Name: Advanced Environmental Laboratories, Inc.

Date: September 5, 2018



STATE: FLORIDA
COUNTY: Duval

Sworn to (or affirmed) and subscribed before me this 5th day of September, 2018 by: Charles M. Ged
Name of person making statement


Signature of Notary Public - State of Florida

(NOTARY SEAL) Nandini Amrit
Name of Notary Typed, Printed, or Stamped

Personally Known X OR Produced Identification _____

Type of Identification Produced _____

Attachment B

REFERENCES

All references shall be from entities/companies regularly engaged in the business of providing the goods and/or services as described in this solicitation.

1. ENTITY/COMPANY NAME: Solid Waste Authority of Palm Beach
ADDRESS: 7501 N Jog Road West Palm Beach, FL 33412
CONTACT NAME: Tom Sirna
CONTACT'S TITLE: Hydrogeologist
TELEPHONE: 561-640-4000
E-MAIL (REQUIRED): tsirna@swa.org
CONTRACT PERIOD: FROM: 2013 TO: Present

2. ENTITY/COMPANY NAME: Town of Lantana
ADDRESS: 510 W Pine Street Lake Worth, FL 33462
CONTACT NAME: Steve Sweade
CONTACT'S TITLE: Chief Operator
TELEPHONE: 561-540-5760
E-MAIL (REQUIRED): ssweade@lantana.org
CONTRACT PERIOD: FROM: 2012 TO: Present

3. ENTITY/COMPANY NAME: City of Miramar
ADDRESS: 4100 S. Flamingo Road Miramar, FL 33027
CONTACT NAME: Shelanda Krekreghe
CONTACT'S TITLE: Water Quality Manager
TELEPHONE: 954-883-5203
E-MAIL (REQUIRED): skrekreghe@miramarfl.gov
CONTRACT PERIOD: FROM: 2016 TO: Present

This page shall be completed IN FULL and submitted with your bid.

ATTACHMENT C
(Page 1 of 2)

**SWORN STATEMENT PURSUANT TO SECTION 287.133 (3) (a),
FLORIDA STATUTES, ON PUBLIC ENTITY CRIMES**

THIS FORM MUST BE SIGNED AND SWORN TO IN THE PRESENCE OF A
NOTARY PUBLIC OR OTHER OFFICIAL AUTHORIZED TO ADMINISTER OATHS.

1. This sworn statement is submitted to the CITY OF COOPER CITY, FLORIDA

by: Charles M. Ged, President
(print individual's name and title)
for: Advanced Environmental Laboratories, Inc.
(print name of entity submitting sworn statement)

whose business address is: 10200 USA Today Way Miramar, FL 33025

and (if applicable) its Federal Employer Identification Number (FEIN) is: 59-3274470.

(If the entity has no FEIN, include the Social Security Number of the individual signing this sworn statement: _____ - _____).

2. I understand that a "public entity crime" as defined in Paragraph 287.133(1)(g), Florida Statutes, means a violation of any state or federal law by a person with respect to and directly related to the transaction of business with any public entity or with an agency or political subdivision of any other state or of the United States, including but not limited to, any bid or contract for goods or services to be provided to any public entity or an agency or political subdivision of any other state or of the United States and involving antitrust, fraud, theft, bribery, collusion, racketeering, conspiracy, or material misrepresentations.

3. I understand that "convicted" or "conviction" as defined in Paragraph 287.133(1)(b), Florida Statutes, means a finding of guilt or a conviction of a public entity crime, with or without an adjudication of guilt, in any federal or state trial court of record relating to charges brought by indictment or information after July 1, 1989, as a result of a jury verdict, non-jury trial, or entry of a plea of guilty or nolo contendere.

4. I understand that an "affiliate" as defined in Paragraph 287.133(1)(a), Florida Statutes, means:

- a) A predecessor or successor of a person convicted of a public entity crime; or
- b) An entity under the control of any natural person who is active in the management of the entity and who has been convicted of a public entity crime. The term "affiliate" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in the management of an affiliate. The ownership by one person of shares constituting a controlling interest in another person, or a pooling of equipment or income among persons when not for fair market value under an arm's length agreement, shall be a prima facie case that one person controls another person. A person who knowingly enters into a joint venture with a person who has been convicted of a public entity crime in Florida during the preceding 36 months shall be considered an affiliate.

5. I understand that a "person" as defined in Paragraph 287.133(1)(e), Florida Statutes, means any natural person or entity organized under the laws of any state or of the United States with the legal power to enter into a binding contract and which bids or applies to bid on contracts for the provision of goods or services let by a public entity, or which otherwise transacts or applies to transact business with a public entity. The term "person" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in management of an entity.

ATTACHMENT C

(Page 2 of 2)

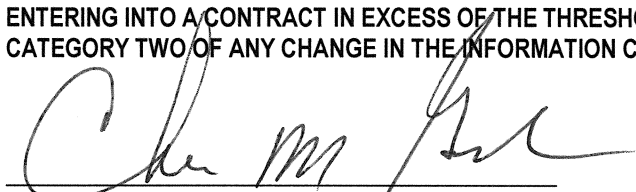
6. Based on information and belief, the statement that I have marked below is true in relation to the entity submitting this sworn statement. (Indicate which statement applies).

X Neither the entity submitting this sworn statement, nor any officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, not any affiliate of the entity, has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

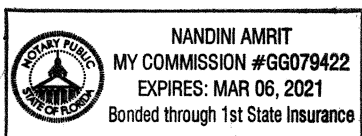
____ This entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

____ The entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989. However, there has been a subsequent proceeding before a Hearing Officer of the State of Florida, Division of Administrative Hearings and the Final Order entered by the Hearing Officer determined that it was not in the public interest to place the entity submitting this sworn statement on the convicted vendor list. (attach a copy of the final order).

I UNDERSTAND THAT THE SUBMISSION OF THIS FORM TO THE CONTRACTING OFFICER FOR THE PUBLIC ENTITY IDENTIFIED IN PARAGRAPH 1 ABOVE IS FOR THAT PUBLIC ENTITY ONLY AND THAT THIS FORM IS VALID THROUGH DECEMBER 31 OF THE CALENDAR YEAR IN WHICH IT IS FILED. I ALSO UNDERSTAND THAT I AM REQUIRED TO INFORM THE PUBLIC ENTITY PRIOR TO ENTERING INTO A CONTRACT IN EXCESS OF THE THRESHOLD AMOUNT PROVIDED IN SECTION 287.017, FLORIDA STATUTES FOR CATEGORY TWO OF ANY CHANGE IN THE INFORMATION CONTAINED IN THIS FORM.



Signature



STATE:	FLORIDA
COUNTY:	Duval
Sworn to (or affirmed) and subscribed before me this <u>5th</u> day of September <u>20 18</u> , by: <u>Charles M. Ged</u> <i>Name of person making statement</i>	
(NOTARY SEAL)	<u>Nandini Amrit</u> <i>Signature of Notary Public - State of Florida</i>
	<u>Nandini Amrit</u> <i>Name of Notary Typed, Printed, or Stamped</i>
	Personally Known <u>X</u> OR Produced Identification _____
Type of Identification Produced _____	

ATTACHMENT D

**AMERICANS WITH DISABILITIES ACT (ADA)
DISABILITY NONDISCRIMINATION STATEMENT**

THIS FORM MUST BE SIGNED AND SWORN TO IN THE PRESENCE OF A NOTARY PUBLIC OR OTHER OFFICIAL
AUTHORIZED TO ADMINISTER OATHS.

This sworn statement is submitted to the CITY OF COOPER CITY, FLORIDA

by: Charles M. Ged, President

(print individual's name and title)

for: Advanced Environmental Laboratories, Inc.

(print name of entity submitting sworn statement)

whose business address is: 10200 USA Today Way Miramar, FL 33025

and (if applicable) its Federal Employer Identification Number (FEIN) is: 59-3274470

(If the entity has no FEIN, include the Social Security Number of the individual signing this sworn statement: _____ - _____ - _____.)

I, being duly first sworn state:

That the above named firm, corporation or organization is in compliance with and agreed to continue to comply with, and assure that any subcontractor, or third party contractor under this project complies with all applicable requirements of the laws listed below including, but not limited to, those provisions pertaining to employment, provision of programs and services, transportation, communications, access to facilities, renovations, and new construction.

The American with Disabilities Act of 1990 (ADA), Pub. L. 101-336, 104 Stat 327, 42 USC 1210112213 and 47 USC Sections 225 and 661 including Title I, Employment; Title II, Public Services; Title III, Public Accommodations and Services Operated by Private entities; Title IV, Telecommunications; and Title V, Miscellaneous Provisions.

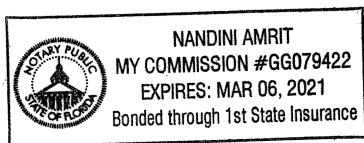
The Florida Americans with Disabilities Accessibility Implementation Act of 1993, Section 553.501-553.513, Florida Statutes:

The Rehabilitation Act of 1973, 229 USC Section 794;

The Federal Transit Act, as amended 49 USC Section 1612;

The Fair Housing Act as amended 42 USC Section 3601-3631.

Signature



STATE: FLORIDA
COUNTY: Duval

Sworn to (or affirmed) and subscribed before me this 5th day of
September, 2018, by: Charles M. Ged

Name of person making statement

Nandini Amrit

Signature of Notary Public - State of Florida

(NOTARY SEAL)

Nandini Amrit

Name of Notary Typed, Printed, or Stamped

Personally Known X OR Produced Identification _____

Type of Identification Produced _____

ATTACHMENT E

BUSINESS ENTITY AFFIDAVIT

I, Charles M. Ged, being first duly sworn state:

The full legal name and business address of the person(s) or entity proposing to contract or transact business with the City of Cooper City ("City") are (Post Office addresses are not acceptable), as follows:

59-3274470

Federal Employer Identification Number (FEIN) (If none, Social Security Number)

Advanced Environmental Laboratories, Inc.

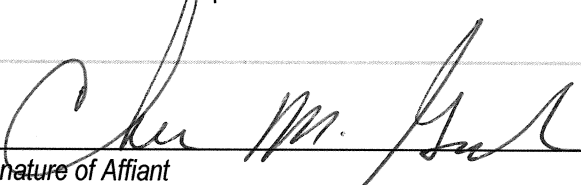
Name of Entity, Individual, Partners or Corporation

Doing Business As (If same as above, leave blank)

10200 USA Today Way Miramar Florida
Street Address Suite City State

Florida 10/3/94

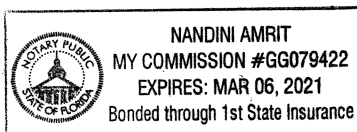
State and Date of Incorporation:


Signature of Affiant

9/5/2018
Date

Charles M. Ged

Print Name



STATE: FLORIDA
COUNTY: Duval

Sworn to (or affirmed) and subscribed before me this 5th day of September, 20 18 by: Charles M. Ged

Name of person making statement

Nandini Amrit

Signature of Notary Public - State of Florida

(NOTARY SEAL)

Nandini Amrit

Name of Notary Typed, Printed, or Stamped

Personally Known X OR Produced Identification _____

Type of Identification Produced _____

Print or type
See Specific Instructions on page 2.

or

Employer identification number									
5	9	-	3	2	7	4	4	7	0

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions on page 3.

September 5, 2018

4. Certify that FATCA code(s) entered on this form (if any) indicating that you are exempt from the FATCA reporting, is correct. See *What is FATCA reporting?* on page 2 for further information.

Attachment H

**REQUEST FOR PROOF OF
WORKERS COMPENSATION INSURANCE OR EXEMPTION**

Dear Provider of Services or Goods:

In order to provide services or goods to City of Cooper City, we require that you provide us either proof of workers compensation coverage or proof of exemption.

Workers compensation insurance is required of all employers in Florida that employ 4 or more part or full time employees. In the event that you are an employer in the construction industry, you are required to have workers compensation insurance if you employ one or more workers. Corporate officers and sole proprietors are included when calculating the number of employees. Note: Corporate officers may claim exemption from workers compensation coverage on themselves only, by filing *Form DWC 250, Notice of Election to Be Exempt*. This form can be found at <http://fldfs.com/WC/forms.html>.

If you meet the above criteria to be exempt, you MUST provide us with one of the following:

- If your business is a sole proprietorship or unincorporated business: provide us a Verification of Automatic Exempt Certificate. This verification is a letter that is issued by the State of Florida Department of Financial Services. To receive a letter from the State, complete the following directions: 1) Call the National Council of Compensation Insurance 1-800-622-4123, Option 5, and ask them for the class code for your type of business. 2) Once you have received this code, call the Department of Financial Services at 1-850-413-1601 and provide them your business name, class code, mailing address, and contact phone number. They will send you the Verification of Automatic Exempt Certificate. 3) Provide us a copy of the Verification of Automatic Exempt Certificate.
- If your business is a corporation (including a professional association or limited liability company), and you are not required to have workers compensation insurance as per the requirements as outlined above, you must complete the attached Workers Compensation Exemption Affidavit, have it notarized, and return the original to us.

If you are an employer that meets the requirements of workers compensation and needs to obtain coverage, contact your current business insurance agent, or you may use the following resources to locate an agent: www.faia.com, www.piafl.org/wc-info.pdf, or call (850) 893-8245.

Please be reminded that the furnishing of this information to City of Cooper City is a non-negotiable requirement to perform services for us. Failure to provide this timely may result in either termination of your services or delay of payment for services. Your workers compensation Certificate of Coverage, Workers Compensation Exemption Affidavit, or Verification of Automatic Exempt Certificate must be delivered or mailed to the Purchasing Division located at City Hall, 9090 SW 50 Place, Cooper City, Florida 33328, or emailed to Purchasing@CooperCityFL.org.

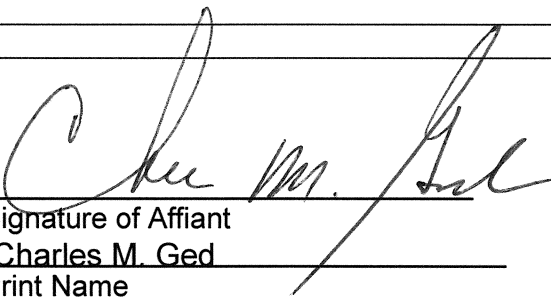
ATTACHMENT I

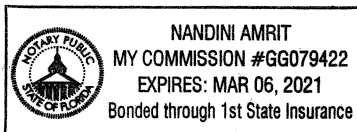
OWNERSHIP DISCLOSURE AFFIDAVIT

1. If the contact or business transaction is with a corporation, the full legal name and business address shall be provided for each officer and director and each stockholder who holds directly or indirectly five percent (5%) or more of the corporation's stock. If the contract or business transaction is with a trust, the full legal name and address shall be provided for each trustee and each beneficiary. All such names and addresses are (Post Office addresses are not acceptable), as follows:

<u>Full Legal Name</u>	<u>Address</u>	<u>Ownership</u>
Charles M. Ged	13698 Marsh Harbor Drive Jacksonville, FL 32225	55 %
Jennifer Ged	Same	45 %

2. The full legal names and business address of any other individual (other than subcontractors, materialmen, suppliers, laborers, or lenders) who have, or will have, any interest (legal, equitable, beneficial or otherwise) in the contract or business transaction with the City are (Post Office addresses are not acceptable), as follows:


Signature of Affiant
Charles M. Ged
Print Name
9/5/2018
Date



STATE: FLORIDA
COUNTY: Duval

Sworn to (or affirmed) and subscribed before me this 5th day of
September, 20 18, by: Charles M. Ged

Name of person making statement



Signature of Notary Public - State of Florida

(NOTARY SEAL)

Nandini Amrit

Name of Notary Typed, Printed, or Stamped

Personally Known X OR Produced Identification _____

Type of Identification Produced _____

ATTACHMENT J

DRUG FREE WORKPLACE CERTIFICATE

I, the undersigned, in accordance with Florida Statute 287.087, hereby certify that, **(print or type name of firm)**

Advanced Environmental Laboratories, Inc.

- Publishes a written statement notifying that the unlawful manufacture, distribution, dispensing, possession or use of a controlled substance is prohibited in the workplace named above, and specifying actions that will be taken against violations of such prohibition.
- Informs employees about the dangers of drug abuse in the work place, the firm's policy of maintaining a drug free working environment, and available drug counseling, rehabilitation, and employee assistance programs, and the penalties that may be imposed upon employees for drug use violations.
- Gives each employee engaged in providing commodities or contractual services that are under bid or proposal, a copy of the statement specified above.
- Notifies the employees that as a condition of working on the commodities or contractual services that are under bid or proposal, the employee will abide by the terms of the statement and will notify the employer of any conviction of, pleas of guilty or nolo contendere to, any violation of Chapter 1893, or of any controlled substance law of the State of Florida or the United States, for a violation occurring in the work place, no later than five (5) days after such conviction, and requires employees to sign copies of such written (*) statement to acknowledge their receipt.
- Imposes a sanction on, or requires the satisfactory participation in, a drug abuse assistance or rehabilitation program, if such is available in the employee's community, by any employee who is so convicted.
- Makes a good faith effort to continue to maintain a drug free work place through the implementation of the drug free workplace program.

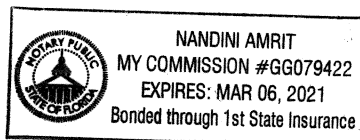
"As a person authorized to sign this statement, I certify that the above named business, firm or corporation complies fully with the requirements set forth herein".


Signature of Affiant
Charles M. Ged

Print Name

9/5/2018

Date



STATE: FLORIDA
COUNTY: Duval

Sworn to (or affirmed) and subscribed before me this 5th day of
September, 2018 by: Charles M. Ged

Name of person making statement

Nandini Amrit

Signature of Notary Public - State of Florida

(NOTARY SEAL)

Nandini Amrit

Name of Notary Typed, Printed, or Stamped

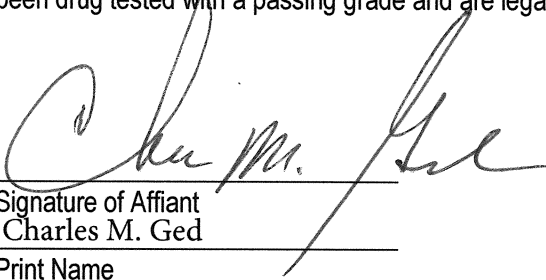
Personally Known X OR Produced Identification _____

Type of Identification Produced _____

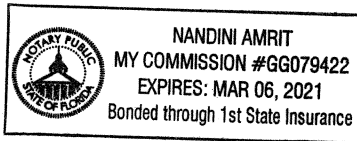
ATTACHMENT K

EMPLOYEE BACKGROUND VERIFICATION AFFIDAVIT

I, Chuck M. Ged of Advanced Environmental Laboratories, Inc., attest that all personnel used in
(Print Name) (Company Name)
the performance of this work have had a criminal background check with a passing grade and have
been drug tested with a passing grade and are legally documented to work in the United States.


Signature of Affiant
Charles M. Ged

Print Name
9/5/2018
Date



STATE:	FLORIDA
COUNTY:	<u>Duval</u>
Sworn to (or affirmed) and subscribed before me this <u>5th</u> day of <u>September</u> , 20 <u>18</u> , by: <u>Charles M. Ged</u> <small>Name of person making statement</small>	
(NOTARY SEAL)	<u>Nandini Amrit</u> <small>Signature of Notary Public - State of Florida</small>
	<u>Nandini Amrit</u> <small>Name of Notary Typed, Printed, or Stamped</small>
	Personally Known <u>X</u> OR Produced Identification _____
Type of Identification Produced _____	



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

06/28/2018

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 have ADDITIONAL INSURED provisions or 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 Brown & Brown of Florida, Inc. Building 100, Suite 100 10151 Deerwood Park Blvd Jacksonville, FL 32256 Jim Parrish		904-565-1952		CONTACT NAME: Jamie Pepe PHONE (A/C, No, Ext): 904-565-1952 E-MAIL ADDRESS: jpepe@bbjax.com FAX (A/C, No): 904-565-2440	
INSURED Advanced Environmental Laboratories, Inc. 6681 Southpoint Parkway Jacksonville, FL 32216				INSURER(S) AFFORDING COVERAGE INSURER A: Bridgefield Employers Ins. Co. INSURER B: Colony Insurance Company INSURER C: INSURER D: INSURER E: INSURER F:	
				NAIC # 10701	

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.

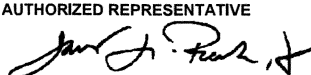
INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
B	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR <input checked="" type="checkbox"/> Pollution <input checked="" type="checkbox"/> Transportation GEN'L AGGREGATE LIMIT APPLIES PER: <input checked="" type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC OTHER:	X		PACE308344	04/22/2018	04/22/2019	EACH OCCURRENCE \$ 2,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 1,000,000 MED EXP (Any one person) \$ 5,000 PERSONAL & ADV INJURY \$ 2,000,000 GENERAL AGGREGATE \$ 2,000,000 PRODUCTS - COMP/OP AGG \$ 2,000,000 Emp Ben. \$ 2,000,000
	AUTOMOBILE LIABILITY <input type="checkbox"/> ANY AUTO <input type="checkbox"/> OWNED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> HIRED AUTOS ONLY <input type="checkbox"/> NON-OWNED AUTOS ONLY						COMBINED SINGLE LIMIT (Ea accident) \$ BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$
B	<input type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> OCCUR <input checked="" type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE DED RETENTION \$			EXC308345	04/22/2018	04/22/2019	EACH OCCURRENCE \$ 1,000,000 AGGREGATE \$ 1,000,000 \$
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) <input type="checkbox"/> Y/N If yes, describe under DESCRIPTION OF OPERATIONS below	N/A	X	830-37393	01/26/2018	01/26/2019	<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
B	Professional			PACE308344	04/22/2018	04/22/2019	Aggregate Per Claim 2,000,000 2,000,000

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

City of Cooper City its employees, directors, officers, agents, independent contractors, successors and assigns, and other authorized representatives are included as additional insured with respects to the General Liability when required by written contract. Waiver of subrogation in favor of the City of Cooper City and its agents, employees and officials is included..

CERTIFICATE HOLDER

CANCELLATION

COOPE03 City Of Cooper City 9090 SW 50 Place Cooper City, FL 33328	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 
--	---

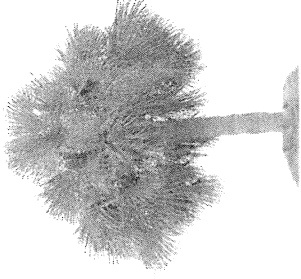
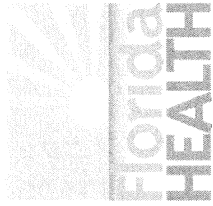
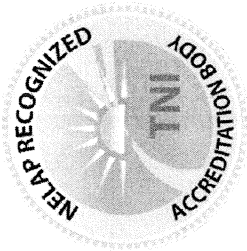
NOTEPAD:

HOLDER CODE COOPE03
INSURED'S NAME Advanced Environmental

ADVAN-8
OP ID: RA

PAGE 2
Date 06/28/2018

on the Workers Compensation policy when required by written contract.
Notice of cancellation provided per policy provisions.



State of Florida
Department of Health, Bureau of Public Health Laboratories
This is to certify that

E82535

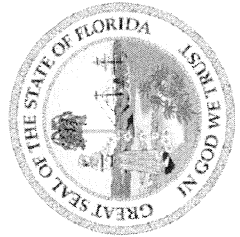
ADVANCED ENVIRONMENTAL LABORATORIES, INC. - MIAMI
10200 USA TODAY WAY
MIRAMAR, FL 33025


has complied with Florida Administrative Code 64E-1,
for the examination of environmental samples in the following categories

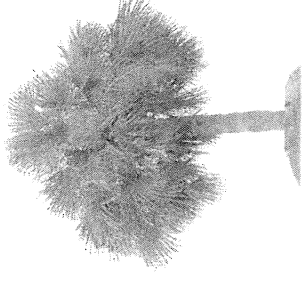
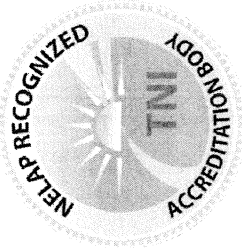
DRINKING WATER - GROUP II UNREGULATED CONTAMINANTS, DRINKING WATER - MICROBIOLOGY, DRINKING WATER - OTHER REGULATED CONTAMINANTS, DRINKING WATER - PRIMARY INORGANIC CONTAMINANTS, DRINKING WATER - SECONDARY INORGANIC CONTAMINANTS, DRINKING WATER - SYNTHETIC ORGANIC CONTAMINANTS, NON-POTABLE WATER - EXTRACTABLE ORGANICS, NON-POTABLE WATER - GENERAL CHEMISTRY, NON-POTABLE WATER - METALS, NON-POTABLE WATER - MICROBIOLOGY, NON-POTABLE WATER - PESTICIDES-HERBICIDES-PCB'S, NON-POTABLE WATER - VOLATILE ORGANICS, SOLID AND CHEMICAL MATERIALS - EXTRACTABLE ORGANICS, SOLID AND CHEMICAL MATERIALS - GENERAL CHEMISTRY, SOLID AND CHEMICAL MATERIALS - METALS, SOLID AND CHEMICAL MATERIALS - MICROBIOLOGY, SOLID AND CHEMICAL MATERIALS - PESTICIDES-HERBICIDES-PCB'S, SOLID AND CHEMICAL MATERIALS - VOLATILE ORGANICS

Continued certification is contingent upon successful on-going compliance with the NELAC Standards and FAC Rule 64E-1 regulations. Specific methods and analytes certified are cited on the Laboratory Scope of Accreditation for this laboratory and are on file at the Bureau of Public Health Laboratories, P. O. Box 210, Jacksonville, Florida 32231. Clients and customers are urged to verify with this agency the laboratory's certification status in Florida for particular methods and analytes.

Date Issued: July 01, 2018 Expiration Date: June 30, 2019




Patty A. Lewandowski, MBA, MT(ASCP)
Chief Bureau of Public Health Laboratories
DH Form 1697, 7/04
NON-TRANSFERABLE E82535-64-07/01/2018
Supersedes all previously issued certificates



State of Florida
Department of Health, Bureau of Public Health Laboratories
This is to certify that

E82574

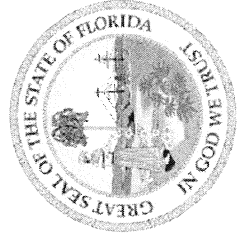
ADVANCED ENVIRONMENTAL LABORATORIES, INC.
6681 SOUTHPOINT PARKWAY
JACKSONVILLE, FL 32216

has complied with Florida Administrative Code 64E-1,
for the examination of environmental samples in the following categories

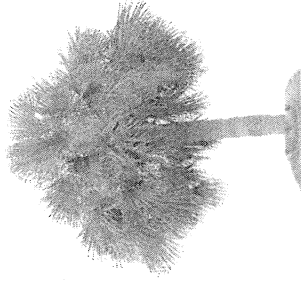
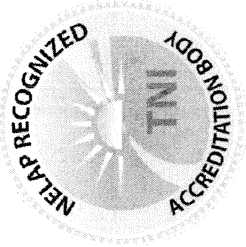
DRINKING WATER - GROUP I UNREGULATED CONTAMINANTS, DRINKING WATER - GROUP II UNREGULATED CONTAMINANTS, DRINKING
WATER - MICROBIOLOGY, DRINKING WATER - OTHER REGULATED CONTAMINANTS, DRINKING WATER - PRIMARY INORGANIC CONTAMINANTS,
DRINKING WATER - SECONDARY INORGANIC CONTAMINANTS, DRINKING WATER - RADIOCHEMISTRY, DRINKING WATER - SYNTHETIC
ORGANIC CONTAMINANTS, NON-POTABLE WATER - EXTRACTABLE ORGANICS, NON-POTABLE WATER - GENERAL CHEMISTRY, NON-POTABLE
WATER - METALS, NON-POTABLE WATER - MICROBIOLOGY, NON-POTABLE WATER - PESTICIDES-HERBICIDES-PCB'S, NON-POTABLE WATER -
VOLATILE ORGANICS, SOLID AND CHEMICAL MATERIALS - EXTRACTABLE ORGANICS, SOLID AND CHEMICAL MATERIALS - GENERAL
CHEMISTRY, SOLID AND CHEMICAL MATERIALS - METALS, SOLID AND CHEMICAL MATERIALS - MICROBIOLOGY, SOLID AND CHEMICAL
MATERIALS - PESTICIDES-HERBICIDES-PCB'S, SOLID AND CHEMICAL MATERIALS - VOLATILE ORGANICS

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Date Issued: July 01, 2018 Expiration Date: June 30, 2019



Patty A. Lewandowski, MBA, MT(ASCP)
Chief Bureau of Public Health Laboratories
DH Form 1697, 7/04
NON-TRANSFERABLE E82574-59-07/01/2018
Supersedes all previously issued certificates



State of Florida
Department of Health, Bureau of Public Health Laboratories
This is to certify that

E84589

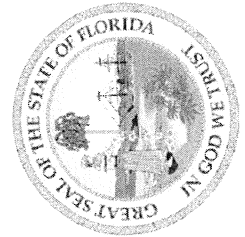
ADVANCED ENVIRONMENTAL LABORATORIES, INC. - TAMPA
9610 PRINCESS PALM AVENUE
TAMPA, FL 33619

has complied with Florida Administrative Code 64E-1,
for the examination of environmental samples in the following categories

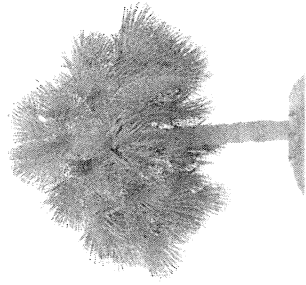
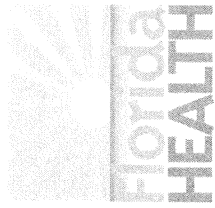
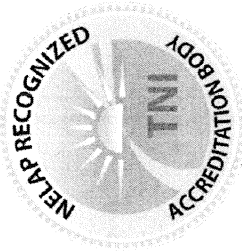
DRINKING WATER - GROUP I UNREGULATED CONTAMINANTS, DRINKING WATER - GROUP II UNREGULATED CONTAMINANTS, DRINKING
WATER - MICROBIOLOGY, DRINKING WATER - OTHER REGULATED CONTAMINANTS, DRINKING WATER - PRIMARY INORGANIC CONTAMINANTS,
DRINKING WATER - SECONDARY INORGANIC CONTAMINANTS, DRINKING WATER - SYNTHETIC ORGANIC CONTAMINANTS, NON-POTABLE
WATER - EXTRACTABLE ORGANICS, NON-POTABLE WATER - GENERAL CHEMISTRY, NON-POTABLE WATER - METALS, NON-POTABLE WATER -
MICROBIOLOGY, NON-POTABLE WATER - PESTICIDES-HERBICIDES-PCB'S, NON-POTABLE WATER - VOLATILE ORGANICS, SOLID AND CHEMICAL
MATERIALS - EXTRACTABLE ORGANICS, SOLID AND CHEMICAL MATERIALS - GENERAL CHEMISTRY, SOLID AND CHEMICAL MATERIALS -
METALS, SOLID AND CHEMICAL MATERIALS - MICROBIOLOGY, SOLID AND CHEMICAL MATERIALS - PESTICIDES-HERBICIDES-PCB'S, SOLID AND
CHEMICAL MATERIALS - VOLATILE ORGANICS

Continued certification is contingent upon successful on-going compliance with the NELAC Standards and FAC Rule 64E-1
regulations. Specific methods and analytes certified are cited on the Laboratory Scope of Accreditation for this laboratory and
are on file at the Bureau of Public Health Laboratories, P. O. Box 210, Jacksonville, Florida 32231. Clients and customers are
urged to verify with this agency the laboratory's certification status in Florida for particular methods and analytes.

Date Issued: July 01, 2018 Expiration Date: June 30, 2019



Patty A. Lewandowski, MBA, MT(ASCP)
Chief Bureau of Public Health Laboratories
DH Form 1697, 7/04
NON-TRANSFERABLE E84589-53-07/01/2018
Supersedes all previously issued certificates



State of Florida
Department of Health, Bureau of Public Health Laboratories
This is to certify that

E82001

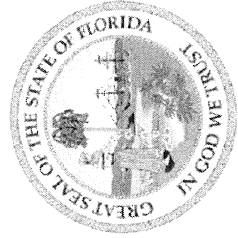
ADVANCED ENVIRONMENTAL LABORATORIES, INC. - GAINESVILLE
4965 SW 41ST BLVD.
GAINESVILLE, FL 32608


has complied with Florida Administrative Code 64E-1,
for the examination of environmental samples in the following categories

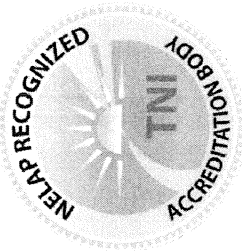
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CONTAMINANTS, NON-POTABLE WATER - GENERAL CHEMISTRY, NON-POTABLE WATER - MICROBIOLOGY, SOLID AND CHEMICAL MATERIALS -
GENERAL CHEMISTRY, SOLID AND CHEMICAL MATERIALS - MICROBIOLOGY

Continued certification is contingent upon successful on-going compliance with the NELAC Standards and FAC Rule 64E-1
regulations. Specific methods and analytes certified are cited on the Laboratory Scope of Accreditation for this laboratory and
are on file at the Bureau of Public Health Laboratories, P. O. Box 210, Jacksonville, Florida 32231. Clients and customers are
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Date Issued: July 01, 2018 Expiration Date: June 30, 2019




Patty A. Lewandowski, MBA, MT(ASCP)
Chief Bureau of Public Health Laboratories
DH Form 1697, 7/04
NON-TRANSFERABLE E82001-58-07/01/2018
Supersedes all previously issued certificates



State of Florida
Department of Health, Bureau of Public Health Laboratories
This is to certify that

E86772

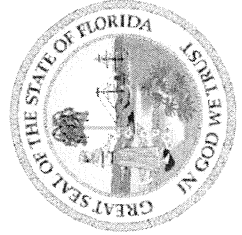
E. M. ANALYTICAL, INC.
8000 NORTH OCEAN DRIVE
DANIA, FL 33004

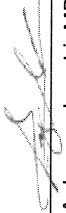
has complied with Florida Administrative Code 64E-1,
for the examination of environmental samples in the following categories

DRINKING WATER - PRIMARY INORGANIC CONTAMINANTS

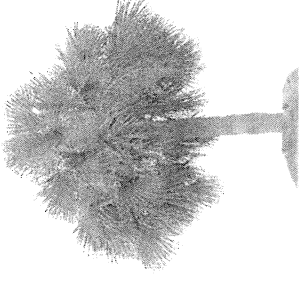
Continued certification is contingent upon successful on-going compliance with the NELAC Standards and FAC Rule 64E-1 regulations. Specific methods and analytes certified are cited on the Laboratory Scope of Accreditation for this laboratory and are on file at the Bureau of Public Health Laboratories, P. O. Box 210, Jacksonville, Florida 32231. Clients and customers are urged to verify with this agency the laboratory's certification status in Florida for particular methods and analytes.

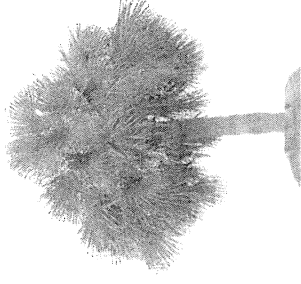
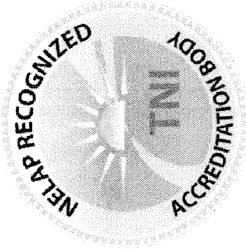
Date Issued: July 01, 2018 Expiration Date: June 30, 2019




Patty A. Lewandowski, MBA, MT(ASCP)
Chief Bureau of Public Health Laboratories
DH Form 1697, 7/04

NON-TRANSFERABLE E86772-14-07/01/2018
Supersedes all previously issued certificates





State of Florida
Department of Health, Bureau of Public Health Laboratories
This is to certify that

E84025

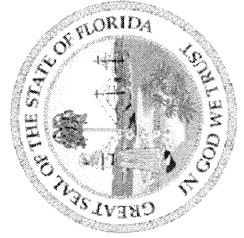
KNL ENVIRONMENTAL TESTING
3202 N. FLORIDA AVE.
TAMPA, FL 33603


has complied with Florida Administrative Code 64E-1,
for the examination of environmental samples in the following categories

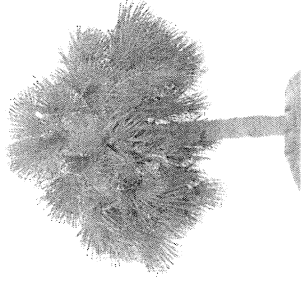
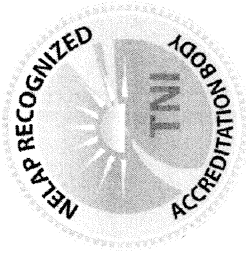
DRINKING WATER - MICROBIOLOGY, DRINKING WATER - PRIMARY INORGANIC CONTAMINANTS, DRINKING WATER - RADIOCHEMISTRY,
DRINKING WATER - SECONDARY INORGANIC CONTAMINANTS, NON-POTABLE WATER - GENERAL CHEMISTRY, NON-POTABLE WATER - METALS,
NON-POTABLE WATER - MICROBIOLOGY, NON-POTABLE WATER - RADIOCHEMISTRY

Continued certification is contingent upon successful on-going compliance with the NELAC Standards and FAC Rule 64E-1 regulations. Specific methods and analytes certified are cited on the Laboratory Scope of Accreditation for this laboratory and are on file at the Bureau of Public Health Laboratories, P. O. Box 210, Jacksonville, Florida 32231. Clients and customers are urged to verify with this agency the laboratory's certification status in Florida for particular methods and analytes.

Date Issued: July 01, 2018 Expiration Date: June 30, 2019




Patty A. Lewandowski, MBA, MT(ASCP)
Chief Bureau of Public Health Laboratories
DH Form 1697, 7/04
NON-TRANSFERABLE E84025-47-07/01/2018
Supersedes all previously issued certificates



State of Florida
Department of Health, Bureau of Public Health Laboratories
This is to certify that

E871081

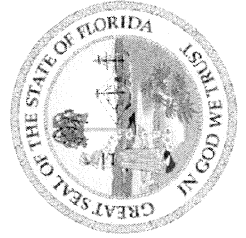
CAPE FEAR ANALYTICAL, LLC
3306 KITTY HAWK ROAD, SUITE 120
WILMINGTON, NC 28405


has complied with Florida Administrative Code 64E-1,
for the examination of environmental samples in the following categories

DRINKING WATER - DIOXIN, NON-POTABLE WATER - EXTRACTABLE ORGANICS, NON-POTABLE WATER - PESTICIDES-HERBICIDES-PCB'S, SOLID
AND CHEMICAL MATERIALS - EXTRACTABLE ORGANICS, SOLID AND CHEMICAL MATERIALS - PESTICIDES-HERBICIDES-PCB'S

Continued certification is contingent upon successful on-going compliance with the NELAC Standards and FAC Rule 64E-1 regulations. Specific methods and analytes certified are cited on the Laboratory Scope of Accreditation for this laboratory and are on file at the Bureau of Public Health Laboratories, P. O. Box 210, Jacksonville, Florida 32231. Clients and customers are urged to verify with this agency the laboratory's certification status in Florida for particular methods and analytes.

Date Issued: July 01, 2018 Expiration Date: June 30, 2019




Patty A. Lewandowski, MBA, MT(ASCP)
Chief Bureau of Public Health Laboratories
DH Form 1697, 7/04
NON-TRANSFERABLE E871081-09-07/01/2018
Supersedes all previously issued certificates



United States Environmental Protection Agency
Office of Water
Office of Ground Water and Drinking Water
Technical Support Center
UCMR Laboratory Approval Program

Based on the review of submitted applications for each of the listed methods, EPA has granted the status of "authorized" to your laboratory for the method(s) listed below to the following laboratory at the listed address:

Northern Lake Service, Inc.
400 N. Lake Avenue
Crandon, WI 54520

The application criteria are listed in the "UCMR 4 Laboratory Approval Requirements and Information Document, Version 2.0." Your laboratory is now "authorized" to conduct UCMR 4 analyses using the following method(s):

LabID: WI00034

Method Name	Status	Date
SM 5310 C	Authorized	1/9/2017
EPA 300.0 (Rev. 2.1)	Authorized	1/9/2017

End of Method List

This information will be included in the list of UCMR 4 approved laboratories. Your status will be maintained during UCMR 4 by continuing to meet the criteria given in the "UCMR 4 Laboratory Approval Requirements and Information Document, Version 2.0," and any revisions to the aforementioned document. Please be aware that you are only permitted to conduct UCMR 4 analyses using those methods for which you have EPA approval. Should you wish to comment on any of these determinations, please write to:

UCMR 4 Laboratory Approval Coordinator
USEPA, Technical Support Center
26 W. Martin Luther King Drive (MS 140)
Cincinnati, OH 45268
UCMR_Lab_Approval@epa.gov



United States Environmental Protection Agency
Office of Water
Office of Ground Water and Drinking Water
Standards and Risk Management Division
Technical Support Center
UCMR Laboratory Approval Program

Based on the review of submitted applications and successful participation in a Proficiency Testing (PT) Study for the fourth Unregulated Contaminant Monitoring Rule (UCMR 4), EPA has granted the status of "approved" to your laboratory for the method(s) listed below to the following laboratory at the listed address:

Northern Lake Service, Inc.
400 N. Lake Avenue
Crandon, WI 54520

The application and PT criteria are listed in the "UCMR 4 Laboratory Approval Requirements and Information Document, Version 2.0." Your laboratory is now "approved" to conduct UCMR 4 analyses using the following method(s):

LabID: WI00034

Method Name	Status	Date
EPA 200.8	Approved	2/6/2017
EPA 525.3	Approved	6/19/2017
EPA 530	Approved	2/6/2017
EPA 541	Approved	6/19/2017
EPA 544	Approved	6/19/2017
EPA 545	Approved	4/3/2017
EPA 546	Approved	6/19/2017
EPA 552.3	Approved	4/3/2017

End of Method List

This information will be included in the list of UCMR 4 approved laboratories on our website. Your approval status will be maintained during UCMR 4 by continuing to meet the criteria given in the "UCMR 4 Laboratory Approval Requirements and Information Document, Version 2.0," and any revisions to the aforementioned document. Please be aware that you are only permitted to conduct UCMR 4 analyses using those methods for which you have EPA approval. Should you wish to comment on any of these determinations, please write to:

UCMR 4 Laboratory Approval Coordinator
USEPA, Technical Support Center
26 W. Martin Luther King Drive (MS 140)
Cincinnati, OH 45268
UCMR_Lab_Approval@epa.gov



Addendum #1 – Questions & Answers
(Issued Friday, September 07, 2018)

ITB 2018-11-UTL, Laboratory Testing Services

This addendum is issued to make the following change(s)/correction(s)/clarification(s) to:

Question 1: On page 29 of pricing, in the Secondary Contaminants section, the Fluoride is listed as 24 samples however all other analysis are listed as one sample. How often is this submitted?

Answer 1: We are required to collect two Fluoride samples a month from the distribution system.

Question 2: On page 30 of pricing, in Potable Water System Analysis - Physical Characteristics, there is one sample however the quantity of the composite/grab sampling charges is listed at 24. Is the sample being collected every hour for 24 hours?

Answer 2: This is just a request for a price in case we would like the lab to collect the samples.

Question 3: Page 44, Employee Background Verification Affidavit, does this pertain to only the personnel that would be onsite at the City of Cooper City such as the field team and couriers and would be upon reward of bid and not prior to?

ATTACHMENT K

EMPLOYEE BACKGROUND VERIFICATION AFFIDAVIT

I, _____ of _____, attest that all personnel used in
(Print Name) (Company Name)

Answer 3: the performance of this work have had a criminal background check with a passing grade and have been drug tested with a passing grade and are legally documented to work in the United States.

Question 4: Page 44, Employee Background Verification Affidavit, does this form need to be included for the bid to be accepted and awarded?

Answer 4: Yes, please see page 24, item 6.

City of Cooper City, Florida
ITB 2018-11-UTL, Laboratory Testing Services
Addendum #1

Question 5: For the analysis of Chlorine listed under Disinfectant residuals, this is a field test and has a holding time of 15 minutes. Will this be accepted to be reported out of hold if you would like it analyzed in the laboratory?

Answer 5: No, it will not be accepted to be reported out of hold, only if it's done in the field.

Question 6: Under Reagents and Supplies - Can you please provide the usage information, or description of application, for the Calcium Hardness Buffer and Total Hardness Buffer.

Answer 6: Calcium Hardness Buffer is used to test Calcium Hardness. Total Hardness Buffer is used to test Total Hardness.

All bids are due on Wednesday, September 12, 2018 at 3:00PM EST.

Acknowledgment of Addendum #1

Bidders hereby acknowledges that he/she has received and understands the information contained in this Addendum. Bidders further acknowledges that this page **MUST** be signed and returned with its Bid, along with any revised Bid Forms, if applicable.

Acknowledged by:

Print Name:


Charles M. Ged

Company:

Advanced Environmental Laboratories, Inc.

Date:

Sept. 7, 2018



Protecting Our Environment

Laboratory Testing Services-Utilities Department

ITB 2018-11-UTL

City of Cooper City

9090 SW 50th Place, Cooper City, FL 33328

September 12th, 3:00 PM EST

Pace Analytical Services, LLC.

Neshmah Castaneda

561-322-8627

Neshmah.Castaneda@pacelabs.com

3610 Park Central Blvd. N

Pompano Beach, Florida 33064



ITB-2018-11-UTL-0-2018/CP

Laboratory Testing
Services-Utilities
Department

City of Cooper City

September 12th, 2018

3:00pm

Submitted by:

Neshmah Castañeda for

Pace Analytical Services, LLC

Letter of Transmittal

Company SOQ

Quality Assurance
Manual

FDOH Certifications

Key Personnel

Project
Experience/Reference

BID FORMS

HAZWOPER Certification
Field Technician

Certificate of
Insurance

ADDENDUM

TAB 1

Letter of Transmittal



September 7, 2018

Kerri Ann Fisher, Purchasing Agent
9090 SW 50th Place, Cooper City, FL 33328
City of Cooper City

RE: ITB 2018-11-UTL LABORATORY TESTING SERVICES- UTILITIES DEPARTMENT

Dear Ms. Fisher and Members of the Selection committee:

Pace Analytical Services, LLC. is pleased to submit in triplicate proposal One (1) unbound original complete bid package, two (2) duplicate copies of said package and One (1) flash drive for the

LABORATORY TESTING SERVICES- UTILITIES DEPARTMENT ITB 2018-11-UTL.

We are confident that we will exceed all the specified requirements to provide analytical testing services as well as ensure adequate cost comparison and value. Pace Analytical has a vast experience and capabilities to perform water analyses, such as groundwater, wastewater, potable water, surface water, rainwater, as well as soils, sludge, sediments.

PAS will provide the following services:

- ❖ **Single Point of Contact** via Project Management in the laboratory as well as a Customer Service Representative. We have appointed Mr. Terrence Anderson to take over this role. Mr. Anderson can be reached via phone using his direct line number at 954-582-4307 or via email at Terrence.Anderson@pacelabs.com.
- ❖ **Sample kits** with all necessary supplies will be prepared and documented in accordance with FDEP-QA-001/01 and delivered within 48 hours of request as per ITB.
- ❖ Job specific labeled containers.
- ❖ All necessary certified equipment, labor, materials to perform and comply with the bid requirements.
- ❖ **Sample Pick up** daily unless otherwise specified or previously arranged by both the City and Laboratory (Contractor).
- ❖ **Analysis** in accordance with FDEP FAC 62-550 and required/applicable methodology approved by USEPA, Standard Method or ASTM method for the examination of the samples, per method detection limit for each reported value will comply with FDEP SOP requirements.
- ❖ **Reporting** for industrial user will comply with Rule 62-160.670, F.A.C... Wastewater samples shall be analyzed using approved methods listed in 40 CFR 136.
- ❖ **Pace Analytical** will provide **City of Cooper City reports in a .pdf format** including analytical testing summary, Quality Control charts via e-mail within the stipulated time table described in this bid. As part of Pace efforts to become a paperless entity to protect and conserve the environment, hard copies can be provided upon request.
- ❖ A copy of the sample **Chain of Custody** will be provided with the analytical results of each sample.
- ❖ **Login Confirmation** for will be electronically provided to the assigned contact at the City for review.
- ❖ Submit a level II Package as our standard QA/QC package in accordance with NELAC standards.
- ❖ All laboratory analytical results will be **submitted in accordance with 62-160.340, F.A.C., Record Keeping and Reporting Requirements for Laboratory Procedures.**
- ❖ In the event of an emergency or rush, Pace is capable of providing turnaround times less than seven (7) working days upon request. Surcharges may apply.
- ❖ **PAS** will notify the appropriate personnel immediately in the event an unpredicted event arises that will interfere with sample analysis.

In addition, Pace Analytical Services, LLC. brings the following resources to the contract:

- ❖ **Second Largest Network of Environmental Laboratories in the Country.**
- ❖ **Multiple Facilities: Pompano Beach Laboratory** facility in Florida located at 3610 Park Central Blvd. N, Pompano Beach, FL 33064, in Broward County. **State-of-the-art Full Service Laboratory in Ormond Beach, FL.** (Over 20,000 sq. foot custom built facility capable of managing large, long-term contracts as well as small or special projects).
- ❖ **Miami Lakes Service Center** for additional support.
- ❖ **Extensive experience** working with all entities in the environmental sector including FDEP, County and City Government, Water Control Districts, and numerous industries and private consulting firms not only in the state of Florida. To list a few, Palm Beach County Solid Waste Authority, Martin County, Miami Dade County and Aviation Department, City of Ft. Lauderdale, City of Hollywood, City of Lake Worth, City of West Palm Beach.
- ❖ A **project management team** that has a combined experience greater than 50 years in the environmental testing field.
- ❖ **OSHA Certified Field Technician** to perform sample collection.
- ❖ Our efficiency and capabilities are inherently enhanced by our Horizons LIMS (Laboratory Information Management System) designed for data management and analytical production.
- ❖ Our **LIMS** provides cutting edge reporting capabilities and **24/7 access** to data and electronic reports online via our **PacePort**. From any Internet enabled device, you can check the status of your samples, review final reports, open and save Electronic Data Deliverables (ADaPT EDDs), invoices.
- ❖ Should an **emergency arise**, our staff (Sampling, Sales and Project Managers) all has and can be dispatched via Verizon radio communications. Our sample custody and field services department's hours are Monday - Friday 8:00 a.m. to 8:00 p.m. and Saturday 09:00 a.m. to 2:00pm EST. Sunday by arrangements.
- ❖ Our Quality Assurance program follows the procedures dictated under **National Environmental Laboratory Accreditation Program (NELAP)** or recently known (TNI) **The NELAC Institute** and is recognized nationally as meeting and exceeding guidelines for the generation of accurate, legally defensible data.

Points of Contact:

Trevor Brenner
Interim General Manager
8 East Tower Circle
Ormond Beach, FL 32174
386-672-5668

Terrence Anderson
Project Manager
3610 Park Central Blvd. N
Pompano Beach, FL
33064 954-582-4307

Tina Buttermore
Senior QA Manager
8 East Tower Circle
Ormond Beach, FL 32174
386-672-5668

Neshmah Castaneda
Senior Account Executive
3610 Park Central Blvd. N
Pompano Beach, FL 33064
561-322-8627 (Mobile)

Page 3 of 3 Transmittal Letter

At **Pace Analytical Services** our primary goal is to meet and exceeds client's expectations. We are committed to provide and support all of the specified requirements in accordance with the General and Specific Conditions of this bid. I am confident that upon review of our qualifications and the experience we bring to this contract you will consider **Pace Analytical Services** an asset to this contract.

I thank you in advance for your time and consideration of our proposal.

Sincerely,

Neshmah Castaneda

Neshmah Castaneda
Senior Account Executive
Pace Analytical Services-Florida

TAB 2

Statement of Qualifications



2018



Statement of Qualifications



Prepared by:

Pace Analytical Services, LLC
1800 Elm Street
Minneapolis, MN 55414



Statement of Qualifications

Table of Contents

1. Company Introduction and History3

2. Laboratory Locations5

3. Capabilities17

4. Systems29

5. Quality.....31

6. Rapid Response41

7. Personnel.....42

8. Sales Team.....47

1. Company Introduction and History

Introduction to Pace Analytical

Pace Analytical Services, LLC. (Pace) was established in 1995 through the purchase of seven laboratories from PACE Incorporated. Steve Vanderboom, President and CEO, and majority shareholder Rod Burwell, Pace Analytical's Chairman, formed the company after the shareholders of PACE Incorporated decided to sell all the laboratories and leave the environmental laboratory business. Mr. Burwell provided the solid financial backing necessary for our laboratories to maintain a key leadership role in the analytical testing industry for the past 21 years. His efforts included furnishing our facilities with state-of-the-art instrumentation and well-trained personnel. Today, Pace has a new financial partner, Aurora Capital of Los Angeles, California.

Pace is a privately held, full service sampling and analytical services firm operating a network of 33 environmental laboratories and 44 service centers nationwide, plus 4 Life Sciences and 6 LabOps laboratories. All of our full-service environmental laboratories are NELAC accredited. Our laboratories utilize U.S. EPA, ASTM, Standard Methods, NIOSH, and other accepted test procedures and methods, in accordance with federal and state regulations.

The company consists of three divisions: Environmental, Life Sciences and LabOps. Analytical testing and related services include analytical chemistry, on-site field sampling, industrial hygiene, environmental forensics, product and material testing, microbiology, medical device and drug-device combination product testing services, professional laboratory staffing, and lab equipment sales and services. Pace maintains a comprehensive list of certifications and methodologies throughout our laboratories. In addition to offering full service environmental analytical services, Pace provides the following specialty environmental testing services:

<ul style="list-style-type: none">• Dioxin / Furan• Biota / Sediment• Environmental Forensics• Microbiological• In Situ Monitoring Solutions• Drinking Water Analysis / UCMR4• Field Sampling and Analysis• Explosives + Nitroglycerin and PETN	<ul style="list-style-type: none">• Aquatic Toxicity / Bioassay• Radiochemistry• Air Toxics• Low Level Mercury Analysis• Vapor Intrusion• PCB Congeners• Stack Sampling & Analysis• On-Site Gas Phase FTIR
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Company Philosophy and Operating Principles

We are continually building Pace on a foundation of our **Mission Statement**, **Statement of Purpose** and our **Core Values** that guide our decisions each day. Strict adherence to our Core Values, as we model our capabilities and services to meet our customers' needs, will be the primary key to our future success.

- **Mission Statement**
Working together to protect our environment and improve our health
- **Statement of Purpose**
To meet the business needs of our customers for high quality, cost-effective, analytical measurements and services
- **Core Values**
 - Integrity
 - Know Our Customers
 - Flexible Response to Demand
 - Continuously Improve
 - Value Employees
 - Honor Commitments
 - Pursue Opportunities

Your Total Testing Resource

To become a strong business, Pace laboratories have consistently worked to increase efficiencies, hire and nurture strong analysts, maintain high quality services and utilize the most modern instrumentation and systems available. As a service provider, our bottom-line has been to assist our customers in meeting their business objectives. With this goal in mind, we work with our clients to develop sound solutions by utilizing our skills, technical experience and modern instrumentation. Today, Pace has evolved from a network of environmental laboratories into a company of total laboratory solution providers.

Undoubtedly, the ultimate benefit to our customers is the total integration of all our service offerings into one company – Pace Analytical. While some companies may provide some of the same services, our offerings are unmatched by anyone. Our complement of environmental testing services, outsourced chemistry services and experienced problem-solvers make Pace uniquely qualified to service all of your analytical requirements.

Investment in Applied Technologies

Pace's investment in applied technologies provides our clients with faster results, enhanced quality, accurate reporting packages and easy to interpret test results. An example of our commitment to technology is EPIC Pro (Environmental Projects Information Control System), Pace Analytical's laboratory information management system, which is installed in each of our laboratory locations. EPIC Pro is based on an Oracle database, which gives the system the flexibility to adapt to many of your specific project requirements. The system allows us to create standardized reports, methods and invoices. Through uniform operations, we are able to understand and complete your request, regardless of which lab is performing your analyses.

Our investments in a new accounting system, analytical instrumentation and laboratory facilities have standardized our services from location to location and have provided our clients with the most up-to-date technologies available.

PacePort: Online Data Management

Pace provides convenient online data access and report management services to enable better communication and quicker access to your project-critical information. PacePort is a powerful web-based data management tool designed specifically for our customers. With up-to-the-minute access to project and test data from your computer, you have a quick and reliable resource for obtaining the information you need – *when you need it*.

Data You Can Count On

We have all heard the horror stories concerning invalid results and investigations into laboratories that are producing fraudulent data. This in itself is enough to prove that all laboratories are not created equal. Analytical methods contain highly complicated procedures that provide the opportunity for incompetent laboratories with poor management oversight to cut corners in data generation without the knowledge of the end user.

Pace ensures the quality of our data by employing a strong management team with experienced and qualified supervisors and analytical staff. Our corporate quality department has made considerable progress in standardizing our SOPs, improving our internal auditing process, and providing quality oversight in each of our laboratories. All full service Pace laboratories are NELAP accredited.

2. Laboratory Locations

Corporate Headquarters

1800 Elm Street SE
Minneapolis, MN 55414
P: (612) 607-6400

Asheville Laboratory

2225 Riverside Drive
Asheville, NC 28804
P: (828) 254-7176

Beaver Laboratory

225 Industrial Park Road
Beaver, WV 25813
P: (800) 999-0105

Charlotte Laboratory

9800 Kincey Ave – Suite 100
Huntersville, NC 28078
P: (704) 875-9092

Davis Laboratory

2795 2nd St – Suite 300
Davis, CA 95618
P: (530) 297-4800

Decatur Laboratory

2220 Beltline Rd SW
Decatur, AL 35601
P: (256) 350-0846

Eden Laboratory

205 E Meadow Road – Suite A
Eden, NC 27288
P: (336) 623-8921

Frontenac Laboratory

808 West McKay
Frontenac, KS 66763
P: (620) 235-0003

Green Bay Laboratory

1241 Bellevue Street
Green Bay, WI 54302
P: (920) 469-2436

Greenville Laboratory

120 Halton Road – Suite 13
Greenville, SC 29607
P: (864) 297-0606

Indianapolis Laboratory

7726 Moller Road
Indianapolis, IN 46268
P: (317) 228-3100

Atlanta Laboratory

110 Technology Pkwy
Norcross, GA 30092
P: (770) 734-4200

Billings Laboratory

150 No 9th Street
Billings, MT 59101
P: (406) 254-7226

Dallas Laboratory

400 W Bethany – Suite 190
Allen, TX 75013
P: (972) 727-1123

Dayton Laboratory

25 Holiday Drive
Englewood, OH 45322
P: (937) 832-8242

Duluth Laboratory

4730 Oneota Street
Duluth, MN 55807
P: (218) 727-6308

Energy Services, LLC

220 William Pitt Way
Pittsburgh, PA 15238
P: (412) 826-5245

Grand Rapids Laboratory

5560 Corporate Exchange Ct
Grand Rapids, MI 49512
P: (616) 975-4500

Greenwood Laboratory

816 E Durst Avenue
Greenwood, SC 29649
P: (864) 229-4413

Hurricane Laboratory

5 Weatheridge Drive
Hurricane, WV 25526
P: (304) 757-8954

Lenexa Laboratory

9608 Loiret Boulevard
Lenexa, KS 66219
P: (913) 599-5665

Long Island Laboratory

575 Broad Hollow Road
Melville, NY 11747
P: (631) 694-3040

Minneapolis Laboratory

1700 Elm Street SE
Minneapolis, MN 55414
P: (612) 607-1700

Mount Juliet Laboratory

12065 Lebanon Road
Mount Juliet, TN 37122
P: (615) 758-5858

Ormond Beach Laboratory

8 East Tower Circle
Ormond Beach, FL 32174
P: (386) 672-5668

Pompano Beach Laboratory

3610 Park Central Blvd
Pompano Beach, FL 33064
P: (954) 582-4300

Salina Laboratory

525 No 8th Street
Salina, KS 67401
P: (785) 827-1273

Virginia Laboratory

315 Chestnut Street
Virginia, MN 55792
P: (218) 742-1042

Madison (Mobile) Laboratory

2525 Advance Road
Madison, WI 53718
P: (608) 221-8700

Mobile Laboratory

4320 Midmost Dr.
Mobile, AL 36609
P: (251) 344-9106

New Orleans Laboratory

1000 Riverbend Blvd – Suite F
St. Rose, LA 70087
P: (504) 469-0333

Pittsburgh Laboratory

1638 Roseytown Rd
Suites 2, 3, 4
Greensburg, PA 15601
P: (724) 850-5600

Raleigh Laboratory

6701 Conference Dr.
Raleigh, NC 27607
P: (919) 834-4984

Tampa Laboratory

110 So Bayview Blvd
Oldsmar, FL 34677
P: (813) 855-1844

3. Capabilities

Environmental Analytical Services

Pace offers extensive capacity for organic and inorganic analysis as well as a broad range of specialty services, which allows us to meet the environmental analytical needs of our customers. In addition, our investments in consistency and standardization provide us with the ability to maximize the capabilities and capacity of all the laboratories, providing extra assurance that client turn-around times are met. Pace provides services through an integrated system of modern, fully equipped laboratories that can analyze a variety of sample matrices ranging from air and water, to hazardous wastes.

- | | |
|---|---|
| <ul style="list-style-type: none">• Dioxin / Furan• Biota / Sediment• Environmental Forensics• Microbiological• In Situ Monitoring Solutions• Drinking Water Analysis / UCMR-3• Field Sampling and Analysis• Mobile Lab Services | <ul style="list-style-type: none">• Aquatic Toxicity / Bioassay• Radiochemistry• Air Toxics• Low Level Mercury Analysis• Vapor Intrusion• PCB Congeners• Stack Sampling & Analysis• On-Site Gas Phase FTIR |
|---|---|

Life Sciences

Pace Life Sciences is a full service contract analytical testing laboratory providing chemistry and microbiology testing services to the pharmaceutical and medical device industries. Pace Life Sciences has been operating since September 2006. In April 2007, the assets of P3 Scientific were purchased. P3 Scientific had been the dedicated contract laboratory to 3M's Pharmaceutical Division since 1996. Our Oakdale, MN facility is a 40,000 square foot laboratory that is equipped with state-of-the-art instrumentation. Our services include methods development/validation, raw material testing, stability testing and storage, product release testing, microbiology testing, chemical characterization, residual chemical analysis and biocompatibility studies. Our laboratory is FDA registered, cGMP compliant, DEA registered and ISO/IEC 17025:2005 accredited.

Field Services

Pace Analytical's Field Services Division has more than 25 years of experience in serving the national and international environment market.

Using state-of-the-art equipment and over two decades of industry experience and expertise, Pace provides comprehensive service offerings including: stack testing, ambient air, wastewater, groundwater, soil and waste material testing, and sample collection.

The breadth of our testing services is unique in that we monitor all environmental matrices and have experienced a vast array of testing methodologies. While our extensive cross training allows us to move resources to meet the demand, we also foster a staff of experts who proactively study their particular discipline to maintain industry leadership. We excel in unique and complex sampling situations, especially new or changing compliance testing requirements. We have considerable experience in adapting current methodologies to difficult applications as well as developing new procedures.

A successful environmental monitoring project requires a partnership between our customer and our testing experts. Many aspects of administration, production, maintenance and schedule commitments must interact with testing activities to ensure that all project objectives are met. We understand that proper equipment, rigorous maintenance and timely calibrations are paramount to ensuring testing integrity, accuracy and data quality.

To further protect and serve our clients and staff, Pace is also committed to safety and security. Field testing activities and working in a multitude of client settings create a unique safety challenge. Pace places a top priority on employee safety. We provide employees with an extensive safety program that includes frequent training and well-maintained equipment for confined space entry, traffic control, environmental hazards and personal

protection. Our staff also have 40 hour HAZWOPER and have TWIC identification. Pace participates in ISNetwork and PEC Premier Safety management programs, we currently have received an "A Rating" from both of these organizations. Our current OSHA Logs and EMR will be provided upon request. Our safety program not only provides for the welfare of our staff but also reduces potential liability on our customers' properties. Pace strives to exceed the safety needs and programs of our clients while on-site.

A significant differentiator for Pace is that we can analyze nearly every type of sample we collect. We have 21 full-service, nationally accredited and state certified laboratories to support our sampling capabilities. We are one of the few environmental firms that can collect and analyze samples for a complete offering of routine and specialty analysis in any matrix. "Shipping" to us most often consists of handing samples directly to one of our laboratory colleagues.

Field Capability

The field services groups of Pace staff full-time, environmental professionals and technicians with years of experience sampling air, water, soil and other matrices using a variety of EPA and client-specific protocols. Our field services staff includes degree chemists, environmental scientists and experienced technicians who are trained to safely and accurately collect and analyze representative field samples. Furthermore, Pace has a fleet of specially equipped vehicles to access areas where sample collection can present difficult or unusual problems. The field services that Pace offers include:

- Stack Emission Monitoring: Our staff has over 25 years of experience providing compliance and engineering testing services with regards to Title III & V permits, CAA, GHG, LDAR, MACT, NESHAP, NSPS, PSD, RICE, RATA, and PEMS/CEMSs regulations. We routinely monitor for Hazardous Air Pollutants (HAPs) such as Metals, VOCs, Dioxin, PCBs, Particulate Matter (PM/PM10/PM2.5), Acid Gases (HCl, HF, HBr, HCN), Combustion Gases (CO, CO2, NOx, O2, SO2), Specialty Gases (ammonia, hydrogen sulfide, formaldehyde, ozone) and Flow Monitoring under EPA 2A.
- Ambient Air Monitoring: Our staff has extensive experience in the collection of ambient air samples involved in studies attempting to quantify air emissions from a variety of industries, Pace is proficient in a variety of sampling techniques including the use of passivated stainless steel sampling canisters and indoor air quality (IAQ) studies. Our professionals are versed in classical IH methodologies as identified under OSHA or NIOSH guidelines.
- Mobile Gas Phase FTIR (Fourier Transform Infrared Spectroscopy): Innovative technology used on location for industrial process optimization, destruction removal efficiencies and environmental regulatory compliance. We have eight systems to conduct real time monitoring of Speciated gaseous organic (VOC) and inorganic gases. Test methods include EPA 320, ASTM D6348 and NIOSH 3800. FTIR leads our comprehensive air sampling program, which includes: stationary source sampling, ambient air monitoring, criteria pollutants and HAPs.
- Wastewater Monitoring: Our staff has the capability to sample routine wastewater discharges and other sampling locations to NPDES permit application requirements. We routinely conduct compliance monitoring and baseline studies using ISCO 24 hour compositors or various grab sampling techniques.
- Flow Monitoring: Our staff can monitor flow in most types of discharges through the installation of weirs or flumes and ultra sonic-flow meters.
- Groundwater Monitoring: Our staff has the capability to sample groundwater from sanitary landfills, UST sites, Superfund sites, abandoned hazardous waste dumps and spill sites. We have an extensive array of state of the art sampling equipment that has the ability to pre-pump and sample all sizes of wells, to depths exceeding 200 feet. Pace also has the necessary field testing equipment to ensure that a representative sample is collected. Services include deep well, low flow / low purge and clean hands / dirty hands techniques for specialty contaminants.

Field Quality

Quality is paramount in the legacy and defensibility of environmental data. The first opportunity and last chance to create a representative sample is at the source with sample collection. Whether the analysis occurs on site in real

time or after the fact in the laboratory appropriate sample collection will define the representative value and defensibility of the final result. The quality of a sample can never exceed how it was collected. For this reason, Pace employs a multitude of measures to ensure maximum integrity in sample collection. From impeccably trained field staff, to rigorously maintained test equipment, fully documented calibrations and standards, meticulous field documentation and rock solid sample handling and custody, Pace has invested heavily in the infrastructure necessary to collect the highest quality and most reconstructable / defensible environmental data in the industry.

The Pace Field Services Division operates under a robust Quality Management designed specifically for the rigors and variety of environmental field activities. Many of our competitors often work under an excerpt in a laboratory quality manual, a borrowed system with allowances or none at all. The FSD Quality System has been fully reviewed and reconstructed using ISO 17025 for guidance. Current U.S. environmental field testing accreditation programs in development are based on ISO 17025. Our emissions testing departments and Quality System adhere to the ASTM D7036 - 04 Standard Practice for Competence of Air Emission Testing Bodies. We currently have an interim accreditation with the Source Testing Accreditation Council (STAC) to be accredited for over 100 test methods. Some of the critical elements of the Pace Field Services Division Quality Program include:

- All team leaders, project managers and managers are externally certified Qualified Source Testing Individuals (QSTI).
- Internal Qualification Program for method not in QSTI
- Documented demonstration of capability and method knowledge testing
- Controlled copies of all field manuals, SOPs and methods are available to each technician at the test site
- Internal and external proficiency programs (testing)
- Preventative/corrective action programs
- Formalized internal audits and management review
- Corporate quality audits (i.e. quasi-external)
- Traceable and certified standards, balance gases and reagents
- Rigorous and documented equipment maintenance and calibration programs

Constituent concentrations and emission rates are determined using United States Environmental Protection Agency (USEPA, EPA) published methods when applicable. USEPA methods can be found in several chapters of the Code of Federal Regulations (Part 40), the Federal Register, SW-846 and the Compendium of Toxic Organic Methods (TO Methods). In the absence of appropriate EPA Methods, published methods from our sources or specially designed test procedures may be proposed.

To ensure testing integrity and data quality, Pace observes the USEPA Quality Assurance Handbook for Air Pollution Measurement Systems for the development of training programs and Standard Operating Procedures.

Geographical Coverage

Pace has conducted emission testing in nearly every state and in several countries abroad (Canada, Israel, Ireland, Japan and South Korea). The table below represents states for which a test plan was submitted.

Alabama	Maryland	Oregon
Arkansas	Massachusetts	Pennsylvania
Arizona	Michigan	Rhode Island
Alaska	Minnesota	South Carolina
Colorado	Mississippi	South Dakota
Florida	Missouri	Tennessee
Georgia	Nebraska	Texas
Illinois	Nevada	Utah
Indiana	New Jersey	Vermont
Iowa	New York	Virginia
Kansas	North Carolina	Washington
Kentucky	North Dakota	West Virginia
Maine	Ohio	Wisconsin

LabOps

Pace Laboratory Operations can meet your needs for professional technical support activities, operations and laboratory management within your manufacturing facility.

- Professional Staffing: Pace's Professional staffing division is the high quality solution when it comes to fulfilling your scientific staffing needs. We excel in providing qualified employees that are essential to your success. Whether you have one or two positions to be filled or would like us to staff and manage an entire lab or regulatory team, our flexibility enables us to help you with technician level skill sets through Ph.D. expertise.
- Regulatory Services: Pace's Regulatory Services can aid your business in complying with today's complex global regulations. Our team possesses the knowledge, experience and technical resources necessary to guide your business through the regulatory maze.
- Lab Equipment – Sales: Pace buys and sells refurbished analytical laboratory equipment to companies in various industries worldwide. Pace's Instrument Support Group (ISG) provides a variety of refurbished analytical instrumentation to various sectors of the analytical industry worldwide. ISG specializes in chromatography equipment including GC, GC/MS, LC and LC/MS. ISG follows GLP and cGMP guidelines where applicable to meet the specific needs of customers and is ISO 9001:2000 certified as part of the LabOps division.
- Lab Equipment – Services: Pace's Instrument Support Group (ISG) provides instrument maintenance, repair and qualification services on GC, GC/MS, LC and LC/MS. ISG is an excellent option for pharmaceutical, environment petrochemical and food laboratories looking to reduce the cost of instrumentation services, without reducing the quality of the service. ISG follows GLP and cGMP guidelines where applicable to meet the specific needs of customers and is ISO 9001:2000 certified as part of the LabOps division.

Pace Services, LLC. – CERCLA Experience

Blackfoot Bridge

The proposed Blackfoot Bridge Mine is located in Caribou County, approximately 10 miles northeast of Soda Springs, ID. Pace performed analytical testing for P4, LLC and Whetstone from December 2008 to 2010. Analytical testing included groundwater and surface water samples for heavy metals, nutrients, and other inorganic parameters.

Clark Fork River (Montana DEQ)

The Clark Fork River Operable Unit (CFR OU) is part of the Milltown Reservoir/Clark Fork River Superfund Site. The CFR OU includes the Clark Fork River from its headwaters near Warm Springs Creek to Milltown Reservoir, just east of Missoula. Pace performed analysis of heavy metals (cadmium, copper, zinc, and lead) and arsenic on numerous Clark Fork River projects beginning in August 2009 to the present. Projects include Warm Springs in Anaconda/Deer Lodge County downstream to Garrison in Powell County. This is known as "Reach A." Pace has worked with the Montana Department of Environmental Quality (DEQ) and Department of Natural Resource Damage Program (NRDP), with additional oversight from the U.S. Environmental Protection Agency (EPA) and National Parks Service (NPS) for cleanup activities at the Grant-Kohrs Ranch.

Flat Creek (USFS)

The Iron Mountain Mine and Mill (IMM) is the primary source for contamination at this site. It operated from 1909 to 1930 and again from 1947 to 1953 producing silver, gold, lead, copper and zinc ores. The now-abandoned property includes tunnels, tailings and the remnants of a mill and other mine buildings. The tailings from the mine contain elevated concentrations of metals. While the mine was in operation, tailings were disposed of along Flat Creek using gravity drainage. Those tailings have been distributed along Flat Creek as far as its confluence with

the Clark Fork River. Pace performed analysis of heavy metals on soil and water samples for the Flat Creek USFS project from October 2011 to November 2011. Level IV CLP-Like data packages were provided.

Coeur d'Alene Trust – Upper CDA Basin

The Bunker Hill Mining and Metallurgical Complex Superfund Site are located in Northern Idaho's Coeur d'Alene River Basin. It was placed on the National Priorities list in 1983. The Coeur d'Alene Basin is one of the largest areas of historic mining in the world. Since the late 1880s, mining activities in the Upper Coeur d'Alene Basin contributed an estimated 100 million tons of mine waste to the river system. Many of the Basin communities were built on mine wastes. Until as late as 1968, tailings were deposited directly into the river. Over time, these wastes have been distributed throughout more than 160 miles of the Coeur d'Alene and Spokane Rivers, lakes, and floodplains. Pace has performed analytical testing for the Coeur d'Alene Trust and Maul, Foster, and Alongi from June 2011 to the present. Soil, waste rock, groundwater and surface water samples were analyzed for heavy metals, nutrients, and other inorganic parameters. Level IV CLP-Like data packages were provided.

Black Eagle

Atlantic Richfield is conducting remedial investigations on community soils within and adjacent to the community of Black Eagle. Sampling of residential yards began in October 2011 and will continue through the 2012 field season. The RI/FS work plan is currently being developed. As part of this agreement, Atlantic Richfield paid \$1,050,000 to EPA for past costs. Copies of the agreement and sampling plan are located in the information repository located at the Black Eagle Community Center. Pace performed analysis of soil samples for arsenic, cadmium, lead, iron, copper, and zinc. Level IV CLP-Like data packages were provided.

Other projects include:

Azurite Mine – USFS/Cascade Earth Science
Monte Cristo – USFS/Cascade Earth Science
Bullion Mine – USFS/CH2M Hill
Crystal Mine – USFS/CH2M Hill
New World Mine – USFS/Tetra Tech
Black Pine Mine – Montana DEQ
Silver Bow Creek – Montana DEQ

References:

Dan Meyer
Senior Project Manager
Coeur d'Alene Trust
Office: 208.783.0222
Cell: 208.512.0648
dmeyer@cda-trust.com

Performed analytical testing for the Coeur d'Alene Trust in the Upper Coeur d' Alene basin in Idaho. Mining remediation projects. QC Level 4 reporting and custom EDD. 2011-ongoing

Luke Pokorny
Associate Project Manager
Atlantic Richfield Company
Office: 406.723.1832
Cell: 406.498.4565
Luke.Pokorny@bp.com

Performed metals analysis of water and soil samples in Black Eagle, Montana. QC Level 4 reporting and custom EDD. 2011- ongoing

Michael Hatten
Civil Engineer
Tetra Tech - Helena
Office: 406.443.5210
michael.hatten@tetrattech.com

Performed metals analysis of soil samples in Montana for the Clark Fork River Project. Summer 2009 - ongoing

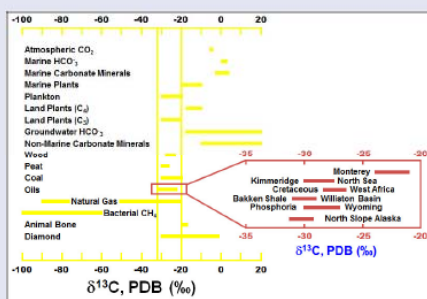


ENVIRONMENTAL FORENSICS SERVICES

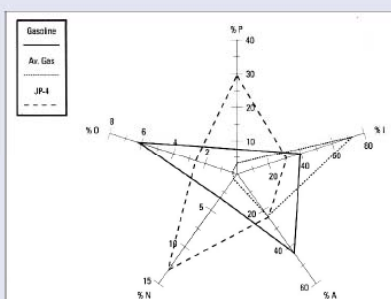


Environmental Forensics can be defined as a scientific methodology for identifying hazardous contaminants in the environment and determining their sources and times of release. The practice combines experimental analytical procedures with scientific principles derived from the disciplines of organic geochemistry and hydrogeology. When applied to the investigation of petroleum products, chlorinated solvents and other environmental contaminants, environmental forensics investigations can provide valuable tools for obtaining scientifically supported, court admissible evidence in environmental legal disputes.

Forensics Questions – When a dispute occurs involving environmental contamination, the stakeholders—which can include property owners, potentially responsible parties, lenders, insurance agencies, environmental consultants, attorneys and regulatory agencies—are all seeking answers to these common questions:



- Who is responsible for the release?
- What are the contaminants?
- What is the source?
- When did the release happen?
- What is a reasonable cost allocation for cleanup?



The environmental forensics approach offered by the Pace Analytical Forensics Laboratory (formerly Zymax Forensics) has successfully provided scientific evidence in U.S. courts answering these questions and making it clear to all parties—who is responsible and for what. The Pace Forensic Service offering extends beyond purely analytical to include: data interpretation and consulting, litigation support and expert witness testimony.

Compound Specific Isotope Analysis (CSIA) is one of the newest and most sophisticated tools in the forensics arsenal capable of determining the stable isotope signature of similar contaminants in the environment and utilizing this data to determine the following: if comingled contaminants are from the same or different sources; if a contaminant is a degradation product from the primary contaminant or from a different source entirely; or if weathered products have significantly changed but retained a stable isotope signature.

Pace Analytical Energy Services – In 2013, Pace Analytical Energy Services was created through the acquisition of Microseeps and Zymax Forensics. Now consolidated in Pittsburgh with our new Microbial Solutions Lab, Pace is building the strongest forensics and environmental molecular diagnostics laboratory in the United States.

To learn about Pace Forensics and how they might benefit you or your client, please contact your local Pace Account Executive.



Corporate Headquarters
1800 Elm Street SE
Minneapolis, MN 55414
P: 612.607.8400
www.pacelabs.com

Pace Analytical Energy Services
220 William Pitt Way
Pittsburgh, PA 15238
Phone: 412.826.5245
Toll Free: 800.859.2887
Fax: 412.826.3433

IN SITU SOLUTIONS

In Situ Solutions – With the advent of innovative site characterization and treatment technologies, In situ degradation of contaminants is rapidly replacing more expensive physical options as the solution of choice, especially at large and complex remediation sites. These solutions can range from monitored natural attenuation through enhanced bioremediation and chemical oxidation or reduction. Appropriate monitoring, developed by Microseeps and now available from Pace Analytical can provide a better understanding of contaminant mass, distribution and behavior over time, leading to better decisions based upon multiple lines of evidence. These cutting edge solutions can also decrease the amount of time to cleanup a site, decrease the amount of residual contamination left at sites and minimize the need for long term operation and maintenance. Overall they represent a more cost-effective and “greener” approach to site remediation.

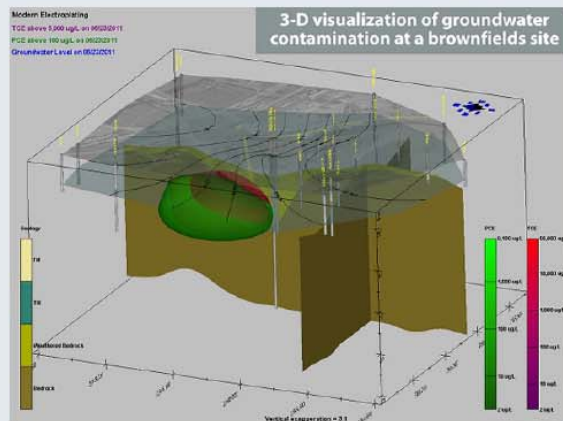


Photo Courtesy of EPA Brownfields Road Map to Understanding Options for Site Investigation and Cleanup Fifth Edition. EPA 542-R-12-001.

When you need to know that your In Situ Solution is working



Unique In Situ Solutions can supplement conventional environmental monitoring to provide additional lines of evidence or increased sensitivity to detect contaminant degradation activity at lower levels in parts of the plume far removed from an injection point. Although each site is unique, here are some general applications for the more frequently referenced tools:

Methane, Ethane, Ethene – This proprietary method with a RL of 0.025µg/L for ethene can detect the microbial activity of Dehalococcoides completely degrading PCE to ethene at ultra-low levels.

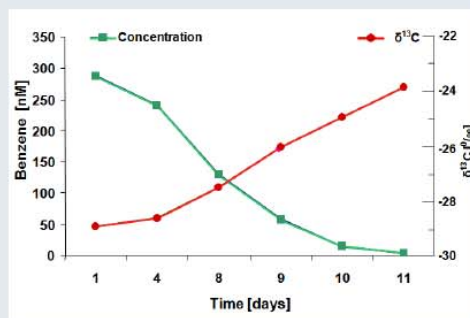
Volatile Fatty Acids – When lactic acid or similar is used to stimulate dechlorination VFA can measure a broad range of acids (8) to confirm activity at the injection point, or lower levels at plume edge.

Dissolved Hydrogen – Hydrogen is essential for degradation of many chlorinated compounds.

Compound Specific Isotope Analysis (CSIA) is one of the most sophisticated tools in the in situ solutions arsenal, capable of determining not only the source of the contaminants, but also of providing in the words of the USEPA, “unequivocal documentation that biodegradation or abiotic transformation processes actually destroyed the contaminant.” As a contaminant degrades in situ its concentration decreases and its isotopic composition changes as well allowing us to detect and accurately characterize that degradation.

Microseeps Inc. Acquisition – in August of 2013 Pace Analytical acquired Microseeps Inc. of Pittsburgh Pennsylvania. Microseeps has a long history of developing unique solutions to meet the needs of the remediation market, and Pace is pleased to have retained the services of the two key Microseeps scientists with over 45 years of combined environmental in situ experience.

- **Dr. Robert J. Pirkle:** President and founder of Microseeps with over 28 years experience in CSIA and in situ monitoring.
- **Dr. Patrick W. McLoughlin:** Microseeps Technical Director with over 17 years experience in CSIA and in situ monitoring.



To learn how Pace In Situ Solutions might benefit you or your client, please contact your local Pace Account Executive.



Corporate Headquarters
1800 Elm Street SE
Minneapolis, MN 55414
P: 612.607.6400

www.pacelabs.com

Microseeps Inc.
Division of Pace Analytical
220 William Pitt Way
Pittsburgh, PA 15238
P: 412.826.5245

In-Situ Monitoring Flyer_NOV2013_Rev1

State Program		Asheville	Atlanta	Billings	Charlotte	Dallas	Davis	Dayton	Duluth	Eden	Grand Rapids	Green Bay	Greenwood	Hurricane	Indianapolis	Kansas	Long Island	Madison (ECCS)	Minneapolis	New Orleans	Ormond Beach	Pittsburgh	Pompano Beach	Raleigh	Salina	Schenectady	Tampa	Virginia
	Additional Accreditations																											
NELAP		•	•	•	•	•	•	•	•		•	•			•	•	•	•	•	•	•	•	•		•	•	•	•
EPA UCMR 3																					•							
EPA UCMR 4																					•							
EPA CLP																			•									
AFCEE																			•									
U.S. ACOE																			•									
Ohio VAP								•							•				•									
NFESC																			•									
DASIP		•										•							•									
NRC																			•			•						
ISO17025																•		•	•						•			
ISO17025 - diox																			•									
CNMI (diox)																			•									
EPA Reg 8 (dw-diox)				•															•									
DoD ELAP - Rad																						•						
DoD ELAP - Rad ISO 17025																						•						
DoD - ELAP											•							•							•			

	Asheville	Atlanta	Billings	Charlotte	Dallas	Davis	Dayton	Eden	Field Services	Frontenac	Grand Rapids	Green Bay	Hurricane	Indianapolis	Kansas City	Long Island	Madison	Minneapolis	New Orleans	Ormond Beach	Pittsburgh	Pompano Beach	Raleigh	Salina	Schenectady	Tampa	Virginia
Square Footage	8,000	25,500	5,000	12,000	10,000	12,000	20,000	3,300		3,000	20,000	27,000	6,300	31,000	20,200	10,000	10,000	49,000	16,000	19,000	18,000	5,000	10,000	16,000	15,000	8,000	6,000
AA Spectrometer												2															
Alpha Scintillation Counters																					4						
Alpha Spectrometers																					40						
Autoclave		1								1														1			
Automated Analyzer			1													2								1			1
Automatic Absorption Spectrometer																									1		
Autotitrator														1	1												1
Balance, electronic		9								1														13			
BOD Robot														1													
Bomb Colorimeter		1																									1
Carbon Analyzers											2																
Dionex ASE 200																									4		
Discrete Analyzers	2										2				1			2	2					1			
EOX Analyzer																		1									
Flow-Injection Analyzers											2																
Gamma Spectrometers																					7						
Gas Analyzers									26															2			
Gas Flow Proportional Counters																					38						
Gas Phase / FTIR									7																		
GC		6	5	7	8	3	7			10	24		11	7	7	40	15	14	15	6				11	24	1	4
GC/MS		6		11	6	10	10			7	16		21	10	11	25	24	9	19	8				7	5		2
HG Analyzer											1												1				1
Horizon SPE-DEX 4790 Series APE		2																							16		
HPLC					1					1						2	6			4				2		1	
HRGC/HRMS																		5									
Hybrid Analyzer													1														
ICP	2	1	1		1	1				2	1	2	2	2	2		2	1	1	2				1	1	3	1
ICP/MS	1	2			1		1			2	2	1	2	1	1	1	4	1	1	1			1	1		1	1
Ion Chromatograph	2	1			1	2					3				3	1		1	1	2	1			2		1	1
Isco Automatic Samplers		6							20											2		6		4		6	
Isokinetic Sampling Trains									15																		
Kinetic Phosphorescence Analyzer																					1						
Konelab Automated Analyzer																											
Lachat Automated Analyzers	2	2					2					2		3	2		1			2	1		1	1			
Low Level Mercury Analyzers										1	3			1												1	

	Asheville	Atlanta	Billings	Charlotte	Dallas	Davis	Dayton	Eden	Field Services	Frontenac	Grand Rapids	Green Bay	Hurricane	Indianapolis	Kansas City	Long Island	Madison	Minneapolis	New Orleans	Ormond Beach	Pittsburgh	Pompano Beach	Raleigh	Salina	Schenectady	Tampa	Virginia
Mercury Analyzer	1	1			2	1					1		1	2	2	2		2	2	2	1			1	1	2	
Microscope		2	4							1														4			
Mobile Testing Laboratories																	12										
Ovens		5	2																					9			
Portable GC/TCD									1																		
SmartChem Automated Analyzer														1							1						
Sodium Iodide Detectors																					4						
Soxhlet Extraction Apparatus																								55	72		
TOC Analyzer		1			1														1		1		1	2	2		1
TOX Analyzer																			1								
UV/VIS Spectrophotometer		2									1			2										2			
Water Baths		1								5														4			
XRF Analyzer										5							1							4			

4. Systems

Web-based Report Access - PacePort

Pace has developed an Internet site called PacePort that allows clients of any Pace laboratory to view, download and print analytical reports and invoices. PacePort is a secured site, utilizing individual log-on ID's and passwords. Data is encrypted between the client's browser and the download site. Reports and invoices are posted on the site in Adobe® PDF format and remain available online for several years..

PacePort is a web-based data-management tool designed specifically for our customers. With up-to-the-hour data access from your computer, you have a quick resource to the information you need – when you need it.



- Quick, easy and secure access to your data – 24/7
- Confirm sample receipt and methods requested
- Check status of samples or projects at the lab
- Provide added value to your clients and projects
- Generate custom Electronic Data Deliverables (EDD)
- Order your containers online
- Improve your data/report management efficiency
- Put watches on critical projects to receive email notifications of results
- Select type of notifications that you want to receive
- Work on deadlines during non-business hours
- Archive all historical site/project data and reports
- Share data access with all interested stakeholders

PacePort can be accessed via the Pace Website: **www.pacelabs.com**. To begin using PacePort, clients must first register to obtain their user ID and password. A Pace project manager will assist the client in setup an account to access their reports on PacePort. For more information, please contact your Pace Project Manager.

LIMS / Instrument Automation / EDDS

Pace has invested heavily in systems automation and electronic communications in order to enhance our turnaround time and service quality. These investments in technology were made because we believe that if we communicate to you more efficiently, you will spend less time and effort understanding and utilizing the analytical data that we provide. Our information systems support our Client Services, Accounting and Laboratory Operations. The entire network of Pace laboratories is integrated, allowing real-time sharing of information between our facilities and between the departments within those facilities.

LIMS (*Laboratory Information Management Systems*)

Pace has implemented a LIMS, called EPIC Pro (Environmental Project and Information Control), which has been custom-designed for Pace and the specific needs of environmental laboratory operations. It is based on an Oracle relational database, giving the system the flexibility to adapt to many of your specific project and reporting requirements. From sample check-in to invoicing, EPIC Pro models the laboratory operations, eliminating redundant processes and data entry, and allowing for greater standardization in areas such as quality control batching, data reporting, and billing throughout the Pace system. As well as having a common LIMS, the Pace laboratories are linked via a high-speed network, which allows for transparent information transfer.

LIMS General Capabilities:

Project Definition/Sample Pre-check-in: This feature allows a Pace project manager to load into the LIMS most of the information that sample check-in will need at the time of sample receipt allowing for a faster log-in process.

Sample Check-in: All samples delivered to Pace Analytical's sample coordinator are entered into the LIMS and organized by project number. All relevant project information accompanying samples is entered into the system at sample check-in, unless the project was "pre-defined," such as client name, client number, project name, project description, sample matrix, analytical method, QC level, due date, etc.

Scheduling: Each day, Pace department managers check on-line or receive computer reports listing those projects which are still open within each analytical area. Based on these reports, managers set priorities and schedule work appropriately to meet the project needs.

Project Management: Pace has established a separate client services area to manage all project aspects. An important element of this function is to coordinate the compilation of data on projects involving analyses over multiple locations. Other important functions of this area are to maintain client liaison, expedite report delivery, help laboratory managers schedule work, etc. For large project commitments, Pace designates a specific Project or Program Manager. Project Managers find the LIMS to be an effective tool for achieving project schedules, budgets and objectives, and maintaining client satisfaction.

Data Entry: All data generated within each analytical area are entered or uploaded into the computer system according to project number. The data is not entered until all quality assurance/quality control checks have been made. Project management/client services staff routinely review outstanding projects to make sure appropriate progress is being made on the completion of required analyses.

Data Reporting: When all analyses have been completed and entered, a draft final report is generated from the LIMS. The draft final report is reviewed by all appropriate management staff whose analytical areas have been involved on that project. Upon review, any corrections are made before issuing a final report, which is sent out to the client. In addition to the hard copy, the report, or the report data, can be copied onto a CD, Adobe Acrobat format via e-mail, diskette, CD or download from the Internet.

Management Information: The LIMS also provides information concerning the numbers of samples analyzed, the number of specific analyses performed, holding time status, and other information is used by Pace management to track capacity, efficiency and productivity and, ultimately, the need to add capacity.

Invoicing: Automated invoicing is accomplished at the time of project initiation or by the input of pricing information during sample/project entry.

5. Quality

Pace Certifications

Accrediting Authority	Laboratory	Program Category	Accrediting Agency	Cert#
A2LA	Billings, MT	ENV-DW / NPW / HZ	A2LA	3590.01
A2LA	Minneapolis, MN	Air, NPW, SCM,	A2LA	2926.01
A2LA	Minneapolis, MN	Dioxin-DW/NPW/SCM/Tissue	A2LA	2926.01
A2LA (Wyoming)	Lenexa, KS	Wyoming STR	A2LA	2456.01
AIHA-LAP, LLC	Minneapolis, MN - IH	IHLAP/ELLAP	AIHA-LAP, LLC	101103
Alabama	Minneapolis	Dioxin-DW	DEM	40770
Alabama	Ormond, FL	DW	DEM	41320
Alabama	Pittsburgh, PA	RAD- DW	DEM	41590
Alaska	Minneapolis	DW, Dioxin-DW	DEC	MN00064
Alaska	Minneapolis	UST-Contaminated Sites	DEC	MN00064
Alaska	Virginia, MN	DW	DEC	MN01084
Alaska	Virginia, MN	UST	DEC	UST-107
Arizona	Minneapolis	Air, SW, SDW, WW, Dioxin-SW/WW/SDW	DHS	AZ0014
Arizona	Pittsburgh, PA	RAD- DW	DHS	AZ0734
Arizona	Virginia, MN	DW/ NPW/ SCM	DHS	AZ0785
Arkansas	Dallas, TX	CWA	DEQ	88-0647
Arkansas	Grand Rapids, MI	Non-Potable Water, Solid	DEQ	12-056-0
Arkansas	Lenexa, KS	WW/ HW/ Bioassay	DEQ	02-019-0
Arkansas	Minneapolis	DW, NPW, SCM, Dioxin-NPW/SCM/Tissue	DEQ	88-0680
Arkansas	Pittsburgh, PA	RAD- DW	DEQ	N/A
California	Davis, CA	DW/ WW/ HW	ELAP	2961
California	Minneapolis	DW, WW, HW, Dioxin-DW/WW/HW	ELAP	2929
California	New Orleans, LA	NPW/ SCM	ELAP	2928
California	Pittsburgh, PA	RAD- DW	ELAP	04222CA
Colorado	Minneapolis	DW, Dioxin-DW	DPHE	MN00064
Colorado	Pittsburgh, PA	RAD- DW	DPHE	N/A
Colorado	Salina, KS	DW	DPHE	13
Connecticut	Energy Services - PA	NPW	DPH	PH-0263
Connecticut	Long Island, NY	DW/ NPW/ SHW	DPH	PH-0435
Connecticut	Minneapolis	SDW, NPW/WW, SCM, Dioxin-SDW, NPW/WW/SCM	DPH	PH-0256
Connecticut	Ormond, FL	DW	DPH	PH-0216
Connecticut	Pittsburgh, PA	WW/ HW/ RAD-DW	DPH	PH-0694
Connecticut	Schenectady, NY	NPW/ SCM	DPH	PH-0337
Delaware	Ormond, FL	DW	HSS	N/A
Delaware	Pittsburgh, PA	RAD- DW	HSS	N/A
Department of Defense	Grand Rapids, MI	Non-Potable Water, Solid	ANAB	ADE-1542

Accrediting Authority	Laboratory	Program Category	Accrediting Agency	Cert#
Department of Defense	Green Bay, WI	NPW/ SCM	DoD/ELAP	3269.01
Department of Defense	Pittsburgh, PA	RAD- WW, HW	LAB	L2417
EPA Region 8	Billings, MT	DW	US EPA	8TMS-L
EPA Region 8	Minneapolis	DW, Dioxin-DW	US EPA	8TMS-L
Florida	Asheville, NC	DW/ NPW/ SCM	FL DOH	E87648
Florida	Atlanta, GA	DW/ NPW/ SCM	FL DOH	E87315
Florida	Charlotte, NC	DW/ NPW/ SCM	FL DOH	E87627
Florida	Dallas, TX	NPW	FL DOH	E871118
Florida	Grand Rapids, MI	Non-Potable Water, Solid Primary NELAP	FL DOH	E87622
Florida	Green Bay, WI	NPW/ SCM/ Tissue	FL DOH	E87948
Florida	Greenville, SC	NPW - Toxicity	FL DOH	E87585
Florida	Minneapolis	Air, DW, NPW, SCM, Dioxin-DW/NPW/SCM/Tissue	FL DOH	E87605-30-07/07/01/2016
Florida	Minneapolis, MN - IH	DW	FL DOH	E871121
Florida	New Orleans, LA	NPW/ SCM	FL DOH	E87595
Florida	Ormond, FL	DW/ NPW/ SCM	FL DOH	E83079
Florida	Pittsburgh, PA	RAD- DW, WW, HW	FL DOH	E87683
Florida	Pompano, FL	DW/ NPW/ SCM	FL DOH	E86240
Florida	Tampa, FL	DW/ NPW/ SCM	FL DOH	E84809
Georgia	Asheville, NC	NPW/ SCM	EPD	N/A
Georgia	Atlanta, GA	DW- Micro	DNR	812
Georgia	Atlanta, GA	DW	DNR	812
Georgia	Grand Rapids, MI	CWA, RCRA Stipulation	DNR	None
Georgia	Green Bay, WI	NPW/ SCM	EPD	E87948
Georgia	Minneapolis	DW, Dioxin-DW	DNR	MN00064
Georgia	Ormond, FL	DW	DNR	955
Georgia	Pittsburgh, PA	RAD- DW	DNR	C040
Guam	Minneapolis	Dioxin-DW	Guam EPA	15-009r
Guam	Ormond, FL	DW	Guam EPA	15-008r
Guam	Pittsburgh, PA	RAD- DW	Guam EPA	N/A
Hawaii	Minneapolis	DW, Dioxin-DW	DOH	MN00064
Hawaii	Ormond, FL	DW	DOH	N/A
Hawaii	Pittsburgh, PA	RAD- DW	DOH	N/A
Idaho	Billings, MT	DW	DHW	MT00012
Idaho	Minneapolis	DW, Dioxin-DW	DHW	MN00064
Idaho	Pittsburgh, PA	RAD- DW	DHW	N/A
Illinois	Grand Rapids, MI	Non-Potable Water, Solid Secondary NELAP	IL EPA	3529
Illinois	Green Bay, WI	NPW/ SCM	IL EPA	003671
Illinois	Indianapolis, IN	NPW/ SCM	IL EPA	3712
Illinois	Lenexa, KS	NPW/ SCM	IL EPA	2885
Illinois	Madison, WI	NPW/ SCM	IL EPA	3846
Illinois	Minneapolis	DW, NPW, SCM, Dioxin-DW/ NPW/SCM	IL EPA	003733
Illinois	New Orleans, LA	NPW/ SCM	IL EPA	003565
Illinois	Ormond, FL	DW	IL EPA	003619

Accrediting Authority	Laboratory	Program Category	Accrediting Agency	Cert#
Illinois	Pittsburgh, PA	RAD- DW	IL EPA	N/A
Indiana	Indianapolis, IN	DW	ISDH	C-49-06
Indiana	Minneapolis	Dioxin-DW	ISDH	MN00064
Indiana	Ormond, FL	DW	ISDH	N/A
Indiana	Pittsburgh, PA	RAD- DW	ISDH	N/A
Iowa	Dallas, TX	SW	DNR	408
Iowa	Lenexa, KS	UST/ WW/ HW	DNR	118
Iowa	Minneapolis	Dioxin-DW	DNR	MN00064
Iowa	Pittsburgh, PA	RAD- DW	DNR	391
ISO 17025	Grand Rapids, MI	Potable, Non-Potable Water, Solid	DNR	ADE-1542
Kansas	Dallas, TX	NPW/ SCW	KDHE	E-10388
Kansas	Indianapolis, IN	NPW/ SCM	KDHE	E-10177
Kansas	Lenexa, KS	DW/ NPW/ SCM	KDHE	E-10116
Kansas	Lenexa, KS	Field	KDHE	E-92587
Kansas	Madison, WI	NPW/ SCM	KDHE	E-10384
Kansas	Minneapolis	DW, NPW, SCM, Dioxin-DW/NPW/SCM	KDHE	E-10167
Kansas	New Orleans, LA	NPW/ SCM	KDHE	E-10266
Kansas	Ormond, FL	DW	KDHE	E-10383
Kansas	Pittsburgh, PA	RAD- DW	KDHE	E-10358
Kansas	Salina, KS	DW/ NPW/ SCM	KDHE	E-10146
Kentucky	Charlotte, NC	UST	DEP/DWM/UST	84
Kentucky	Dayton, OH	DW	DEP/DOW	53
Kentucky	Dayton, OH	NPW	DEP/DOW	53
Kentucky	Grand Rapids, MI	Underground Storage Tank (UST)	DEP/DWM/UST	21
Kentucky	Green Bay, WI	UST	DEP/DWM/UST	82
Kentucky	Hurricane, WV	NPW	DEP/DOW	98003
Kentucky	Indianapolis, IN	UST	DEP/DWM/UST	42
Kentucky	Indianapolis, IN	WW	DEP/DOW	98019
Kentucky	Minneapolis	Dioxin-DW	DEP/DOW	90062
Kentucky	Minneapolis	WW, Dioxin-WW	DEP/DOW	90062
Kentucky	Pittsburgh, PA	RAD- DW, WW	DEP/DOW	90133
Kentucky	Dayton, OH	NPW/SCM	DEP/DWM/UST	86
Kentucky	Dayton, OH	NPW	DEP/DOW	98039
Louisiana	Dallas, TX	NPW/ SCM	DEQ	02007
Louisiana	Green Bay, WI	NPW/ SCM/ Tissue	DEQ	04168
Louisiana	Lenexa, KS	NPW/ SCM	DEQ	3055
Louisiana	Madison, WI	NPW/ SCM	DEQ	4165
Louisiana	Minneapolis	Air, NPW, SCM, Dioxin-NPW/SCM/Tissue	DEQ	03086
Louisiana	Minneapolis	DW, Dioxin-DW	DHH	LA160021
Louisiana	Minneapolis, MN - IH	DW	DHH	LA160027
Louisiana	New Orleans, LA	NPW/ SCM	DEQ	2006
Louisiana	Ormond, FL	NPW/ SCM	DEQ	5007
Louisiana	Ormond, FL	DW	DHH	LA 130012

Accrediting Authority	Laboratory	Program Category	Accrediting Agency	Cert#
Louisiana	Pittsburgh, PA	RAD- WW, HW	DEQ	4086
Louisiana	Pittsburgh, PA	RAD- DW	DHH	LA160004
Maine	Minneapolis	Air, DW, NPW, Dioxin-DW/NPW	DHHS	201506
Maine	Pittsburgh, PA	WW and RAD-DW	DHHS	PA01457
Maryland	Long Island, NY	DW	MDE	208
Maryland	Minneapolis	SDW, Dioxin-SDW	MDE	MN00064
Maryland	Ormond, FL	DW	MDE	346
Maryland	Pittsburgh, PA	RAD- DW	MDE	308
Massachusetts	Long Island, NY	DW/ NPW	DEP	M-NY026
Massachusetts	Pittsburgh, PA	RAD- DW	DEP	M-PA1457
Massachusetts	Schenectady, NY	NPW	DEP	M-NY906
Michigan	Grand Rapids, MI	Potable Water	DEQ	34
Michigan	Minneapolis	DW, Dioxin-DW	DEQ	MN00064
Michigan	Ormond, FL	DW	DEQ	9911
Michigan	Pittsburgh, PA	RAD- DW	DEQ	N/A
Minnesota	Billings, MT	DW/ WW/ HZ	MDH	976900
Minnesota	Davis, CA	DW/ NPW/ SCM	MDH	1056651
Minnesota	Duluth, MN	DW/ NPW/ SCM	MDH	966573
Minnesota	Grand Rapids, MI	Non-Potable Water, Solid Secondary NELAP	MDH	858382
Minnesota	Green Bay, WI	NPW/ SCM	MDH	832925
Minnesota	Minneapolis	Petrofund	DOC	1240
Minnesota	Minneapolis	Air, DW, NPW, SCM, Dioxin-DW/NPW/SCM/Tissue	MDH	1058285
Minnesota	Minneapolis, MN - IH	DW	MDH	999633
Minnesota	Virginia, MN	DW/ NPW/ SCM	MDH	672929
Mississippi	Minneapolis	DW, Dioxin-DW	DOH	MN00064
Mississippi	Ormond, FL	DW	DOH	N/A
Missouri	Ormond, FL	DW	DNR	N/A
Missouri	Pittsburgh, PA	RAD- DW	DNR	235
Montana	Billings, MT	DW	DPHHS	0040
Montana	Minneapolis	DW, Dioxin-DW	DPHHS	CERT0092
Montana	Ormond, FL	DW	DPHHS	OO74
Montana	Pittsburgh, PA	RAD- DW	DPHHS	Cert0092
Nebraska	Minneapolis	DW, Dioxin-DW	DHHS	NE-OS-18-06
Nebraska	Minneapolis, MN - IH	DW	DHHS	NE-OS-31-16
Nebraska	Ormond, FL	DW	DHHS	NE-OS-28-14
Nebraska	Pittsburgh, PA	RAD- DW	DHHS	NE-OS-29-14
Nevada	Billings, MT	NPW	DEP	MT000122017-1
Nevada	Lenexa, KS	NPW/ SWM	DEP	KS00021211A
Nevada	Minneapolis	DW, NPW, SCM, Dioxin-DW/NPW/SCM	DEP	MN000642016-1
Nevada	Ormond, FL	DW	DEP	FL012642014-1
Nevada	Pittsburgh, PA	RAD- DW, WW, HW	DEP	PA01457
Nevada	Virginia, MN	NPW	DEP	MN010842016-1
New Hampshire	Energy Services - PA	NPW	DES	299415

Accrediting Authority	Laboratory	Program Category	Accrediting Agency	Cert#
New Hampshire	Long Island, NY	DW/ NPW/ SHW	DES	2987
New Hampshire	Pittsburgh, PA	WW and RAD-DW	DES	2976
New Jersey	Dayton, OH	DW/ NPW/ SCM	NJ DEP	OH007
New Jersey	Energy Services - PA	NPW	NJ DEP	PA026
New Jersey	Long Island, NY	Air/ DW/ NPW/ SHW	NJ DEP	NY158
New Jersey	Madison, WI	NPW/ SCM	NJ DEP	WI004
New Jersey	Minneapolis	Air, Dioxin-DW/NPW/Tissue	NJ DEP	MN00064
New Jersey	Pittsburgh, PA	WW/ HW/ RAD-DW	NJ DEP	PA-051
New Jersey	Schenectady, NY	Air/ NPW/ SCM	NJ DEP	NY026
New Mexico	Pittsburgh, PA	RAD- DW	DPNR	PA01457
New York	Energy Services - PA	NPW	DOH - ELAP	11815
New York	Grand Rapids, MI	Non-Potable Water, Solid Secondary NELAP	DOH - ELAP	11776
New York	Long Island, NY	Air/ DW/ NPW/ SHW	DOH - ELAP	10478
New York	Minneapolis	Air, DW, NPW, SCM, Dioxin-DW/NPW/SCM	DOH - ELAP	MN00064
New York	Minneapolis, MN - IH	DW/SHW/Air	DOH - ELAP	54634, 54851, 54733
New York	Ormond, FL	DW	DOH - ELAP	11608
New York	Pittsburgh, PA	WW/ HW/ RAD-DW	DOH - ELAP	10888
New York	Schenectady, NY	Air/ NPW/ SCM	DOH - ELAP	11078
North Carolina	Asheville, NC	WW	DENR	40
North Carolina	Asheville, NC	DW	DPH	37712
North Carolina	Atlanta, GA	WW	DENR	381
North Carolina	Charlotte, NC	Field	DENR	5342
North Carolina	Charlotte, NC	WW	DENR	12
North Carolina	Charlotte, NC	DW	DPH	37706
North Carolina	Eden, NC	WW	DENR	633
North Carolina	Eden, NC	DW	DPH	37738
North Carolina	Grand Rapids, MI	Aqueous, Non-Aqueous	DENR	659
North Carolina	Greenwood, SC	WW	DENR	25
North Carolina	Minneapolis	WW	DENR	530
North Carolina	Minneapolis	DW, Dioxin-DW	DPH	MN00064
North Carolina	Ormond, FL	WW	DENR	667
North Carolina	Ormond, FL	DW	DPH	12710
North Carolina	Pittsburgh, PA	RAD- DW	DPH	42706
North Carolina	Raleigh, NC	DW	DPH	37733
North Carolina	Raleigh, NC	WW	DENR	67
North Dakota	Billings, MT	DW/ NPW/ SCM	DOH	R-209
North Dakota	Davis, CA	RCRA	DOH	R-214
North Dakota	Duluth, MN	DW/ CWA/ RCRA	DOH	R-105
North Dakota	Green Bay, WI	CWA/ RCRA	DOH	R-150
North Dakota	Minneapolis	DW, NPW, Dioxin-DW/NPW	DOH	R-036
North Dakota	Pittsburgh, PA	RAD- DW	DOH	R-190
North Dakota	Virginia, MN	DW/ NPW/ SCM	DOH	R-203
NVLAP	Dublin, OH	Asbestos	NVLAP	101170-0

Accrediting Authority	Laboratory	Program Category	Accrediting Agency	Cert#
NVLAP	Minneapolis, MN - IH	Air/Bulk	NVLAP	101234-0
Ohio	Dayton, OH	DW	EPA	872
Ohio	Minneapolis	Dioxin-DW	EPA	4150
Ohio VAP	Dayton, OH	Not listed	EPA	CL0032
Ohio VAP	Indianapolis, IN	NPW/ SCM	EPA	CL-0065
Ohio VAP	Minneapolis	Air	EPA	MN00064
Oklahoma	Dallas, TX	NPW/ Solids	DEQ	8727
Oklahoma	Indianapolis, IN	NPW/ SCM	DEQ	2014-148
Oklahoma	Lenexa, KS	NPW/ Solids	DEQ	2015-025
Oklahoma	Madison, WI	NPW/ SCM	DEQ	2015-132
Oklahoma	Minneapolis	DW, NPW, SCM, Dioxin-DW/NPW/SCM	DEQ	2016-049
Oklahoma	Ormond, FL	DW	DEQ	D9947
Oklahoma	Salina, KS	NPW/ Solids	DEQ	2015-101
Oklahoma	Virginia, MN	DW/ NPW/ SCM	DEQ	MN01084
Oregon	Davis, CA	DW/ NPW/ Solids	ORELAP	CA300002
Oregon	Minneapolis	NwTPH-NPW/SCM	ORELAP	MN300001-007
Oregon	Minneapolis	Air, DW, NPW, SCM, Dioxin-DW/NPW/SCM/Tissue	ORELAP	MN200001-009
Oregon	Pittsburgh, PA	RAD- DW, WW, HW	ORELAP	PA200002
Pennsylvania	Energy Services - PA	NPW	DEP	02-00538
Pennsylvania	Long Island, NY	DW/ NPW/ SCM	DEP	68-00350
Pennsylvania	Madison, WI	SCM	DEP	68-02962
Pennsylvania	Minneapolis	DW, NPW, SCM, Dioxin-DW/NPW/SCM	DEP	013
Pennsylvania	New Orleans, LA	NPW/ SCM	DEP	68-04202
Pennsylvania	Ormond, FL	DW	DEP	DEP 68-00547
Pennsylvania	Pittsburgh, PA	WW/ HW/ RAD-DW	DEP	65-00282
Puerto Rico	Minneapolis	DW, Dioxin-DW	DOH	MN00064
Puerto Rico	Ormond, FL	DW	DOH	FL01264
Puerto Rico	Pittsburgh, PA	RAD- DW	DOH	PA01457
Rhode Island	Long Island, NY	DW/ NPW	DOH	10478
Rhode Island	Pittsburgh, PA	RAD- DW	DOH	LAO00342
Saipan (CNMI)	Minneapolis	Dioxin-DW	DEQ	MP0003
South Carolina	Asheville, NC	CWA/ SHW	DHEC	99030001
South Carolina	Atlanta, GA	CWA/ SHW	DHEC	98011001
South Carolina	Charlotte, NC	DW	DHEC	99006003
South Carolina	Charlotte, NC	CWA/ SHW	DHEC	99006001
South Carolina	Energy Services - PA	CWA/ SHW	DHEC	89009003
South Carolina	Green Bay, WI	CWA/ SHW	DHEC	83006001
South Carolina	Greenville, SC	CWA - Toxicity	DHEC	23031001
South Carolina	Greenwood, SC	DW/ CWA/ SHW	DHEC	24562001
South Carolina	Minneapolis	Dioxin-DW/NPW/SCM	DHEC	74003001
South Carolina	Ormond, FL	DW	DHEC	96042001
South Dakota	Pittsburgh, PA	RAD- DW	DOE&NR	N/A
Tennessee	Minneapolis	DW, Dioxin-DW	DOH	TN02818

Accrediting Authority	Laboratory	Program Category	Accrediting Agency	Cert#
Tennessee	Ormond, FL	DW	DOH	TNO2974
Tennessee	Pittsburgh, PA	RAD- DW	DOH	TN02867
Texas	Atlanta, GA	NPW/ SCM	TCEQ	T104704397
Texas	Dallas, TX	DW/ NPW/ SCM	TCEQ	T104704232
Texas	Energy Services - PA	NPW	TCEQ	T104704453
Texas	Green Bay, WI	NPW	TCEQ	T104704529
Texas	Indianapolis, IN	NPW/ SCM	TCEQ	T104704355
Texas	Lenexa, KS	NPW/ SCM	TCEQ	T104704407
Texas	Madison, WI	SCM	TCEQ	T104704504
Texas	Minneapolis	Air, DW, NPW,SCM, Dioxin-DW/NPW/SCM	TCEQ	T104704192-16-11
Texas	Minneapolis, MN - IH	PCM, PLM, TEM	DSHS	300453
Texas	New Orleans, LA	NPW/ SCM	TCEQ	T104704405
Texas	Ormond, FL	DW	TCEQ	T104704184
Texas	Pittsburgh, PA	RAD- DW	TCEQ	T104704188
Texas	Salina, KS	DW/ NPW/ SCM	TCEQ	T104704246
US EPA	Ormond, FL	UCMR 3	US EPA	FL01264
US Virgin Islands	Ormond, FL	DW	DPNR	N/A
US Virgin Islands	Pittsburgh, PA	RAD- DW	DPNR	N/A
USDA	Grand Rapids, MI	Permit to Receive Soil		P330-14-00305
Utah	Lenexa, KS	NPW/ SHM	DOH	KS000212012-2
Utah	Minneapolis	Air, DW, NPW,SCM, Dioxin-DW/NPW/SCM	DOH	MN000642016-7
Utah	Pittsburgh, PA	RAD- DW, WW, HW	DOH	PA01457
Vermont	Pittsburgh, PA	RAD- DW	DOH	VT-0282
Virginia	Asheville, NC	DW/ NPW/ SCM	DGS	460222
Virginia	Atlanta, GA	NPW/ SCM	DGS	460204
Virginia	Charlotte, NC	DW/ NPW/ SCM	DGS	7784
Virginia	Eden, NC	DW/ NPW	DGS	8415
Virginia	Energy Services - PA	NPW	DGS	8122
Virginia	Grand Rapids, MI	Non-Potable Water, Solid Secondary NELAP	DGS	7952
Virginia	Green Bay, WI	Tissue	DGS	460263
Virginia	Greenwood, SC	NPW	DGS	7760
Virginia	Minneapolis	Air, NPW, SCM, Dioxin-NPW/SCM/Tissue	DGS	8608
Virginia	New Orleans, LA	NPW/ SCM	DGS	460246
Virginia	Ormond, FL	DW	DGS	432
Virginia	Pittsburgh, PA	RAD- DW, WW, HW	DGS	460198
Washington	Billings, MT	DW/ NPW/ SCM	DOE	C993
Washington	Davis, CA	NPW/ SCM	DOE	C926
Washington	Madison, WI	SCM	DOE	C1028
Washington	Minneapolis	Air, DW, NPW,SCM, Dioxin-DW/NPW/SCM	DOE	MN00064
Washington	Pittsburgh, PA	RAD- DW	DOE	C868
Washington	Virginia, MN	NPW/ SCM	DOE	C1007
West Virginia	Energy Services - PA	NPW	DEP	395
West Virginia	Hurricane, WV	NPW, SCM, HW Char	DEP	220

Accrediting Authority	Laboratory	Program Category	Accrediting Agency	Cert#
West Virginia	Indianapolis, IN	NPW/ SCM	DEP	330
West Virginia	Minneapolis	NPW / SCM	DEP	382
West Virginia	Minneapolis	Dioxin-DW	DHHR	9952 C
West Virginia	Ormond, FL	DW	DHHR	9962C
West Virginia	Pittsburgh, PA	WW/ SHW	DEP	143
West Virginia	Pittsburgh, PA	RAD- DW	DHHR	9964 C
Wisconsin	Duluth, MN	NPW/ Solids	DNR	999446800
Wisconsin	Grand Rapids, MI	Non-Potable Water, Solid	DNR	999472650
Wisconsin	Green Bay, WI	DW/ NPW/ Solids	DNR	405132750
Wisconsin	Green Bay, WI	DW	DNR	105-444
Wisconsin	Indianapolis, IN	DW/ NPW	DNR	999788130
Wisconsin	Madison, WI	NPW/ Solids	DNR	113289110
Wisconsin	Minneapolis	DW, NPW, SCM, Dioxin-DW/NPW/SCM/Tissue	DNR	MN00064
Wisconsin	Minneapolis, MN - IH	DW	DNR	-
Wisconsin	Ormond, FL	DW	DNR	399079670
Wisconsin	Pittsburgh, PA	RAD- DW	DNR	N/A
Wyoming (Region 8)	Minneapolis	DW, Dioxin-DW	EPA Reg 8	Via EPA Region 8
Wyoming (Region 8)	Ormond, FL	DW	EPA Reg 8	8TMS-QA
Wyoming (Region 8)	Pittsburgh, PA	RAD- DW	EPA Reg 8	8TMS-Q

NELAP Accreditation

All Pace full-service laboratories are accredited National Environmental Laboratory Accreditation Program (NELAP). NELAP is the EPA program that administers the National Environmental Laboratory Accreditation Conference (NELAC) process. A major NELAC goal is to assure that laboratories provide analytical data at a high level of quality, providing the basis for sound decision-making.

NELAP Accreditation provides additional assurance to Pace clients that their laboratory supplier has met significant National Quality Systems standards.

Quality Assurance Program

The following sections describe the Quality Programs in place at Pace Analytical.

Quality Philosophy

The philosophy that has been cultivated at Pace is that of total quality. We understand that quality data is top priority, yet we also know that quality data that is not efficiently communicated in a timely manner is of diminished value to the client. Therefore, Pace has dedicated the resources at the corporate and laboratory levels.

Quality Control consists of specific procedures applied to all phases of analysis from sample receipt through the final reporting of results. The purpose of quality control is to ensure that quality goals are met under routine operating procedures. Quality Assurance involves the continuous evaluation of data and monitoring of analytical processes for the purpose of ensuring that the quality control systems are performing effectively.

Organizing

The Quality Office in the laboratory is independent from operations and reports directly to the Laboratory General Manager. This reporting hierarchy allows autonomous quality assurance activities within the laboratory system. Pace also has a corporate Quality Office to ensure consistent quality throughout our laboratory system.

Program Objectives

The major elements of the Laboratory Quality Assurance/Quality Control Program are summarized below. A complete copy of our Quality Assurance Manual is available upon request.

- Use of appropriate methodologies by technically competent, well-trained personnel with modern instrumentation and equipment.
- Adherence to well-defined standard operating procedures with emphasis on good laboratory and measurement practices.
- Analysis and assessment of quality control samples including (but not limited to) matrix spike samples, duplicate samples, surrogate spikes, blanks, and independent laboratory control standards.
- Participation in external quality evaluation programs including EPA Water Pollution and Water Supply (WP & WS) Study Programs, CLP, Air Force, Navy, and numerous state programs.
- Maintenance of accreditation by State, Federal, and other applicable agencies for work performed.
- Monitor internal and external compliance to procedures and to assess the performance of the analytical methods.

Quality Control Deliverables

Although the fundamentals of the laboratory quality control program are applied consistently, Pace offers several different levels of quality control deliverables. This is designed so that you may meet various quality reporting objectives.

Level Description:

- I. Data Reporting Only
- II. Preparation Batch Quality Control (QC) Data: blank results, spike recoveries (including matrix spikes), duplicate precision (including matrix spike duplicates) and reference material results (where applicable). A case narrative is provided as necessary and/or on request
- III. All items in Levels A and B, and the raw data sheets and chromatograms
- IV. The Contract Laboratory Program (CLP) package as defined in the U.S. EPA contract deliverables package

Quality Assurance Plan

Pace has developed a Quality Assurance Plan (QAP) which is in compliance with the elements required in the US EPA "EPA Requirements for Quality Assurance Project Plans for Environmental Data Operations," EPA QA/R-5. This company QAP is then customized by our individual laboratory locations, as is necessary, to reflect their specific location requirements, processes, and capabilities. The QAP defines the systems of quality control and quality assessment that constitute the comprehensive Quality Assurance Programs within Pace Analytical. Each laboratory follows, at a minimum, the requirements outlined in the QAP. In many instances, as a result of specific program requirements, the laboratories adhere to more rigorous standards than those outlined in the QAP.

6. Rapid Response

ENVIRONMENTAL | RAPID RESPONSE PROGRAM



WHEN ENVIRONMENTAL DISASTER STRIKES...
The PACE RAPID RESPONSE TEAM (PRRT) is there to help.

When disaster strikes – be it a major fire, a train derailment, an oil spill or a pipeline rupture – and materials of environmental concern are released to the environment, Pace Analytical's Rapid Response Team is available to discuss urgent environmental options and implement a testing solution. PRRT responders are available 24-7 to ensure that sample containers are available, samples are collected appropriately, critical samples are expedited to the nearest laboratory, and rapid results are provided to decision-makers on the scene. This level of lab support is crucial in making decisions that impact the safety of emergency personnel on site and the potential exposure of local residents to hazardous chemicals.

The PRRT can provide the following services and a flexible response to unique site challenges:

- A national network of laboratories and responders
- Courier of sample supplies to the scene
- Expedited shipment services (Couriers and Pace corporate aircraft available)
- 24/7 laboratory staffing and data reporting
- On-site technical support and sample logistics
- Rapid laboratory results to support tactical decisions
- Quality data at all times to ensure defensibility; litigation support
- Automated, on-line, easy to use data management tools

The PRRT has extensive experience in a wide range of environmental disaster assistance including:

- Derailments
- Fires
- Oil Well Fires
- Pipeline breaks
- Industrial chemical spills or leaks
- Hurricanes, floods and other natural disasters (*Pace Analytical can provide references for these types of work upon request.)



Pace Analytical Services, Inc.
Corporate Headquarters
1800 Elm Street
Minneapolis, MN 55414
P: 612.607.6400
www.pacelabs.com

Rapid Response_JAN2014_rev 2

7. Personnel

Pace Senior Management Personnel

Corporate Officers and Senior Management

Our corporate office is located in Minneapolis, MN. The primary function of the corporate officers and senior management is to provide assistance to the independently managed division and locations. For the past ten years, the senior management team has provided the leadership and business insight to make Pace one of the leading providers of environmental and life sciences measurements and services in the United States.



STEVE VANDERBOOM
PRESIDENT AND CHIEF EXECUTIVE OFFICER

Steve Vanderboom possesses over 39 years of experience in the analytical services industry, specifically in the areas of environmental testing, pharmaceutical and medical device testing, field services and environmental consulting. Mr. Vanderboom founded Pace in 1978 and has served as its President and CEO since that time. Pace Services, LLC. is a privately held national company offering analytical services and measurements and employs over 2,300 people in 80 locations around the United States and Puerto Rico. Mr. Vanderboom received a Master's in Environmental Engineering from the University of Minnesota and a Bachelor's in Civil Engineering from South Dakota School of Mines and Technology. Mr. Vanderboom lives in the Minneapolis, MN area and is an active participant in his church, community and professional organizations including the American Council of Independent Laboratories and the World President's Organization.



MICHAEL PRASCH
EXECUTIVE VICE PRESIDENT / CHIEF FINANCIAL OFFICER

Mr. Prasch joined Pace in 1999, and has more than 20 years of experience in corporate finance. He currently serves as Executive Vice President / Chief Financial Officer and is responsible for all of Pace's finance management accounting activities – including compliance and controls, financial reporting, accounting transactional work processes as well as financial standards, legal policies and long-term strategic planning for Pace's three business divisions. He also has oversight of all information technology IT operations for the company nationwide, Human Resources, corporate administrative support services and acquisition-sale due diligence practices.

For the past 12 years, Mr. Prasch has had responsibility for upholding strong financial management and accountability while providing timely, accurate, and reliable financial information and internal controls. He effectively re-engineered accounting processes, established policies and procedures and implemented systems that have enabled Pace to maintain an industry standard for integrity of financial statements, best business practices and financial accountability. Mr. Prasch has been instrumental in executing and integrating all of Pace's lab acquisitions. During his tenure, Pace has experienced business line revenue growth every year and continues to expand its facilities, services and staffing nationwide.

Mr. Prasch received his B.S. in Accounting from the University of Minnesota and an MBA in Finance from Minnesota State University.

/ through operational excellence. As the former National Director of Field Operations for Progenity, he improved on-time delivery of samples from 95% to 98% and reduced courier costs by 15% per unit.

Before joining Progenity in 2014, Mr. Fuller was the Vice President of Operations for MEDLAB and was responsible for all aspects of operations, including business units in Beltsville, Maryland, Cleveland, Cincinnati and St. Louis, all while overseeing consolidation of Billing and Client Service Functions, the Laboratory, Logistics, Human Resources and Information Technology. He was also the Director of Field Operations and Specimen Management for Quest Diagnostics.

Mr. Fuller received his B.S. Degree in Microbiology from Eastern Michigan University and his MBA from the University of Michigan, Flint.



GREGORY KUPP

VICE PRESIDENT AND CHIEF OPERATING OFFICER – LIFE SCIENCES

Mr. Kupp is the Vice President and Chief Operating Office for Pace Analytical's Life Sciences Division, which includes the operations in Oakdale, Minnesota, and San German, Puerto Rico. He joined Pace in 2006 and has more than 20 years of managerial and business development experience in the life science industry including executive level management, information technology and laboratory operations.

For the past 5 years, Mr. Kupp has been responsible for the strategic growth, operational leadership and management of Pace's growing Life Sciences business. He is responsible for overall operations and administration of Pace's Life Sciences laboratories; oversight of all regulatory and compliance standards for laboratories; procurement of required personnel and equipment; and long-range, capital and strategic planning for Pace's Life Sciences business.

Under his management, Pace has developed into a key supplier of analytical and microbiology services within the Life Science Industry. During his tenure at Pace, Mr. Kupp was instrumental in developing the overall business models and the quality system, as well as the laboratory information management system (LIMs) employed within the laboratory. Under his leadership both laboratory operations have been approved as a supplier by many of the world's top health care companies. In addition, both sites have experienced numerous successful regulatory audits. His efforts to drive the development of a client-focused work culture – where the emphasis is focused on understanding customer requirements and delivering a timely, cost-effective and innovative solution to each customer – has played a critical role in Pace's significant growth in the Life Sciences business over the past several years.

Mr. Kupp holds a B.S. degree in Biology from Misericordia University and an M.S. degree in Quality Assurance / Regulatory Affairs from Temple University



JUDITH MORGAN

CHIEF COMPLIANCE AND TRAINING OFFICER

Ms. Morgan joined Pace in 2015 as Chief Compliance and Training Officer. Following an exceptional 24-year career at ESC Lab Sciences, most recently as VP and Chief Regulatory Officer, she provides the leadership and experience required to manage a strong compliance program and deliver quality career development and training initiatives. Highly regarded as one of the best known compliance professionals in the industry, Ms. Morgan brings 29 years of experience to Pace's executive management team.

Her background includes implementation of quality assurance programs and oversight of compliance, green initiatives and environmental sustainability, waste disposal/minimization, and ethics and confidentiality.

In her role with Pace, Ms. Morgan manages all of Pace's quality, ethics and training functions and also its environmental, health and safety initiatives. As an industry leader with strong business acumen and vision for Pace's success, she leverages her knowledge and industry expertise to ensure that our training and compliance programs remain world class.

Ms. Morgan received a B.S. degree in Chemistry from Austin Peay State University and earned an M.S. degree in Analytical Chemistry from Western Kentucky University. In addition, Ms. Morgan has completed research focused on environmental analysis at Vanderbilt University. She holds membership to professional organizations including the American Chemical Society, American Society for Quality, American Public Health Association, and the Society for Environmental Toxicology and Chemistry.



CYNTHIA HANSEN

DIRECTOR OF QUALITY ASSURANCE – LIFE SCIENCES

Ms. Hansen joined Pace Life Sciences in 2006 and currently serves as the Director of Quality Assurance. She has extensive industry experience – more than 21 years in laboratories, with 15 years in the life sciences industry. Her previous roles include Director of Quality and Regulatory, Chemistry Group Leader and Project Manager.

Ms. Hansen is responsible for Quality Assurance, Data Review, Document Management, IT, the Equipment Program, as well as oversight of San German QA activities. She has been instrumental in building Pace Life Science's reputation for quality, illustrated by her successful leadership of recent FDA inspections, including February 2011 with the outcome of no FD-483 observations.

In her role, she has developed several key initiatives that have led to increased efficiency and consistency for operations, passing on these benefits to Pace clients. Ms. Hansen developed the current quality system as well as the laboratory information management system (LIMs) employed within the laboratory. She implemented a technique-based training system and established a data review group that reports through Quality Assurance. Further, she oversaw harmonization of the Quality System between the Oakdale, Minnesota, and San German, Puerto Rico Facilities.

Ms. Hansen holds an M.S. degree in Environmental Engineering and a B.S. degree in Chemistry.



DIANE DUMER

DIRECTOR OF INFORMATION TECHNOLOGY

Ms. Dumer joined Pace in 2004. She has over 18 years of experience in the information technology industry. As Director of Information Technology, Ms. Dumer is responsible for directing the activities of the information services team and the technologies supporting the entire company. Over the years our IT department has been challenged to incorporate all elements of technology and business resources to support our customers' changing needs. With evolving business ecosystems and the necessity to support instantaneous communication, providing greater visibility between operations and customers is both critical and necessary.

Under Ms. Dumer's leadership, Pace successfully launched and implemented a Laboratory Information Management System across its entire laboratory system. Today our LIMs enables Pace customers the luxury of using our entire laboratory network for all of their analytical needs. In 2006 Ms. Dumer's IT team launched PacePort, our 24/7 online data management system. Leveraging our science, technology and business practices has helped Pace transform the workplace and the customer experience

Ms. Dumer has been instrumental in helping Pace create a flexible, expansive IT enterprise to support Pace's business growth. In 2009 she coordinated the relocation of all IT Infrastructure equipment to our corporate Information Technology Center in Minneapolis – a state of the art secure data center.

For the past 9 years, she has provided the innovation and leadership required to transform the role of IT to respond quickly to changing business needs, improve communication, speed data delivery and provide higher business value for the customer. We strongly believe our commitment and investment in Information Technology will allow us to further differentiate ourselves from competitors. Ms. Dumer has helped design an IT infrastructure that expresses the company's goals and interests and supports all of its operations and businesses – 24/7.

Ms. Dumer received a B.A. degree in Quantitative Methods with Math minor from the College of St. Catherine, 1985.



Nicole Ott

Director of Human Resources

Nicole Ott joined Pace in 2017 with over 10 years of experience and serves as Director of Human Resources. In her role, Ms. Ott provides HR leadership and guidance to Pace. She is responsible for leading all facets of human resources and organizational effectiveness for all people-related functions including: talent management, talent acquisition, employee relations, diversity, payroll, compensation and benefits administration, employee relations, HRIS management, and policy development and implementation.

Ms. Ott previously served in Human Resources for ESC Lab Sciences. In this role, she was instrumental in implementing an HRIS, including performance management and talent acquisition. She has extensive experience in change management and employment law issues. Her prior experience included similar positions in a variety of industries.

Ms. Ott holds a BBA in Human Resource Management from the University of Toledo. She is a Certified Professional in Human Resources (PHR & SHRM-CP) and is member of the Society for Human Resource Management (SHRM).

8. Sales Team


Pace Sales Team

Our nationwide sales team consists of dedicated professionals who are responsive to the business needs of our clients for high quality, cost-effective analytical services. And what differentiates us from others is the

level of personalized service and quality of care we offer our customers. We are committed to building long-term relationships with our clients. Total client satisfaction is rooted in the fabric of our corporate goals and business objectives.

TAB 3

Quality Assurance Manual

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 1 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office

QUALITY ASSURANCE MANUAL

Quality Assurance/Quality Control Policies and Procedures


Pace Analytical Services, LLC – Ormond Beach
8 East Tower Circle
Ormond Beach, FL 32174
(386) 672-5668

Pace Analytical Services, LLC – South Florida
3610 North Park Central Blvd
Pompano Beach, FL 33064
(954) 582-4300


Pace Analytical Services, LLC – Tampa
110 South Bayview Blvd
Oldsmar, FL 34677
(813) 855-1844

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	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 2 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office

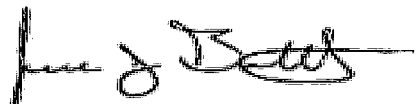
APPROVAL


Bob Dempsey
Laboratory General Manager - Florida


6/22/17
Date


Tina Buttermore
Laboratory Quality Manager - Florida

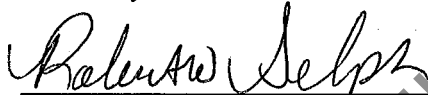
6/22/17
Date


Eric Battista
Laboratory Quality Manager - Tampa

6/22/17
Date


Jeff Baylor
Laboratory Technical Director - Ormond


6/22/17
Date


Robert Selph
Laboratory Technical Director - Ormond


6/22/17
Date


Kendre Rose
Laboratory Technical Director - Pompano

6/22/17
Date


Sal Ramos
Laboratory Technical Director - Tampa

6/22/17
Date


John Stanley
Laboratory Technical Director - Tampa

6/22/17
Date




	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 3 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office

Table of Contents

1.0. INTRODUCTION AND ORGANIZATIONAL STRUCTURE	5
1.1. INTRODUCTION TO PACE	5
1.2. STATEMENT OF PURPOSE	5
1.3. QUALITY POLICY STATEMENT AND GOALS OF THE QUALITY SYSTEM	5
1.4. CORE VALUES	5
1.5. CODE OF ETHICS AND STANDARDS OF CONDUCT	6
1.6. ANONYMOUS COMPLIANCE ALERTLINE	7
1.7. LABORATORY ORGANIZATION	7
1.8. LABORATORY JOB DESCRIPTIONS	9
1.9. TRAINING AND ORIENTATION	12
1.10. LABORATORY SAFETY AND WASTE	13
1.11. SECURITY AND CONFIDENTIALITY	13
1.12. COMMUNICATIONS	13
2.0. SAMPLE CUSTODY	15
2.1. PROJECT INITIATION	15
2.2. SAMPLING MATERIALS AND SUPPORT	15
2.3. CHAIN OF CUSTODY	15
2.4. SAMPLE ACCEPTANCE POLICY	16
2.5. SAMPLE LOG-IN	17
2.6. SAMPLE STORAGE	18
2.7. SUBCONTRACTING ANALYTICAL SERVICES	19
2.8. SAMPLE RETENTION AND DISPOSAL	19
3.0. QUALITY CONTROL PROCEDURES	20
3.1. QUALITY CONTROL SAMPLES	21
3.2. METHOD BLANK	21
3.3. LABORATORY CONTROL SAMPLE	21
3.4. MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD)	22
3.5. SAMPLE DUPLICATE	23
3.6. SURROGATES	23
3.7. INTERNAL STANDARDS	23
3.8. LIMIT OF DETECTION (LOD)	23
3.9. LIMIT OF QUANTITATION (LOQ)	24
3.10. ESTIMATE OF ANALYTICAL UNCERTAINTY	24
3.11. PROFICIENCY TESTING (PT) STUDIES	24
3.12. ROUNDING AND SIGNIFICANT FIGURES	24
3.13. RETENTION TIME WINDOWS	25
3.14. ANALYTICAL METHOD VALIDATION AND INSTRUMENT VALIDATION	25
3.15. REGULATORY AND METHOD COMPLIANCE	25
4.0. DOCUMENT MANAGEMENT AND CHANGE CONTROL	26
4.1. DOCUMENT MANAGEMENT	26
4.2. DOCUMENT CHANGE CONTROL	26
5.0. EQUIPMENT AND MEASUREMENT TRACEABILITY	28
5.1. STANDARDS AND TRACEABILITY	28
5.2. GENERAL ANALYTICAL INSTRUMENT CALIBRATION PROCEDURES	28
5.3. SUPPORT EQUIPMENT CALIBRATION AND VERIFICATION PROCEDURES	29

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 4 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office

5.4.	INSTRUMENT/EQUIPMENT MAINTENANCE	30
6.0.	CONTROL OF DATA	32
6.1.	PRIMARY DATA REVIEW	32
6.2.	SECONDARY DATA REVIEW	32
6.3.	DATA REPORTING	33
6.4.	DATA SECURITY	33
6.5.	DATA ARCHIVING	33
6.6.	DATA DISPOSAL	34
7.0.	QUALITY SYSTEM AUDITS AND REVIEWS	35
7.1.	INTERNAL AUDITS	35
7.2.	EXTERNAL AUDITS	36
7.3.	ANNUAL MANAGERIAL REVIEW	36
8.0.	CORRECTIVE ACTION	38
8.1.	CORRECTIVE AND PREVENTIVE ACTION DOCUMENTATION	37
8.2.	CORRECTIVE ACTION COMPLETION	38
9.0.	GLOSSARY	40
10.0.	REFERENCES	63
11.0.	REVISIONS	64
	ATTACHMENT I- QUALITY CONTROL CALCULATIONS	65
	ATTACHMENT I- QUALITY CONTROL CALCULATIONS (CONTINUED)	66
	ATTACHMENT II- LABORATORY ORGANIZATIONAL CHART (CURRENT AS OF ISSUE DATE)	67
	ATTACHMENT III- CORPORATE ORGANIZATIONAL CHART (CURRENT AS OF ISSUE DATE)	68
	ATTACHMENT IV- EQUIPMENT LIST (CURRENT AS OF ISSUE DATE)	69
	ATTACHMENT V- LABORATORY SOP LIST (CURRENT AS OF ISSUE DATE)	89
	ATTACHMENT VI- LABORATORY CERTIFICATION LIST (CURRENT AS OF ISSUE DATE)	94
	ATTACHMENT VII- METHOD HOLD TIME, CONTAINER AND PRESERVATION GUIDE (CURRENT AS OF ISSUE DATE)	128

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 5 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office

1.0. INTRODUCTION AND ORGANIZATIONAL STRUCTURE

“Working together to protect our environment and improve our health”

Pace Analytical Services LLC - Mission Statement

1.1. Introduction to Pace

1.1.1. Pace Analytical Services, LLC is a privately held, full-service analytical testing firm operating a nationwide system of laboratories. Pace offers extensive services beyond standard analytical testing, including: bioassay for aquatic toxicity, air toxics, dioxins and coplanar PCB's by high resolution mass spectroscopy, radiochemical analyses, product testing, pharmaceutical testing, field services and mobile laboratory capabilities. This document defines the Quality System and Quality Assurance (QA)/Quality Control (QC) protocols.

1.1.2. Pace laboratories are capable of analyzing a full range of environmental samples from a variety of matrices, including air, surface water, wastewater, groundwater, soil, sediment, biota, and other waste products. Methods are applied from regulatory and professional sources including EPA, ASTM, USGS, NIOSH, Standard Methods, and State Agencies. Section 11 of this document is a representative listing of general analytical protocol references.

1.2. Statement of Purpose

1.2.1. To meet the business needs of our customers for high quality, cost-effective analytical measurements and services.

1.3. Quality Policy Statement and Goals of the Quality System


1.3.1. Pace management is committed to maintaining the highest possible standard of service and quality for our customers by following a documented quality system that is compliant with all current applicable state, federal, and industry standards, such as the NELAC Standard, the TNI Standard, and ISO standards and is in accordance with the stated methods and customer requirements. The overall objective of this quality system is to provide reliable data of known quality through adherence to rigorous quality assurance policies and quality control procedures as documented in this Quality Assurance Manual.

1.3.2. All personnel within the Pace network are required to be familiar with all facets of the quality system relevant to their position and implement these policies and procedures in their daily work.

1.4. Core Values

1.4.1. The following are the Pace Core Values:

- **Integrity**
- **Value Employees**
- **Know Our Customers**
- **Honor Commitments**

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 6 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office

- **Flexible Response To Demand**
- **Pursue Opportunities**
- **Continuously Improve**

1.5. Code of Ethics and Standards of Conduct

1.5.1. Code of Ethics:

1.5.1.1. Each Pace employee is responsible for the propriety and consequences of his or her actions;

1.5.1.2. Each Pace employee must conduct all aspects of Company business in an ethical and strictly legal manner, and must obey the laws of the United States and of all localities, states and nations where Pace does business or seeks to do business;

1.5.1.3. Each Pace employee must reflect the highest standards of honesty, integrity and fairness on behalf of the Company with customers, suppliers, the public, and one another.

1.5.1.4. Each Pace employee must recognize and understand that our daily activities in environmental laboratories affect public health as well as the environment and that environmental laboratory analysts are a critical part of the system society depends upon to improve and guard our natural resources:

1.5.2. Standards of Conduct:

1.5.2.1. Data Integrity

1.5.2.1.1. The accuracy and integrity of the analytical results and its supporting documentation produced at Pace are the cornerstones of the company. Employees are to accurately prepare and maintain all technical records, scientific notebooks, calculations, and databases. Employees are prohibited from making false entries or misrepresentations of data for any reason.

1.5.2.1.2. Managerial staff must make every effort to ensure that personnel are free from any undue pressures that may affect the quality or integrity of their work including commercial, financial, over-scheduling, and working condition pressures.


1.5.2.1.3. The data integrity system includes in-depth, periodic monitoring of data integrity including peer data review and validation, internal raw data audits, proficiency testing studies, etc.

1.5.2.1.4. Any documentation related to data integrity issues, including any disciplinary actions involved, corrective actions taken, and notifications to customers must be retained for a minimum of five years.

1.5.2.2. Confidentiality

1.5.2.2.1. Pace employees must not use or disclose confidential or proprietary information except when in connection with their duties at Pace. This is effective over the course of employment and for an additional period of two years thereafter.

1.5.2.2.2. Confidential or proprietary information, belonging to either Pace and/or its customers, includes but is not limited to test results, trade secrets, research and development

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 7 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office

matters, procedures, methods, processes and standards, company-specific techniques and equipment, marketing and customer information, inventions, materials composition, etc.

1.5.2.3. Conflict of Interest

1.5.2.3.1. Pace employees must avoid situations that might involve a conflict of interest or could appear questionable to others. This includes participation in activities that conflict or appear to conflict with the employees' Pace responsibilities. This would also include offering or accepting anything that might influence the recipient or cause another person to believe that the recipient may be influenced to behave or in a different manner than he would normally (such as bribes, gifts, kickbacks, or illegal payments).

1.5.2.3.2. Employees are not to engage in outside business or economic activity relating to a sale or purchase by the Company. Other problematic activities include service on the Board of Directors of a competing or supplier company, significant ownership in a competing or supplier company, employment for a competing or supplier company, or participation in any outside business during the employee's work hours.

1.5.3. Strict adherence by each Pace employee to this Code of Ethics and to the Standards of Conduct is essential to the continued vitality of Pace and to continue the pursuit of our common mission to protect our environment and improve our health.

1.5.4. Failure to comply with the Code of Ethics and Standards of Conduct will result in disciplinary action up to and including termination and referral for civil or criminal prosecution where appropriate. An employee will be notified of an infraction and given an opportunity to explain, as prescribed under current disciplinary procedures.

1.5.5. Compliance: all employees undergo annual Data Integrity/Ethics training which includes the concepts listed above. All employees also sign an annual Ethic Policy statement.

1.6. Anonymous Compliance Alertline

1.6.1. An ethical and safe workplace is important to the long-term success of Pace and the well-being of its employees. Pace has a responsibility to provide a work environment where employees feel safe and can report unethical or improper behavior in complete confidence. With this in mind, Pace has engaged Lighthouse Services, Inc. to provide all employees with access to an anonymous ethics and compliance alertline for reporting possible ethics and compliance violations. The purpose of this service is to ensure that any employee can report anonymously and without fear of retaliation.

1.6.2. Lighthouse Services provides a toll-free number along with several other reporting methods, all of which are available 24 hours a day, seven days a week for use by employees and staff.


1.6.3. Telephone: English speaking USA and Canada: (844)-970-0003.

1.6.4. Telephone: Spanish speaking North America: (800)-216-1288.

1.6.5. Website: www.lighthouse-services.com/pacelabs.

1.6.6. Email: reports@lighthouse-services.com (must include company name with report).

1.7. Laboratory Organization

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 8 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office

1.7.1. Each laboratory within the system operates with local management, but all labs share common systems and receive support from the Corporate Office. See Attachment III for the Corporate Organizational structure.

1.7.2. A Senior General Manager (SGM) oversees all laboratories and service centers in their assigned region. Each laboratory or facility in the company is then directly managed by an SGM, a General Manager (GM), an Assistant General Manager (AGM), or an Operations Manager (OM). Quality Managers (QM) or Senior Quality Managers (SQM) at each laboratory report directly to the highest level of local laboratory management, however named, that routinely makes day-to-day decisions regarding that facility's operations. The QMs and SQMs will also receive guidance and direction from the corporate Director of Environmental Quality.

1.7.3. The SGM, GM, AGM or OM, or equivalent functionality in each facility, bears the responsibility for the laboratory operations and serves as the final, local authority in all matters. In the absence of these managers, the SQM/QM serves as the next in command, unless the manager in charge has assigned another designee. He or she assumes the responsibilities of the manager, however named, until the manager is available to resume the duties of their position. In the absence of both the manager and the SQM/QM, management responsibility of the laboratory is passed to the Technical Director, provided such a position is identified, and then to the most senior department manager until the return of the lab manager or SQM/QM. The most senior department manager in charge may include the Client Services Manager (CSM) or the Administrative Business Manager (ABM) at the discretion of the SGM/GM/AGM/OM.

1.7.4. A Technical Director who is absent for a period of time exceeding 15 consecutive calendar days shall designate another full-time staff member meeting the qualifications of the technical director to temporarily perform this function. The laboratory SGM/GM/AGM/OM or SQM/QM has the authority to make this designation in the event the existing Technical Director is unable to do so. If this absence exceeds 35 consecutive calendar days, the primary accrediting authority shall be notified in writing.

1.7.5. The SQM/QM has the responsibility and authority to ensure the Quality System is implemented and followed at all times. In circumstances where a laboratory is not meeting the established level of quality or following the policies set forth in this Quality Assurance Manual, the SQM/QM has the authority to halt laboratory operations should he or she deem such an action necessary. The SQM/QM will immediately communicate the halting of operations to the SGM/GM/AGM/OM and keep them posted on the progress of corrective actions. In the event the SGM/GM/AGM/OM and the SQM/QM are not in agreement as to the need for the suspension, the Chief Operating Officer (COO) and Director of Environmental Quality will be called in to mediate the situation.

1.7.6. The lab is required to appoint deputies for key managerial personnel. These deputies must be documented for auditing purposes. The deputies, by position, are the following:

1.7.6.1. Deputy for General Manager is the Client Services Manager

1.7.6.2. Deputy for Technical Director is the General Manager and/or Quality Manager


1.7.6.3. Deputy for Quality Manager is another Quality Manager and/or the General Manager

1.7.6.4. Deputy for Client Services Manager is a Senior Project Manager and/or General Manager

1.7.6.5. Deputy for Administrative Business Manager is the General Manager

1.7.6.6. Deputies for Project Managers are other Project Managers

1.7.7. The technical staff of the laboratory is generally organized into the following functional groups:

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 9 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office

- Organic Sample Preparation
- Wet Chemistry Analysis
- Metals Analysis
- Volatiles Analysis
- Semi-volatiles Analysis
- Radiochemical Analysis
- Microbiological Analysis
- Bioassay Analysis

1.7.8. The organizational structure for Pace – Florida is listed in Attachment II. In the event of a change in SGM/GM/AGM/OM, SQM/QM, or any Technical Director, the laboratory will notify its accrediting authorities per their individual required timeframes, not to exceed 30 days. The QAM will remain in effect until the next scheduled revision.

1.8. Laboratory Job Descriptions

1.8.1. Senior General Manager


- Oversees all functions of all the operations within their designated region;
- Oversees the development of local GMs/AGMs/OMs within their designated region;
- Oversees and authorizes personnel development including staffing, recruiting, training, workload scheduling, employee retention and motivation;
- Oversees the preparation of budgets and staffing plans for all operations within their designated region;
- Ensures compliance with all applicable state, federal and industry standards;
- Works closely with Regional Sales Management.

1.8.2. General Manager

- Oversees all functions of their assigned operations;
- Authorizes personnel development including staffing, recruiting, training, workload scheduling, employee retention and motivation;
- Prepares budgets and staffing plans;
- Monitors the Quality Systems of the laboratory and advises the SQM/QM accordingly;
- Presents the Ethics/Data Integrity training annually to all employees in their facilities as an instructor-led training.
- Ensures compliance with all applicable state, federal and industry standards.

1.8.3. Assistant General Manager / Operations Manager

- In the absence of the GM, performs all duties as listed above for the GM;
- Oversees the daily production and quality activities of all departments;
- Manages all departments and works with staff to ensure department objectives are met;
- Works with all departments to ensure capacity and customer expectations are accurately understood and met;
- Works with SGM/GM to prepare appropriate budget and staffing plans for all departments;
- Responsible for prioritizing personnel and production activities within all departments;

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 10 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


- In the absence of a General Manager, presents the Ethics/Data Integrity training annually to all employees in their facilities as an instructor-led training.
- Performs formal and informal performance reviews of departmental staff.

1.8.4. Senior Quality Manager

- Provides quality oversight for multiple laboratories where there is not a local quality manager or for labs where there are multiple and separately distinct quality systems in the same facility;
- Responsible for implementing, maintaining and improving the quality system while functioning independently from laboratory operations. Reports directly to the highest level of local laboratory facility management, however named, that routinely makes day-to-day decisions regarding laboratory operations, but receives direction and assistance from the Corporate Director of Environmental Quality;
- Ensures that communication takes place at all levels within the lab regarding the effectiveness of the quality system and that all personnel understand their contributions to the quality system;
- Monitors QA/QC activities to ensure that the laboratory achieves established standards of quality (as set forth by the Corporate Environmental Quality office). The SQM is responsible for reporting the lab's level of compliance to these standards to the Corporate Director of Environmental Quality on a quarterly basis;
- Maintains records of quality control data and evaluates data quality;
- Conducts periodic internal audits and coordinates external audits performed by regulatory agencies or customer representatives;
- Reviews and maintains records of proficiency testing results;
- Maintains the document control system;
- Assists in development and implementation of appropriate training programs;
- Provides technical support to laboratory operations regarding methodology and project QA/QC requirements;
- Maintains certifications from federal and state programs;
- Ensures compliance with all applicable state, federal and industry standards;
- Maintains the laboratory training records, including those in the Learning Management System (LMS), and evaluates the effectiveness of training;
- Monitors corrective and preventive actions;
- Maintains the currency of the Quality Manual.

1.8.5. Quality Manager

- Responsible for implementing, maintaining and improving the quality system while functioning independently from laboratory operations. Reports directly to the highest level of local laboratory facility management, however named, that routinely makes day-to-day decisions regarding laboratory operations, but receives direction and assistance from the Corporate Director of Environmental Quality. They may also report to a Senior Quality Manager (SQM);
- Ensures that communication takes place at all levels within the lab regarding the effectiveness of the quality system and that all personnel understand their contributions to the quality system;
- Monitors QA/QC activities to ensure that the laboratory achieves established standards of quality (as set forth by the Corporate Environmental Quality office). The QM is responsible for reporting the lab's level of compliance to these standards to the Corporate Director of Environmental Quality on a quarterly basis;

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 11 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office

- Maintains records of quality control data and evaluates data quality;
- Conducts periodic internal audits and coordinates external audits performed by regulatory agencies or customer representatives;
- Reviews and maintains records of proficiency testing results;
- Maintains the document control system;
- Assists in development and implementation of appropriate training programs;
- Provides technical support to laboratory operations regarding methodology and project QA/QC requirements;
- Maintains certifications from federal and state programs;
- Ensures compliance with all applicable state, federal and industry standards;
- Maintains the laboratory training records, including those in the Learning Management System (LMS), and evaluates the effectiveness of training;
- Monitors corrective and preventive actions;
- Maintains the currency of the Quality Manual.


1.8.6. Technical Director

- Monitors the standards of performance in quality assurance and quality control data;
- Monitors the validity of analyses performed and data generated;
- Reviews tenders, contracts and QAPPs to ensure the laboratory can meet the data quality objectives for any given project;
- Serves as the manager of the laboratory in the absence of the SGM/GM/AGM/OM and SQM/QM;
- Provides technical guidance in the review, development, and validation of new methodologies.

1.8.7. Administrative Business Manager

- Responsible for financial and administrative management for the entire facility;
- Provides input relative to tactical and strategic planning activities;
- Organizes financial information so that the facility is run as a fiscally responsible business;
- Works with staff to confirm that appropriate processes are put in place to track revenues and expenses;
- Provide ongoing financial information to the SGM/GM/AGM/OM and the management team so they can better manage their business;
- Utilizes historical information and trends to accurately forecast future financial positions;
- Works with management to ensure that key measurements are put in place to be utilized for trend analysis—this will include personnel and supply expenses, and key revenue and expense ratios;
- Works with SGM/GM/AGM/OM to develop accurate budget and track on an ongoing basis;
- Works with entire management team to submit complete and justified capital budget requests and to balance requests across departments;
- Works with project management team and administrative support staff to ensure timely and accurate invoicing.

1.8.8. Client Services Manager

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 12 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office

- Oversees all the day to day activities of the Client Services Department which includes Project Management and, possibly, Sample Control;
- Responsible for staffing and all personnel management related issues for Client Services;
- Serves as the primary senior consultant to customers on all project related issues such as set up, initiation, execution and closure;
- Performs or is capable of performing all duties listed for that of Project Manager.

1.8.9. Project Manager

- Coordinates daily activities including taking orders, reporting data and analytical results;
- Serves as the primary technical and administrative liaison between customers and Pace;
- Communicates with operations staff to update and set project priorities;
- Provides results to customers in the requested format (verbal, hardcopy, electronic, etc.);
- Works with customers, laboratory staff, and other appropriate Pace staff to develop project statements of work or resolve problems of data quality;
- Responsible for solicitation of work requests, assisting with proposal preparation and project initiation with customers and maintain customer records;
- Mediation of project schedules and scope of work through communication with internal resources and management;
- Responsible for preparing routine and non-routine quotations, reports and technical papers;
- Interfaces between customers and management personnel to achieve customer satisfaction;
- Manages large-scale complex projects;
- Supervises less experienced project managers and provide guidance on management of complex projects;
- Arranges bottle orders and shipment of sample kits to customers;
- Verifies login information relative to project requirements and field sample Chains-of-Custody.

1.8.10. Department Manager/Supervisor


- Oversees the day-to-day production and quality activities of their assigned department;
- Ensures that quality assurance and quality control criteria of analytical methods and projects are satisfied;
- Assesses data quality and takes corrective action when necessary;
- Approves and releases technical and data management reports;
- Ensures compliance with all applicable state, federal and industry standards.

1.8.11. Additional job descriptions are available upon request from the laboratory ABM.

1.9. Training and Orientation

1.9.1. Training for Pace employees is managed through a web-based training system. Employees are provided with several training activities for their particular job description and scope of duties. These training activities may include:

- Hands-on training led by supervisors;
- Job-specific training checklists and worksheets;

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 13 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office

- Lectures and instructor-led training sessions;
- Method-specific training;
- External conferences and seminars;
- Reading Standard Operating Procedures (SOPs);
- Reading the Quality Assurance Manual and Safety Manual/Chemical Hygiene Plan;
- Core training modules (basic lab skills, etc.);
- Quality system training modules (support equipment use, corrective actions/root causes, etc.);
- Data Integrity/Ethics training;
- Specialized training by instrument manufacturers;
- On-line courses.

1.9.2. All procedures and training records are maintained and available for review during laboratory audits. Additional information can be found in SOP S-ALL-Q-020 **Training and Employee Orientation** or its equivalent revision or replacement.

1.10. Laboratory Safety and Waste

1.10.1. It is the policy of Pace to make safety and waste compliance an integral part of daily operations and to ensure that all employees are provided with safe working conditions, personal protective equipment, and requisite training to do their work without injury. Each employee is responsible for his/her own safety as well as those working in the immediate area by complying with established company rules and procedures. These rules and procedures as well as a more detailed description of the employees' responsibilities are contained in the local Safety Manual/Chemical Hygiene Plan.

1.11. Security and Confidentiality

1.11.1. Security is maintained by controlled access to laboratory buildings. Exterior doors to laboratory buildings remain either locked or continuously monitored by Pace staff.


1.11.2. Additional security is provided where necessary, (e.g., specific secure areas for sample, data, and customer report storage), as requested by customers, or cases where national security is of concern. These areas are lockable within the facilities, or are securely offsite. Access is limited to specific individuals or their designees.

1.11.3. All information pertaining to a particular customer, including national security concerns will remain confidential. Data will be released to outside agencies only with written authorization from the customer or where federal or state law requires the company to do so.

1.12. Communications


1.12.1. Management within each lab bears the responsibility of ensuring that appropriate communication processes are established and that communication takes place regarding the effectiveness of the management/quality system. These communication processes may include email, regular staff meetings, senior management meetings, etc.

1.12.2. Corporate management bears the responsibility of ensuring that appropriate communication processes are established within the network of facilities and that communication takes place at a

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 14 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office

company-wide level regarding the effectiveness of the management/quality systems of all Pace facilities. These communication processes may include email, quarterly continuous improvement conference calls for all lab departments, and annual continuous improvement meetings for all department supervisors, quality managers, client services managers, and other support positions.

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	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 15 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office

2.0. SAMPLE CUSTODY

2.1. Project Initiation

2.1.1. Prior to accepting new work, the laboratory reviews its performance capability. The laboratory confirms that sufficient personnel, equipment capacity, analytical method capability, etc., are available to complete the required work. Customer needs, certification requirements, and data quality objectives are defined and the appropriate sampling and analysis plan is developed to meet the project requirements by project managers or sales representatives. Members of the management staff review current instrument capacity, personnel availability and training, analytical procedures capability, and projected sample load. Management then informs the sales and client services personnel whether or not the laboratory can accept the new project via written correspondence, email, and/or daily operations meetings.

2.1.2. Additional information regarding specific procedures for reviewing new work requests can be found in SOP S-ALL-C-006 **Review of Analytical Requests** or its equivalent revision or replacement.

2.2. Sampling Materials and Support

2.2.1. Each individual Pace laboratory provides shipping containers, properly preserved sample containers, custody documents, and field quality control samples to support field-sampling events. Guidelines for sample container types, preservatives, and holding times for a variety of methods are listed in Attachment VII. Note that all analyses listed are not necessarily performed at all Pace laboratories and there may be additional laboratory analyses performed that are not included in these tables. Customers are encouraged to contact their local Pace Project Manager for questions or clarifications regarding sample handling. Pace may provide pick-up and delivery services to their customers when needed.


2.2.2. Some Pace facilities provide sampling support through a Field Services department. Field Services operates under the Pace Corporate Quality System, with applicable and necessary provisions to address the activities, methods, and goals specific to Field Services. All procedures and methods used by Field Services are documented in SOPs and Procedure Manuals.

2.3. Chain of Custody

2.3.1. A chain of custody (COC) provides the legal documentation of samples from time of collection to completion of analysis.

2.3.2. Field personnel or client representatives must complete a COC for all samples that are received by the laboratory. Samplers are required to properly complete a COC. This is critical to efficient sample receipt and to ensure the requested methods are used to analyze the correct samples. If sample shipments are not accompanied by the correct documentation, the Sample Receiving department notifies a Project Manager. The Project Manager then obtains the correct documentation/information from the customer in order for analysis of samples to proceed.

2.3.3. The COC is filled out completely and legibly with indelible ink. Errors are corrected by drawing a single line through the initial entry and initialing and dating the change. All transfers of samples are

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 16 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office

recorded on the chain of custody in the “relinquished” and “received by” sections. All information except signatures is printed.

2.3.4. Additional information can be found in SOP S-ALL-C-001 **Sample Management** or its equivalent revision or replacement.


2.4. Sample Acceptance Policy

2.4.1. In accordance with regulatory guidelines, Pace complies with the following sample acceptance policy for all samples received.

2.4.2. If the samples do not meet the sample receipt acceptance criteria outlined below, the laboratory is required to document all non-compliances, contact the customer, and either reject the samples or fully document any decisions to proceed with analyses of samples which do not meet the criteria. Any results reported from samples not meeting these criteria are appropriately communicated to the client.

2.4.3. Sample Acceptance Policy requirements:

- Sample containers must have unique client identification designations that are clearly marked with indelible ink on durable, water-resistant labels. The client identifications must match those on the chain-of-custody (COC).
- There must be clear documentation on the COC, or related documents, that lists the unique sample identification, sampling site location, date and time of sample collection, and name of the sample collector.
- There must be clear documentation on the COC, or related documents, that lists the requested analyses, the preservatives used, and any special remarks concerning the samples (i.e., data deliverables, samples are for evidentiary purposes, field filtration, etc.).
- Samples must be in appropriate sample containers. If the sample containers show signs of damage (i.e., broken or leaking) or if the samples show signs of contamination, the samples will not be processed without prior client approval.
- Samples must be correctly preserved upon receipt, unless the method requested allows for laboratory preservation. If the samples are received with inadequate preservation, and the samples cannot be preserved by the lab appropriately, the samples will not be processed without prior client approval.
- Samples must be received within required holding time. Any samples with hold times that are exceeded will not be processed without prior client approval.
- Samples must be received with sufficient sample volume or weight to proceed with the analytical testing. If insufficient sample volume or weight is received, analysis will not proceed without client approval.
- All samples that require thermal preservation are considered acceptable if they are received at a temperature within 2°C of the required temperature, or within the method-specified range. For samples with a required temperature of 4°C, samples with a temperature ranging from just above freezing to 6°C are acceptable. Samples that are delivered to the lab on the same day they are collected are considered acceptable if the samples are received on ice. Any samples that are not received at the required temperature will not be processed without prior client approval.
- Samples for **drinking water** and **UCMR** analyses will be rejected at the time of receipt if they are not received in a secure manner, are received in inappropriate containers, are

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 17 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office

received outside the required temperature range, are received outside the recognized holding time, are received with inadequate identification on sample containers or COC, or are improperly preserved (with the exception of VOA samples- tested for pH at time of analysis and TOC- tested for pH in the field).

- Some specific clients may require custody seals. **For these clients**, samples or coolers that are not received with the proper custody seals will not be processed without prior client approval.

Note 1: Temperature will be read and recorded based on the precision of the measuring device. For example, temperatures obtained from a thermometer graduated to 0.1°C will be read and recorded to $\pm 0.1^\circ\text{C}$. Measurements obtained from a thermometer graduate to 0.5°C will be read to $\pm 0.5^\circ\text{C}$. Measurements read at the specified precision are not to be rounded down to meet the $\leq 6^\circ\text{C}$ limit. Please reference the Support Equipment SOP for more information.

Note 2: Some microbiology methods allow sample receipt temperatures of up to 10°C. Consult the specific method for microbiology samples received above 6°C prior to initiating corrective action for out of temperature preservation conditions.

Note 3: UCMR samples must be received at the laboratory within 48 hours of collection and must be $\leq 10^\circ\text{C}$. After arrival or within 48 hours of collection, whichever is sooner, the samples must be refrigerated at $\leq 6^\circ\text{C}$. Samples received more than 48 hours after collection are valid only if they are received at $\leq 6^\circ\text{C}$ and the laboratory can verify and document that they were refrigerated between collection and shipment. Temperature requirements apply to all UCMR samples with the exception of metals by EPA 200.8.

2.4.4. Upon sample receipt, the following items are also checked and recorded:


- Presence of custody seals or tapes on the shipping containers;
- Sample condition: Intact, broken/leaking, bubbles in VOA samples;
- Sample holding time;
- Sample pH and residual chlorine when required;
- Appropriate containers.

2.4.5. Additional information can be found in SOP S-ALL-C-001 **Sample Management** or its equivalent revision or replacement.

2.5. Sample Log-in

2.5.1. After sample inspection, all sample information on the COC is entered into the Laboratory Information Management System (LIMS). The lab's permanent records for samples received include the following information:

- Customer name and contact
- Customer number
- Pace Analytical project number
- Pace Analytical Project Manager
- Sample descriptions
- Due dates

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 18 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office

- List of analyses requested
- Date and time of laboratory receipt
- Field ID code
- Date and time of collection
- Any comments resulting from inspection for sample rejection

2.5.2. If the time collected for any sample is unspecified and Pace is unable to obtain this information from the customer, the laboratory will use **12:01 am** as the time sampled. All hold times will be based on this sampling time and qualified accordingly if exceeded.

2.5.3. The LIMS automatically generates a unique identification number for each sample created in the system. The LIMS sample number follows the general convention of 3512345001. This unique identification number is placed on the sample container as a durable label and becomes the link between the laboratory's sample management system and the customer's field identification; it will be a permanent reference number for all future interactions.

2.5.4. Sample labels are printed from the LIMS and affixed to each sample container.

2.5.5. Additional information can be found in SOP S-ALL-C-001 **Sample Management** or its equivalent revision or replacement.

2.6. Sample Storage

2.6.1. Additional information on sample storage can be found in SOP S-ALL-C-001 **Sample Management** or its equivalent revision or replacement and in SOP S-ALL-W-002 **Waste Handling and Management** or its equivalent revision or replacement.

2.6.2. Storage Conditions

2.6.2.1. Samples are stored away from all standards, reagents, or other potential sources of contamination. Samples are stored in a manner that prevents cross contamination. Volatile samples are stored separately from other samples. All sample fractions, extracts, leachates, and other sample preparation products are stored in the same manner as actual samples or as specified by the analytical method.


2.6.2.2. Storage blanks are stored with volatile samples and are used to measure cross-contamination acquired during storage. Laboratories must have documented procedures and criteria for evaluating storage blanks, appropriate to the types of samples being stored.

2.6.2.3. Additional information can be found in SOP S-ALL-Q-018 **Monitoring Temperature Controlled Units**.

2.6.3. Temperature Monitoring

2.6.3.1. Samples are taken to the appropriate storage location immediately after sample receipt and check-in procedures are completed.

2.6.3.2. The temperature of each refrigerated storage area is maintained at $\leq 6^{\circ}\text{C}$ (but above freezing) unless state, method or program requirements differ. The temperature of each freezer storage area is maintained at $\leq -10^{\circ}\text{C}$ unless state, method or program requirements differ. The temperature of each storage area is checked and documented each day of use (each calendar day). Additional information, including corrective actions for temperatures outside of

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 19 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office

acceptance limits, can be found in SOP S-ALL-Q-018, **Monitoring Temperature Controlled Units**.

2.6.4. **Hazardous Materials**

2.6.4.1. Samples designated by clients upon receipt as pure product or potentially heavily contaminated samples, or samples found to be designated as such following analysis, must be tagged as "hazardous" or "lab pack" and stored separately from other samples.

2.6.5. **Foreign/Quarantined Soils**

2.6.5.1. Foreign soils and soils from USDA regulated areas must be adequately segregated to enable proper sample disposal. The USDA requires these samples to be treated by an approved procedure. Additional information regarding USDA regulations and sample handling can be found in the laboratory's SOP for **Regulated Soil Handling S-ALL-S-003**, or its equivalent revision or replacement.

2.7. **Subcontracting Analytical Services**

2.7.1. Every effort is made to perform all analyses for Pace customers within the laboratory that receives the samples. When subcontracting to a laboratory other than the receiving laboratory, whether inside or outside the Pace network, becomes necessary, a preliminary verbal communication with that laboratory is undertaken. Customers are notified in writing of the laboratory's intention to subcontract any portion of the testing to another laboratory. Work performed under specific protocols may involve special considerations. When possible, subcontracting will be to a TNI-accredited laboratory.

2.7.2. Potential subcontract laboratories must be approved by Pace based on the criteria listed in SOP S-ALL-C-003 **Subcontracting Samples** or its equivalent revision or replacement. All sample reports from the subcontracted labs are appended to the applicable Pace final reports.

2.7.3. Any Pace Analytical work sent to other labs within the Pace network is handled as inter-regional work and all final reports are labeled clearly with the name of the laboratory performing the work. Any non-TNI work is clearly identified. Pace will not be responsible for analytical data if the subcontract laboratory was designated by the customer.


2.7.4. Additional information can be found in SOP S-ALL-C-003 **Subcontracting Samples** or its equivalent revision or replacement.

2.7.5. Subcontracted labs used for DoD work must be accredited by DoD or its designated representatives. Subcontracted labs must receive project specific approval from the DoD client before any samples are analyzed. These requirements also apply to the use of any laboratory under the same corporate umbrella, but at a different facility or location.

2.8. **Sample Retention and Disposal**

2.8.1. Samples, extracts, digestates, and leachates must be retained by the laboratory for the period of time necessary to protect the interests of the laboratory and the customer.

2.8.2. The minimum sample retention time is 30 days from receipt of the samples. Samples requiring thermal preservation may be stored at ambient temperature when the hold time is expired, the report has been delivered, and/or allowed by the customer, program, or contract. Samples requiring storage beyond the minimum sample retention time due to special requests or contractual


	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 20 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office

obligations may be stored at ambient temperature unless the laboratory has sufficient capacity and their presence does not compromise the integrity of other samples.

2.8.3. After this period expires, non-hazardous samples are properly disposed of as non-hazardous waste. The preferred method for disposition of **hazardous** samples is to return the excess sample to the customer. If it is not feasible to return samples, or the customer requires Pace to dispose of excess samples, proper arrangements will be made for disposal by an approved contractor.

2.8.4. Additional information can be found in SOP S-ALL-W-002 **Waste Handling and Management** and SOP S-ALL-C-001 **Sample Management** or their equivalent revisions or replacements.

Uncontrolled Document

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 21 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office

3.0. QUALITY CONTROL PROCEDURES

3.1. Quality Control Samples

3.1.1. The quality control samples described in this section are analyzed per batch as applicable to the method used. Acceptance criteria must be established for all quality control samples and if the acceptance criteria are not met, corrective actions must be performed and samples reanalyzed, or final reports must be appropriately qualified.

3.1.2. Quality control samples must be processed in the same manner as associated client samples.

3.1.3. Please reference the glossary of this Quality Manual for definitions of all quality control samples mentioned in this section.

3.1.4. Any deviations to the policies and procedures governing quality control samples must be approved by the QM/SQM.

3.2. Method Blank

3.2.1. A method blank is a negative control used to assess the preparation/analysis system for possible contamination and is processed through all preparation and analytical steps with its associated client samples. The method blank is processed at a minimum frequency of one per preparation batch and is comprised of a matrix similar to the associated client samples. Method blanks are not applicable for certain analyses (i.e., pH, flash point, temperature, etc.).

3.2.2. Please reference method-specific SOPs for acceptance criteria and associated corrective actions for method blanks.


3.2.3. For UCMR4 samples, the method blank will be considered to be contaminated if the concentration of any target analyte in the method blank is greater than 1/3 the MRL for that analyte. If samples cannot be re-processed then samples must be re-collected. Data with a failing method blank cannot be reported to SDWARS.

3.3. Laboratory Control Sample

3.3.1. The Laboratory Control Sample (LCS), also known as Laboratory Fortified Blank (LFB), is a positive control used to assess the performance of the entire analytical system including preparation and analysis. The LCS is processed at a minimum frequency of one per preparation batch and is comprised of a matrix similar to the associated client samples.

3.3.2. The LCS contains **all** analytes required by a specific method or by the customer or regulatory agency, which may include full list of target compounds, with certain exceptions. The lab must ensure that all target components are included in the spike mixture for the LCS over a two (2) year period. In the absence of specified components, the laboratory will spike the LCS with the following compounds:

- For multi-peak analytes (e.g. PCBs, technical chlordane, toxaphene), a representative standard will be processed.
- For methods with long lists of analytes, a representative number of target analytes may be chosen. The following criteria is used to determine the number of LCS compounds used:
 - For methods with 1-10 target compounds, the laboratory will spike with all compounds;

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 22 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office

- For methods with 11-20 target compounds, the laboratory will spike with at least 10 compounds or 80%, whichever is greater;
- For methods with greater than 20 compounds, the laboratory will spike with at least 16 compounds.

3.3.3. Please reference method-specific SOPs for acceptance criteria and associated corrective actions for LCSs.

3.3.4. For UCMR4 samples, if the LCS recovery fails then all data for the problem analyte are considered invalid for all samples in the Extraction or Digestion Batch. Data of the analyte that fails recovery criteria for the LCS must not be reported for that Extraction or Digestion Batch. If the LCS surrogate or internal standard fails QC criteria, all data for the Extraction or Digestion Batch must not be reported.

3.3.5. For LCSs containing a large number of analytes, it is statistically likely that a few recoveries will be outside of control limits. This does not necessarily mean that the system is out of control, and therefore no corrective action would be necessary (except for proper documentation). TNI has allowed for a minimum number of marginal exceedances, defined as recoveries that are beyond the LCS control limits (3X the standard deviation) but within the marginal exceedance limits (4X the standard deviation). The number of allowable exceedances depends on the number of compounds in the LCS. If more analyte recoveries exceed the LCS control limits than is allowed (see below) or if any one analyte exceeds the marginal exceedance limits, then the LCS is considered non-compliant and corrective actions are necessary. The number of allowable exceedances is as follows:


- >90 analytes in the LCS- 5 analytes
- 71-90 analytes in the LCS- 4 analytes
- 51-70 analytes in the LCS- 3 analytes
- 31-50 analytes in the LCS- 2 analytes
- 11-30 analytes in the LCS- 1 analyte
- <11 analytes in the LCS- no analytes allowed out)

Note: the use of marginal exceedances is not approved for work from the state of South Carolina or UCMR4.

3.3.6. A matrix spike (MS) can be used in place of a non-compliant LCS in a batch as long as the MS passes the LCS acceptance criteria (this is a TNI allowance and may not be allowed by non-TNI regulatory bodies). Note: the use of the MS to replace a non-compliant LCS is not approved for work from the state of South Carolina or UCMR4. When this happens, full documentation must be made available to the data user. If this is not allowed by a customer or regulatory body, the associated samples must be rerun with a compliant LCS (if possible) or reported with appropriate data qualifiers.

3.4. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

3.4.1. A matrix spike (MS) is a positive control used to determine the effect of the sample matrix on compound recovery for a particular method. A matrix spike/matrix spike duplicate (MS/MSD) set or matrix spike/sample duplicate set is processed at a frequency specified in a particular method or as determined by a specific customer request. The MS and MSD consist of the sample matrix that is spiked with known concentrations of target analytes.

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 23 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office

3.4.2. The MS and MSD contain all analytes required by a specific method or by the customer or regulatory agency. In the absence of specified components, the laboratory will spike the MS/MSD with the same number of compounds as previously discussed in the LCS section. However, the lab must ensure that all targeted components are included in the spike mixture for the MS/MSD over a two (2) year period.

3.4.3. Please reference method-specific SOPs for acceptance criteria and associated corrective actions for MS/MSDs.

3.5. Sample Duplicate

3.5.1. A sample duplicate is a second portion of sample that is prepared and analyzed in the laboratory along with the first portion. It is used to measure the precision associated with preparation and analysis. A sample duplicate is processed at a frequency specified by the particular method or as determined by a specific customer.

3.5.2. Please reference method-specific SOPs for acceptance criteria and associated corrective actions for sample duplicates.

3.6. Surrogates

3.6.1. Surrogates are compounds that reflect the chemistry of target analytes and are typically added to samples for organic analyses to measure the extraction or purge efficiency and to monitor the effect of the sample matrix on compound recovery.

3.6.2. Please reference method-specific SOPs for acceptance criteria and associated corrective actions for surrogates.

3.7. Internal Standards


3.7.1. Internal Standards are method-specific analytes that are added, as applicable, to every standard, QC sample, and client sample at a known concentration, prior to analysis for the purpose of adjusting the response factor used in quantifying target analytes..

3.7.2. Please reference method-specific SOPs for acceptance criteria and associated corrective actions for internal standards.

3.8. Limit of Detection (LOD)

3.8.1. Pace laboratories use a documented procedure to determine a limit of detection (LOD) for each analyte of concern in each matrix reported. Unless otherwise noted in a published method, the procedure used by Pace laboratories to determine LODs is based on the Method Detection Limit (MDL) procedure outlined in 40 CFR Part 136, Appendix B. All sample processing steps of the preparation and analytical methods are included in the LOD determination including any clean ups.

3.8.2. Additional information can be found in SOP S-ALL-Q-004 **Determination of LOD and LOQ** or its equivalent revision or replacement.

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 24 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office

3.9. Limit of Quantitation (LOQ)

3.9.1. A limit of quantitation (LOQ) for every analyte of concern must be determined. For Pace laboratories, this LOQ is referred to as the RL, or Reporting Limit. Results reported below the reporting limit are not allowed to be reported without qualification. For methods with a determined LOD, results can be reported out below the LOQ but above the LOD if they are properly qualified (e.g., J flag).

3.9.2. Additional information can be found in SOP S-ALL-Q-004 **Determination of LOD and LOQ** or its equivalent revision or replacement.

3.10. Estimate of Analytical Uncertainty

3.10.1. Pace laboratories can provide an estimation of uncertainty for results generated by the laboratory. The estimate quantifies the error associated with any given result at a 95% confidence interval. This estimate does not include bias that may be associated with sampling. The laboratory has a procedure in place for making this estimation. In the absence of a regulatory or customer-specific procedure, Pace laboratories base this estimation on the recovery data obtained from the Laboratory Control Samples. The uncertainty is a function of the standard deviation of the recoveries multiplied by the appropriate Student's t Factor at 95% confidence. Additional information pertaining to the estimation of uncertainty and the exact manner in which it is derived are contained in the SOP S-ALL-Q-031 **Estimation of Measurement Uncertainty** or its equivalent revision or replacement.

3.10.2. The measurement of uncertainty is provided only on request by the customer, as required by specification or regulation and when the result is used to determine conformance within a specification limit.

3.11. Proficiency Testing (PT) Studies

3.11.1. Pace laboratories participate in a defined proficiency testing (PT) program. PT samples are obtained from NIST approved providers and analyzed and reported at a minimum of two times per year for the relevant fields of testing per matrix.


3.11.2. Additional information can be found in SOP S-ALL-Q-010 **Proficiency Testing Program** or its equivalent revision or replacement.

3.12. Rounding and Significant Figures

3.12.1. In general, the Pace laboratories report data to no more than three significant figures. Therefore, all measurements made in the analytical process must reflect this level of precision. In the event that a parameter that contributes to the final result has less than three significant figures of precision, the final result must be reported with no more significant figures than that of the parameter in question. The rounding rules listed below are descriptive of the LIMS and not necessarily of any supporting program such as Excel.

3.12.2. **Rounding:** Pace-Florida follows the odd / even guidelines for rounding numbers:

- If the figure following the one to be retained is less than five, that figure is dropped and the retained ones are not changed (with three significant figures, 2.544 is rounded to 2.54).

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 25 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office

- If the figure following the ones to be retained is greater than five, that figure is dropped and the last retained one is rounded up (with three significant figures, 2.546 is rounded to 2.55).
- If the figure following the ones to be retained is five and if there are no figures other than zeros beyond that five, then the five is dropped and the last figure retained is unchanged if it is even and rounded up if it is odd (with three significant figures, 2.525 is rounded to 2.52 and 2.535 is rounded to 2.54).

3.12.3. Significant Figures

3.12.3.1. Pace-Florida follows the following convention for reporting to a specified number of significant figures. Unless specified by federal, state, or local requirements or on specific request by a customer, the laboratory reports:

Values > 10 – Reported to 3 significant figures
Values ≤ 10 – Reported to 2 significant figures

3.13. Retention Time Windows

3.13.1. When chromatographic conditions are changed, retention times and analytical separations are often affected. As a result, two critical aspects of any chromatographic method are the determination and verification of retention times and analyte separation. Retention time windows must be established for the identification of target analytes. The retention times of all target analytes in all calibration verification standards must fall within the retention time windows. If an analyte falls outside the retention time window in an ICV or CCV, new absolute retention time windows must be calculated, unless instrument maintenance fixes the problem. When a new column is installed, a new retention time window study must be performed.


3.13.2. Please reference method-specific SOPs for the proper procedure for establishing retention time windows.

3.14. Analytical Method Validation and Instrument Validation

3.14.1. In some situations, Pace develops and validates methodologies that may be more applicable to a specific problem or objective. When non-standard methods are required for specific projects or analytes of interest, or when the laboratory develops or modifies a method, the laboratory validates the method prior to applying it to customer samples. Method validity is established by meeting criteria for precision and accuracy as established by the data quality objectives specified by the end user of the data. The laboratory records the validation procedure, the results obtained and a statement as to the usability of the method. The minimum requirements for method validation include evaluation of sensitivity, quantitation, precision, bias, and selectivity of each analyte of interest.

3.15. Regulatory and Method Compliance

3.15.1. It is Pace policy to disclose in a forthright manner any detected noncompliance affecting the usability of data produced by our laboratories. The laboratory will notify customers within 30 days of fully characterizing the nature of the nonconformance, the scope of the nonconformance and the impact it may have on data usability.

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 26 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office

4.0. DOCUMENT MANAGEMENT AND CHANGE CONTROL

4.1. Document Management

4.1.1. Additional information can be found in SOP S-ALL-Q-002 **Document Control and Management** or its equivalent revision or replacement. Information on Pace's policy for electronic signatures can also be found in this SOP.

4.1.2. Pace has an established procedure for managing documents that are part of the quality system.

4.1.3. A master list of all managed documents is maintained at each facility identifying the current revision status and distribution of the controlled documents. Copies of all quality systems documentation provided to DoD for review must be in English.

4.1.4. Each managed document is uniquely identified to include the date of issue, the revision identification, page numbers, the total number of pages and the issuing authorities. For complete information on document numbering, refer to SOP S-ALL-Q-003 **Document Numbering**.

4.1.5. **Quality Assurance Manual (QAM):** The Quality Assurance Manual is the company-wide document that describes all aspects of the quality system for Pace. The base QAM template is distributed by the Corporate Environmental Quality Department to each of the SQMs/QMs. The local management personnel modify the necessary and permissible sections of the base template and then all applicable lab staff sign the Quality Assurance Manual. Each SQM/QM is then in charge of distribution to employees, external customers or regulatory agencies and maintaining a distribution list of controlled document copies. The Quality Assurance Manual template is reviewed on an annual basis and revised accordingly by the Corporate Quality office.

4.1.6. Standard Operating Procedures (SOPs)

4.1.6.1. SOPs are reviewed every two years at a minimum although a more frequent review may be required by some state or federal agencies or customers. If no revisions are made based on this review, documentation of the review itself is made by the addition of new signatures on the cover page. If revisions are made, documentation of the revisions is made in the revisions section of each SOP and a new revision number is applied to the SOP. This provides a historical record of all revisions.


4.1.6.2. All copies of superseded SOPs are removed from general use and the original copy of each SOP is archived for audit or knowledge preservation purposes. This ensures that all Pace employees use the most current version of each SOP and provides the SQM/QM with a historical record of each SOP.

4.1.6.3. Additional information can be found in SOP S-ALL-Q-001 **Preparation of SOPs** or its equivalent revision or replacement.

4.2. Document Change Control

4.2.1. Additional information can be found in SOP S-ALL-Q-002 **Document Control and Management** or its equivalent revision or replacement.


4.2.2. Changes to managed documents are reviewed and approved in the same manner as the original review. Any revision to a document requires the approval of the applicable signatories. After

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 27 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office

revisions are approved, a revision number is assigned and the previous version of the document is officially retired.

4.2.3. All copies of the previous document are replaced with copies of the revised document and the superseded copies are destroyed or archived. All affected personnel are advised that there has been a revision and any necessary training is scheduled.

Uncontrolled Document

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 28 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office

5.0. EQUIPMENT AND MEASUREMENT TRACEABILITY

5.1. Standards and Traceability

5.1.1. Each Pace facility retains pertinent information for standards, reagents, and chemicals to assure traceability to a national standard. This includes documentation of purchase, receipt, preparation, and use.

5.1.2. Upon receipt, all purchased standard reference materials are recorded into a standard logbook or database and assigned a unique identification number. The entries include the facility's unique identification number, the chemical name, manufacturer name, manufacturer's identification numbers, receipt date, and expiration date. Vendor's certificates of analysis for all standards, reagents, or chemicals are retained for future reference.

5.1.3. Subsequent preparations of intermediate or working solutions are also documented in a standard logbook or database. These entries include the stock standard name and lot number, the manufacturer name, the solvents used for preparation, the solvent lot number and manufacturer, the preparation steps, preparation date, expiration dates, preparer's initials, and a unique Pace identification number. This number is used in any applicable sample preparation or analysis logbook so the standard can be traced back to the standard preparation record. This process ensures traceability back to the national standard.

5.1.4. All prepared standard or reagent containers include the Pace identification number, the standard or chemical name, the date of preparation, the date of expiration, the concentration with units, and the preparer's initials, unless the container is too small to hold all of this information. This ensures traceability back to the standard preparation logbook or database.


5.1.5. All initial calibrations must be verified with a standard obtained from a second manufacturer or a separate lot prepared independently by the same manufacturer, unless client-specific QAPP requirements state otherwise.

5.1.6. Additional information concerning the procurement of standards and reagent and their traceability can be found in the SOP S-ALL-Q-025 **Standard and Reagent Management and Traceability** or its equivalent revision or replacement.

5.2. General Analytical Instrument Calibration Procedures

5.2.1. All applicable instrumentation are calibrated or checked before use to ensure proper functioning and verify that laboratory, client and regulatory requirements are met. All calibrations are performed by, or under the supervision of, an experienced analyst at scheduled intervals against either certified standards traceable to recognized national standards or reference standards whose values have been statistically validated.

5.2.2. Calibration standards for each parameter are chosen to establish the linear range of the instrument and must bracket the concentrations of those parameters measured in the samples. The lowest calibration standard is the lowest concentration for which quantitative data may be reported. Data reported below this level is considered to have less certainty and must be reported using appropriate data qualifiers or explained in a narrative. The highest calibration standard is the highest concentration for which quantitative data may be reported. Data reported above this level is considered to have less certainty and must be reported using appropriate data qualifiers or explained in the narrative.

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 29 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office

5.2.3. Instrumentation or support equipment that cannot be calibrated to specification or is otherwise defective is clearly labeled as out-of-service until it has been repaired and tested to demonstrate it meets the laboratory's specifications. All repair and maintenance activities including service calls are documented in the maintenance log. Equipment sent off-site for calibration testing is packed and transported to prevent breakage and is in accordance with the calibration laboratory's recommendations.

5.2.4. In the event that recalibration of a piece of test equipment indicates the equipment may have been malfunctioning during the course of sample analysis, an investigation is performed. The results of the investigation along with a summary of the information reviewed are documented and maintained by the quality manager. Customers must be notified within 30 days after the data investigation is completed and the impact to final results is assessed. This allows for sufficient investigation and review of documentation to determine the impact on the analytical results. Instrumentation found to be consistently out of calibration is either repaired and positively verified or taken out of service and replaced.

5.2.5. Raw data records are retained to document equipment performance. Sufficient raw data is retained to reconstruct the instrument calibration and explicitly connect the continuing calibration verification to the initial calibration.

5.3. Support Equipment Calibration and Verification Procedures

5.3.1. All support equipment is calibrated or verified at least annually using NIST traceable references over the entire range of use, as applicable. The results of calibrations or verifications must be within the specifications required or the equipment will be removed from service until brought back into control. Additional information regarding calibration and maintenance of support equipment can be found in SOP S-ALL-Q-013 **Support Equipment** or its equivalent revision or replacement.

5.3.2. On each day the support equipment is used, it is verified, as applicable, in the expected range of use with NIST traceable references in order to ensure the equipment meets laboratory specifications. These checks are documented appropriately. This applies mainly to thermometers within temperature-controlled units and balances.


5.3.3. Analytical Balances

5.3.3.1. Each analytical balance is calibrated or verified at least annually by a qualified service technician. The calibration of each balance is verified each day of use with weights traceable to NIST bracketing the range of use. Calibration weights are ASTM Class 1 or other class weights that have been calibrated against a NIST standard weight and are re-certified every 5 years at a minimum against a NIST traceable reference. Some accrediting agencies may require more frequent checks. If balances are calibrated by an external agency, verification of their weights must be provided. All information pertaining to balance maintenance and calibration is recorded in the individual balance logbook and/or is maintained on file in the local Quality department.

5.3.4. Thermometers

5.3.4.1. Certified, or reference, thermometers are maintained for checking calibration of working thermometers. Reference thermometers are provided with NIST traceability for initial calibration and are re-certified, at a minimum, every 3 years with equipment directly traceable to NIST.

5.3.4.2. Working thermometers are compared with the reference thermometers annually according to corporate metrology procedures (working digital thermometers are calibrated quarterly). Each thermometer is individually numbered and assigned a correction factor based on the NIST reference

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 30 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office

source. In addition, working thermometers are visually inspected by laboratory personnel prior to use and temperatures are documented.

5.3.4.3. Laboratory thermometer inventory and calibration data are maintained in the local Quality department.

5.3.5. pH/Electrometers

5.3.5.1. The meter is calibrated before use each day, using fresh buffer solutions.

5.3.6. Spectrophotometers

5.3.6.1. During use, spectrophotometer performance is checked at established frequencies in analysis sequences against initial calibration verification (ICV) and continuing calibration verification (CCV) standards.

5.3.7. Mechanical Volumetric Dispensing Devices

5.3.7.1. Mechanical volumetric dispensing devices including bottle top dispensers (those that are critical in measuring a required amount of reagent), pipettes, and burettes, excluding Class A volumetric glassware, are checked for accuracy on a quarterly basis.

5.3.7.2. Additional information regarding calibration and maintenance of laboratory support equipment can be found in SOP S-ALL-Q-013 **Support Equipment** or its equivalent revision or replacement.

5.4. Instrument/Equipment Maintenance

5.4.1. The objectives of the Pace Analytical maintenance program are twofold: to establish a system of instrument care that maintains instrumentation and equipment at required levels of calibration and sensitivity, and to minimize loss of productivity due to repairs.


5.4.2. The Operations Manager and/or department manager/supervisors are responsible for providing technical leadership to evaluate new equipment, solve equipment problems, and coordinate instrument repair and maintenance. Analysts have the primary responsibility to perform routine maintenance.

5.4.3. To minimize downtime and interruption of analytical work, preventative maintenance may routinely performed on each analytical instrument. Up-to-date instructions on the use and maintenance of equipment are available to staff in the department where the equipment is used.

5.4.4. Department manager/supervisors are responsible for maintaining an adequate inventory of spare parts required to minimize equipment downtime. This inventory includes parts and supplies that are subject to frequent failure, have limited lifetimes, or cannot be obtained in a timely manner should a failure occur.

5.4.5. All major equipment and instrumentation items are uniquely identified to allow for traceability. Equipment/instrumentation is, unless otherwise stated, identified as a system and not as individual pieces. The laboratory maintains equipment records that include the following:

- The name of the equipment and its software
- The manufacturer's name, type, and serial number
- Approximate date received and date placed into service
- Current location in the laboratory
- Condition when received (new, used, etc.)

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 31 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


- Copy of any manufacturer's manuals or instructions
- Dates and results of calibrations and next scheduled calibration (if known)
- Details of past maintenance activities, both routine and non-routine
- Details of any damage, modification or major repairs

5.4.6. All instrument maintenance is documented in maintenance logbooks that are assigned to each particular instrument or system.

5.4.7. The maintenance log entry must include a summary of the results of that analysis and verification by the analyst that the instrument has been returned to an in-control status. In addition, each entry must include the initials of the analyst making the entry, the dates the maintenance actions were performed, and the date the entry was made in the maintenance logbook, if different from the date(s) of the maintenance.

5.4.8. Any equipment that has been subjected to overloading or mishandling, or that gives suspect results, or has been shown to be defective, is taken out of service and clearly identified. The equipment shall not be used to analyze customer samples until it has been repaired and shown to perform satisfactorily. In the event of instrumentation failure, to avoid hold time issues, the lab may subcontract the necessary samples to another Pace lab or to an outside subcontract lab if possible.

Uncontrolled Document

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 32 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office

6.0. CONTROL OF DATA

Analytical results processing, verification, and reporting are procedures employed that result in the delivery of defensible data. These processes include, but are not limited to, calculation of raw data into final concentration values, review of results for accuracy, evaluation of quality control criteria and assembly of technical reports for delivery to the data user.

All analytical data undergo a documented multi-tier review process prior to being reported to the customer. This section describes procedures used for translating raw analytical data into accurate final sample reports as well as Pace data storage policies.

When analytical, field, or product testing data is generated, it is documented appropriately. These logbooks and other laboratory records are kept in accordance with each facility's SOP for documentation storage and archival. In this case, the laboratory must ensure that there are sufficient redundant electronic copies so no data is lost due to unforeseen computer issues.

6.1. Primary Data Review

6.1.1. The primary analyst is responsible for initial data reduction and data review. This includes confirming compliance with required methodology, verifying calculations, evaluating quality control data, noting non-conformances in logbooks or as footnotes or narratives, and uploading analytical results into the LIMS. Data review checklists, either hardcopy or electronic, are used to document the primary data review process. The primary analyst must be clearly identified in all applicable logbooks, spreadsheets, LIMS fields, and data review checklists.


6.1.2. The primary analyst compiles the initial data for secondary data review. This compilation must include sufficient documentation for secondary data review.

6.1.3. Additional information regarding data review procedures can be found in SOP S-ALL-Q-037 **Data Review** or its equivalent revision or replacement, as well as in SOP S-ALL-Q-016 **Manual Integration** or its equivalent revision or replacement.

6.2. Secondary Data Review

6.2.1. Secondary data review is the process of examining data and accepting or rejecting it based on pre-defined criteria. This review step is designed to ensure that reported data are free from calculation and transcription errors, that quality control parameters are evaluated, and that any non-conformances are properly documented.

6.2.2. The completed data from the primary analyst is sent to a designated qualified secondary data reviewer (this cannot be the primary analyst). The secondary data reviewer provides an independent technical assessment of the data package and technical review for accuracy according to methods employed and laboratory protocols. This assessment involves a quality control review for use of the proper methodology and detection limits, compliance to quality control protocol and criteria, presence and completeness of required deliverables, and accuracy of calculations and data quantitation. The reviewer validates the data entered into the LIMS and documents approval of manual integrations. Data review checklists, either hardcopy or electronic, are used to document the secondary data review process.

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 33 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office

6.2.3. Additional information regarding data review procedures can be found in SOP S-ALL-Q-037 **Data Review** or its equivalent revision or replacement, as well as in SOP S-ALL-Q-016 **Manual Integration** or its equivalent revision or replacement.

6.3. Data Reporting

6.3.1. Data for each analytical fraction pertaining to a particular Pace project number are delivered to the Project Manager for assembly into the final report. All points mentioned during technical and QC reviews are included in data qualifiers on the final report or in a separate case narrative if there is potential for data to be impacted.

6.3.2. Final reports are prepared according to the level of reporting required by the customer and can be transmitted to the customer via hardcopy or electronic deliverable. Please reference S-ALL-Q-046 **Final Reports and Deliverables SOP**, or its equivalent revision or replacement.

6.3.3. Any changes made to a final report shall be designated as "Revised" or equivalent wording. The laboratory must keep sufficient archived records of all laboratory reports and revisions. For higher levels of data deliverables, a copy of all supporting raw data is sent to the customer along with a final report of results. Pace will provide electronic data deliverables (EDD) as required by contracts or upon customer request.

6.3.4. Customer data that requires transmission by telephone, telex, facsimile or other electronic means undergoes appropriate steps to preserve confidentiality.

6.3.5. The following positions are the only approved signatories for Pace final reports:


- Senior General Manager
- General Manager
- Assistant General Manager
- Senior Quality Manager
- Quality Manager
- Client Services Manager
- Project Manager
- Project Coordinator

6.4. Data Security

6.4.1. All data including electronic files, logbooks, extraction/digestion/distillation worksheets, calculations, project files and reports, and any other information used to produce the technical report are maintained secured and retrievable by the Pace facility.

6.5. Data Archiving

6.5.1. All records compiled by Pace are archived in a suitable, limited-access environment to prevent loss, damage, or deterioration by fire, flood, vermin, theft, and/or environmental deterioration. Records are retained for a minimum of five years unless superseded by federal, state, contractual, and/or accreditation requirements. TNI-related records will be made readily available to accrediting authorities. Access to archived data is documented and controlled by the SQM/QM or a designated Data Archivist.

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 34 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


6.5.2. Records that are computer-generated have either a hard copy or electronic backup copy. Hardware and software necessary for the retrieval of electronic data is maintained with the applicable records. Archived electronic records are stored protected against electronic and/or magnetic sources.

6.5.3. In the event of a change in ownership, accountability or liability, reports of analyses performed pertaining to accreditation will be maintained per the purchase agreement. In the event of bankruptcy, laboratory reports and/or records will be transferred to the customer and/or the appropriate regulatory entity upon request.

6.6. Data Disposal

6.6.1. Data that has been archived for the facility's required storage time may be disposed of in a secure manner by shredding, returning to customer, or utilizing some other means that does not jeopardize data confidentiality. Records of data disposal will be archived for a minimum of five years unless superseded by federal, contractual, and/or accreditation requirements. Data disposal includes any preliminary or final reports that are disposed.

Uncontrolled Document

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 35 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office

7.0. QUALITY SYSTEM AUDITS AND REVIEWS

7.1. Internal Audits

7.1.1. Responsibilities

7.1.1.1. The SQM/QM is responsible for managing and/or conducting internal audits in accordance with a predetermined schedule and procedure. Since internal audits represent an independent assessment of laboratory functions, the auditor must be independent from laboratory operations to ensure objectivity. The auditor must be trained, qualified, and familiar enough with the objectives, principles, and procedures of laboratory operations to be able to perform a thorough and effective evaluation. The SQM/QM evaluates audit observations and verifies the completion of corrective actions. In addition, a periodic corporate audit will be conducted. The corporate audits will focus on the effectiveness of the Quality System as outlined in this manual but may also include other quality programs applicable to an individual laboratory.

7.1.1.2. Additional information can be found in SOP S-ALL-Q-011 **Internal and External Audits** or its equivalent revision or replacement.

7.1.2. Scope and Frequency of Internal Audits

7.1.2.1. The complete internal audit process consists of the following four sections: 1) Raw Data Reviews, 2) traditional Quality Systems internal audits (including SOP and method compliance), 3) Final Report Reviews, and 4) Corrective Action Effectiveness Follow-up.

7.1.2.2. Internal systems audits are conducted yearly at a minimum. The scope of these audits includes evaluation of specific analytical departments or a specific quality related system as applied throughout the laboratory.


7.1.2.3. Where the identification of non-conformities or departures cast doubt on the laboratory's compliance with its own policies and procedures, the lab must ensure that the appropriate areas of activity are audited as soon as possible.

7.1.2.4. Certain projects may require an internal audit to ensure laboratory conformance to site work plans, sampling and analysis plans, QAPPs, etc.

7.1.2.5. The laboratory, as part of their overall internal audit program, ensures that a review is conducted with respect to any evidence of inappropriate actions or vulnerabilities related to data integrity. Discovery and reporting of potential data integrity issues are handled in a confidential manner. All investigations that result in findings of inappropriate activity are fully documented, including the source of the problem, the samples and customers affected the impact on the data, the corrective actions taken by the laboratory, and which final reports had to be re-issued. Customers must be notified within 30 days after the data investigation is completed and the impact to final results is assessed.

7.1.3. Internal Audit Reports and Corrective Action Plans

7.1.3.1. A full description of the audit, including the identification of the operation audited, the date(s) on which the audit was conducted, the specific systems examined, and the observations noted are summarized in an internal audit report. Although other personnel may assist with the

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 36 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office

performance of the audit, the SQM/QM writes and issues the internal audit report identifying which audit observations are deficiencies that require corrective action.

7.1.3.2. When audit findings cast doubt on the effectiveness of the operations or on the correctness of validity of the laboratory's environmental test results, the laboratory will take timely corrective action and notify the customer in writing within three business days, if investigations show that the laboratory results may have been affected.

7.1.3.3. Additional information can be found in SOP S-ALL-Q-011 **Internal and External Audits** or its equivalent revision or replacement.

7.2. External Audits

7.2.1. Pace laboratories are audited regularly by regulatory agencies to maintain laboratory certifications and by customers to maintain appropriate specific protocols.

7.2.2. External audit teams review the laboratory to assess the effectiveness of quality systems. The SQM/QM host the external audit team and assist in facilitation of the audit process. After the audit, the external auditors will prepare a formalized audit report listing deficiencies observed and follow-up requirements for the laboratory. The laboratory staff and supervisors develop corrective action plans to address any deficiencies with the guidance of the SQM/QM, who provides a written response to the external audit team. The SQM/QM follows-up with the laboratory staff to ensure corrective actions are implemented and that the corrective action was effective.


7.3. Annual Managerial Review

7.3.1. A managerial review of Management and Quality Systems is performed on an annual basis at a minimum. This allows for assessing program effectiveness and introducing changes and/or improvements. Additional information can be found in SOP S-ALL-Q-015 **Review of Laboratory Management System** or its equivalent revision or replacement.

7.3.2. The managerial review must include the following topics of discussion:

- Suitability of quality management policies and procedures
- Manager/Supervisor reports
- Internal audit results
- Corrective and preventive actions
- External assessment results
- Proficiency testing studies
- Sample capacity and scope of work changes
- Customer feedback, including complaints
- Recommendations for improvement,
- Other relevant factors, such as quality control activities, resources, and staffing.

7.3.3. This managerial review must be documented for future reference by the SQM/QM and copies of the report are distributed to laboratory staff. Results must feed into the laboratory planning system and must include goals, objectives, and action plans for the coming year. The laboratory shall ensure that any actions identified during the review are carried out within an appropriate and agreed upon timescale.

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 37 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office

8.0. CORRECTIVE ACTION

Additional information can be found in SOP S-ALL-Q-012 **Corrective and Preventive Actions** or its equivalent revision or replacement.

During the process of sample handling, preparation, and analysis, or during review of quality control records, or during reviews of non-technical portions of the lab, certain occurrences may warrant the necessity of corrective actions. These occurrences may take the form of analyst errors, deficiencies in quality control, method deviations, or other unusual circumstances. The Quality System of Pace provides systematic procedures for the documentation, monitoring, completion of corrective actions, and follow-up verification of the effectiveness of these corrective actions. This can be done using Pace's LabTrack system or other system that lists at a minimum, the deficiency by issue number, the deficiency source, responsible party, root cause, resolution, due date, and date resolved.

8.1. Corrective and Preventive Action Documentation


8.1.1. The following items are examples of sources of laboratory deviations or non-conformances that may warrant some form of documented corrective action:

- Internal Laboratory Non-Conformance Trends
- Proficiency Testing Sample Results
- Internal and External Audits
- Data or Records Review
- Client Complaints
- Client Inquiries
- Holding Time violations

8.1.2. Documentation of corrective actions may be in the form of a comment or footnote on the final report that explains the deficiency (e.g., matrix spike recoveries outside of acceptance criteria) or it may be a more formal documentation (either paper system or computerized spreadsheet). This depends on the extent of the deficiency, the impact on the data, and the method or customer requirements for documentation.

8.1.3. The person who discovers the deficiency or non-conformance initiates the corrective action documentation within the lab's corrective action system. The documentation must include (as applicable): the affected projects and sample numbers, the name of the applicable Project Manager, the customer name, and the sample matrix involved. The person initiating the corrective action documentation must also list the known causes of the deficiency or non-conformance as well as any corrective/preventative actions that they have taken. Preventive actions must be taken in order to prevent or minimize the occurrence of the situation.

8.1.4. **Root Cause Analysis:** Laboratory personnel and management staff will start a root cause analysis by going through an investigative process. During this process, the following general steps must be taken into account: defining the non-conformance, assigning responsibilities, determining if the condition is significant, and investigating the root cause of the nonconformance. General non-conformance investigative techniques follow the path of the sample through the process looking at each individual step in detail. The root cause must be documented within the lab's corrective action system.

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 38 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office

8.1.5. Based on the root cause(s) determined, the lab implements applicable corrective actions and verifies their effectiveness. In the event that analytical testing or results do not conform to documented laboratory policies or procedures Project Management will notify the customer of the situation and will advise of any ramifications to data quality if impacted (with the possibility of work being recalled).

8.2. Corrective Action Completion

8.2.1. Internal Laboratory Non-Conformance Trends

8.2.1.1. There are several types of non-conformance trends that may occur in the laboratory that would require the initiation of a corrective action report. Laboratories may choose to initiate a corrective action for all instances of one or more of these categories if they so choose, however the intent is that each of these would be handled according to its severity; one time instances could be handled with a footnote or qualifier whereas a systemic problem with any of these categories may require an official corrective action process. These categories, as defined in the Corrective Action SOP are as follows:

- Login error
- Preparation Error
- Contamination
- Calibration Failure
- Internal Standard Failure
- LCS Failure
- Laboratory accident
- Spike Failure
- Instrument Failure
- Final Reporting error.

8.2.2. PE/PT Sample Results


8.2.2.1. Any PT result assessed as “not acceptable” requires an investigation and applicable corrective actions. The operational staff is made aware of the PT failures and they are responsible for reviewing the applicable raw data and calibrations and list possible causes for error. The SQM/QM reviews their findings and initiates another external PT sample or an internal PT sample to try and correct the previous failure. Replacement PT results must be monitored by the SQM/QM and reported to the applicable regulatory authorities.

8.2.2.2. Additional information, such as requirements regarding time frames for reporting failures to states, makeup PTs, and notifications of investigations, can be found in SOP S-ALL-Q-010 **Proficiency Testing Program** or its equivalent revision or replacement.

8.2.3. Internal and External Audits

8.2.3.1. The SQM/QM is responsible for documenting all audit findings and their corrective actions. This documentation must include the initial finding, the persons responsible for the corrective action, the due date for responding to the auditing body, the root cause of the finding, and the corrective actions needed for resolution. The SQM/QM is also responsible for providing any back-up documentation used to demonstrate that a corrective action has been completed.

8.2.4. Data Review

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 39 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office

8.2.4.1. In the course of performing primary and secondary review of data or in the case of raw data reviews (e.g., by the SQM/QM), errors may be found which require corrective actions. Any finding that affects the quality of the data requires some form of corrective action, which may include revising and re-issuing of final reports.

8.2.5. Client Complaints

8.2.5.1. Project Managers are responsible for issuing corrective action forms, when warranted, for customer complaints. As with other corrective actions, the possible causes of the problem are listed and the form is passed to the appropriate analyst or supervisor for investigation. After potential corrective actions have been determined, the Project Manager reviews the corrective action form to ensure all customer needs or concerns are being adequately addressed.


8.2.6. Client Inquiries

8.2.6.1. When an error on the customer report is discovered, the Project Manager is responsible for initiating a formal corrective action form that describes the failure (e.g., incorrect analysis reported, reporting units are incorrect, or reporting limits do not meet objectives). The Project Manager is also responsible for revising the final report if necessary and submitting it to the customer.

8.2.7. Holding Time Violations

8.2.7.1. In the event that a holding time has been missed, the analyst or supervisor must complete a formal corrective action form. The Project Manager and the SQM/QM must be made aware of all holding time violations.


8.2.7.2. The Project Manager must contact the customer in order that appropriate decisions are made regarding the hold time excursion and the ultimate resolution is then documented and included in the customer project file.

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 40 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


9.0. GLOSSARY

The source of some of the definitions is indicated previous to the actual definition (e.g., TNI, DoD).


Terms and Definitions	
3P Program	The Pace continuous improvement program that focuses on Process, Productivity, and Performance. Best Practices are identified that can be used by all Pace labs.
Acceptance Criteria	TNI- Specified limits placed on characteristics of an item, process, or service defined in requirement documents.
Accreditation	TNI- The process by which an agency or organization evaluates and recognizes a laboratory as meeting certain predetermined qualifications or standards, thereby accrediting the laboratory. DoD- Refers to accreditation in accordance with the DoD ELAP.
Accreditation Body (AB)	TNI- The organization having responsibility and accountability for environmental laboratory accreditation and which grants accreditation under this program. DoD- Entities recognized in accordance with the DoD-ELAP that are required to operate in accordance with ISO/IEC 17011, <i>Conformity assessment: General requirements for accreditation bodies accrediting conformity assessment bodies</i> . The AB must be a signatory, in good standing, to the International Laboratory Accreditation Cooperation (ILAC) mutual recognition arrangement (MRA) that verifies, by evaluation and peer assessment, that its signatory members are in full compliance with ISO/IEC 17011 and that its accredited laboratories comply with ISO/IEC 17025.
Accuracy	TNI- The degree of agreement between an observed value and an accepted reference value. Accuracy includes a combination of random error (precision) and systematic error (bias) components that are due to sampling and analytical operations; a data quality indicator.
Activity, Absolute	TNI- Rate of nuclear decay occurring in a body of material, equal to the number of nuclear disintegrations per unit time. NOTE: Activity (absolute) may be expressed in becquerels (Bq), curies (Ci), or disintegrations per minute (dpm), and multiples or submultiples of these units.
Activity, Areic	TNI- Quotient of the activity of a body of material and its associated area.
Activity, Massic	TNI- Quotient of the activity of a body of material and its mass; also called specific activity.
Activity, Volumic	TNI- Quotient of the activity of a body of material and its volume; also called activity concentration. NOTE: In this module [TNI Volume 1, Module 6], unless otherwise stated, references to activity shall include absolute activity, areic activity, massic activity, and volumic activity.
Activity Reference Date	TNI- The date (and time, as appropriate to the half-life of the radionuclide) to which a reported activity result is calculated. NOTE: The sample collection date is most frequently used as the Activity Reference Date for environmental measurements, but different programs may specify other points in time for correction of results for decay and ingrowth.
Aliquot	DoD- A discrete, measured, representative portion of a sample taken for analysis.

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 41 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


American Society for Testing and Materials (ASTM)	An international standards organization that develops and publishes voluntary consensus standards for a wide range of materials, products, systems and services.
Analysis	DoD- A combination of sample preparation and instrument determination.
Analysis Code (Acode)	All the set parameters of a test, such as Analytes, Method, Detection Limits and Price.
Analysis Sequence	A compilation of all samples, standards and quality control samples run during a specific amount of time on a particular instrument in the order they are analyzed.
Analyst	TNI- The designated individual who performs the “hands-on” analytical methods and associated techniques and who is the one responsible for applying required laboratory practices and other pertinent quality controls to meet the required level of quality.
Analyte	TNI- A substance, organism, physical parameter, property, or chemical constituent(s) for which an environmental sample is being analyzed. DoD- The specific chemicals or components for which a sample is analyzed; it may be a group of chemicals that belong to the same chemical family and are analyzed together.
Analytical Method	DoD- A formal process that identifies and quantifies the chemical components of interest (target analytes) in a sample.
Analytical Uncertainty	TNI- A subset of Measurement Uncertainty that includes all laboratory activities performed as part of the analysis.
Aliquot	DoD- A discrete, measured, representative portion of a sample taken for analysis.
Annual (or Annually)	Defined by Pace as every 12 months \pm 30 days.
Assessment	TNI - The evaluation process used to measure or establish the performance, effectiveness, and conformance of an organization and/or its system to defined criteria (to the standards and requirements of laboratory accreditation). DoD- An all-inclusive term used to denote any of the following: audit, performance evaluation, peer review, inspection, or surveillance conducted on-site.
Atomic Absorption Spectrometer	Instrument used to measure concentration in metals samples.
Atomization	A process in which a sample is converted to free atoms.
Audit	TNI- A systematic and independent examination of facilities, equipment, personnel, training, procedures, record-keeping, data validation, data management, and reporting aspects of a system to determine whether QA/QC and technical activities are being conducted as planned and whether these activities will effectively achieve quality objectives.

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 42 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Batch	<p>TNI- Environmental samples that are prepared and/or analyzed together with the same process and personnel, using the same lot(s) of reagents. A preparation batch is composed of one to 20 environmental samples of the same quality systems matrix, meeting the above-mentioned criteria and with a maximum time between the start of processing of the first and last sample in the batch to be 24 hours. An analytical batch is composed of prepared environmental samples (extracts, digestates or concentrates) which are analyzed together as a group. An analytical batch can include prepared samples originating from various quality system matrices and can exceed 20 samples.</p> <p>South Carolina- same definition as TNI except 24 hours should be changed to 8 hours.</p>
Batch, Radiation Measurements (RMB)	<p>TNI- An RMB is composed of 1 to 20 environmental samples that are counted directly without preliminary physical or chemical processing that affects the outcome of the test (e.g., non-destructive gamma spectrometry, alpha/beta counting of air filters, or swipes on gas proportional detectors). The samples in an RMB share similar physical and chemical parameter, and analytical configurations (e.g., analytes, geometry, calibration, and background corrections). The maximum time between the start of processing of the first and last in an RMB is 14 calendar days.</p>
Bias	<p>TNI- The systematic or persistent distortion of a measurement process, which causes errors in one direction (i.e., the expected sample measurement is different from the sample's true value).</p>
Blank	<p>TNI and DoD- A sample that has not been exposed to the analyzed sample stream in order to monitor contamination during sampling, transport, storage or analysis. The blank is subjected to the usual analytical and measurement process to establish a zero baseline or background value and is sometimes used to adjust or correct routine analytical results (See Method Blank).</p> <p>DoD- Blank samples are negative control samples, which typically include field blank samples (e.g., trip blank, equipment (rinsate) blank, and temperature blank) and laboratory blank samples (e.g., method blank, reagent blank, instrument blank, calibration blank, and storage blank).</p>
Blind Sample	<p>A sub-sample for analysis with a composition known to the submitter. The analyst/laboratory may know the identity of the sample but not its composition. It is used to test the analyst's or laboratory's proficiency in the execution of the measurement process.</p>
BNA (Base Neutral Acid compounds)	<p>A list of semi-volatile compounds typically analyzed by mass spectrometry methods. Named for the way they can be extracted out of environmental samples in an acidic, basic or neutral environment.</p>
BOD (Biochemical Oxygen Demand)	<p>Chemical procedure for determining how fast biological organisms use up oxygen in a body of water.</p>

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 43 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Calibration	TNI- A set of operations that establish, under specified conditions, the relationship between values of quantities indicated by a measuring instrument or measuring system, or values represented by a material measure or a reference material, and the corresponding values realized by standards. 1) In calibration of support equipment, the values realized by standards are established through the use of reference standards that are traceable to the International System of Units (SI); 2) In calibration according to test methods, the values realized by standards are typically established through the use of Reference Materials that are either purchased by the laboratory with a certificate of analysis or purity, or prepared by the laboratory using support equipment that has been calibrated or verified to meet specifications.
Calibration Curve	TNI- The mathematical relationship between the known values, such as concentrations, of a series of calibration standards and their instrument response.
Calibration Method	A defined technical procedure for performing a calibration.
Calibration Range	DoD- The range of values (concentrations) between the lowest and highest calibration standards of a multi-level calibration curve. For metals analysis with a single-point calibration, the low-level calibration check standard and the high standard establish the linear calibration range, which lies within the linear dynamic range.
Calibration Standard	TNI- A substance or reference material used for calibration.
Certified Reference Material (CRM)	TNI- Reference material accompanied by a certificate, having a value, measurement uncertainty, and stated metrological traceability chain to a national metrology institute.
Chain of Custody	An unbroken trail of accountability that verifies the physical security of samples, data, and records.
Chain of Custody Form (COC)	TNI- Record that documents the possession of the samples from the time of collection to receipt in the laboratory. This record generally includes: the number and type of containers; the mode of collection, the collector, time of collection; preservation; and requested analyses.
Chemical Oxygen Demand (COD)	A test commonly used to indirectly measure the amount of organic compounds in water.
Client (referred to by ISO as Customer)	Any individual or organization for whom items or services are furnished or work performed in response to defined requirements and expectations.
Code of Federal Regulations (CFR)	A codification of the general and permanent rules published in the Federal Register by agencies of the federal government.
Comparability	An assessment of the confidence with which one data set can be compared to another. Comparable data are produced through the use of standardized procedures and techniques.
Completeness	<p>The percent of valid data obtained from a measurement system compared to the amount of valid data expected under normal conditions. The equation for completeness is:</p> $\% \text{ Completeness} = (\text{Valid Data Points} / \text{Expected Data Points}) * 100$

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 44 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Confirmation	<p>TNI- Verification of the identity of a component through the use of an approach with a different scientific principle from the original method. These may include, but are not limited to: second-column confirmation; alternate wavelength; derivatization; mass spectral interpretation; alternative detectors; or additional cleanup procedures.</p> <p>DoD- Includes verification of the identity and quantity of the analyte being measured by another means (e.g., by another determinative method, technology, or column). Additional cleanup procedures alone are not considered confirmation techniques.</p>
Conformance	An affirmative indication or judgment that a product or service has met the requirements of the relevant specifications, contract, or regulation; also the state of meeting the requirements.
Congener	A member of a class of related chemical compounds (e.g., PCBs, PCDDs).
Consensus Standard	DoD- A standard established by a group representing a cross-section of a particular industry or trade, or a part thereof.
Continuing Calibration Blank (CCB)	A blank sample used to monitor the cleanliness of an analytical system at a frequency determined by the analytical method.
Continuing Calibration Check Compounds (CCC)	Compounds listed in mass spectrometry methods that are used to evaluate an instrument calibration from the standpoint of the integrity of the system. High variability would suggest leaks or active sites on the instrument column.
Continuing Calibration Verification	DoD- The verification of the initial calibration. Required prior to sample analysis and at periodic intervals. Continuing calibration verification applies to both external and internal standard calibration techniques, as well as to linear and non-linear calibration models.
Continuing Calibration Verification (CCV) Standard	Also referred to as a Calibration Verification Standard (CVS) in some methods, it is a standard used to verify the initial calibration of compounds in an analytical method. CCVs are analyzed at a frequency determined by the analytical method.
Continuous Emission Monitor (CEM)	A flue gas analyzer designed for fixed use in checking for environmental pollutants.
Continuous Improvement Plan (CIP)	The delineation of tasks for a given laboratory department or committee to achieve the goals of that department.
Contract Laboratory Program (CLP)	A national network of EPA personnel, commercial labs, and support contractors whose fundamental mission is to provide data of known and documented quality.
Contract Required Detection Limit (CRDL)	Detection limit that is required for EPA Contract Laboratory Program (CLP) contracts.
Contract Required Quantitation Limit (CRQL)	Quantitation limit (reporting limit) that is required for EPA Contract Laboratory Program (CLP) contracts.
Control Chart	A graphic representation of a series of test results, together with limits within which results are expected when the system is in a state of statistical control (see definition for Control Limit)

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 45 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Control Limit	A range within which specified measurement results must fall to verify that the analytical system is in control. Control limit exceedances may require corrective action or require investigation and flagging of non-conforming data.
Correction	DoD- Action taken to eliminate a detected non-conformity.
Corrective Action	DoD- The action taken to eliminate the causes of an existing non-conformity, defect, or other undesirable situation in order to prevent recurrence. A root cause analysis may not be necessary in all cases.
Corrective and Preventative Action (CAPA)	The primary management tools for bringing improvements to the quality system, to the management of the quality system's collective processes, and to the products or services delivered which are an output of established systems and processes.
Critical Value	TNI- Value to which a measurement result is compared to make a detection decision (also known as critical level or decision level). NOTE: The Critical Value is designed to give a specified low probability α of false detection in an analyte-free sample, which implies that a result that exceeds the Critical Value, gives high confidence $(1 - \alpha)$ that the radionuclide is actually present in the material analyzed. For radiometric methods, α is often set at 0.05.
Customer	DoD- Any individual or organization for which products or services are furnished or work performed in response to defined requirements and expectations.
Data Integrity	TNI- The condition that exists when data are sound, correct, and complete, and accurately reflect activities and requirements.
Data Quality Objective (DQO)	Systematic strategic planning tool based on the scientific method that identifies and defines the type, quality, and quantity of data needed to satisfy a specified use or end user.
Data Reduction	TNI- The process of transforming the number of data items by arithmetic or statistical calculation, standard curves, and concentration factors, and collating them into a more usable form.
Definitive Data	DoD- Analytical data of known quantity and quality. The levels of data quality on precision and bias meet the requirements for the decision to be made. Data that is suitable for final decision-making.
Demonstration of Capability (DOC)	TNI- A procedure to establish the ability of the analyst to generate analytical results of acceptable accuracy and precision. DoD- A procedure to establish the ability of the analyst to generate analytical results by a specific method that meet measurement quality objectives (e.g., for precision and bias).
Department of Defense (DoD)	An executive branch department of the federal government of the United States charged with coordinating and supervising all agencies and functions of the government concerned directly with national security.
Detection Limit (DL)	DoD- The smallest analyte concentration that can be demonstrated to be different than zero or a blank concentration with 99% confidence. At the DL, the false positive rate (Type 1 error) is 1%. A DL may be used as the lowest concentration for reliably reporting a detection of a specific analyte in a specific matrix with a specific method with 99% confidence.

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 46 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Detection Limit (DL) for Safe Drinking Water Act (SDWA) Compliance	TNI- Laboratories that analyze drinking-water samples for SDWA compliance monitoring must use methods that provide sufficient detection capability to meet the detection limit requirements established in 40 CFR 141. The SDWA DL for radioactivity is defined in 40 CFR Part 141.25.c as the radionuclide concentration, which can be counted with a precision of plus or minus 100% at the 95% confidence level (1.96σ where σ is the standard deviation of the net counting rate of the sample).
Deuterated Monitoring Compounds (DMCs)	DoD- SIM specific surrogates as specified for GC/MS SIM analysis.
Diesel Range Organics (DRO)	A range of compounds that denote all the characteristic compounds that make up diesel fuel (range can be state or program specific).
Digestion	DoD- A process in which a sample is treated (usually in conjunction with heat and acid) to convert the target analytes in the sample to a more easily measured form.
Document Control	The act of ensuring that documents (and revisions thereto) are proposed, reviewed for accuracy, approved for release by authorized personnel, distributed properly and controlled to ensure use of the correct version at the location where the prescribed activity is performed.
Documents	DoD- Written components of the laboratory management system (e.g., policies, procedures, and instructions).
Dry Weight	The weight after drying in an oven at a specified temperature.
Duplicate (also known as Replicate or Laboratory Duplicate)	The analyses or measurements of the variable of interest performed identically on two subsamples of the same sample. The results of duplicate analyses are used to evaluate analytical or measurement precision but not the precision of sampling, preservation or storage internal to the laboratory.
Electron Capture Detector (ECD)	Device used in GC methods to detect compounds that absorb electrons (e.g., PCB compounds).
Electronic Data Deliverable (EDD)	A summary of environmental data (usually in spreadsheet form) which clients request for ease of data review and comparison to historical results.
ELISA	Enzyme-linked immunosorbent assay.
Eluent	A solvent used to carry the components of a mixture through a stationary phase.
Elute	To extract, specifically, to remove (absorbed material) from an absorbent by means of a solvent.
Elution	A process in which solutes are washed through a stationary phase by movement of a mobile phase.
Environmental Data	DoD- Any measurements or information that describe environmental processes, locations, or conditions; ecological or health effects and consequences; or the performance of environmental technology.
Environmental Monitoring	The process of measuring or collecting environmental data.
Environmental Protection Agency (EPA)	An agency of the federal government of the United States which was created for the purpose of protecting human health and the environment by writing and enforcing regulations based on laws passed by Congress.

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 47 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Environmental Sample	<p>A representative sample of any material (aqueous, non-aqueous, or multimedia) collected from any source for which determination of composition or contamination is requested or required. Environmental samples can generally be classified as follows:</p> <ul style="list-style-type: none"> • Non Potable Water (Includes surface water, ground water, effluents, water treatment chemicals, and TCLP leachates or other extracts) • Drinking Water - Delivered (treated or untreated) water designated as potable water • Water/Wastewater - Raw source waters for public drinking water supplies, ground waters, municipal influents/effluents, and industrial influents/effluents • Sludge - Municipal sludges and industrial sludges. • Soil - Predominately inorganic matter ranging in classification from sands to clays. • Waste - Aqueous and non-aqueous liquid wastes, chemical solids, and industrial liquid and solid wastes
Equipment Blank	A sample of analyte-free media used to rinse common sampling equipment to check effectiveness of decontamination procedures.
Extracted Internal Standard Analyte	Isotopically labeled analogs of analytes of interest added to all standards, blanks and samples analyzed. Added to samples and batch QC samples prior to the first step of sample extraction and to standards and instrument blanks prior to analysis. Used for isotope dilution methods.
Facility	A distinct location within the company that has unique certifications, personnel and waste disposal identifications.
False Negative	DoD- A result that fails to identify (detect) an analyte or reporting an analyte to be present at or below a level of interest when the analyte is actually above the level of interest.
False Positive	DoD- A result that erroneously identifies (detects) an analyte or reporting an analyte to be present above a level of interest when the analyte is actually present at or below the level of interest.
Field Blank	A blank sample prepared in the field by filling a clean container with reagent water and appropriate preservative, if any, for the specific sampling activity being undertaken.
Field Measurement	Determination of physical, biological, or radiological properties, or chemical constituents that are measured on-site, close in time and space to the matrices being sampled/measured, following accepted test methods. This testing is performed in the field outside of a fixed-laboratory or outside of an enclosed structure that meets the requirements of a mobile laboratory.
Field of Accreditation	TNI- Those matrix, technology/method, and analyte combinations for which the accreditation body offers accreditation.
Field of Proficiency Testing (FoPT)	TNI- Matrix, technology/method, analyte combinations for which the composition, spike concentration ranges and acceptance criteria have been established by the PTPEC.

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 48 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Finding	<p>TNI- An assessment conclusion referenced to a laboratory accreditation standard and supported by objective evidence that identifies a deviation from a laboratory accreditation standard requirement.</p> <p>DoD- An assessment conclusion that identifies a condition having a significant effect on an item or activity. An assessment finding may be positive, negative, or neutral and is normally accompanied by specific examples of the observed condition. The finding must be linked to a specific requirement (e.g., this standard, ISO requirements, analytical methods, contract specifications, or laboratory management systems requirements).</p>
Flame Atomic Absorption Spectrometer (FAA)	Instrumentation used to measure the concentration of metals in an environmental sample based on the fact that ground state metals absorb light at different wavelengths. Metals in a solution are converted to the atomic state by use of a flame.
Flame Ionization Detector (FID)	A type of gas detector used in GC analysis where samples are passed through a flame which ionizes the sample so that various ions can be measured.
Gas Chromatography (GC)	Instrumentation which utilizes a mobile carrier gas to deliver an environmental sample across a stationary phase with the intent to separate compounds out and measure their retention times.
Gas Chromatograph/Mass Spectrometry (GC/MS)	In conjunction with a GC, this instrumentation utilizes a mass spectrometer which measures fragments of compounds and determines their identity by their fragmentation patterns (mass spectra).
Gasoline Range Organics (GRO)	A range of compounds that denote all the characteristic compounds that make up gasoline (range can be state or program specific).
Graphite Furnace Atomic Absorption Spectrometry (GFAA)	Instrumentation used to measure the concentration of metals in an environmental sample based on the absorption of light at different wavelengths that are characteristic of different analytes.
High Pressure Liquid Chromatography (HPLC)	Instrumentation used to separate, identify and quantitate compounds based on retention times which are dependent on interactions between a mobile phase and a stationary phase.
Holding Time	<p>TNI- The maximum time that can elapse between two specified activities.</p> <p>40 CFR Part 136- The maximum time that samples may be held prior to preparation and/or analysis as defined by the method and still be considered valid or not compromised.</p> <p>For sample prep purposes, hold times are calculated using the time of the start of the preparation procedure.</p> <p>DoD- The maximum time that may elapse from the time of sampling to the time of preparation or analysis, or from preparation to analysis, as appropriate.</p>
Homogeneity	The degree to which a property or substance is uniformly distributed throughout a sample.
Homologue	One in a series of organic compounds in which each successive member has one more chemical group in its molecule than the next preceding member. For instance, methanol, ethanol, propanol, butanol, etc., form a homologous series.
Improper Actions	DoD- Intentional or unintentional deviations from contract-specified or method-specified analytical practices that have not been authorized by the customer (e.g., DoD or DOE).
Incremental Sampling Method (ISM)	Soil preparation for large volume (1 kg or greater) samples.

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 49 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


In-Depth Data Monitoring	TNI- When used in the context of data integrity activities, a review and evaluation of documentation related to all aspects of the data generation process that includes items such as preparation, equipment, software, calculations, and quality controls. Such monitoring shall determine if the laboratory uses appropriate data handling, data use and data reduction activities to support the laboratory's data integrity policies and procedures.
Inductively Coupled Plasma Atomic Emission Spectrometry (ICP-AES)	Analytical technique used for the detection of trace metals which uses plasma to produce excited atoms that emit radiation of characteristic wavelengths.
Inductively Coupled Plasma- Mass Spectrometry (ICP/MS)	An ICP that is used in conjunction with a mass spectrometer so that the instrument is not only capable of detecting trace amounts of metals and non-metals but is also capable of monitoring isotopic speciation for the ions of choice.
Infrared Spectrometer (IR)	An instrument that uses infrared light to identify compounds of interest.
Initial Calibration (ICAL)	The process of analyzing standards, prepared at specified concentrations, to define the quantitative response relationship of the instrument to the analytes of interest. Initial calibration is performed whenever the results of a calibration verification standard do not conform to the requirements of the method in use or at a frequency specified in the method.
Initial Calibration Blank (ICB)	A blank sample used to monitor the cleanliness of an analytical system at a frequency determined by the analytical method. This blank is specifically run in conjunction with the Initial Calibration Verification (ICV) where applicable.
Initial Calibration Verification (ICV)	DoD- Verifies the initial calibration with a standard obtained or prepared from a source independent of the source of the initial calibration standards to avoid potential bias of the initial calibration.
Injection Internal Standard Analyte	Isotopically labeled analogs of analytes of interest (or similar in physiochemical properties to the target analytes but with a distinct response) to be quantitated. Added to all blanks, standards, samples and batch QC after extraction and prior to analysis.
Instrument Blank	A clean sample (e.g., distilled water) processed through the instrumental steps of the measurement process; used to determine instrument contamination.
Instrument Detection Limits (IDLs)	Limits determined by analyzing a series of reagent blank analyses to obtain a calculated concentration. IDLs are determined by calculating the average of the standard deviations of three runs on three non-consecutive days from the analysis of a reagent blank solution with seven consecutive measurements per day.
Interference, spectral	Occurs when particulate matter from the atomization scatters incident radiation from the source or when the absorption or emission from an interfering species either overlaps or is so close to the analyte wavelength that resolution becomes impossible.
Interference, chemical	Results from the various chemical processes that occur during atomization and later the absorption characteristics of the analyte.
Internal Standard	TNI and DoD- A known amount of standard added to a test portion of a sample as a reference for evaluating and controlling the precision and bias of the applied analytical method.

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 50 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


International Organization for Standardization (ISO)	An international standard-setting body composed of representatives from various national standards organizations.
Intermediate Standard Solution	Reference solutions prepared by dilution of the stock solutions with an appropriate solvent.
International System of Units (SI)	The coherent system of units adopted and recommended by the General Conference on Weights and Measures.
Ion Chromatography (IC)	Instrumentation or process that allows the separation of ions and molecules based on the charge properties of the molecules.
Isomer	One of two or more compounds, radicals, or ions that contain the same number of atoms of the same element but differ in structural arrangement and properties. For example, hexane (C ₆ H ₁₄) could be n-hexane, 2-methylpentane, 3-methylpentane, 2,3-dimethylbutane, 2,2-dimethylbutane.
Laboratory	A body that calibrates and/or tests.
Laboratory Control Sample (LCS)	TNI- (also known as laboratory fortified blank (LFB), spiked blank, or QC check sample): A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes and taken through all sample preparation and analytical steps of the procedure unless otherwise noted in a reference method. It is generally used to establish intra-laboratory or analyst-specific precision and bias or to evaluate the performance of all or a portion of the measurement system.
Laboratory Duplicate	Aliquots of a sample taken from the same container under laboratory conditions and processed and analyzed independently.
Laboratory Information Management System (LIMS)	DoD- The entirety of an electronic data system (including hardware and software) that collects, analyzes, stores, and archives electronic records and documents.
LabTrack	Database used by Pace to store and track corrective actions and other laboratory issues.
Learning Management System (LMS)	A web-based database used by the laboratories to track and document training activities. The system is administered by the corporate training department and each laboratory's learn centers are maintained by a local administrator.
Legal Chain-of-Custody Protocols	TNI- Procedures employed to record the possession of samples from the time of sampling through the retention time specified by the client or program. These procedures are performed at the special request of the client and include the use of a Chain-of-Custody (COC) Form that documents the collection, transport, and receipt of compliance samples by the laboratory. In addition, these protocols document all handling of the samples within the laboratory.
Limit(s) of Detection (LOD)	TNI- The minimum result, which can be reliably discriminated from a blank with predetermined confidence level. DoD- The smallest concentration of a substance that must be present in a sample in order to be detected at the DL with 99% confidence. At the LOD, the false negative rate (Type II error) is 1%. A LOD may be used as the lowest concentration for reliably reporting a non-detect of a specific analyte in a specific matrix with a specific method at 99% confidence.

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 51 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Limit(s) of Quantitation (LOQ)	TNI- The minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence. DoD- The smallest concentration that produces a quantitative result with known and recorded precision and bias. For DoD/DOE projects, the LOQ shall be set at or above the concentration of the lowest initial calibration standard and within the calibration range.
Linear Dynamic Range	DoD- Concentration range where the instrument provides a linear response.
Liquid chromatography/tandem mass spectrometry (LC/MS/MS)	Instrumentation that combines the physical separation techniques of liquid chromatography with the mass analysis capabilities of mass spectrometry.
Lot	TNI- A definite amount of material produced during a single manufacturing cycle, and intended to have uniform character and quality.
Lowest Concentration Minimum Reporting Level (LCMRL)	The single-laboratory LCMRL is the lowest spiking concentration such that the probability of spike recovery in the 50% to 150% range is at least 99%.
Management	Those individuals directly responsible and accountable for planning, implementing, and assessing work.
Management System	System to establish policy and objectives and to achieve those objectives.
Manager (however named)	The individual designated as being responsible for the overall operation, all personnel, and the physical plant of the environmental laboratory. A supervisor may report to the manager. In some cases, the supervisor and the manager may be the same individual.
Matrix	TNI- The substrate of a test sample.
Matrix Duplicate	TNI- A replicate matrix prepared in the laboratory and analyzed to obtain a measure of precision.
Matrix Spike (MS) (spiked sample or fortified sample)	TNI- (also known as LFSM) A sample prepared, taken through all sample preparation and analytical steps of the procedure unless otherwise noted in a referenced method, by adding a known amount of target analyte to a specified amount of sample for which an independent test result of target analyte concentration is available. Matrix spikes are used, for example, to determine the effect of the matrix on a method's recovery efficiency.
Matrix Spike Duplicate (MSD) (spiked sample or fortified sample duplicate)	TNI- A replicate matrix spike prepared in the laboratory and analyzed to obtain a measure of the precision of the recovery for each analyte.
Measurement Performance Criteria (MPC)	DoD- Criteria that may be general (such as completion of all tests) or specific (such as QC method acceptance limits) that are used by a project to judge whether a laboratory can perform a specified activity to the defined criteria.

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 52 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Measurement Quality Objective (MQO)	<p>TNI- The analytical data requirements of the data quality objectives are project- or program-specific and can be quantitative or qualitative. MQOs are measurement performance criteria or objectives of the analytical process. Examples of quantitative MQOs include statements of required analyte detectability and the uncertainty of the analytical protocol at a specified radionuclide activity, such as the action level. Examples of qualitative MQOs include statements of the required specificity of the analytical protocol, e.g., the ability to analyze for the radionuclide of interest given the presence of interferences.</p>
Measurement System	<p>TNI- A method, as implemented at a particular laboratory, and which includes the equipment used to perform the test and the operator(s). DoD- A test method, as implemented at a particular laboratory, and which includes the equipment used to perform the sample preparation and test and the operator(s).</p>
Measurement Uncertainty	<p>DoD- An estimate of the error in a measurement often stated as a range of values that contain the true value within a certain confidence level. The uncertainty generally includes many components which may be evaluated from experimental standard deviations based on repeated observations or by standard deviations evaluated from assumed probability distributions based on experience or other information. For DoD/DOE, a laboratory's Analytical Uncertainty (such as use of LCS control limits) can be reported as the minimum uncertainty.</p>
Method	<p>TNI- A body of procedures and techniques for performing an activity (e.g., sampling, chemical analysis, quantification), systematically presented in the order in which they are to be executed.</p>
Method Blank	<p>TNI- A sample of a matrix similar to the batch of associated samples (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences are present at concentrations that impact the analytical results for sample analyses.</p>
Method Detection Limit (MDL)	<p>TNI- One way to establish a Detection Limit; defined as the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix containing the analyte.</p>
Method of Standard Additions	<p>A set of procedures adding one or more increments of a standard solution to sample aliquots of the same size in order to overcome inherent matrix effects. The procedures encompass the extrapolation back to obtain the sample concentration.</p>

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 53 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Minimum Detectable Activity (MDA)	TNI- Estimate of the smallest true activity that ensures a specified high confidence, $1 - \beta$, of detection above the Critical Value, and a low probability β of false negatives below the Critical Value. For radiometric methods, β is often set at 0.05. NOTE 1: The MDS is a measure of the detection capability of a measurement process and as such, it is an a priori concept. It may be used in the selection of methods to meet specified MQOs. Laboratories may also calculate a “sample specific” MDA, which indicates how well the measurement process is performing under varying real-world measurement conditions, when sample-specific characteristics (e.g., interferences) may affect the detection capability. However, the MDA must never be used instead of the Critical Value as a detection threshold. NOTE 2: For the purpose of this Standard, the terms MDA and minimum detectable concentration (MDC) are equivalent.
Minimum Reporting Level (MRL)	The minimum concentration that can be reported by a laboratory as a quantified value for a method analyte following analysis and must be greater than or equal to the concentration of the lowest calibration standard.
MintMiner	Program used by Pace to review large amounts of chromatographic data to monitor for errors or data integrity issues.
Mobile Laboratory	TNI- A portable enclosed structure with necessary and appropriate accommodation and environmental conditions for a laboratory, within which testing is performed by analysts. Examples include but are not limited to trailers, vans, and skid-mounted structures configured to house testing equipment and personnel.
National Environmental Laboratory Accreditation Conference (NELAC)	See definition of The NELAC Institute (TNI).
National Institute of Occupational Safety and Health (NIOSH)	National institute charged with the provision of training, consultation and information in the area of occupational safety and health.
National Institute of Standards and Technology (NIST)	TNI- A federal agency of the US Department of Commerce’s Technology Administration that is designed as the United States national metrology institute (or NMI).
National Pollutant Discharge Elimination System (NPDES)	A permit program that controls water pollution by regulating point sources that discharge pollutants into U.S. waters.
Negative Control	Measures taken to ensure that a test, its components, or the environment do not cause undesired effects, or produce incorrect test results.
Nitrogen Phosphorus Detector (NPD)	A detector used in GC analyses that utilizes thermal energy to ionize an analyte. With this detector, nitrogen and phosphorus can be selectively detected with a higher sensitivity than carbon.
Nonconformance	An indication or judgment that a product or service has not met the requirement of the relevant specifications, contract, or regulation; also the state of failing to meet the requirements.
Not Detected (ND)	The result reported for a compound when the detected amount of that compound is less than the method reporting limit.

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 54 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Operator Aid	DoD- A technical posting (such as poster, operating manual, or notepad) that assists workers in performing routine tasks. All operator aids must be controlled documents (i.e., a part of the laboratory management system).
Performance Based Measurement System (PBMS)	An analytical system wherein the data quality needs, mandates or limitations of a program or project are specified and serve as criteria for selecting appropriate test methods to meet those needs in a cost-effective manner.
Physical Parameter	TNI- A measurement of a physical characteristic or property of a sample as distinguished from the concentrations of chemical and biological components.
Photo-ionization Detector (PID)	An ion detector which uses high-energy photons, typically in the ultraviolet range, to break molecules into positively charged ions.
Polychlorinated Biphenyls (PCB)	A class of organic compounds that were used as coolants and insulating fluids for transformers and capacitors. The production of these compounds was banned in the 1970's due to their high toxicity.
Positive Control	Measures taken to ensure that a test and/or its components are working properly and producing correct or expected results from positive test subjects.
Post-Digestion Spike	A sample prepared for metals analyses that has analytes spike added to determine if matrix effects may be a factor in the results.
Power of Hydrogen (pH)	The measure of acidity or alkalinity of a solution.
Practical Quantitation Limit (PQL)	Another term for a method reporting limit. The lowest reportable concentration of a compound based on parameters set up in an analytical method and the laboratory's ability to reproduce those conditions.
Precision	TNI- The degree to which a set of observations or measurements of the same property, obtained under similar conditions, conform to themselves; a data quality indicator. Precision is usually expressed as standard deviation, variance or range, in either absolute or relative terms.
Preservation	TNI and DoD- Any conditions under which a sample must be kept in order to maintain chemical, physical, and/or biological integrity prior to analysis.
Primary Accreditation Body (Primary AB)	TNI- The accreditation body responsible for assessing a laboratory's total quality system, on-site assessment, and PT performance tracking for fields of accreditation.
Procedure	TNI- A specified way to carry out an activity or process. Procedures can be documented or not.
Proficiency Testing (PT)	TNI- A means to evaluate a laboratory's performance under controlled conditions relative to a given set of criteria, through analysis of unknown samples provided by an external source.
Proficiency Testing Program (PT Program)	TNI- The aggregate of providing rigorously controlled and standardized environmental samples to a laboratory for analysis, reporting of results, statistical evaluation of the results and the collective demographics and results summary of all participating laboratories.
Proficiency Testing Provider (PT Provider)	TNI- A person or organization accredited by a TNI-approved Proficiency Testing Provider Accreditor to operate a TNI-compliant PT Program.
Proficiency Testing Provider Accreditor (PTPA)	TNI- An organization that is approved by TNI to accredit and monitor the performance of proficiency testing providers.

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 55 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Proficiency Testing Reporting Limit (PTRL)	TNI- A statistically derived value that represents the lowest acceptable concentration for an analyte in a PT sample, if the analyte is spiked into the PT sample. The PTRLs are specified in the TNI FoPT tables.
Proficiency Testing Sample (PT)	TNI- A sample, the composition of which is unknown to the laboratory, and is provided to test whether the laboratory can produce analytical results within the specified acceptance criteria.
Proficiency Testing (PT) Study	TNI- a) Scheduled PT Study: A single complete sequence of circulation and scoring of PT samples to all participants in a PT program. The study must have the same pre-defined opening and closing dates for all participants; b) Supplemental PT Study: A PT sample that may be from a lot previously released by a PT Provider that meets the requirements for supplemental PT samples given in Volume 3 of this Standard [TNI] but that does not have a pre-determined opening date and closing date.
Proficiency Testing Study Closing Date	TNI- a) Scheduled PT Study: The calendar date by which all participating laboratories must submit analytical results for a PT sample to a PT Provider; b) Supplemental PT Study: The calendar date a laboratory submits the results for a PT sample to the PT Provider.
Proficiency Testing Study Opening Date	TNI- a) Scheduled PT Study: The calendar date that a PT sample is first made available to all participants of the study by a PT Provider; b) Supplemental PT Study: The calendar date the PT Provider ships the sample to a laboratory.
Protocol	TNI- A detailed written procedure for field and/or laboratory operation (e.g., sampling, analysis) that must be strictly followed.
Qualitative Analysis	DoD- Analysis designed to identify the components of a substance or mixture.
Quality Assurance (QA)	TNI- An integrated system of management activities involving planning, implementation, assessment, reporting and quality improvement to ensure that a process, item, or service is of the type and quality needed and expected by the client.
Quality Assurance Manual (QAM)	A document stating the management policies, objectives, principles, organizational structure and authority, responsibilities, accountability, and implementation of an agency, organization, or laboratory, to ensure the quality of its product and the utility of its product to its users.
Quality Assurance Project Plan (QAPP)	A formal document describing the detailed quality control procedures by which the quality requirements defined for the data and decisions pertaining to a specific project are to be achieved.
Quality Control (QC)	TNI- The overall system of technical activities that measures the attributes and performance of a process, item, or service against defined standards to verify that they meet the stated requirements established by the customer; operational techniques and activities that are used to fulfill requirements for quality; also the system of activities and checks used to ensure that measurement systems are maintained within prescribed limits, providing protection against “out of control” conditions and ensuring that the results are of acceptable quality.
Quality Control Sample (QCS)	TNI- A sample used to assess the performance of all or a portion of the measurement system. One of any number of samples, such as Certified Reference Materials, a quality system matrix fortified by spiking, or actual samples fortified by spiking, intended to demonstrate that a measurement system or activity is in control.

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 56 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Quality Manual	TNI- A document stating the management policies, objectives, principles, organizational structure and authority, responsibilities, accountability, and implementation of an agency, organization, or laboratory, to ensure the quality of its product and the utility of its product to its users.
Quality System	TNI and DoD- A structured and documented management system describing the policies, objectives, principles, organizational authority, responsibilities, accountability, and implementation plan of an organization for ensuring quality in its work processes, products (items), and services. The quality system provides the framework for planning, implementing, and assessing work performed by the organization and for carrying out required quality assurance and quality control activities.
Quality System Matrix	<p>TNI and DoD- These matrix definitions shall be used for purposes of batch and quality control requirements and may be different from a field of accreditation matrix:</p> <ul style="list-style-type: none"> • Air and Emissions: Whole gas or vapor samples including those contained in flexible or rigid wall containers and the extracted concentrated analytes of interest from a gas or vapor that are collected with a sorbent tube, impinger solution, filter, or other device • Aqueous: Any aqueous sample excluded from the definition of Drinking Water or Saline/Estuarine. Includes surface water, groundwater effluents, and TCLP or other extracts. • Biological Tissue: Any sample of a biological origin such as fish tissue, shellfish or plant material. Such samples shall be grouped according to origin. • Chemical Waste: A product or by-product of an industrial process that results in a matrix not previously defined. • Drinking Water: Any aqueous sample that has been designated a potable or potentially potable water source. • Non-aqueous liquid: Any organic liquid with <15% settleable solids • Saline/Estuarine: Any aqueous sample from an ocean or estuary, or other salt water source such as the Great Salt Lake. • Solids: Includes soils, sediments, sludges, and other matrices with >15% settleable solids.
Quantitation Range	DoD- The range of values (concentrations) in a calibration curve between the LOQ and the highest successively analyzed initial calibration standard used to relate instrument response to analyte concentration. The quantitation range (adjusted for initial sample volume/weight, concentration/dilution and final volume) lies within the calibration range.
Quantitative Analysis	DoD- Analysis designed to determine the amounts or proportions of the components of a substance.
Random Error	The EPA has established that there is a 5% probability that the results obtained for any one analyte will exceed the control limits established for the test due to random error. As the number of compounds measured increases in a given sample, the probability for statistical error also increases.

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 57 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Raw Data	TNI- The documentation generated during sampling and analysis. This documentation includes, but is not limited to, field notes, electronic data, magnetic tapes, untabulated sample results, QC sample results, print outs of chromatograms, instrument outputs, and handwritten records.
Reagent Blank (method reagent blank)	A sample consisting of reagent(s), without the target analyte or sample matrix, introduced into the analytical procedure at the appropriate point and carried through all subsequent steps to determine the contribution of the reagents and of the involved analytical steps.
Reagent Grade	Analytical reagent (AR) grade, ACS reagent grade, and reagent grade are synonymous terms for reagents that conform to the current specifications of the Committee on Analytical Reagents of the American Chemical Society.
Records	DoD- The output of implementing and following management system documents (e.g., test data in electronic or hand-written forms, files, and logbooks).
Reference Material	TNI- Material or substance one or more of whose property values are sufficiently homogenized and well established to be used for the calibration of an apparatus, the assessment of a measurement method, or for assigning values to materials.
Reference Method	TNI- A published method issued by an organization generally recognized as competent to do so. (When the ISO language refers to a “standard method”, that term is equivalent to “reference method”). When a laboratory is required to analyze by a specified method due to a regulatory requirement, the analyte/method combination is recognized as a reference method. If there is no regulatory requirement for the analyte/method combination, the analyte/method combination is recognized as a reference method if it can be analyzed by another reference method of the same matrix and technology.
Reference Standard	TNI- Standard used for the calibration of working measurement standards in a given organization or at a given location.
Relative Percent Difference (RPD)	A measure of precision defined as the difference between two measurements divided by the average concentration of the two measurements.
Reporting Limit (RL)	<p>The level at which method, permit, regulatory and customer-specific objectives are met. The reporting limit may never be lower than the Limit of Detection (i.e., statistically determined MDL). Reporting limits are corrected for sample amounts, including the dry weight of solids, unless otherwise specified. There must be a sufficient buffer between the Reporting Limit and the MDL.</p> <p>DoD- A customer-specified lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.</p>
Reporting Limit Verification Standard (RLVS)	A standard analyzed at the reporting limit for an analysis to verify the laboratory’s ability to report to that level.
Representativeness	A quality element related to the ability to collect a sample reflecting the characteristics of the part of the environment to be assessed. Sample representativeness is dependent on the sampling techniques specified in the project work plan.
Requirement	Denotes a mandatory specification; often designated by the term “shall”.

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 58 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Retention Time	The time between sample injection and the appearance of a solute peak at the detector.
Revocation	TNI- The total or partial withdrawal of a laboratory's accreditation by an accreditation body.
Sample	Portion of material collected for analysis, identified by a single, unique alphanumeric code. A sample may consist of portions in multiple containers, if a single sample is submitted for multiple or repetitive analysis.
Sample Condition Upon Receipt Form (SCURF)	Form used by sample receiving personnel to document the condition of sample containers upon receipt to the laboratory (used in conjunction with a COC).
Sample Delivery Group (SDG)	A unit within a single project that is used to identify a group of samples for delivery. An SDG is a group of 20 or fewer field samples within a project, received over a period of up to 14 calendar days. Data from all samples in an SDG are reported concurrently.
Sample Receipt Form (SRF)	Letter sent to the client upon login to show the tests requested and pricing.
Sample Tracking	Procedures employed to record the possession of the samples from the time of sampling until analysis, reporting and archiving. These procedures include the use of a chain-of-custody form that documents the collection, transport, and receipt of compliance samples to the laboratory. In addition, access to the laboratory is limited and controlled to protect the integrity of the samples.
Sampling	TNI- Activity related to obtaining a representative sample of the object of conformity assessment, according to a procedure.
Selected Ion Monitoring (SIM)	A mode of analysis in mass spectrometry where the detector is set to scan over a very small mass range, typically one mass unit. The narrower the range, the more sensitive the detector. DoD- Using GC/MS, characteristic ions specific to target compounds are detected and used to quantify in applications where the normal full scan mass spectrometry results in excessive noise.
Selectivity	TNI- The ability to analyze, distinguish, and determine a specific analyte or parameter from another component that may be a potential interferent or that may behave similarly to the target analyte or parameter within the measurement system.
Sensitivity	TNI- The capability of a method or instrument to discriminate between measurement responses representing different levels (e.g., concentrations) of a variable of interest.
Serial Dilution	The stepwise dilution of a substance in a solution.
Shall	Denotes a requirement that is mandatory whenever the criterion for conformance with the specification requires that there be no deviation. This does not prohibit the use of alternative approaches or methods for implementing the specification as long as the requirement is fulfilled.
Should	Denotes a guideline or recommendation whenever noncompliance with the specification is permissible.
Signal-to-Noise Ratio (S/N)	DoD- A measure of signal strength relative to background noise. The average strength of the noise of most measurements is constant and independent of the magnitude of the signal. Thus, as the quantity being measured (producing the signal) decreases in magnitude, S/N decreases and the effect of the noise on the relative error of a measurement increases.

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 59 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Source Water	TNI- When sampled for drinking water compliance, untreated water from streams, rivers, lakes, or underground aquifers, which is used to supply private and public drinking water supplies.
Spike	A known mass of target analyte added to a blank sample or sub-sample; used to determine recovery efficiency or for other quality control purposes.
Standard (Document)	TNI- The document describing the elements of a laboratory accreditation that has been developed and established within the consensus principles of standard setting and meets the approval requirements of standard adoption organizations procedures and policies.
Standard (Chemical)	Standard samples are comprised of a known amount of standard reference material in the matrix undergoing analysis. A standard reference material is a certified reference material produced by US NIST and characterized for absolute content, independent of analytical test method.
Standard Blank (or Reagent Blank)	A calibration standard consisting of the same solvent/reagent matrix used to prepare the calibration standards without the analytes. It is used to construct the calibration curve by establishing instrument background.
Standard Method	A test method issued by an organization generally recognized as competent to do so.
Standard Operating Procedure (SOP)	TNI- A written document that details the method for an operation, analysis, or action with thoroughly prescribed techniques and steps. SOPs are officially approved as the methods for performing certain routine or repetitive tasks.
Standard Reference Material (SRM)	A certified reference material produced by the US NIST or other equivalent organization and characterized for absolute content, independent of analytical method.
Statement of Qualifications (SOQ)	A document that lists information about a company, typically the qualifications of that company to compete on a bid for services.
Stock Standard	A concentrated reference solution containing one or more analytes prepared in the laboratory using an assayed reference compound or purchased from a reputable commercial source.
Storage Blank	DoD- A sample of analyte-free media prepared by the laboratory and retained in the sample storage area of the laboratory. A storage blank is used to record contamination attributable to sample storage at the laboratory.
Supervisor	The individual(s) designated as being responsible for a particular area or category of scientific analysis. This responsibility includes direct day-to-day supervision of technical employees, supply and instrument adequacy and upkeep, quality assurance/quality control duties and ascertaining that technical employees have the required balance of education, training and experience to perform the required analyses.
Surrogate	DoD- A substance with properties that mimic the analyte of interest. It is unlikely to be found in environmental samples and is added to them for quality control purposes.
Suspension	TNI- The temporary removal of a laboratory's accreditation for a defined period of time, which shall not exceed 6 months or the period of accreditation, whichever is longer, in order to allow the laboratory time to correct deficiencies or area of non-conformance with the Standard.
Systems Audit	An on-site inspection or assessment of a laboratory's quality system.

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 60 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office

Target Analytes	DoD- Analytes or chemicals of primary concern identified by the customer on a project-specific basis.
Technical Director	Individual(s) who has overall responsibility for the technical operation of the environmental testing laboratory.
Technology	TNI- A specific arrangement of analytical instruments, detection systems, and/or preparation techniques.
Test	A technical operation that consists of the determination of one or more characteristics or performance of a given product, material, equipment, organism, physical phenomenon, process or service according to a specified procedure. The result of a test is normally recorded in a document sometimes called a test report or a test certificate.
Test Method	DoD- A definitive procedure that determines one or more characteristics of a given substance or product.
Test Methods for Evaluating Solid Waste, Physical/ Chemical (SW-846)	EPA Waste's official compendium of analytical and sampling methods that have been evaluated and approved for use in complying with RCRA regulations.
Test Source	TNI- A radioactive source that is tested, such as a sample, calibration standard, or performance check source. A Test Source may also be free of radioactivity, such as a Test Source counted to determine the subtraction background, or a short-term background check.
The NELAC Institute (TNI)	A non-profit organization whose mission is to foster the generation of environmental data of known and documented quality through an open, inclusive, and transparent process that is responsive to the needs of the community. Previously known as NELAC (National Environmental Laboratory Accreditation Conference).
Total Petroleum Hydrocarbons (TPH)	A term used to denote a large family of several hundred chemical compounds that originate from crude oil. Compounds may include gasoline components, jet fuel, volatile organics, etc.
Toxicity Characteristic Leaching Procedure (TCLP)	A solid sample extraction method for chemical analysis employed as an analytical method to simulate leaching of compounds through a landfill.
Traceability	TNI- The ability to trace the history, application, or location of an entity by means of recorded identifications. In a calibration sense, traceability relates measuring equipment to national or international standards, primary standards, basic physical conditions or properties, or reference materials. In a data collection sense, it relates calculations and data generated throughout the project back to the requirements for the quality of the project.
Training Document	A training resource that provides detailed instructions to execute a specific method or job function.
Trip Blank	This blank sample is used to detect sample contamination from the container and preservative during transport and storage of the sample. A cleaned sample container is filled with laboratory reagent water and the blank is stored, shipped, and analyzed with its associated samples.
Tuning	A check and/or adjustment of instrument performance for mass spectrometry as required by the method.


	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 61 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office

Ultraviolet Spectrophotometer (UV)	Instrument routinely used in quantitative determination of solutions of transition metal ions and highly conjugated organic compounds.
Uncertainty, Counting	TNI- The component of Measurement Uncertainty attributable to the random nature of radioactive decay and radiation counting (often estimated as the square root of observed counts (MARLAP). Older references sometimes refer to this parameter as Error, Counting Error or Count Error (c.f., Total Uncertainty).
Uncertainty, Expanded	TNI- The product of the Standard Uncertainty and a coverage factor, k, which is chosen to produce an interval about the result that has a high probability of containing the value of the measurand (c.f., Standard Uncertainty). NOTE: Radiochemical results are generally reported in association with the Total Uncertainty. Either if these estimates of uncertainty can be reported as the Standard Uncertainty (one-sigma) or as an Expanded Uncertainty (k-sigma, where $k > 1$).
Uncertainty, Measurement	TNI- Parameter associated with the result of a measurement that characterizes the dispersion of the values that could reasonably be attributed to the measurand.
Uncertainty, Standard	TNI- An estimate of the Measurement Uncertainty expressed as a standard deviation (c.f., Expanded Uncertainty).
Uncertainty, Total	TNI- An estimate of the Measurement Uncertainty that accounts for contributions from all significant sources of uncertainty associated with the analytical preparation and measurement of a sample. Such estimates are also commonly referred to as Combined Standard Uncertainty or Total Propagated Uncertainty, and in some older references as the Total Propagated Error, among other similar items (c.f., Counting Uncertainty).
Unethical actions	DoD- Deliberate falsification of analytical or quality control results where failed method or contractual requirements are made to appear acceptable.
United States Department of Agriculture (USDA)	A department of the federal government that provides leadership on food, agriculture, natural resources, rural development, nutrition and related issues based on public policy, the best available science, and effective management.
United States Geological Survey (USGS)	Program of the federal government that develops new methods and tools to supply timely, relevant, and useful information about the Earth and its processes.
Unregulated Contaminant Monitoring Rule (UCMR)	EPA program to monitor unregulated contaminants in drinking water.
Validation	DoD- The confirmation by examination and provision of objective evidence that the particular requirements for a specific intended use are fulfilled.
Verification	TNI- Confirmation by examination and objective evidence that specified requirements have been met. In connection with the management of measuring equipment, verification provides a means for checking that the deviations between values indicated by a measuring instrument and corresponding known values of a measured quantity are consistently smaller than the maximum allowable error defined in a standard, regulation or specification peculiar to the management of the measuring equipment.

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 62 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Voluntary Action Program (VAP)	A program of the Ohio EPA that gives individuals a way to investigate possible environmental contamination, clean it up if necessary and receive a promise from the State of Ohio that no more cleanup is needed.
Whole Effluent Toxicity (WET)	The aggregate toxic effect to aquatic organisms from all pollutants contained in a facility's wastewater (effluent).

Uncontrolled Document

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 63 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office

10.0. REFERENCES


- 10.1. "Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act." Federal Register, 40 CFR Part 136, most current version.
- 10.2. "Test Methods for Evaluating Solid Wastes: Physical/Chemical Methods." SW-846.
- 10.3. "Methods for Chemical Analysis of Water and Wastes", EPA 600-4-79-020, 1979 Revised 1983, U.S. EPA.
- 10.4. U.S. EPA Contract Laboratory Program Statement of Work for Organic Analysis.
- 10.5. U.S. EPA Contract Laboratory Program Statement of Work for Inorganic Analysis.
- 10.6. "Standard Methods for the Examination of Water and Wastewater." Current Edition APHA-AWWA-WPCF.
- 10.7. "Annual Book of ASTM Standards", Section 4: Construction, Volume 04.04: Soil and Rock; Building Stones, American Society of Testing and Materials.
- 10.8. "Annual Book of ASTM Standards", Section 11: Water and Environmental Technology, American Society of Testing and Materials.
- 10.9. "NIOSH Manual of Analytical Methods", U.S. Department of Health and Human Services, National Institute for Occupational Safety and Health, most current version.
- 10.10. "Methods for the Determination of Organic Compounds in Finished Drinking Water and Raw Source Water", U.S. EPA, Environmental Monitoring and Support Laboratory – Cincinnati (Sep 1986).
- 10.11. Quality Assurance of Chemical Measurements, Taylor, John K.; Lewis Publishers, Inc. 1987.
- 10.12. Methods for Non-conventional Pesticides Chemicals Analysis of Industrial and Municipal Wastewater, Test Methods, EPA-440/1-83/079C.
- 10.13. Environmental Measurements Laboratory (EML) Procedures Manual, HASL-300, US DOE, February, 1992.
- 10.14. Requirements for Quality Control of Analytical Data, HAZWRAP, DOE/HWP-65/R1, July, 1990.
- 10.15. Requirements for Quality Control of Analytical Data for the Environmental Restoration Program, Martin Marietta, ES/ER/TM-16, December, 1992.
- 10.16. Quality Assurance Manual for Industrial Hygiene Chemistry, AIHA, most current version.
- 10.17. National Environmental Laboratory Accreditation Conference (NELAC) Standard- most current version.
- 10.18. ISO/IEC 17025, General requirements for the competence of testing and calibration laboratories- most current version.
- 10.19. Department of Defense Quality Systems Manual (QSM), most current version.
- 10.20. TNI (The NELAC Institute) Standard- most current version applicable to each lab.
- 10.21. UCMR Laboratory Approval Requirements and Information Document, most current version.
- 10.22. US EPA Drinking Water Manual, most current version.

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 64 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office

11.0. REVISIONS

The Pace Corporate Environmental Quality Office files an electronic version of a Microsoft Word document with tracked changes detailing all revisions made to previous versions of the Quality Assurance Manual. This document is available upon request. All current revisions are summarized in the table below.

Document Number	Reason for Change	Date
Quality Assurance Manual 19.0	<p>General: made administrative edits that do not affect the policies or procedures within the document (including revising company name to Pace Analytical Services, LLC).</p> <p>Cover page: removed corporate approval signature lines.</p> <p>Old Section 3: moved to other sections of the QAM as applicable and deleted entire section (All section references below reflect the new section numbers).</p> <p>Section 1.1.2: replaced with section 3.1.1.</p> <p>Sections 1.3, 1.4, 1.11: removed extraneous language.</p> <p>Sections 1.5: added language from old section 1.6.</p> <p>Section 1.6: revised anonymous reporting information.</p> <p>Section 1.7.6: added deputies per position and deleted DoD language from old section 1.7.7.</p> <p>Section 1.8: removed non-key personnel job descriptions.</p> <p>Section 2: rearranged existing sections.</p> <p>Section 2.4: reworded to match existing Sample Acceptance policy document.</p> <p>Section 4: in general, for each QC type, removed language regarding frequency and corrective actions and referenced lab-specific SOPs.</p> <p>Section 5: in general, removed extraneous language and Management of Change section.</p> <p>Section 5.1, 5.2: reorganized into Primary and Secondary Review sections and removed extraneous language.</p> <p>Section 6: removed extraneous language including Quarterly Report section.</p> <p>Section 9 (glossary): revised and added definitions based on 2016 TNI Standard.</p> <p>Section 10: Added EPA DW Manual and revised references as applicable.</p> <p>Attachment III: updated corporate organizational chart.</p> <p>Old Attachment IV: removed floor plan attachment.</p> <p>Old Attachment VII: removed COC (available in SOPs).</p>	06Mar2017

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 65 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office

ATTACHMENT I- QUALITY CONTROL CALCULATIONS

PERCENT RECOVERY (%REC)

$$\%REC = \frac{(MSConc - SampleConc)}{TrueValue} * 100$$

NOTE: The SampleConc is zero (0) for the LCS and Surrogate Calculations

PERCENT DIFFERENCE (%D)

$$\%D = \frac{MeasuredValue - TrueValue}{TrueValue} * 100$$

where:

TrueValue = Amount spiked (can also be the \overline{CF} or \overline{RF} of the ICAL Standards)

Measured Value = Amount measured (can also be the CF or RF of the CCV)

PERCENT DRIFT

$$\%Drift = \frac{CalculatedConcentration - TheoreticalConcentration}{TheoreticalConcentration} * 100$$

RELATIVE PERCENT DIFFERENCE (RPD)

$$RPD = \frac{|(R1 - R2)|}{(R1 + R2)/2} * 100$$

where:


R1 = Result Sample 1

R2 = Result Sample 2

CORRELATION COEFFICIENT (R)

$$CorrCoeff = \frac{\sum_{i=1}^N W_i * (X_i - \bar{X}) * (Y_i - \bar{Y})}{\sqrt{\left(\sum_{i=1}^N W_i * (X_i - \bar{X})^2 \right) * \left(\sum_{i=1}^N W_i * (Y_i - \bar{Y})^2 \right)}}$$

With: N Number of standard samples involved in the calibration
i Index for standard samples
Wi Weight factor of the standard sample no. i
Xi X-value of the standard sample no. i
X(bar) Average value of all x-values
Yi Y-value of the standard sample no. i
Y(bar) Average value of all y-values

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 66 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office

ATTACHMENT I- QUALITY CONTROL CALCULATIONS (CONTINUED)

STANDARD DEVIATION (S)

$$S = \sqrt{\frac{\sum_{i=1}^n (X_i - \bar{X})^2}{(n-1)}}$$

where:

n = number of data points
 X_i = individual data point
 \bar{X} = average of all data points

AVERAGE (\bar{X})

$$\bar{X} = \frac{\sum_{i=1}^n X_i}{n}$$

where:


n = number of data points
 X_i = individual data point

RELATIVE STANDARD DEVIATION (RSD)

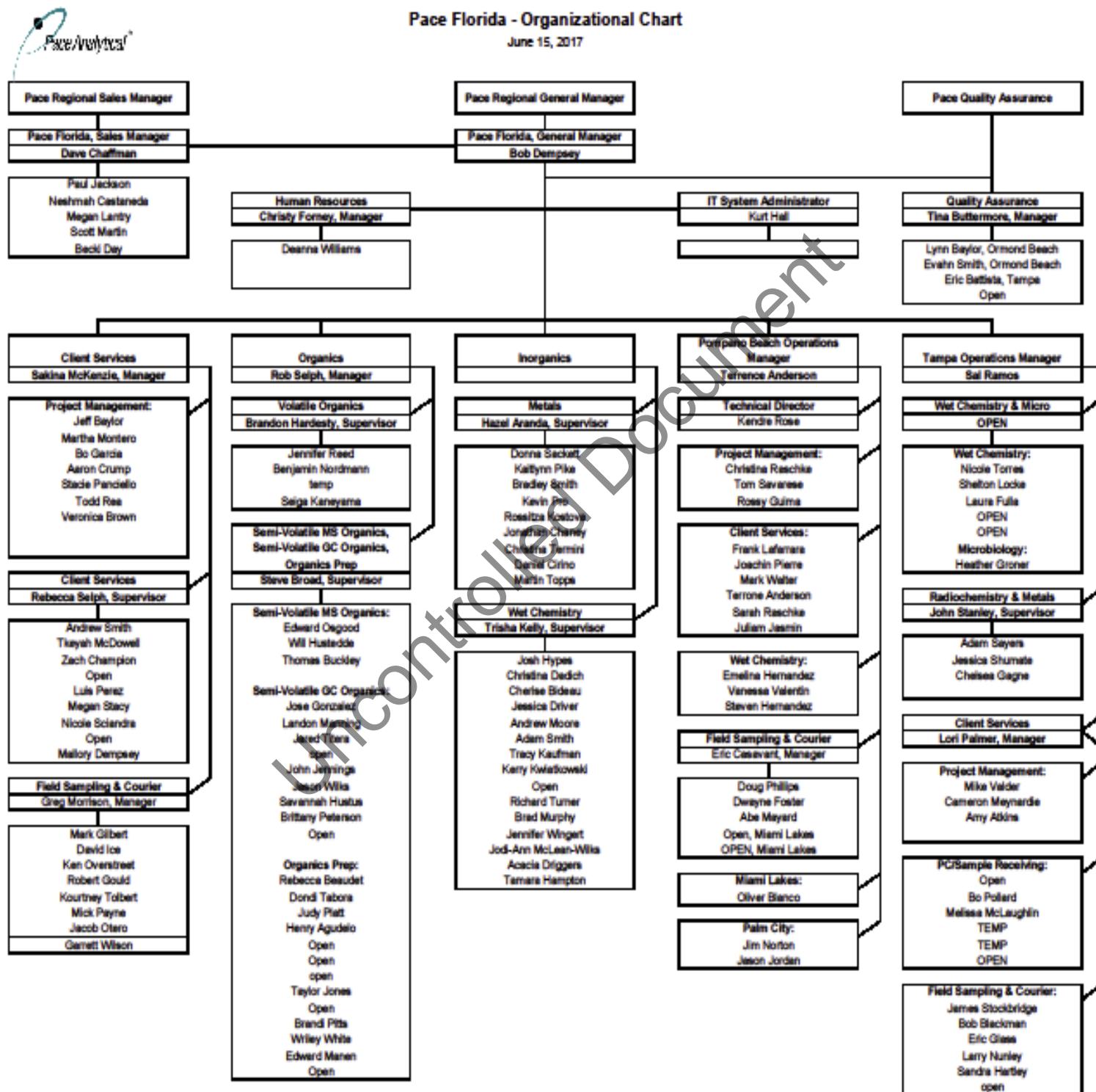
$$RSD = \frac{S}{\bar{X}} * 100$$


where:

S = Standard Deviation of the data points
 \bar{X} = average of all data points

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 67 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office

ATTACHMENT II- LABORATORY ORGANIZATIONAL CHART (CURRENT AS OF ISSUE DATE)

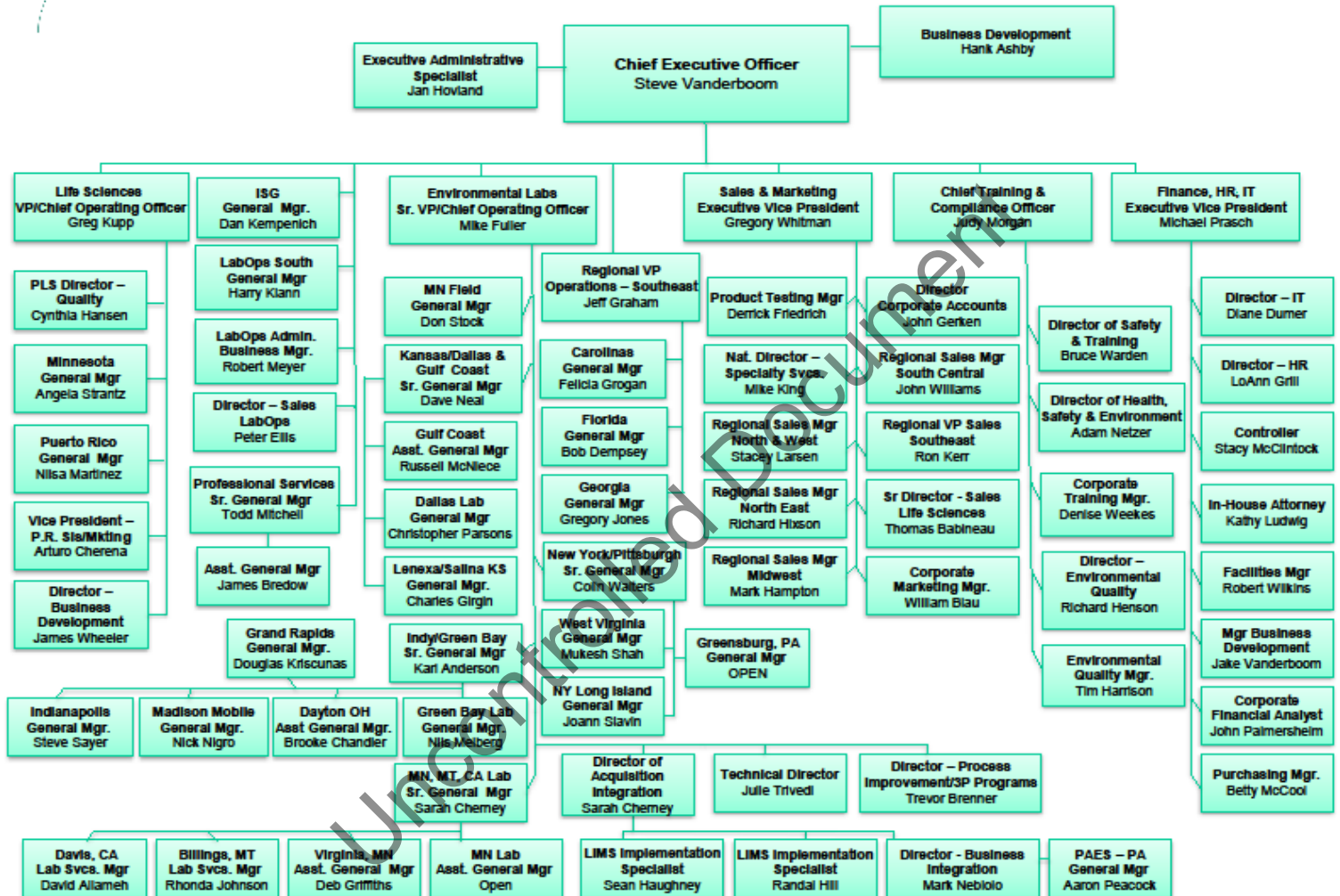



	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 68 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office

ATTACHMENT III- CORPORATE ORGANIZATIONAL CHART (CURRENT AS OF ISSUE DATE)

CORPORATE MANAGEMENT STAFF


March 2017




	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 69 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office

ATTACHMENT IV- EQUIPMENT LIST (CURRENT AS OF ISSUE DATE)


Description	Equipment ID	Department	Model	Manufacturer	Serial #
104 Drying Oven	WC-57	Wet Chemistry	1390FM	VWR	11001510
12-Place Scaler	TPA-145	Tampa	4612/182	Ludlum Inst. Co.	240722
180 Drying Oven	WC-58	Wet Chemistry	1390FM	VWR	7059310
2020 Turbidimeter	MET-15	Metals	2020we	La Motte	5063
35ICM3	35ICM3	Metals	X2	Thermo Fisher	01840C
4510 Conductivity Meter, 35WTAN	WC-122	Wet Chemistry	PC-2000-001	Man-Tech Scientific	59872
6890N GC System	35GCST	Semi-Volatile	6890N	Agilent	CN10427040
6890N GC System (runs 552.2)	35GCSU	Semi-Volatile	6890N	Agilent	CN10517105
7683 Series Autosampler	TRA 64	Semi-Volatile	7683	Agilent	US13112335
7683 Series Injector	TOW 73	Semi-Volatile	7683	Agilent	CN14222664
Analytical Balance	35BAL3	Extractions	AZ002	Sartorius	40030309
Analytical Balance	35BALD	Metals	Entris 124I-1S	Sartorius	34105158
Analytical Balance	35BAL7	Metals	B-120-5	Sartorius	58040010
Analytical Balance	36BAL1	SFL	AB265-S/FACT	Mettler	1126452759
Analytical Balance	36BAL4	SFL	ME4002E	Mettler Toledo	B626691931
Analytical Balance	36BAL5	SFL	1872	Sartorius	3503090
Analytical Balance	38BAL9	Tampa	AE-163	Mettler	D64339
Analytical Balance	38BAL8	Tampa	AB204-S	Toledo	1122242646
Analytical Balance	35BAL1	Wet Chemistry	CP224S	Sartorius	18750194
Analytical Balance	35BAL5	Wet Chemistry	AC2115	Sartorius	41206766
AS-AP Autosampler	WC-138	Wet Chemistry	ICS-5000+	Dionex	14028312
ASXpress Module	35ICM3-2	Metals	ASXpress Plus	CETAC	051203XPST
Autoclave	FU-016	SFL	STMEL	Market Forge	185784
Autoclave	TPA-74	Tampa	Unknown	Market Forge	N/A
Autoclave	TPA-129	Tampa	STM-E	Market Forge	169834
Autoclave	WC-65	Wet Chemistry	STM-E	Market Forge	7156
Autoclave	WC-100	Wet Chemistry	STM-E	Market Forge	95-3441
Autosample	35HG4-1	Metals	ASX-560	Teledyne Leeman Labs	51705560
Autosampler	35ICM2-1	Metals	SC4DX	ESI	X4DX-HS-TSP-16-100705
Autosampler	35ICM3-1	Metals	ASX-520	CETAC	101513A520
Autosampler	TPA-92	Tampa	AS90	Perkin Elmer	80153010702
Autosampler	TPA-93	Tampa	AS90/91-50909	Perkin Elmer	3325

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 70 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Description	Equipment ID	Department	Model	Manufacturer	Serial #
104 Drying Oven	WC-57	Wet Chemistry	1390FM	VWR	11001510
12-Place Scaler	TPA-145	Tampa	4612/182	Ludlum Inst. Co.	240722
Autosampler	TPA-89	Tampa	PS61	Seal	1317037
Autosampler	TPA-88	Tampa	XYZ Sampler	Seal	S323A32501
Autosampler	TPA-95	Tampa	ICS5000	Dionex	12120615
Autosampler	VO-21	Volatiles	CentWS	Centurion	CENTS224031111
Autosampler	VO-30	Volatiles	Unknown	Centurion	CENTW433110912
Autosampler	VO-36	Volatiles	Centurion	EST	CENTS404022015
Autosampler	VO-40	Volatiles	Centurion	EST	CENTW553052616
Autosampler	VO-41	Volatiles	Encon	EST	EV50052616
Autosampler	WC-129	Wet Chemistry	ASX-520	Cetac	091494A520
Autosampler	WC-142	Wet Chemistry	ASX-560	Lachat	031759A560
Autosampler valve	35ICM2-2	Metals	PC3-R-F	ESI	PC3RF-030105
Autosampler XYZ (2)	35WTA3	Wet Chemistry	ASX 520	Lachat	AB1010-1562
Autosampler XYZ (3)	35WTA4	Wet Chemistry	ASX 500	Lachat	A81010-380
Autosampler, 35WTA5	WC-36	Wet Chemistry	ASI-V	Shimadzu	H521045024345A
Autosampler, 35WTAB	WC-76	Wet Chemistry	AS-DV	Dionex	11071135
Autosampler, 35WTAC	WC-77	Wet Chemistry	ASI-V	Shimadzu	H52104703405A
Autosampler, 35WTAD	35WTAD	Wet Chemistry	ASX 260	Lachat	1000100001918
Autosampler, 35WTAE	35WTAE	Wet Chemistry	AS40	Dionex	00020114
Autosampler, 35WTAG	WC-97	Wet Chemistry	A540	Dionex	6120438
Autosampler, 35WTAH	WC-100	Wet Chemistry	881 IC	Metrohm	1858002004567
Autosampler, 35WTAI	WC-101	Wet Chemistry	858	Metrohm	1858002004587
Autosampler, 35WTAJ	WC-102	Wet Chemistry	ASX-520	Teledyne Cetac	0314153A520
Autosampler, 35WTAM	WC-111	Wet Chemistry	AS-DV	Dionex	151110255
Autosampler, 35WTAN	WC-118	Wet Chemistry	N/A	N/A	190A3034
Bact-Cinertor III	TPA-190	Tampa	8889-001007	Oxford Labware	052-0992
Balance	38BAL3	Tampa	PM460	Mettler	N/A
Balance	38BAL4	Tampa	A200S	Sartorius	46030173
Balance	38BAL5	Tampa	XS204	Mettler	1126082560
Balance	38BAL6	Tampa	PM3000	Mettler	N/A
Balance	38BAL7	Tampa	ML1501E	Mettler	N/A

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 71 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Description	Equipment ID	Department	Model	Manufacturer	Serial #
104 Drying Oven	WC-57	Wet Chemistry	1390FM	VWR	11001510
12-Place Scaler	TPA-145	Tampa	4612/182	Ludlum Inst. Co.	240722
Block Digestion System	WC-116	Wet Chemistry	BD-50	Seal Analytical	5146U00672
Block Digestion System	WC-134	Wet Chemistry	BD-50	Seal Analytical	5146400687
BOD Autoanalyzer	38WTAA	Tampa	BOD Magic 2.1	Labtronics	9885
BOD Incubator	MI-006	SFL	397C	Cole Parm	1883070340256
BOD Incubator	MI-017	SFL	815	Precision	9411-203
BOD Incubator	MI-018	SFL	815	Precision	9504-014
BOD Incubator	MI-019	SFL	815	Precision	9310-032
BOD Incubator	MI-029	SFL	Low Temp	Thermo	9408-0-12
BOD Incubator #1	TPA-114	Tampa	307	Thermo Fisher	301-3458
BOD Incubator #2	TPA-115	Tampa	3720	Thermo Fisher	3720
BOD Meter	DOM-3	SFL	HQ440D	HACH	121000079510
BOD Meter	DOM-4	SFL	5000-115	YSI	17B101477
BOD Meter	WC-99	Wet Chemistry	5000 115V	YSI	11B 100677
BOD Probe	DOP-6	SFL	LBOD10101	HACH	161793039019
BOD Probe	DOP-7	SFL	5905/YSI0655815	YSI	17B100325
BOD Probe	DOP-8	SFL	YSI 5010-J	YSI	17B100683
BOD Probe	WC-117	Wet Chemistry	5905	YSI	15k100216
BOD Probe	WC-132	Wet Chemistry	5905	YSI	655815
BOD Probe (YSI 5010)	WC-85	Wet Chemistry	5010	YSI	12A100632
BOD Probe (YSI 5010)	WC-104	Wet Chemistry	5010	YSI	LN96J0179
BOD Probe (YSI 5905)	WC-39	Wet Chemistry	59858	YSI	N/A
BOD Probe (YSI 5905)	WC-42	Wet Chemistry	59858	YSI	N/A
BOD Probe (YSI 5905)	WC-84	Wet Chemistry	5905	YSI	655815
BOD/CBOD Probe	DOP-5	SFL	LBOD10101	Hach	160413039001
BT sure Incubator	MB-3	Microbiology	DB104115	Barnstead/Thermolyne	1041010542644
Buret, 35WTAN	WC-121	Wet Chemistry	PC-1000-1040	Man-Tech Scientific	MT-1D6-135
CAAS - Automated ELISA	35CAS1	Semi-Volatile	CAAS	Abraxis	2925-1030
Chiller	35ICM2-4	Metals	Thermoflex 2500	Thermo Fisher	0110042801120430
Chiller	35ICM3-4	Metals	Thermoflex 2500	Thermo Fisher	011A99301131028
Chiller	TPA-200	Tampa	N0772036	PolyScience	2G1060165

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 72 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Description	Equipment ID	Department	Model	Manufacturer	Serial #
104 Drying Oven	WC-57	Wet Chemistry	1390FM	VWR	11001510
12-Place Scaler	TPA-145	Tampa	4612/182	Ludlum Inst. Co.	240722
Chiller	WC-93	Wet Chemistry	NESLAB/MERLIN M75	Thermo	108263003
Chiller	WC-130	Wet Chemistry	2050-1	Caron	2050-1-573
Chlorophyll Freezer	MI-001	SFL	RTRP19KGAL00	Kitchenaid	EH3528148
Clinical Centrifuge	TPA-172	Tampa	CL Centrifuge	International Equipment Company	N/A
Clinical Centrifuge	TPA-173	Tampa	CL Centrifuge	International Equipment Company	N/A
Clinical Centrifuge	TPA-174	Tampa	CL Centrifuge	International Equipment Company	428-14966
Clinical Centrifuge	TPA-175	Tampa	CL Centrifuge	International Equipment Company	N/A
CIO2 Pocket Colorimeter	WC-32	Wet Chemistry	N/A	Hach	N/A
CIO2 Pocket Colorimeter	WC-87	Wet Chemistry	N/A	HACH	N/A
CN BLOCK	WC-41	Wet Chemistry	N/A	Custom Built	N/A
COD Block (Loaner)	WC-113	Wet Chemistry	45600-00	Hach	941200011843
COD Block (Loaner)	WC-114	Wet Chemistry	45600-00	Hach	920900013148
COD Block (Loaner)	WC-127	Wet Chemistry	16500-10	Hach	871209890
COD Reactor	WC-22	Wet Chemistry	N/A	HACH	020800023496
COD Reactor	WC-71	Wet Chemistry	DRB 200	HACH	1216093
COD Reactor	WC-128	Wet Chemistry	EC025	Velp Schientifica	309720
COD Reactor	WC-139	Wet Chemistry	CR 3200	Intertele	16471101
Colony Counter	TPA-87	Tampa	3352	LEICA	12972-4
Colony Counter	WC-96	Wet Chemistry	3352	LEICA	12972-4
Concentrator	VO-29	Volatiles	Unknown	Evo	EV447112912
Concentrator	VO-32	Volatiles	Evolution	EST	EV470040913
Concentrator	VO-33	Volatiles	Unknown	Evo	EV469040913
Concentrator	VO-35	Volatiles	ECON	EST	EV665042315
Concentrator	VO-37	Volatiles	Encon	EST	EV751052616
Concentrator	VO-38	Volatiles	Encon	EST	EV566040414
Concentrator	VO-39	Volatiles	Encon	EST	EV567040414
Conduction Meter	WC-5	Wet Chemistry	3200-115V	YSI	03F0673
Conductivity Detector	TPA-97	Tampa	ICS5000	Dionex	12129014
Conductivity meter	TPA-51	Tampa	GP387	EDT	N/A

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 73 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Description	Equipment ID	Department	Model	Manufacturer	Serial #
104 Drying Oven	WC-57	Wet Chemistry	1390FM	VWR	11001510
12-Place Scaler	TPA-145	Tampa	4612/182	Ludlum Inst. Co.	240722
Conductivity Meter	TPA-154	Tampa	35662-30	Oakton	2582260
Conductivity Meter	WC-53	Wet Chemistry	ECT5STRI	Oakton	1577205
Conductivity Meter	WC-124	Wet Chemistry	ECTestr11	Oakton	2520830
Conductivity Meter	WC-125	Wet Chemistry	ECTestr11	Oakton	2520831
Conductivity Probe	MI-027	SFL	CDC40101	Hach	150402587002
Cooling Unit	VO-31	Volatiles	RA12	Lauda	LCK4908-12-0004
Cyanide Block (Midi)	WC-72	Wet Chemistry	N/A	Custom Built	N/A
Damon Centrifuge	WC-49	Wet Chemistry	SHNSII	Damon/IBC	23559593
Detector	35MSS3	Semi-Volatile	5973	Agilent	US91911823
Detector	35MSS4	Semi-Volatile	5973N	Agilent	US10441652
Detector	35MSS6	Semi-Volatile	5975	Agilent	US52030181
Detector	35MSS7	Semi-Volatile	5975C	Agilent	US80838701
Detector	35MSS8	Semi-Volatile	5973N	Agilent	US21853643
Detector	35MSS9	Semi-Volatile	5975B	Agilent	US62734702
Detector	35MSSC	Semi-Volatile	5973	Agilent	US35146368
Digestion Block	TPA-157	Tampa	BD50	Seal Analytical	5146U00687
Digestion System 40	WC-91	Wet Chemistry	1016	Tecator	549
Digestion System 40	WC-92	Wet Chemistry	1016	Tecator	772
Digestion System 40	WC-108	Wet Chemistry	1016	Tecator	753
Dionex	35WTAO	Wet Chemistry	ICS-2000	Dionex	6010780
Dionex	35WTAQ/R	Wet Chemistry	ICS-5000+	Dionex	12111505
Dissolved Oxygen Meter	TPA-171	Tampa	5100	YSI	99L0421
Distillation Block	TPA-151	Tampa	EMIDI920-108	Glasstron	2081
Distillation Module	WC-131	Wet Chemistry	A515000	OI Analytical	635815608
DO meter	TPA-52	Tampa	N/A	EDT	N/A
Dry Vacuum Pump	TPA-162	Tampa	2015B-01	Welch	EE111414
Drying Oven	OP-23	Extractions	Unknown	QL	9704266
Dual FID (Back Channel only)	35GCSA	Semi-Volatile	6890	Hewlett Packard	US00030887
Dual GC/ECD (runs 504_8011)	35GCS7	Semi-Volatile	5890E Plus	Agilent	3336A61191

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 74 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Description	Equipment ID	Department	Model	Manufacturer	Serial #
104 Drying Oven	WC-57	Wet Chemistry	1390FM	VWR	11001510
12-Place Scaler	TPA-145	Tampa	4612/182	Ludlum Inst. Co.	240722
Dual GC/ECD (runs 508.1)	35GCSR	Semi-Volatile	6890	Agilent	CN10443027
Dual GCTSD (runs 8141)	35GCS8	Semi-Volatile	CP3800	Varian	11874
Dual Pump	WC-136	Wet Chemistry	ICS-5000+	Dionex	12129025
Enterolert Incubator	MI-025	SFL	Heratherm IGS60	ThermoFisher	41741240
Fecal Waterbath	WaterBath-2	SFL	1130	Lindberg Blue	9305-01
Fecal Waterbath	TPA-119	Tampa	2862	Thermo Scientific	208618-516
Fecal Waterbath	TPA-120	Tampa	51221033	Precision	602051144
Fisher Centrifuge	WC-75	Wet Chemistry	Table Top	Fisher Scientific	N/A
Flashpoint Tester	WC-29	Wet Chemistry	152800	Boekel	N/A
Fluorescence Cabinet	TPA-77	Tampa	CM-10A	Spectroline	1923972
Freezer	TPA-11	Tampa	N/A	Tappan	None
Freezer	TPA-14	Tampa	N/A	Frigidaire	N/A
Freezer	TPA-16	Tampa	N/A	Frigidaire	N/A
Freezer	TPA-26	Tampa	FFHT1817LWI	Frigidaire	N/A
Gas Proportional Counter Instrument 1	38GPC1	Tampa	MPC 9604	Protean Inst. Co.	320939
Gas Proportional Counter Instrument 2	38GPC2	Tampa	MPC 9604	Protean Inst. Co.	320940
Gas Proportional Counter Instrument 3	38GPC3	Tampa	MPC 9604	Protean Inst. Co.	0619397
Gas Proportional Counter Instrument 4	38GPC4	Tampa	MPC 9604	Protean Inst. Co.	06270106
GC Autosampler	TPA-62	Tampa	G2614A	Agilent	US04009391
GC/Dual FID (runs FLPRO)	35GCSF	Semi-Volatile	6890	Agilent	CN10409041
GC/Dual uECD (runs 515.3)	35GCSL	Semi-Volatile	6890	Hewlett Packard	US00024723
GC/Dual uECD (runs 608 Pesticides_8081)	35GCSN	Semi-Volatile	6890N	Agilent	US10249082
GC/Dual uECD (runs 608 Pesticides_8081)	35GCSO	Semi-Volatile	6890	Agilent	US00033805
GC/Dual uECD (runs 8151)	35GCSK	Semi-Volatile	6890N	Agilent	CN10424076
GC/Dual uECD runs (552.2)	35GCSB	Semi-Volatile	6890	Agilent	CN621A4369
GC/Dual uECD runs (8082/608.1 PCB)	35GCSC	Semi-Volatile	7890	Agilent	US10819031
GC/ECD 6890N	35GCSX	Semi-Volatile	6890N	Agilent	US10143115
GC/ECD 6890N	35GCSY	Semi-Volatile	6890N	Agilent	US10650013

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 75 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Description	Equipment ID	Department	Model	Manufacturer	Serial #
104 Drying Oven	WC-57	Wet Chemistry	1390FM	VWR	11001510
12-Place Scaler	TPA-145	Tampa	4612/182	Ludlum Inst. Co.	240722
GC/FID 7890A	35GCSW	Semi-Volatile	7890A	Agilent	CN1090325
GC/MS	35MSSC	Semi-Volatile	6890N	Agilent	CN10402062
GC/MS	35MSVC	Volatiles	Atomx	Teledyne Tekmar	US12307001
GC/MS (runs 522's)	35MSS3	Semi-Volatile	6890 Plus	Agilent	US00029390
GC/MS (runs 525's)	35MSS4	Semi-Volatile	6890 N	Agilent	US10142102
GC/MS (runs 8270_625_PAH soils)	35MSS7	Semi-Volatile	7890	Agilent	CN10804033
GC/MS (runs 8270_625_PAH soils)	35MSS6	Semi-Volatile	7890	Agilent	CN10812005
GC/MS (runs PAH Low volume)	35MSS8	Semi-Volatile	6890 A	Agilent	US00034965
GC/MS (runs PAH Low volume)	35MSS9	Semi-Volatile	6890 A	Agilent	US10241054
GC/MS 5973 Detector	35MSVB	Volatiles	5975	Agilent	US80138268
GC/MS 5973 Detector	35MSVC	Volatiles	5973	Agilent	US10350353
GC/MS 5973 Detector	35MSVE	Volatiles	5973N	Agilent	US35130179
GC/MS 5975 Detector	35MSSD	Semi-Volatile	5975A	Agilent	US1236169
GC/MS 6890 GC	35MSVB	Volatiles	6890	Agilent	CN10647060
GC/MS 6890 GC	35MSVC	Volatiles	6890	Agilent	US00026134
GC/MS 6890 GC	35MSVE	Volatiles	6890N	Agilent	US10249097
GC/MS 6890N	35MSSA	Semi-Volatile	6890N	Agilent	CN10249004
GC/MS 7890 GC	35MSSD	Semi-Volatile	7890A	Agilent	CN10722023
GC/MS Detector	35MSSA	Semi-Volatile	5973N	Agilent	US10460430
GC/MS Detector	35MSV1	Volatiles	5973	Agilent	US71410480
GC/MS Detector	35MSV3	Volatiles	5973	Agilent	US70810386
GC/MS Detector	35MSV4	Volatiles	5973N	Agilent	US41746594
GC/MS Detector	35MSV7	Volatiles	6890/5973	Agilent	US71410549
GC/MS Detector	35MSV8	Volatiles	5973N	Agilent	US62510099
GC/MS GC 6890	35MSV7	Volatiles	6890	Agilent	US00008504
GC/MS GC 6890	35MSV8	Volatiles	6890	Agilent	US00005270
GC/MS, GC 6890	35MSV1	Volatiles	6890	Agilent	US00008159
GC/MS, GC 6890	35MSV3	Volatiles	6890	Agilent	US00022780
GC/MS, GC 6890	35MSV4	Volatiles	6890	Agilent	US00037601
Glassware Drying Oven	OP-33	SFL	DK-63	Baxter	A2000035

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 76 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Description	Equipment ID	Department	Model	Manufacturer	Serial #
104 Drying Oven	WC-57	Wet Chemistry	1390FM	VWR	11001510
12-Place Scaler	TPA-145	Tampa	4612/182	Ludlum Inst. Co.	240722
Glassware Drying Oven (Signature Economy Gravity Oven)	OP-5	Extractions	Catalog# 97027-668	VWR	None
Heating Mantle	WC-33-10	Wet Chemistry	TM106	Glas-Col	147231A
Heating Mantle	WC-33-11	Wet Chemistry	TM106	Glas-Col	122719A
Heating Mantle	WC-33-12	Wet Chemistry	TM106	Glas-Col	122739A
Heating Mantle	WC-33-13	Wet Chemistry	TM106	Glas-Col	1275A
Heating Mantle	WC-33-2	Wet Chemistry	TM106	Glas-Col	122657A
Heating Mantle	WC-33-3	Wet Chemistry	TM106	Glas-Col	122726A
Heating Mantle	WC-33-4	Wet Chemistry	TM106	Glas-Col	122660A
Heating Mantle	WC-33-5	Wet Chemistry	TM106	Glas-Col	122727A
Heating Mantle	WC-33-6	Wet Chemistry	TM106	Glas-Col	152019A
Heating Mantle	WC-33-7	Wet Chemistry	TM106	Glas-Col	152327A
Heating Mantle	WC-33-8	Wet Chemistry	TM106	Glas-Col	152063A
Heating Mantle	WC-33-9	Wet Chemistry	TM106	Glas-Col	122730A
Heating Mantles (12)	WC-33-1	Wet Chemistry	N/A	Glas-Col	see below for details
Heating Mantles (12)	WC-33-1	Wet Chemistry	N/A	Glas-Col	1368557
Hexavalent Chromium IC	35WTAM	Wet Chemistry	ICS-1600	Dionex	15110842
Hot Block	TPA-54	Metals	SC154	Environmental Express	5837CEC2691
Hot Block	TPA-55	Metals	SC154	Environmental Express	5837CEC2689
Hot Block	TPA-63	Tampa	Heater Control Console	George T. Hall Co. Inc.	S1172953-9
Hot Block	TPA-86	Tampa	SC154	Environmental Express	615CEC0840
Hot Block #1	TPA-130	Tampa	SC154	Environmental Express	424CEC0591
Hot Block #2	TPA-131	Tampa	SC154	Environmental Express	944CEC1030
Hot Block #3	TPA-132	Tampa	SC154	Environmental Express	9150CECW3999
Hot Block #4	TPA-215	Tampa	Durablock (9x8 50mL)	AGS Scientific	QB17041
Hot Block 3	HotBlock-3	Metals Prep	SC154	Environmental Express	4110CEC1912
Hot Block 4	HotBlock-4	Metals Prep	SC154	Environmental Express	4186CEC2013
Hot Block 5	HotBlock-5	Metals Prep	SC154	Environmental Express	4110CEC1930
Hot Block 6	HotBlock-6	Metals Prep	SC100	Environmental Express	N/A

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 77 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Description	Equipment ID	Department	Model	Manufacturer	Serial #
104 Drying Oven	WC-57	Wet Chemistry	1390FM	VWR	11001510
12-Place Scaler	TPA-145	Tampa	4612/182	Ludlum Inst. Co.	240722
Hot Block 7	HotBlock-7	Metals Prep	DigiPrep LS	SCP	LSX0313260180
Hot Block 7 Keypad	HotBlock-7	Metals Prep	DigiPrep Keypad	SCP	KPX0613282300
Hot Block 8	HotBlock-8	Metals Prep	DigiPrep LS	SCP	LSX0313260180
Hot Block 8 Keypad	HotBlock-8	Metals Prep	DigiPrep Keypad	SCP	KPX0613152239
Hot Block 9	HotBlock-9	Metals	SC154	Environmental Express	615CEC0840
Hot Plate	WC-60	Wet Chemistry	SP131325	Thermo	1768100152443
Hot Plate	WC-94	Wet Chemistry	SP1313250	Thermo	C1768121055144
Hotplate Stirrer	TPA-180	Tampa	H4000-HS	Environmental Express	20120210015
HPLC	35LC3	Semi-Volatile	1100	Agilent	None
HPLC	35LC5	Semi-Volatile	1200	Agilent	None
HPLC (Runs 549s)	35LC6	Semi-Volatile	1100	Agilent	N/A
HPLC ALS	35LC3	Semi-Volatile	1100	Agilent	DE11115021
HPLC ALS	35LC5	Semi-Volatile	1200	Agilent	DEAB305596
HPLC Autosampler	35LC6	Semi-Volatile	G1313A	Agilent	DE1114939
HPLC Col. Comp.	35LC3	Semi-Volatile	1100	Agilent	US72103463
HPLC Column Compartment	35LC6	Semi-Volatile	G1316A	Agilent	US72103268
HPLC DAD	35LC6	Semi-Volatile	G1315B	Agilent	DE03010266
HPLC Degasser	35LC3	Semi-Volatile	1100	Agilent	JP13206593
HPLC Degasser	35LC6	Semi-Volatile	G1379A	Agilent	JP13200758
HPLC FLD	35LC6	Semi-Volatile	G1321A	Agilent	DE23905156
HPLC Quat Pump	35LC3	Semi-Volatile	1100	Agilent	DE83105252
HPLC Quat Pump	35LC5	Semi-Volatile	1200	Agilent	DEAAK04380
HPLC Quat Pump	35LC5	Semi-Volatile	1200	Agilent	DEABI019606
HPLC Quat Pump	35LC6	Semi-Volatile	G1311A	Agilent	DE23923524
HPLC VWD	35LC3	Semi-Volatile	1100	Agilent	JP73706563
HPLC VWD	35LC5	Semi-Volatile	1200	Agilent	DEABB00987
HPLC_T (Runs 531's)	35LC1	Semi-Volatile	1100	Agilent	1202212
HPLC_T ALS	35LC1	Semi-	1100	Agilent	DE82206244

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 78 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Description	Equipment ID	Department	Model	Manufacturer	Serial #
104 Drying Oven	WC-57	Wet Chemistry	1390FM	VWR	11001510
12-Place Scaler	TPA-145	Tampa	4612/182	Ludlum Inst. Co.	240722
		Volatile			
HPLC_T Degasser	35LC1	Semi-Volatile	1100	Agilent	JP05031093
HPLC_T FLD	35LC1	Semi-Volatile	1100	Agilent	DE83700501
HPLC_T PCR	35LC1	Semi-Volatile	PCX 5200	Pickering	1202212
HPLC_T Quat Pump	35LC1	Semi-Volatile	1100	Agilent	US70601585
HPLC_U (Runs 547_549)	35LC2	Semi-Volatile	1100	Agilent	1098227
HPLC_U ALS	35LC2	Semi-Volatile	1100	Agilent	US54000719
HPLC_U Col. Comp.	35LC2	Semi-Volatile	1100	Agilent	US64401301
HPLC_U Degasser	35LC2	Semi-Volatile	1100	Agilent	JP63204068
HPLC_U FLD	35LC2	Semi-Volatile	1321A	Agilent	De23904630
HPLC_U PCR	35LC2	Semi-Volatile	PCX5100	Pickering	6163
HPLC_U Quat Pump	35LC2	Semi-Volatile	1100	Agilent	US72101910
Hygrometer	TPA-214	Tampa	11-661-18	Fisher Scientific	170160372
ICAP 6500 DUO	35ICP2	Metals	iCAP 6500 DUO	Thermo Scientific	ICAP-20101810
ICAP 6500 DUO	35ICP3	Metals	iCAP 6500 DUO	Thermo Scientific	20062509
ICAP 6500 DUO- Auto sampler	35ICP2-2	Metals	ASX-520	CETAC	0115103A520
ICAP 6500 DUO- Auto sampler	35ICP3-2	Metals	ASX-520	CETAC	071567A520
ICAP 6500 DUO-Chiller	35ICP2-1	Metals	ThermoFlex 900	Thermo Scientific	127726401150901
ICAP 6500 DUO-Chiller	35ICP3-1	Metals	ThermoFlex 900	Thermo Scientific	110463601130227
ICPMS	38ICPM1	Tampa	ELAN 6000	Perkin Elmer	236557051
Incubator	MB-2	Microbiology	303	Fisher Scientific	(303)564
Incubator MB-1Rt and MB-1Lt	MB-1	Microbiology	1555	VWR	3008704
Interface Module, 35WTAN	WC-119	Wet Chemistry	PC-1000-102/4	Man-Tech Scientific	MT-1B6-748
Ion Chromatograph	38WTAG	Tampa	ICS5000	Dionex	12111505
Ion Chromatography System	35WTAB	Wet Chemistry	ICS-1100	Dionex	11060028
Ion Chromatography System	35WTAE	Wet Chemistry	ICS-2000	Dionex	03060003
Ion Chromatography System	35WTAG	Wet Chemistry	ICS-2000	Dionex	5101123
Ion Chromatography System	35WTAH	Wet Chemistry	881 Compact IC	Metrohm	1881000129149
Ion Chromatography System	35WTAI	Wet Chemistry	881 Compact IC	Metrohm	188100133147
ISFET pH meter	TPA-159	Tampa	IQ125	I.Q. Scientific	EL80A

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 79 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Description	Equipment ID	Department	Model	Manufacturer	Serial #
104 Drying Oven	WC-57	Wet Chemistry	1390FM	VWR	11001510
12-Place Scaler	TPA-145	Tampa	4612/182	Ludlum Inst. Co.	240722
				Instruments	
Isotemp Stir Plate	TPA-179	Tampa	11-100-49SH	Fisher	C1892140834367
Laboratory Stirrer	TPA-198	Tampa	PC-310	Corning	N/A
Lachat	35WTAJ	Wet Chemistry	8500	Hach	80600000591
Lachat	35WTAL	Wet Chemistry	8500	Hach	1510000190
Lachat	35WTAT	Wet Chemistry	QC 8500	Lachat	170300002031
Lachat 2 Channel (2)	35WTA3	Wet Chemistry	QuickChem 8000	Lachat	A81000-109
Lachat 2 Channel (3)	35WTA4	Wet Chemistry	QuickChem 8000	Lachat	A8300-1629
Lachat Quick Chem 8500	35WTAD	Wet Chemistry	Quick Chem 8500	Lachat	100200001168
LC MS/MS (Runs 537)	35LC7	Semi-Volatile	TSQ Vantage	Thermo Scientific	TQU01694
LC MS/MS (Runs 537_539)	35LC4	Semi-Volatile	TSQ-46000	Thermo Scientific	TQU03553
LC MS/MS ALS	35LC7	Semi-Volatile	G1313A	Agilent	US80603442
LC MS/MS Autosampler	35LC4	Semi-Volatile	Unknown	Thermo Scientific	245409
LC MS/MS Column	35LC7	Semi-Volatile	G1316A	Agilent	DE9161U592
LC MS/MS Degasser	35LC7	Semi-Volatile	G1322A	Agilent	JP94173317
LC MS/MS Pump	35LC4	Semi-Volatile	1250	Thermo Scientific	925775
LC MS/MS Quat Pump	35LC7	Semi-Volatile	G1311A	Agilent	DE83105252
LC MS/MS Stack Cooler	35LC4	Semi-Volatile	MS 04-02G	Thermo Scientific	456
LL Hg Autosampler	TPA-91	Tampa	Merx 72	Brooks Rand	4936A14633
LL Hg CVAFS Detector	38HG2	Tampa	Model III 07002	Brooks Rand	11013801
Low Temp Incubator	TPA-122	Tampa	2020	VWR Scientific	060069T
Magnetic Stirrer	Stirrer	Metals Prep	Cimerec 2	Thermolyne	638930908548
Magnetic Stirrer	Stirrer	Metals Prep	SP131325	Thermo	1768091246164
Magniwhirl Water Bath	OP-17	Extractions	MW-1110A-1	General Signal	M5-18189
Magniwhirl Water Bath	OP-18	Extractions	MW-1110A-1	General Signal	M5-9380
Man-Tech Auto Titrator	35WTAN	Wet Chemistry	Various	Man-Tech Scientific	Various
Maxi Mix II	TPA-213	Tampa	37615	Thermolyne	376
Media and Organisms Refrigerator	MI-002	SFL	Unknown	Unknown	None
Media Refrigerator	MI-010	SFL	RRT160DRGW0	White-Westing	LA80902065
Mercury Analyzer	35HG4	Metals	M7600	Teledyne Leeman Labs	US16364001
Mercury Analyzer CVAA	38HG3	Tampa	FIMS100	Perkin Elmer	10153010901

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 80 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Description	Equipment ID	Department	Model	Manufacturer	Serial #
104 Drying Oven	WC-57	Wet Chemistry	1390FM	VWR	11001510
12-Place Scaler	TPA-145	Tampa	4612/182	Ludlum Inst. Co.	240722
Micro Enterococci Incubator	TPA-70	Tampa	N/A	N/A	N/A
Micro Enterococci Incubator	TPA-121	Tampa	230D	Fisher Scientific	1934
Micro Extraction Shaker	OP-21	Extractions	6010	Eberback Corporation	90921
Micro Fecal Waterbath	TPA-71	Tampa	N/A	N/A	N/A
Micro Freezer #2	TPA-112FR	Tampa	TBX19FIBLRWW	GE	FV518413
Micro Incubator	MI-003	SFL	MFU2083BW3	Precision	WB54507310
Micro Incubator	TPA-69	Tampa	N/A	N/A	N/A
Micro Incubator	TPA-75	Tampa	SMI2	Shel Lab	N/A
Micro Refrigerator #1	TPA-127	Tampa	GTH18GBDCRWW	GE	AZ791678
Micro Refrigerator #2	TPA-112	Tampa	TBX19FIBLRWW	GE	FV518413
Microscope	MB-11	Microbiology	411 TBL	Sargent-Welch	50780355
Microscope	MI-015	SFL	2000A	Unknown	0117818
Microwave	OP-52	Extractions	MARS 5	CEM	MJ6822
Mini Incubator	MI-028	SFL	1410	MesaLabs	14041896
Mini Stirrer	WC-2	Wet Chemistry	200	VWR	3206
Mini Stirrer	WC-3	Wet Chemistry	200	VWR	58940-158
Mini Stirrer	WC-61	Wet Chemistry	N/A	VWR	3181
Mini Stirrer	WC-62	Wet Chemistry	200	VWR	3111
MT-3 Tumbler	MT-3	Metals Prep	Rotation Tumbler	Environmental Express	N/A
MT-8 Tumbler	MT-8	Metals Prep	Rotation Tumbler	Environmental Express	2826-12-445
Muffle Furnace, Type 6000	OP-29	Extractions	F6010	Thermolyne	40800800
Muffle Furnace	WC-31	Wet Chemistry	N/A	Fisher Scientific	N/A
Muffle Furnace	WC-115	Wet Chemistry	200SV	Wilt Industries	031195
N-EVAP	OP-31	Extractions	NEVAP 112 8125	Organization	52888
OI Analytical 3700	35WTAP	Wet Chemistry	329995	Xylem	B632837342
ORP Meter	ORP-1	SFL	230A+	Orion	021074
ORP Meter	WC-126	Wet Chemistry	ST10R	Ohaus	1609840073
Oven	MET-26	Metals	414004-570	VWR	N/A
Oven	FU-019	SFL	1326	Sheldon	06112206
Oven	FU-020	SFL	0V-490A-2	Blue M	N/A
Oven	FU-021	SFL	0V-49VA-2	Blue M	JT3418
Oven	TPA-29	Tampa	6530	Thermo Scientific	604170785
Oven	TPA-30	Tampa	6530	Thermo Scientific	605041895
Oven	VO-26	Volatiles	1510E	VWR	802701
Oven #1	TPA-125	Tampa	20GC	Unknown	G2-2253

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 81 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Description	Equipment ID	Department	Model	Manufacturer	Serial #
104 Drying Oven	WC-57	Wet Chemistry	1390FM	VWR	11001510
12-Place Scaler	TPA-145	Tampa	4612/182	Ludlum Inst. Co.	240722
Oven #2	TPA-126	Tampa	30GC	Unknown	G3-3762
Oven #3	TPA-155	Tampa	OV-490A-2	Blue M	OV3-25675
Oven #4	TPA-156	Tampa	G01330A	Lindberg/Blue	V03E-213879-VE
Pan Balance	TPA-100	Tampa	XD-4KD	Fisher Scientific	23419
Peristaltic Pump	WC-140	Wet Chemistry	IPC	Ismatec	M16001433
pH Meter	OP-36	Extractions	pHTestr 10	Oakton	2386843
pH meter	OP-37	Extractions	AP110	fisher	2475461
pH Meter	pH-2	SFL	Orion 2 Star	Thermo	B07333
pH Meter	pH-4	SFL	Accumet AB250	Fisher	AB92349852
pH meter	TPA-50	Tampa	420A	Orion	N/A
pH meter	38WTA8	Tampa	pHTestr 30	Oakton	2188096
pH meter	TPA-78	Tampa	54X002608C	Oakton	2405729
pH meter	38WTAJ	Tampa	AR50	Fisher Scientific	AR93315644
PH Meter	WC-1	Wet Chemistry	410A	Orion	002051
PH Meter	WC-103	Wet Chemistry	710A	Orion	0001809
PH Meter	WC-95	Wet Chemistry	420A+	Thermo	57982
PH Meter	35WTAU	Wet Chemistry	AB250	Accumet	None
pH meter - probe	OP-38	Extractions	AP50A	fisher	2476871046
pH meter (Waterproof pHTestr® 30)	TPA-160	Tampa	35634-30	Oakton Instruments	2584119
pH Probe	pH-3	SFL	9107BNMD	Thermo Fisher	UY1-10092
pH Probe	probe Ph-p1	SFL	SUI-13121	Fisher	None
pH Probe	pH-5	SFL	Accumet	Fisher	2555645/VUTI 8989
pH, Cond, Salinity, ORP, DO Meter	MI-026	SFL	HQ430D	Hach	150200016108
Pmoist Balance	35BAL8	Metals	Scoutpro	OHAUS	7132211447
Pmoist Balance	35BALJ	Metals	SPX222	OHAUS	B710801142
Pmoist Oven	MET-18	Metals	VWR 1350 FM	Sheldon Mfg.	12008804
Post Coloumn Pump, 35WTAM	WC-112	Wet Chemistry	AXP	Dionex	Z0058004
Pressure Vaccum Pump	OP-7	Extractions	Q523-V4F6582DX	Unknown	12085SAL0713/00642358
Pressure Vaccum Pump	OP-8	Extractions	Q523-V4F6582DX	Unknown	120SAL0714/00642363
Pump	TPA-96	Tampa	ICS5000	Dionex	12129025
Quanti Tray Sealer	MB-12	Microbiology	Plus	Idexx	QTP13154700379
Quanti-Tray Sealer	MI-020	SFL	2x	IDEXX	05963-08-213
Quanti-Tray Sealer	TPA-76	Tampa	89-10894-04	IDEXX	14-315-08580
Quanti-Tray Sealer	TPA-123	Tampa	89-10894-00	IDEXX	3221
Qubec Colony Counter	TPA-124	Tampa	3325	Cambridge Instruments	12056-2
Radon Flask Counter - Det. #1	38SC01	Tampa	182	Ludlum Inst. Co.	PR204715

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 82 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Description	Equipment ID	Department	Model	Manufacturer	Serial #
104 Drying Oven	WC-57	Wet Chemistry	1390FM	VWR	11001510
12-Place Scaler	TPA-145	Tampa	4612/182	Ludlum Inst. Co.	240722
Radon Flask Counter - Det. #10	38SC10	Tampa	182	Ludlum Inst. Co.	PR286610
Radon Flask Counter - Det. #11	38SC11	Tampa	182	Ludlum Inst. Co.	PR331138
Radon Flask Counter - Det. #12	38SC12	Tampa	182	Ludlum Inst. Co.	PR331140
Radon Flask Counter - Det. #2	38SC02	Tampa	182	Ludlum Inst. Co.	PR204714
Radon Flask Counter - Det. #3	38SC03	Tampa	182	Ludlum Inst. Co.	PR227469
Radon Flask Counter - Det. #4	38SC04	Tampa	182	Ludlum Inst. Co.	PR227470
Radon Flask Counter - Det. #5	38SC05	Tampa	182	Ludlum Inst. Co.	PR244210
Radon Flask Counter - Det. #6	38SC06	Tampa	182	Ludlum Inst. Co.	PR244209
Radon Flask Counter - Det. #7	38SC07	Tampa	182	Ludlum Inst. Co.	PR256798
Radon Flask Counter - Det. #8	38SC08	Tampa	182	Ludlum Inst. Co.	PR256799
Radon Flask Counter - Det. #9	38SC09	Tampa	182	Ludlum Inst. Co.	PR300383
Recirculating Water Bath	MB-10	Microbiology	2868	Precision/Thermo Scientific	209186-388
Recirculating Waterbath	OP-47	Extractions	TSC1R19	Thermo Fischer	300080178
Refrigerated Water Bath	TPA-60	Tampa	Isotemp 9100	Fisher	909989
Refrigerator	TPA-12	Tampa	N/A	Tappan	N/A
Refrigerator	TPA-15	Tampa	N/A	Frigidaire	N/A
Refrigerator	TPA-17	Tampa	N/A	Frigidaire	N/A
Refrigerator	TPA-18	Tampa	N/A	Frigidaire	N/A
Refrigerator	TPA-19	Tampa	183.94679/73	Kenmore	N/A
Refrigerator	TPA-20	Tampa	183.94679/73	Kenmore	N/A
Refrigerator	TPA-21	Tampa	183.94679/73	Kenmore	N/A
Refrigerator	TPA-22	Tampa	183.94679/73	Kenmore	N/A
Refrigerator	TPA-23	Tampa	Unknown	GE	N/A
Refrigerator	TPA-27	Tampa	Unknown	Traulsen	T00475K08
Refrigerator	TPA-72	Tampa	FFHT1817LWI	Frigidaire	N/A
Refrigerator - Walk In	TPA-28	Tampa	ACS100	American Cold Storage	11137
Res. Chlorine Titrator	WC-4	Wet Chemistry	17T2012AXX	Severn Trent	17T2012000000504
Rotary Evaporators	TPA-61	Tampa	Rotovapor R-114	Buchi	408559020020
Rotary Evaporators	TPA-62	Tampa	Rotovapor R-114	Buchi	100440770
Ryobi 10" Drill Press	WC-83	Wet Chemistry	DP101	Ryobi	C034028074
Salinity Meter	SAL-1	SFL	105A	Orion	004265
Sample Refrigerator #1	TPA-104	Tampa	S3R	Continental Scientific	A97D6235
Sample Refrigerator #2	TPA-105	Tampa	S3R	Continental Scientific	A97D6234

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 83 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Description	Equipment ID	Department	Model	Manufacturer	Serial #
104 Drying Oven	WC-57	Wet Chemistry	1390FM	VWR	11001510
12-Place Scaler	TPA-145	Tampa	4612/182	Ludlum Inst. Co.	240722
Sample Refrigerator #3	TPA-106	Tampa	T-72	True Manufacturing Co.	7627219
Sample Refrigerator #4	TPA-107	Tampa	T-72	True Manufacturing Co.	7226635
SCBI Incubator	TPA-73	Tampa	1410	MesaLabs	14041893
Secador Dessicator	TPA-195	Tampa	420741115	Bel-Art	5644
Segmented Flow Analyzer	38WTAB	Tampa	AA1	Seal	8018225
Separatory Funnel Rotator	OP-28	Extractions	Unknown	Custom Built	None
Small Shaker Table	WC-82	Wet Chemistry	6010	Eberback Corporation	40123
Soil Extraction Microwave Oven	OP-19	Extractions	MARS 5	CEM	MD2550
Solvent-Trap	TPA-161	Tampa	Solvent Trap	Horizon	00-1070
Sonic Water Bath	TPA-59	Tampa	2210	Branson	N/A
Sonic Water Bath	OP-9	Extractions	8510R-MT	Branson	RPA070850033F
Sonicator	MET-16	Metals	Branson 1510	Bransonic	RKA010495446D
Sonicator Batch	VO-42	Volatiles	1800	Branson	BGD121655390B
Spare Freezer	MI-011	SFL	Unknown	Unknown	None
Spectrophotometer	SPEC-1	SFL	DR2800	Hach	1211953
Spectrophotometer	38WTA7	Tampa	AquaMate 7000	Thermo Orion	2W1S301215
Spectrophotometer	38WTAH	Tampa	Helios Alpha	ThermoSpectronic	UVA094723
Spectrophotometer	38WTAK	Tampa	4001-000	Spectronic Instruments	3SGB272002
Spectrophotometer, UV	35WTA7	Wet Chemistry	50 Bio	Carey/Varian	EL98103317
Spectrophotometer, UV	35WTAS	Wet Chemistry	G6860A	Agilent	MY17050019
Standards Freezer #2	TPA-113FR	Tampa	TBX19FIBLRWW	GE	FV518396
Standards Refrigerator #2	TPA-113	Tampa	TBX19FIBLRWW	GE	FV518396
Standards Refrigerator #3	TPA-165	Tampa	MCBC58DST	Vissani	1408MCBC58DST0169
Stir Plate	TPA-181	Tampa	11-510-49SH	Fisher	1747071005074
Stir Plate	TPA-182	Tampa	1152049SH	Fisher	1931080718050
Stir Plate	TPA-183	Tampa	1152049SH	Fisher	1931091139410
Stir Plate	TPA-184	Tampa	1152049SH	Fisher	1931091139405
Stir Plate	TPA-185	Tampa	1152049SH	Fisher	1931080340332
Stir Plate	TPA-186	Tampa	1152049SH	Fisher	1931090376058
Stir Plate	TPA-187	Tampa	11-510-49SH	Fisher	1747071007973
Stirrer	WC-63	Wet Chemistry	200 Mini Stirrer	VWR	N/A
Stirrer	WC-64	Wet Chemistry	SP1313d5	Thermo	1768100367274
Stirring Hotplate	TPA-168	Tampa	11-510-49SH-G	Fisher	510N0130
Stirring Hotplate	TPA-188	Tampa	11-520-49SH	Fisher	510N0125
Stirring Hotplate	TPA-191	Tampa	N/A	Thermolyne	N/A
Stirring Hotplate	TPA-193	Tampa	11-100-49SH	Fisher	C1892140936499
Sulfate Oven	OP-32	Extractions	DR-63	Baxter	A2000055

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 84 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Description	Equipment ID	Department	Model	Manufacturer	Serial #
104 Drying Oven	WC-57	Wet Chemistry	1390FM	VWR	11001510
12-Place Scaler	TPA-145	Tampa	4612/182	Ludlum Inst. Co.	240722
TCLP filtration vessel	TCLP vessel	Metals Prep	3750-LHWF	Associated Design Mfg.Co	NONE
TCLP Prep	TPA-13	Tampa	N/A	N/A	N/A
TCLP Tumbler	TPA-64	Tampa	N/A	N/A	N/A
TCLP Tumbler	TPA-65	Tampa	N/A	N/A	N/A
TCLP Tumbler	TPA-66	Tampa	N/A	N/A	N/A
TCLP Tumbler	TPA-164	Tampa	0685 (42R5BFCI-E3)	Bodine Electric Company	0685HSHD 0002
TD-700 Fluorometer	38WTAL	Tampa	7000-009	Turner Designs	7-0526-CE
TD700 Red Filter, Solid	TPA-217	Tampa	7000-994	Turner Designs	0520X3348
TDS Oven	TPA-99	Tampa	N/A	Blue M	04-184-041-1889
TDS Oven	FU-017	SFL	1326	Sheldon	09005613
TDS Oven #1	TPA-211	Tampa	OV-490A-2	Blue M Electric Co.	JT-761
TDS Oven #2	TPA-212	Tampa	OV-490A-2	Blue M Electric Co.	OV3-16048
Thermix Stirrer	TPA-167	Tampa	120M	Fisher	117
Thermo Waterbath	OP-48	Extractions	TSC1R19	Thermo Fischer	300129927
Thermocouple Therm.	WC-135	Wet Chemistry	HH911T	Omega	000225
TitraSip, 35WTAN	WC-120	Wet Chemistry	PC-1300-475	Man-Tech Scientific	MT-1B6-984
Top Load	35BAL10	Extractions	Practum 2101-1S	Sartorius	28812458
Top Load	35BALF	Extractions	PB602-S	Mettler Toledo	1129012540
Top Load	35BALI	Extractions	PA32025	OHAUS	B703607641
Top Load	35BALC	Metals	Practum 5101-15	Sartorius	28907784
Top Load	35BALA	Metals (TCLP)	Practum 2101-1S	Sartorius	29308255
Top Load	35BALB	Semi Volatiles	BA2105	Sartorius	0001809
Top Load	35BALE	Semi Volatiles	CP22025	Sartorius	19550867
Top Load	35BALH	Volatiles	AV412	OHAUS	1203240528
Top Load	35BALG	Wet Chemistry	SPE402	OHAUS	7132212431
Top Loader Balance	TPA-102	Tampa	ML6001E	Toledo	B220934487
Top Loader Balance	TPA-103	Tampa	XP-3000	Denver Instruments	X068088
Total Hg Purge & Trap	TPA-166	Tampa	Merx	Brooks Rand	11023401
Total Organic Carbon Analyzer	35WTA5	Wet Chemistry	TOC-V CSH	Shimadzu	H51104535252 CS
Total Organic Carbon Analyzer	35WTAC	Wet Chemistry	TOC-V CSH	Shimadzu	H51104735378 CS
Tower 10	TOW 10	Semi-Volatile	18593B	Agilent	3033A22926
Tower 13	TOW 13	Semi-Volatile	5890	Agilent	3538A44142
Tower 42	TOW 42	Semi-Volatile	7683	Agilent	CN34733788

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 85 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Description	Equipment ID	Department	Model	Manufacturer	Serial #
104 Drying Oven	WC-57	Wet Chemistry	1390FM	VWR	11001510
12-Place Scaler	TPA-145	Tampa	4612/182	Ludlum Inst. Co.	240722
Tower 43	TOW 43	Semi-Volatile	7683	Agilent	US90304594
Tower 44	TOW 44	Semi-Volatile	7683B	Agilent	3538A44142
Tower 45	TOW 45	Semi-Volatile	7683B	Agilent	CN81548579
Tower 46	TOW 46	Semi-Volatile	7683	Agilent	US81000323
Tower 47	TOW 47	Semi-Volatile	7683	Agilent	US01312410
Tower 47	TOW 47	Semi-Volatile	7683	Agilent	CN42637534
Tower 48	TOW 48	Semi-Volatile	7683	Hewlett Packard	US90404641
Tower 49	TOW 49	Semi-Volatile	7683	Agilent	CN24728317
Tower 50	TOW 50	Semi-Volatile	7683	Hewlett Packard	US00411315
Tower 51	TOW 51	Semi-Volatile	6890	Agilent	US01911006
Tower 53	TOW 53	Semi-Volatile	7683	Agilent	CN30329148
Tower 54	TOW 49	Semi-Volatile	7683	Agilent	US93408728
Tower 55	TOW 55	Semi-Volatile	7683	Agilent	US81300607
Tower 58	TOW 58	Semi-Volatile	7683	Agilent	CN34733788
Tower 59	TOW 59	Semi-Volatile	7683	Agilent	CN44531139
Tower 61	TOW 61	Semi-Volatile	7683	Agilent	US81507631
Tower 62	TOW 62	Semi-Volatile	7683	Agilent	ISC04054
Tower 63	TOW 63	Semi-Volatile	7683B	Agilent	CN44721870
Tower 64_Injector	TOW 64	Semi-Volatile	7683	Agilent	6304115602
Tower 67_Injector	TOW 67	Semi-Volatile	7683B	Agilent	CN81047575
Tower 68_Injector	TOW 68	Semi-Volatile	7683	Agilent	US04009391
Tower 69	TOW 69	Semi-Volatile	7683	Agilent	CN40935392
Tower 70	TOW 70	Semi-Volatile	7683	Agilent	CN25028810
Tower 71	TOW 71	Semi-Volatile	7683B	Agilent	CN54128221
Tower 72_Injector	TOW 72	Semi-Volatile	7683B	Agilent	CN75045763
Tower 75	TOW 75	Semi-Volatile	7683B	Agilent	CN82750932

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 86 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Description	Equipment ID	Department	Model	Manufacturer	Serial #
104 Drying Oven	WC-57	Wet Chemistry	1390FM	VWR	11001510
12-Place Scaler	TPA-145	Tampa	4612/182	Ludlum Inst. Co.	240722
Tower 76	TOW 76	Semi-Volatile	7683	HP	US94810410
Tower 9	TOW 9	Semi-Volatile	5890	Agilent	3108A25502
Tray 24	TRA 24	Semi-Volatile	18596B	Agilent	3410A34781
Tray 25	TRA 25	Semi-Volatile	18596C	18596C	3608A41356
Tray 3	TRA 3	Semi-Volatile	7683	Agilent	US93205775
Tray 41	TRA 41	Semi-Volatile	7683	Agilent	CN64141338
Tray 42	TRA 42	Semi-Volatile	7683	Agilent	CN30423055
Tray 43	TRA 43	Semi-Volatile	7683	Agilent	CN81548175
Tray 45	TRA 45	Semi-Volatile	7683	Agilent	CN24322290
Tray 46	TRA 46	Semi-Volatile	Unknown	Agilent	US91805198
Tray 47	TRA 47	Semi-Volatile	7683	Agilent	US84602630
Tray 48	TRA 48	Semi-Volatile	18596C	Hewlett Packard	3620A41961
Tray 50	TRA 50	Semi-Volatile	7683	Agilent	US12011632
Tray 51	TRA 51	Semi-Volatile	7683	Agilent	US00407129
Tray 52	TRA 52	Semi-Volatile	7683	Agilent	CN34727105
Tray 53	TRA 50	Semi-Volatile	7683	Agilent	US120111632
Tray 54	TRA 54	Semi-Volatile	7683	Agilent	US82601221
Tray 55	TRA 55	Semi-Volatile	7683	Agilent	CN44521540
Tray 56	TRA 56	Semi-Volatile	7683	Agilent	CN44431016
Tray 57	TRA 57	Semi-Volatile	7683	Agilent	CN893A3731
Tray 59	TRA 59	Semi-Volatile	7683	Agilent	CN54637388
Tray 60	TRA 60	Semi-Volatile	7683B	Agilent	CN63535173
Tray 61	TRA 61	Semi-Volatile	7683	Agilent	US03709193
Tray 62	TRA 62	Semi-Volatile	7683	Agilent	CN40327636
Tray 63	TRA 63	Semi-Volatile	Unknown	Agilent	US849002802
Tray 65	TRA 65	Semi-Volatile	7683	Agilent	CN85152131

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 87 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office

Description	Equipment ID	Department	Model	Manufacturer	Serial #
104 Drying Oven	WC-57	Wet Chemistry	1390FM	VWR	11001510
12-Place Scaler	TPA-145	Tampa	4612/182	Ludlum Inst. Co.	240722
Tray/Tower Combo	TRA/TOW 36	Semi-Volatile	CP8400	Varian	02850
TSS Oven	TPA-98	Tampa	N/A	Blue M	04-184-041-8915
TSS/TDS Oven	FU-012	SFL	Fisher 630F	Precision	600866
TSS/TDS Oven	FU-015	SFL	Isotemp 6306	Fisher	20300036
TSS/TDS Oven	FU-018	SFL	DK-63	Baxter	A2000036
Turbidimeter	Turb-2	SFL	2100AN	Hach	14030c024028
Turbidimeter	38WTAI	Tampa	2100N	HACH	OCO28178
Turbidimeter	TPA-158	Tampa	18900	HACH	860103112
Turbidimeter	WC-80	Wet Chemistry	2100N	Hach	07010C022056
Turbovap	OP-13	Extractions	Turbovap II	Caliper Life Sciences	TV0448N12774
Turbovap	OP-25	Extractions	Turbovap II	Caliper Life Sciences	TV0669N12903
Turbovap	OP-49	Extractions	Xcel Vap	Horizon Tech.	16-5315
Turbovap	OP-50	Extractions	Xcel Vap	Horizon Tech.	17-5458
Turbovap	OP-51	Extractions	Xcel Vap	Horizon Tech.	17-5457
Ultrasonic Batch	MET-27	Metals	CPX2800	Emerson	BGH051784120B
UV Lamp	UV-001	SFL	EA-160	Spectroline	739573
UV Light	WC-98	Wet Chemistry	UVL-56	Entela	N/A
UVA Irradiance Meter	QA-002	SFL	21800-016	Control Company	101970419
Vacuum Oven	TPA-31	Tampa	280A	Fisher	003N0082
Vacuum Pump	TPA-176	Tampa	N/A	Gast	0305 617126
Vacuum Pump	TPA-177	Tampa	0522-V4B-G180DX	Gast	0885
Vacuum Pump	TPA-178	Tampa	N/A	Gast	1292
Vacuum Pump	TPA-189	Tampa	DOA-P104-AA	Gast	1192
Vacuum Pump	TPA-196	Tampa	DAA-V716-EB	Gast	0712054393
Vacuum Pump	TPA-197	Tampa	DOA-P104-AA	Gast	0406606779
Vacuum Pump	TPA-201	Tampa	DAA-V716-EB	Gast	0408600654
Variable Stirrer Control, 35WTAN	WC-123	Wet Chemistry	PC-1000-388	Man-Tech Scientific	MT-1A6-362
Vortex Genie Touch Mixer	WC-69	Wet Chemistry	SI-D136	Scientific Industries	N/A
Vortex Mixer	WC-68	Wet Chemistry	945404	Fisher	100706056
VWD Detector, 35WTAB	35WTAB	Wet Chemistry	VWD	Dionex	14100163
VWD Detector, 35WTAM	WC-109	Wet Chemistry	ICS-VWD 3000	Dionex	15100192
VWD Detector, 35WTAM	WC-141	Wet Chemistry	ICS-VWD	Dionex	17021036
Walk-In Cooler	SC-001	SFL	Unknown	American Cold Storage	11259
Water Bath	TPA-56	Tampa	P/1	Julabo	N/A
Water Bath	TPA-57	Tampa	Equatherm	CMS	N/A
Water Bath	TPA-58	Tampa	20AG-8	GCA	N/A


	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 88 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office

Description	Equipment ID	Department	Model	Manufacturer	Serial #
104 Drying Oven	WC-57	Wet Chemistry	1390FM	VWR	11001510
12-Place Scaler	TPA-145	Tampa	4612/182	Ludlum Inst. Co.	240722
Water Bath	TPA-67	Tampa	66885	N/A	10AZ-4
Water Bath	TPA-150	Tampa	51221031	Precision	605041099
Water Bath	WC-66	Wet Chemistry	2207	Fisher Scientific	224120
Water Bath	WC-67	Wet Chemistry	2868	Thermo Scientific	256947-450
Water Recirculator	WC-74	Wet Chemistry	MCS 40	Lytron	761411
Waterbath	MI-013	Extractions	51220039	Precision	698021183
Waterbath	MI-023	SFL	66885	Precision	10AZ-4
Waterbath	MI-030	SFL	TSCOL35	Thermo	300130402
Wet Chem Fridge	WC-001	SFL	D1002W	Danby	0000810 1040
Wet Chem Sample Refrigerator #5	TPA-108	Tampa	T-72	True Manufacturing Co.	1-3531819
Wet Chem Sample Refrigerator #6	TPA-109	Tampa	T-72	True Manufacturing Co.	1-3569244
Wet Chem Sample Refrigerator #7	TPA-110	Tampa	T-72	True Manufacturing Co.	7627218
Wet Chem Sample Refrigerator #8	TPA-111	Tampa	T-72	True Manufacturing Co.	7210135
X2 Series ICP-MS	35ICM2	Metals	X2	Thermo Elemental	SN01484C
YSI Conductivity Meter	38WTA6	Tampa	3200-115V	YSI	14J100038
ZHE Rotator	VO-27	Volatiles	Unknown	Millipore	415290
ZHE Rotator - 6 position	VO-18	Volatiles	Unknown	Associated Design	1880
Zymark II Turbovap	OP-14	Extractions	Turbovap II	Zymark	TV0018N9549
Zymark II Turbovap	OP-15	Extractions	Turbovap II	Zymark	TV0443N12673


	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 89 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office

ATTACHMENT V- LABORATORY SOP LIST (CURRENT AS OF ISSUE DATE)


Dept	Title	SOP Number
Quality	Laboratory Calculations	S-FL-Q-006
SemiVol	Microwave Extraction of Pesticides/PCBs in Solids	S-FL-O-043
SFL	SFL Redox Potential	S-FL-I-051
SemiVol	Herbicides in Drinking Water (Chlorinated Acids) 515.3	S-FL-O-003
OPrep	Waste Dilution Prep, EPA 3580	S-FL-O-032
Wet Chem	NOx	S-FL-I-020
SFL	Settable Solids	S-FL-I-059
MET	ICP-MS Analytical Method for Trace Metals	S-FL-M-012
MB	Fecal Coliform by Membrane Filter (MF)	S-FL-MB-006
Wet Chem	Specific Gravity	S-FL-I-056
Wet Chem	BOD/CBOD	S-FL-I-008
SFL	SFL Salinity	S-FL-I-052
SFL	Hexavalent Chromium by UV EPA 7196	S-FL-I-058
MB	Fecal Strep	S-FL-MB-010
MB	Total and Fecal Coliform MPN	S-FL-MB-011
SemiVol	FL-PRO (Low Volume)	S-FL-O-053
SemiVol	Pest/PCB Analysis, EPA 608, 8081, 8082	S-FL-O-024
SemiVol	FL-PRO by GC analysis	S-FL-O-021
SemiVol	Acid Cleanup for PCBs and Toxaphene Using Method 3665	S-FL-O-031
Wet Chem	pH	S-FL-I-023
Lab	Preparation of Anhydrous Sodium Sulfate for Extraction Purposes	S-FL-L-002
SemiVol	Haloacetic Acids (HAAs) in Drinking Water by GC-ECD Analysis	S-FL-O-001
SemiVol	1,2-Dibromomethane (EDB) and 1,2-Dibromo-3-Chloropropane (DBCP) in Water by Micro-Extraction and Gas Chromatography	S-FL-O-007
Quality	Procedure for Laboratory Water Quality Monitoring and Bottle Lot Testing	S-FL-Q-004
SemiVol	BN/A Extractables by GCMS, EPA 625/8270	S-FL-O-025
SemiVol	Low Volume PAH	S-FL-O-056
SemiVol	Hormones by Solid Phase Extraction and LC-ESI-MS/MS	S-FL-O-046
MB	Fecal Coliform by MPN (Solids)	S-FL-MB-002
VOA	TO-18	S-FL-O-042
OPrep	8151 Preparation of Herbicides in Water by Separatory Funnel Extraction	S-FL-O-006
SemiVol	8151 Analysis for Herbicides	S-FL-O-005
Wet Chem	Ammonia	S-FL-I-009
Wet Chem	Chlorine Dioxide, CLO2	S-FL-I-010
Wet Chem	Residual Chlorine	S-FL-I-011
Wet Chem	Ignitability, Solids	S-FL-I-024
Wet Chem	Paint Filter	S-FL-I-042
Wet Chem	Flash Point	S-FL-I-018
Wet Chem	Sulfide	S-FL-I-025
Wet Chem	Anions by IC EPA 300.0/9056	S-FL-I-035
Wet Chem	EPA 300.1, Anions in DW	S-FL-I-039
VOA	GCMS Volatiles Water and Soil	S-FL-O-037
OPrep	Sep Funnel Extraction for Water Samples (EPA 3510)	S-FL-O-028
SVOL	Formaldehyde by HPLC	S-FL-O-052
Wet Chem	Corrosivity	S-FL-I-016
Wet Chem	MBAS	S-FL-I-019
Wet Chem	Low TP	S-FL-I-040
SemiVol	Copper Cleanup for Sulfur (EPA 3660B)	S-FL-O-036
Wet Chem	Low OP	S-FL-I-041
MET	Metals Prep	S-FL-M-011
Wet Chem	Ion Balance	S-FL-I-006

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 90 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Dept	Title	SOP Number
Wet Chem	COD	S-FL-I-013
Wet Chem	TKN	S-FL-I-026
SemiVol	Carbamates by HPLC, EPA 531.1	S-FL-O-012
SemiVol	Glyphosate by HPLC, EPA 547	S-FL-O-013
SVOL	Determination of SVOA Organics by GC/MS	S-FL-O-067
Wet Chem	Phenolics	S-FL-I-001
SemiVol	NP Pesticides by GC TSD, EPA 8141B	S-FL-O-023
SemiVol	1,4-Dioxane by Solid Phase Extraction and GC/MS with SIM	S-FL-O-044
Wet Chem	UV 254	S-FL-I-032
Wet Chem	Solid Sulfides	S-FL-I-044
SVOL	Haloacetic Acids (HAAs) in Drinking Water by EPA 552.3	S-FL-O-061
MET	ICP-AES for Metals in Water, 200.7/SM2340B/6010	S-FL-M-003
SemiVol	Endothall in Drinking Water by Gas Chromatography/Mass Spectrometry	S-FL-O-016
SVOL	TPHCWG	S-FL-O-060
MET	ICP - MS for Metals in Water, EPA 200.8/6020	S-FL-M-004
MB	Preparation of Microbiological Media	S-FL-MB-001
Wet Chem	Hexavalent Chromium by IC	S-FL-I-050
SemiVol	Determination of Chlorinated Pesticides, Herbicides, and Organohalides by Liquid-Solid Extraction and Electron Capture Gas Chromatography	S-FL-O-014
SemiVol	525.2, GCMS Analysis for DW SV compounds	S-FL-O-019
Wet Chem	TOC/DOC	S-FL-I-031
OPrep	Multi Incremental Sampling	S-FL-O-055
OPrep	General Principles of Aqueous Extractions & Techniques for Dealing with Emulsions	S-FL-O-018
Lab	General Lab Housekeeping and Glassware Cleaning	S-FL-L-001
Wet Chem	Acidity	S-FL-I-049
VOA	Volatile Soil Preparation	S-FL-O-038
VOA	ZHE for TCLP/SPLP	S-FL-O-034
Wet Chem	Alkine Digestion of Solid Samples for Hexavalent Chromium	S-FL-I-063
Wet Chem	Cyanide	S-FL-I-005
SemiVol	Selected Perfluorinated Alkyl Acids by Solid Phase Extraction and LC/MS/MS	S-FL-O-045
SemiVol	Determination of Diquat and Paraquat in Drinking Water by Liquid-Solid Extraction and High Performance Liquid Chromatography with Ultraviolet Detection	S-FL-O-010
VOA	GCMS Volatiles Drinking Water	S-FL-O-033
MET	SPLP Preparation	S-FL-M-008
Quality	Quality Assurance Manual	Quality Manual
Wet Chem	Chlorophyll A,B,C & Pheophytin	S-FL-I-012
MB	Micro Use Test	S-FL-MB-008
Wet Chem	Conductivity	S-FL-I-015
Wet Chem	Percent Moisture/Percent Solids	S-FL-I-043
MET	Mercury	S-FL-M-005
MB	HPC Simplate	S-FL-MB-009
Wet Chem	Alkalinity	S-FL-I-007
Wet Chem	Turbidity	S-FL-I-030
MB	Total Coliform by MMO-MUG	S-FL-MB-003
Tampa	HPC by Pour Plate	S-FL-TPA-038
Tampa	Tampa Oil & Grease/TRPH in Water by EPA 1664A, Gravimetric	S-FL-TPA-025
Tampa	Tampa Mercury - Low Level	S-FL-TPA-032
Tampa	Tampa MBAS	S-FL-TPA-018
Tampa	Tampa BOD/CBOD	S-FL-TPA-021
Tampa	mColiBlue24	S-FL-TPA-035

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 91 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office

Dept	Title	SOP Number
Tampa	Calibration of Ludlum Model 4612/182 Scintillation Counters	S-FL-TPA-037
Wet Chem	Color	S-FL-I-014
Tampa	ICP-AES for Metals in Water	S-FL-TPA-006
Tampa	Tampa UV 254	S-FL-TPA-019
SVOL	Determination of Semivolatile Organic Compounds by EPA 525.3	S-FL-O-064
SVOL	Determination of Total Microcystins and Nodularins by ADDA-ELISA	S-FL-O-068
SVOL	Determination of Cylindrospermopsin and Anatoxin-A by LC/MS/MS	S-FL-O-063
SVOL	Determination of Semivolatile Organic Compounds by EPA 530	S-FL-O-065
SVOL	Determination of Alcohols by EPA 541	S-FL-O-066
OPrep	525/508 Prep	S-FL-O-069
Tampa	Gross alpha/beta (EPA 900.0)	S-FL-TPA-029
Tampa	Gross alpha/beta (SM7110B)	S-FL-TPA-030
Tampa	Gross alpha	S-FL-TPA-031
Tampa	Radium 226	S-FL-TPA-033
Tampa	Radium 228	S-FL-TPA-034
Wet Chem	TS	S-FL-I-028
Tampa	Metals Prep	S-FL-TPA-004
Tampa	Mercury	S-FL-TPA-005
Tampa	Tampa Chlorophyll A, B, C, & Pheophytin	S-FL-TPA-009
Wet Chem	Odor	S-FL-I-021
Wet Chem	TDS	S-FL-I-027
Wet Chem	TSS	S-FL-I-029
MB	Total Coliform by Membrane Filter (MF)	S-FL-MB-005
MB	Micro QC/Maintenance	S-FL-MB-007
MB	Enterococci MPN by Enterolert Quanti-Tray/2000	S-FL-MB-013
MB	Total Coliform and E. coli MPN by Colilert Quanti-Tray/2000	S-FL-MB-014
Tampa	Calibration of the Protean MPC-9604 Gas Proportional Counter	S-FL-TPA-036
Tampa	Tampa ICP-MS Analytical Method for Trace Metals	S-FL-TPA-024
MET	TCLP Preparation	S-FL-M-007
Wet Chem	Silica	S-FL-I-004
SemiVol	Perchlorate by LC/MS/MS	S-FL-O-051
SemiVol	8318 Modified	S-FL-O-054
VOA	Determination of Drinking Water Volatiles by GC/MS	S-FL-O-048
Client Services	UCMR3 Field Sampling Instructions	F-FL-C-023
Wet Chem	Nutrient Prep	S-FL-I-034
Tampa	Orthophosphate, Ascorbic Acid Method	S-FL-I-046
Tampa	Analysis for Determining Sediment Concentration in Water Samples	S-FL-I-048
SFL	SFL Ferrous Iron	S-FL-I-053
SFL	SFL Alkalinity	S-FL-I-054
SFL	SFL Nitrate/Nitrite	S-FL-I-057
Wet Chem	Hexavalent Chromium by UV SM3500Cr	S-FL-I-060
Wet Chem	Hexavalent Chromium in Drinking Water	S-FL-I-061
Wet Chem	Hexavalent Chromium in Soil	S-FL-I-062
MET	Hexavalent Chromium	S-FL-M-002
MB	Enterococci	S-FL-MB-012
OPrep	Florasil Cleanup for Pesticides Using Method 3620B	S-FL-O-022
OPrep	Oil & Grease/TRPH in Water by EPA 1664A, Gravimetric	S-FL-O-027
OPrep	Pesticide Separatory Funnel Extraction	S-FL-O-049
OPrep	Pesticide Microwave Extraction	S-FL-O-050
SemiVol	615 Herbicides	S-FL-O-057
SemiVol	Sonication Extraction of PAHs in Solids	S-FL-O-058
Quality	Use and Application of Labtrack	S-FL-Q-007


	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 92 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office

Dept	Title	SOP Number
Quality	Purchasing of Lab Supplies	S-FL-Q-008
Safety	Waste Management Training Requirements	S-FL-S-003
Safety	Chemical Hygiene Plan/Safety Manual	S-FL-S-004
Tampa	Carbamates by HPLC EPA 8318	S-FL-TPA-001
Tampa	Chlorinated Herbicides by HPLC EPA 8321	S-FL-TPA-002
Tampa	TPHCWG	S-FL-TPA-003
Tampa	Hexavalent chromium 7196A Soils	S-FL-TPA-007
Tampa	Formaldehyde by HPLC	S-FL-TPA-008
Tampa	Anions by IC EPA 300.0	S-FL-TPA-008
Tampa	Tampa Phenolics	S-FL-TPA-010
Tampa	Tampa TKN/TP	S-FL-TPA-011
Tampa	Tampa COD	S-FL-TPA-012
Tampa	Tampa Nox	S-FL-TPA-013
Tampa	Tampa EPA 300.1, Anions in DW	S-FL-TPA-014
Tampa	Tampa Sulfide	S-FL-TPA-015
Tampa	Tampa Alkalinity	S-FL-TPA-016
Tampa	Tampa Residual Chlorine	S-FL-TPA-017
Tampa	Total and Amenable Cyanide	S-FL-TPA-020
Tampa	Total Phosphorus/Persulfate	S-FL-TPA-022
Tampa	Tampa Low OP	S-FL-TPA-023
Tampa	Tampa Perchlorate	S-FL-TPA-026
Tampa	ICP Metals by Chelation	S-FL-TPA-027
Tampa	Tampa Fluoride	S-FL-TPA-028
VOA	Trihalomethane and Haloacetic Acid Formation Potential	S-FL-O-047
SemiVol	Microextraction and Analysis of PCBs and Pesticides by GC	S-FL-O-059
SVOL	Determination of Microcystins by LC/MS/MS	S-FL-O-062
Safety	Chemical Hygiene Plan/Safety Manual	Safety Manual
Client Services	Sample Management	S-ALL-C-001
Client Services	Sub-Contract Lab Process	S-ALL-C-003
Client Services	Bottle Preparation	S-ALL-C-004
Client Services	Review of Analytical Requests	S-ALL-C-006
Quality	Processing Tentatively Identified Coumpounds for GC/MS	S-ALL-O-038
Quality	Preparation of Standard Operating Procedures	S-ALL-Q-001
Quality	Document Control Management	S-ALL-Q-002
Quality	Document Numbering	S-ALL-Q-003
Quality	Determination of Limit of Detection and Limit of Quantitation	S-ALL-Q-004
Quality	Purchasing of Lab Supplies	S-ALL-Q-005
Quality	Reciept and Storage of Lab Supplies	S-ALL-Q-006
Quality	Laboratory Documentation	S-ALL-Q-009
Quality	Proficiency Testing Program	S-ALL-Q-010
Quality	Internal & External Audits	S-ALL-Q-011
Quality	Corrective and Preventative Actions	S-ALL-Q-012
Quality	Support Equipment	S-ALL-Q-013
Quality	Quarterly Quality Report	S-ALL-Q-014
Quality	Review of Laboratory Management System	S-ALL-Q-015
Quality	Manual Integration	S-ALL-Q-016
Quality	Monitoring of Storage Units	S-ALL-Q-018
Quality	Orientation and Training Procedures	S-ALL-Q-020
Quality	Sample Homogenization and Sub-Sampling	S-ALL-Q-021
Quality	Standard and Reagent Prep and Traceability	S-ALL-Q-025
Quality	Software Validation	S-ALL-Q-026
Quality	Evaluation and Qualification of Vendors	S-ALL-Q-027
Quality	Use and Operation of Labtrack	S-ALL-Q-028
Quality	MintMinor Data File Review for Data Integrity Monitoring	S-ALL-Q-029

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 93 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Dept	Title	SOP Number
Quality	Operation of Data Checker for EPIC-PRO	S-ALL-Q-030
Quality	Estimation of Measurement and Uncertainty	S-ALL-Q-031
Quality	Control Chart Generation & Trend Analysis	S-ALL-Q-032
Quality	MCL Violation Reporting	S-ALL-Q-033
Quality	Data Recall	S-ALL-Q-035
Quality	Management of Change	S-ALL-Q-036
Quality	Data Review Process	S-ALL-Q-037
Quality	Data and Records Archival	S-ALL-Q-043
Quality	Final Report and Data Deliverable Contents	S-ALL-Q-046
Quality	Method Validation and Instrument Verification	S-ALL-Q-047
Safety	Hazard Assessments	S-ALL-S-001
Safety	Air Quality Monitoring and Fume Hood Monitoring	S-ALL-S-002
Safety	Regulated Soil Handling	S-ALL-S-003
Waste	Waste Handling and Management	S-ALL-W-002
Waste	Waste Management Training Requirements	S-ALL-W-003
Training	Sub-Learn Center System Administrator Manual	T-ALL-T-001
Training	LMS Sub-Learn Center System and Training Administrator Responsibilities	T-ALL-T-002
Training	Sub-Learn Center Training Administrator Manual	T-ALL-T-003
Training	Sub-Learn Center Report Manager Manual	T-ALL-T-004

Uncontrolled Document


	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 94 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office

ATTACHMENT VI- LABORATORY CERTIFICATION LIST (CURRENT AS OF ISSUE DATE)
SCOPE AND APPLICATION CERTIFICATES ARE MAINTAINED AND FILED IN THE LOCAL QUALITY
DEPARTMENT


Lab	FLDOH ID	Matrix	Analyte	Method	Certification Date
Ormond	E83079	Tissues	Calcium	EPA 6010	7/1/2016
Ormond	E83079	Drinking Water	Butachlor	EPA 508.1	1/8/2002
Ormond	E83079	Drinking Water	Dieldrin	EPA 508.1	1/8/2002
Ormond	E83079	Drinking Water	Metolachlor	EPA 508.1	1/8/2002
Ormond	E83079	Drinking Water	Propachlor (Ramrod)	EPA 508.1	1/8/2002
Ormond	E83079	Drinking Water	Acifluorfen	EPA 515.3	5/11/2004
Ormond	E83079	Drinking Water	Dicamba	EPA 515.3	5/11/2004
Ormond	E83079	Drinking Water	2,2 ,3 ,4,6-Pentachlorobiphenyl (525.2 typo for 2,2 ,3,4 ,6 -Pentachlorobiphenyl)	EPA 525.2	1/8/2002
Ormond	E83079	Drinking Water	2,2 ,3,3 ,4,5 ,6,6 -Octachlorobiphenyl (BZ 201)	EPA 525.2	1/8/2002
Ormond	E83079	Drinking Water	2,2 ,4,4 -Tetrachlorobiphenyl (BZ 47)	EPA 525.2	1/8/2002
Ormond	E83079	Drinking Water	2-Chlorobiphenyl (BZ 1)	EPA 525.2	1/8/2002
Ormond	E83079	Drinking Water	Aldrin	EPA 525.2	1/8/2002
Ormond	E83079	Drinking Water	Bromacil	EPA 525.2	3/15/2013
Ormond	E83079	Drinking Water	Butachlor	EPA 525.2	1/8/2002
Ormond	E83079	Drinking Water	Dieldrin	EPA 525.2	1/8/2002
Ormond	E83079	Drinking Water	Metolachlor	EPA 525.2	1/8/2002
Ormond	E83079	Drinking Water	Metribuzin	EPA 525.2	1/8/2002
Ormond	E83079	Drinking Water	Propachlor (Ramrod)	EPA 525.2	1/8/2002
Ormond	E83079	Drinking Water	3-Hydroxycarbofuran	EPA 531.1	1/8/2002
Ormond	E83079	Drinking Water	Aldicarb (Temik)	EPA 531.1	1/8/2002
Ormond	E83079	Drinking Water	Aldicarb sulfone	EPA 531.1	1/8/2002
Ormond	E83079	Drinking Water	Aldicarb sulfoxide	EPA 531.1	1/8/2002
Ormond	E83079	Drinking Water	Carbaryl (Sevin)	EPA 531.1	1/8/2002
Ormond	E83079	Drinking Water	Methiocarb (Mesurol)	EPA 531.1	1/8/2002
Ormond	E83079	Drinking Water	Methomyl (Lannate)	EPA 531.1	1/8/2002
Ormond	E83079	Drinking Water	Bromoacetic acid	EPA 552.2	8/14/2006
Ormond	E83079	Drinking Water	Bromochloroacetic acid	EPA 552.2	9/14/2010
Ormond	E83079	Drinking Water	Chloroacetic acid	EPA 552.2	8/14/2006
Ormond	E83079	Drinking Water	Dibromoacetic acid	EPA 552.2	8/14/2006
Ormond	E83079	Drinking Water	Dichloroacetic acid	EPA 552.2	8/14/2006
Ormond	E83079	Drinking Water	Trichloroacetic acid	EPA 552.2	8/14/2006
Ormond	E83079	Drinking Water	Bromoacetic acid	EPA 552.3	7/1/2016
Ormond	E83079	Drinking Water	Bromochloroacetic acid	EPA 552.3	7/1/2016

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 95 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Lab	FLDOH ID	Matrix	Analyte	Method	Certification Date
Ormond	E83079	Drinking Water	Chloroacetic acid	EPA 552.3	7/1/2016
Ormond	E83079	Drinking Water	Dibromoacetic acid	EPA 552.3	7/1/2016
Ormond	E83079	Drinking Water	Dichloroacetic acid	EPA 552.3	7/1/2016
Ormond	E83079	Drinking Water	Trichloroacetic acid	EPA 552.3	7/1/2016
Ormond	E83079	Drinking Water	1,1,1,2-Tetrachloroethane	EPA 524.2	1/8/2002
Ormond	E83079	Drinking Water	1,1,2,2-Tetrachloroethane	EPA 524.2	1/8/2002
Ormond	E83079	Drinking Water	1,1-Dichloroethane	EPA 524.2	1/8/2002
Ormond	E83079	Drinking Water	1,1-Dichloropropene	EPA 524.2	1/8/2002
Ormond	E83079	Drinking Water	1,2,3-Trichlorobenzene	EPA 524.2	1/8/2002
Ormond	E83079	Drinking Water	1,2,3-Trichloropropane	EPA 524.2	1/8/2002
Ormond	E83079	Drinking Water	1,2,4-Trimethylbenzene	EPA 524.2	1/8/2002
Ormond	E83079	Drinking Water	1,3,5-Trimethylbenzene	EPA 524.2	1/8/2002
Ormond	E83079	Drinking Water	1,3-Dichlorobenzene	EPA 524.2	1/8/2002
Ormond	E83079	Drinking Water	1,3-Dichloropropane	EPA 524.2	1/8/2002
Ormond	E83079	Drinking Water	2,2-Dichloropropane	EPA 524.2	1/8/2002
Ormond	E83079	Drinking Water	2-Chlorotoluene	EPA 524.2	1/8/2002
Ormond	E83079	Drinking Water	4-Chlorotoluene	EPA 524.2	1/8/2002
Ormond	E83079	Drinking Water	4-Isopropyltoluene	EPA 524.2	1/8/2002
Ormond	E83079	Drinking Water	Acetone	EPA 524.2	1/3/2012
Ormond	E83079	Drinking Water	Bromobenzene	EPA 524.2	1/8/2002
Ormond	E83079	Drinking Water	Bromochloromethane	EPA 524.2	1/8/2002
Ormond	E83079	Drinking Water	Chloroethane	EPA 524.2	1/8/2002
Ormond	E83079	Drinking Water	Dibromomethane	EPA 524.2	1/8/2002
Ormond	E83079	Drinking Water	Dichlorodifluoromethane	EPA 524.2	1/8/2002
Ormond	E83079	Drinking Water	Hexachlorobutadiene	EPA 524.2	1/8/2002
Ormond	E83079	Drinking Water	Isopropylbenzene	EPA 524.2	1/8/2002
Ormond	E83079	Drinking Water	Methyl bromide (Bromomethane)	EPA 524.2	1/8/2002
Ormond	E83079	Drinking Water	Methyl chloride (Chloromethane)	EPA 524.2	1/8/2002
Ormond	E83079	Drinking Water	Methyl tert-butyl ether (MTBE)	EPA 524.2	1/8/2002
Ormond	E83079	Drinking Water	Naphthalene	EPA 524.2	1/8/2002
Ormond	E83079	Drinking Water	Trichlorofluoromethane	EPA 524.2	1/8/2002
Ormond	E83079	Drinking Water	cis-1,3-Dichloropropene	EPA 524.2	1/8/2002
Ormond	E83079	Drinking Water	m/p-Xylenes	EPA 524.2	1/3/2012
Ormond	E83079	Drinking Water	n-Butylbenzene	EPA 524.2	1/8/2002
Ormond	E83079	Drinking Water	n-Propylbenzene	EPA 524.2	1/8/2002
Ormond	E83079	Drinking Water	o-Xylene	EPA 524.2	1/3/2012
Ormond	E83079	Drinking Water	sec-Butylbenzene	EPA 524.2	1/8/2002

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 96 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Lab	FLDOH ID	Matrix	Analyte	Method	Certification Date
Ormond	E83079	Drinking Water	tert-Butylbenzene	EPA 524.2	1/8/2002
Ormond	E83079	Drinking Water	trans-1,3-Dichloropropene	EPA 524.2	1/8/2002
Ormond	E83079	Drinking Water	Bromodichloromethane	EPA 524.2	1/8/2002
Ormond	E83079	Drinking Water	Bromoform	EPA 524.2	1/8/2002
Ormond	E83079	Drinking Water	Butyl benzyl phthalate	EPA 525.2	1/8/2002
Ormond	E83079	Drinking Water	Di-n-butyl phthalate	EPA 525.2	1/8/2002
Ormond	E83079	Drinking Water	Diethyl phthalate	EPA 525.2	1/8/2002
Ormond	E83079	Drinking Water	Dimethyl phthalate	EPA 525.2	1/8/2002
Ormond	E83079	Drinking Water	Fluorene	EPA 525.2	1/8/2002
Ormond	E83079	Drinking Water	Indeno(1,2,3-cd)pyrene	EPA 525.2	1/8/2002
Ormond	E83079	Drinking Water	Pyrene	EPA 525.2	1/8/2002
Ormond	E83079	Drinking Water	Perfluorobutane sulfonate (PFBS, perfluorobutane sulfonic acid)	EPA 537	7/1/2016
Ormond	E83079	Drinking Water	Perfluoroheptanoate (PFHpA, perfluoroheptanoic acid)	EPA 537	7/1/2016
Ormond	E83079	Drinking Water	Perfluorohexane sulfonate (PFHxS, perfluorohexane sulfonic acid)	EPA 537	7/1/2016
Ormond	E83079	Drinking Water	Perfluorononanoate (PFNA, perfluorononanoic acid)	EPA 537	7/1/2016
Ormond	E83079	Drinking Water	Perfluorooctane sulfonate (PFOS, perfluorooctane sulfonic acid)	EPA 537	7/1/2016
Ormond	E83079	Drinking Water	Perfluorooctanoate (PFOA, perfluorooctanoic acid)	EPA 537	7/1/2016
Ormond	E83079	Drinking Water	Escherichia coli	COLISURE	11/1/2011
Ormond	E83079	Drinking Water	Total coliforms	COLISURE	11/1/2011
Ormond	E83079	Drinking Water	Heterotrophic plate count	SIMPLATE	3/15/2013
Ormond	E83079	Drinking Water	Escherichia coli	SM 9223 B	11/1/2011
Ormond	E83079	Drinking Water	Total coliforms	SM 9223 B	11/1/2011
Ormond	E83079	Drinking Water	1,1,1-Trichloroethane	EPA 524.2	1/8/2002
Ormond	E83079	Drinking Water	1,1,2-Trichloroethane	EPA 524.2	1/8/2002
Ormond	E83079	Drinking Water	1,1-Dichloroethylene	EPA 524.2	1/8/2002
Ormond	E83079	Drinking Water	1,2,4-Trichlorobenzene	EPA 524.2	1/8/2002
Ormond	E83079	Drinking Water	1,2-Dichlorobenzene	EPA 524.2	1/8/2002
Ormond	E83079	Drinking Water	1,2-Dichloroethane	EPA 524.2	1/8/2002
Ormond	E83079	Drinking Water	1,2-Dichloropropane	EPA 524.2	1/8/2002
Ormond	E83079	Drinking Water	1,4-Dichlorobenzene	EPA 524.2	1/8/2002

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 97 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Lab	FLDOH ID	Matrix	Analyte	Method	Certification Date
Ormond	E83079	Drinking Water	Benzene	EPA 524.2	1/8/2002
Ormond	E83079	Drinking Water	Carbon tetrachloride	EPA 524.2	1/8/2002
Ormond	E83079	Drinking Water	Chlorobenzene	EPA 524.2	1/8/2002
Ormond	E83079	Drinking Water	Dichloromethane (DCM, Methylene chloride)	EPA 524.2	1/8/2002
Ormond	E83079	Drinking Water	Ethylbenzene	EPA 524.2	1/8/2002
Ormond	E83079	Drinking Water	Styrene	EPA 524.2	1/8/2002
Ormond	E83079	Drinking Water	Tetrachloroethylene (Perchloroethylene)	EPA 524.2	1/8/2002
Ormond	E83079	Drinking Water	Toluene	EPA 524.2	1/8/2002
Ormond	E83079	Drinking Water	Total trihalomethanes	EPA 524.2	1/8/2002
Ormond	E83079	Drinking Water	Trichloroethene (Trichloroethylene)	EPA 524.2	1/8/2002
Ormond	E83079	Drinking Water	Vinyl chloride	EPA 524.2	1/8/2002
Ormond	E83079	Drinking Water	Xylene (total)	EPA 524.2	1/8/2002
Ormond	E83079	Drinking Water	cis-1,2-Dichloroethylene	EPA 524.2	1/8/2002
Ormond	E83079	Drinking Water	trans-1,2-Dichloroethylene	EPA 524.2	1/8/2002
Ormond	E83079	Drinking Water	Chloroform	EPA 524.2	1/8/2002
Ormond	E83079	Drinking Water	Dibromochloromethane	EPA 524.2	1/8/2002
Ormond	E83079	Drinking Water	Arsenic	EPA 200.7	1/8/2002
Ormond	E83079	Drinking Water	Barium	EPA 200.7	1/8/2002
Ormond	E83079	Drinking Water	Beryllium	EPA 200.7	1/8/2002
Ormond	E83079	Drinking Water	Cadmium	EPA 200.7	1/8/2002
Ormond	E83079	Drinking Water	Calcium	EPA 200.7	1/8/2002
Ormond	E83079	Drinking Water	Chromium	EPA 200.7	1/8/2002
Ormond	E83079	Drinking Water	Magnesium	EPA 200.7	1/8/2002
Ormond	E83079	Drinking Water	Nickel	EPA 200.7	1/8/2002
Ormond	E83079	Drinking Water	Silica as SiO ₂	EPA 200.7	12/12/2012
Ormond	E83079	Drinking Water	Sodium	EPA 200.7	1/8/2002
Ormond	E83079	Drinking Water	Antimony	EPA 200.8	5/11/2004
Ormond	E83079	Drinking Water	Arsenic	EPA 200.8	5/11/2004
Ormond	E83079	Drinking Water	Barium	EPA 200.8	5/11/2004
Ormond	E83079	Drinking Water	Beryllium	EPA 200.8	5/11/2004
Ormond	E83079	Drinking Water	Cadmium	EPA 200.8	5/11/2004
Ormond	E83079	Drinking Water	Chromium	EPA 200.8	5/11/2004
Ormond	E83079	Drinking Water	Cobalt	EPA 200.8	12/12/2012
Ormond	E83079	Drinking Water	Lead	EPA 200.8	5/11/2004

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 98 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Lab	FLDOH ID	Matrix	Analyte	Method	Certification Date
Ormond	E83079	Drinking Water	Nickel	EPA 200.8	5/11/2004
Ormond	E83079	Drinking Water	Selenium	EPA 200.8	5/11/2004
Ormond	E83079	Drinking Water	Thallium	EPA 200.8	5/11/2004
Ormond	E83079	Drinking Water	Chromium VI	EPA 218.6	12/12/2012
Ormond	E83079	Drinking Water	Chromium VI	EPA 218.7	12/12/2012
Ormond	E83079	Drinking Water	Mercury	EPA 245.1	1/8/2002
Ormond	E83079	Drinking Water	Bromide	EPA 300.0	1/8/2002
Ormond	E83079	Drinking Water	Nitrate	EPA 300.0	1/8/2002
Ormond	E83079	Drinking Water	Nitrite	EPA 300.0	1/8/2002
Ormond	E83079	Drinking Water	Orthophosphate as P	EPA 300.0	1/8/2002
Ormond	E83079	Drinking Water	Total nitrate-nitrite	EPA 300.0	1/8/2002
Ormond	E83079	Drinking Water	Bromate	EPA 300.1	5/11/2004
Ormond	E83079	Drinking Water	Bromide	EPA 300.1	5/11/2004
Ormond	E83079	Drinking Water	Chlorate	EPA 300.1	5/11/2004
Ormond	E83079	Drinking Water	Chlorite	EPA 300.1	5/11/2004
Ormond	E83079	Drinking Water	Cyanide	EPA 335.4	1/8/2002
Ormond	E83079	Drinking Water	Nitrate	EPA 353.2	1/8/2002
Ormond	E83079	Drinking Water	Nitrite	EPA 353.2	1/8/2002
Ormond	E83079	Drinking Water	Total nitrate-nitrite	EPA 353.2	1/8/2002
Ormond	E83079	Drinking Water	Orthophosphate as P	EPA 365.1	1/8/2002
Ormond	E83079	Drinking Water	Alkalinity as CaCO ₃	SM 2320 B	1/8/2002
Ormond	E83079	Drinking Water	Conductivity	SM 2510 B	1/8/2002
Ormond	E83079	Drinking Water	Chlorine	SM 4500-Cl D	1/8/2002
Ormond	E83079	Drinking Water	Chlorine dioxide, res. disinfectant	SM 4500-ClO ₂ D	10/14/2004
Ormond	E83079	Drinking Water	Dissolved organic carbon (DOC)	SM 5310 B	1/3/2012
Ormond	E83079	Drinking Water	Total organic carbon	SM 5310 B	1/8/2002
Ormond	E83079	Drinking Water	UV 254	SM 5910 B	1/8/2002
Ormond	E83079	Drinking Water	Copper	EPA 200.7	1/8/2002
Ormond	E83079	Drinking Water	Copper	EPA 200.8	5/11/2004
Ormond	E83079	Drinking Water	Fluoride	EPA 300.0	1/8/2002
Ormond	E83079	Drinking Water	Sulfate	EPA 300.0	1/8/2002
Ormond	E83079	Drinking Water	Uranium	EPA 200.8	12/12/2012

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 99 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Lab	FLDOH ID	Matrix	Analyte	Method	Certification Date
Ormond	E83079	Drinking Water	Turbidity	EPA 180.1	1/8/2002
Ormond	E83079	Drinking Water	Aluminum	EPA 200.7	1/8/2002
Ormond	E83079	Drinking Water	Hardness (calc.)	EPA 200.7	8/14/2006
Ormond	E83079	Drinking Water	Iron	EPA 200.7	1/8/2002
Ormond	E83079	Drinking Water	Manganese	EPA 200.7	1/8/2002
Ormond	E83079	Drinking Water	Potassium	EPA 200.7	10/18/2004
Ormond	E83079	Drinking Water	Silver	EPA 200.7	1/8/2002
Ormond	E83079	Drinking Water	Zinc	EPA 200.7	1/8/2002
Ormond	E83079	Drinking Water	Aluminum	EPA 200.8	5/11/2004
Ormond	E83079	Drinking Water	Manganese	EPA 200.8	5/11/2004
Ormond	E83079	Drinking Water	Silver	EPA 200.8	5/11/2004
Ormond	E83079	Drinking Water	Zinc	EPA 200.8	5/11/2004
Ormond	E83079	Drinking Water	Chloride	EPA 300.0	1/8/2002
Ormond	E83079	Drinking Water	Total phenolics	EPA 420.4	7/1/2016
Ormond	E83079	Drinking Water	Strontium	PACE SOP S-FL-M-004/ICP-MS	12/12/2012
Ormond	E83079	Drinking Water	Color	SM 2120 B	1/8/2002
Ormond	E83079	Drinking Water	Odor	SM 2150 B	1/8/2002
Ormond	E83079	Drinking Water	Corrosivity (langlier index)	SM 2330 B	1/8/2002
Ormond	E83079	Drinking Water	Hardness	SM 2340 B	8/14/2006
Ormond	E83079	Drinking Water	Total dissolved solids	SM 2540 C	1/8/2002
Ormond	E83079	Drinking Water	pH	SM 4500-H+-B	2/19/2008
Ormond	E83079	Drinking Water	Surfactants - MBAS	SM 5540 C	1/8/2002
Ormond	E83079	Drinking Water	1,2-Dibromo-3-chloropropane (DBCP)	EPA 504.1	1/8/2002
Ormond	E83079	Drinking Water	1,2-Dibromoethane (EDB, Ethylene dibromide)	EPA 504.1	1/8/2002
Ormond	E83079	Drinking Water	Alachlor	EPA 508.1	1/8/2002
Ormond	E83079	Drinking Water	Aroclor-1016 (PCB-1016)	EPA 508.1	3/10/2010
Ormond	E83079	Drinking Water	Aroclor-1221 (PCB-1221)	EPA 508.1	3/10/2010
Ormond	E83079	Drinking Water	Aroclor-1232 (PCB-1232)	EPA 508.1	3/10/2010
Ormond	E83079	Drinking Water	Aroclor-1242 (PCB-1242)	EPA 508.1	3/10/2010
Ormond	E83079	Drinking Water	Aroclor-1248 (PCB-1248)	EPA 508.1	3/10/2010
Ormond	E83079	Drinking Water	Aroclor-1254 (PCB-1254)	EPA 508.1	3/10/2010
Ormond	E83079	Drinking Water	Aroclor-1260 (PCB-1260)	EPA 508.1	3/10/2010
Ormond	E83079	Drinking Water	Atrazine	EPA 508.1	1/8/2002
Ormond	E83079	Drinking Water	Chlordane (tech.)	EPA 508.1	1/8/2002
Ormond	E83079	Drinking Water	Endrin	EPA 508.1	1/8/2002

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 100 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Lab	FLDOH ID	Matrix	Analyte	Method	Certification Date
Ormond	E83079	Drinking Water	Heptachlor	EPA 508.1	1/8/2002
Ormond	E83079	Drinking Water	Heptachlor epoxide	EPA 508.1	1/8/2002
Ormond	E83079	Drinking Water	Hexachlorobenzene	EPA 508.1	1/8/2002
Ormond	E83079	Drinking Water	Hexachlorocyclopentadiene	EPA 508.1	1/8/2002
Ormond	E83079	Drinking Water	Methoxychlor	EPA 508.1	1/8/2002
Ormond	E83079	Drinking Water	PCBs	EPA 508.1	1/8/2002
Ormond	E83079	Drinking Water	Simazine	EPA 508.1	1/8/2002
Ormond	E83079	Drinking Water	Toxaphene (Chlorinated camphene)	EPA 508.1	1/8/2002
Ormond	E83079	Drinking Water	gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	EPA 508.1	1/8/2002
Ormond	E83079	Drinking Water	2,4,5-T	EPA 515.3	10/14/2004
Ormond	E83079	Drinking Water	2,4-D	EPA 515.3	5/11/2004
Ormond	E83079	Drinking Water	2,4-DB	EPA 515.3	10/14/2004
Ormond	E83079	Drinking Water	Bentazon	EPA 515.3	10/14/2004
Ormond	E83079	Drinking Water	Dalapon	EPA 515.3	5/11/2004
Ormond	E83079	Drinking Water	Dichloroprop (Dichlorprop)	EPA 515.3	10/14/2004
Ormond	E83079	Drinking Water	Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	EPA 515.3	5/11/2004
Ormond	E83079	Drinking Water	Pentachlorophenol	EPA 515.3	5/11/2004
Ormond	E83079	Drinking Water	Picloram	EPA 515.3	5/11/2004
Ormond	E83079	Drinking Water	Silvex (2,4,5-TP)	EPA 515.3	5/11/2004
Ormond	E83079	Drinking Water	1,4-Dioxane (1,4-Diethyleneoxide)	EPA 522	1/17/2014
Ormond	E83079	Drinking Water	Atrazine	EPA 525.2	7/1/2016
Ormond	E83079	Drinking Water	Benzo(a)pyrene	EPA 525.2	1/8/2002
Ormond	E83079	Drinking Water	Di(2-ethylhexyl)adipate	EPA 525.2	1/8/2002
Ormond	E83079	Drinking Water	bis(2-Ethylhexyl) phthalate (DEHP)	EPA 525.2	1/8/2002
Ormond	E83079	Drinking Water	Carbofuran (Furadan)	EPA 531.1	1/8/2002
Ormond	E83079	Drinking Water	Oxamyl	EPA 531.1	1/8/2002
Ormond	E83079	Drinking Water	Glyphosate	EPA 547	1/8/2002
Ormond	E83079	Drinking Water	Endothall	EPA 548.1	1/8/2002
Ormond	E83079	Drinking Water	Diquat	EPA 549.2	1/8/2002
Ormond	E83079	Drinking Water	Paraquat	EPA 549.2	3/10/2010
Ormond	E83079	Drinking Water	Total haloacetic acids (HAA5)	EPA 552.2	8/14/2006
Ormond	E83079	Drinking Water	Total haloacetic acids (HAA5)	EPA 552.3	7/1/2016
Ormond	E83079	Non-Potable Water	1,2,4-Trichlorobenzene	EPA 625	1/8/2002
Ormond	E83079	Non-Potable Water	1,2-Dichlorobenzene	EPA 625	1/8/2002
Ormond	E83079	Non-Potable Water	1,2-Diphenylhydrazine	EPA 625	4/29/2014

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 101 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Lab	FLDOH ID	Matrix	Analyte	Method	Certification Date
Ormond	E83079	Non-Potable Water	1,3-Dichlorobenzene	EPA 625	1/8/2002
Ormond	E83079	Non-Potable Water	1,4-Dichlorobenzene	EPA 625	1/8/2002
Ormond	E83079	Non-Potable Water	1-Methylnaphthalene	EPA 625	3/15/2013
Ormond	E83079	Non-Potable Water	2,2 -Oxybis(1-chloropropane),bis(2-Chloro-1-methylethyl)ether (fka bis(2-Chloroisopropyl) ether	EPA 625	1/8/2002
Ormond	E83079	Non-Potable Water	2,4,6-Trichlorophenol	EPA 625	1/8/2002
Ormond	E83079	Non-Potable Water	2,4-Dichlorophenol	EPA 625	1/8/2002
Ormond	E83079	Non-Potable Water	2,4-Dimethylphenol	EPA 625	1/8/2002
Ormond	E83079	Non-Potable Water	2,4-Dinitrophenol	EPA 625	1/8/2002
Ormond	E83079	Non-Potable Water	2,4-Dinitrotoluene (2,4-DNT)	EPA 625	1/8/2002
Ormond	E83079	Non-Potable Water	2,6-Dinitrotoluene (2,6-DNT)	EPA 625	1/8/2002
Ormond	E83079	Non-Potable Water	2-Chloronaphthalene	EPA 625	1/8/2002
Ormond	E83079	Non-Potable Water	2-Chlorophenol	EPA 625	1/8/2002
Ormond	E83079	Non-Potable Water	2-Methyl-4,6-dinitrophenol	EPA 625	1/8/2002
Ormond	E83079	Non-Potable Water	2-Methylnaphthalene	EPA 625	3/15/2013
Ormond	E83079	Non-Potable Water	2-Methylphenol (o-Cresol)	EPA 625	3/15/2013
Ormond	E83079	Non-Potable Water	2-Nitrophenol	EPA 625	1/8/2002
Ormond	E83079	Non-Potable Water	3,3 -Dichlorobenzidine	EPA 625	1/8/2002
Ormond	E83079	Non-Potable Water	3/4-Methylphenols (m/p-Cresols)	EPA 625	3/15/2013
Ormond	E83079	Non-Potable Water	4-Bromophenyl phenyl ether	EPA 625	1/8/2002
Ormond	E83079	Non-Potable Water	4-Chloro-3-methylphenol	EPA 625	1/8/2002
Ormond	E83079	Non-Potable Water	4-Chlorophenyl phenylether	EPA 625	1/8/2002
Ormond	E83079	Non-Potable Water	4-Nitrophenol	EPA 625	1/8/2002
Ormond	E83079	Non-Potable Water	Acenaphthene	EPA 625	1/8/2002
Ormond	E83079	Non-Potable Water	Acenaphthylene	EPA 625	1/8/2002
Ormond	E83079	Non-Potable Water	Anthracene	EPA 625	1/8/2002
Ormond	E83079	Non-Potable Water	Benzidine	EPA 625	1/8/2002
Ormond	E83079	Non-Potable Water	Benzo(a)anthracene	EPA 625	1/8/2002
Ormond	E83079	Non-Potable Water	Benzo(a)pyrene	EPA 625	1/8/2002
Ormond	E83079	Non-Potable Water	Benzo(b)fluoranthene	EPA 625	1/8/2002
Ormond	E83079	Non-Potable Water	Benzo(g,h,i)perylene	EPA 625	1/8/2002
Ormond	E83079	Non-Potable Water	Benzo(k)fluoranthene	EPA 625	1/8/2002
Ormond	E83079	Non-Potable Water	Butyl benzyl phthalate	EPA 625	1/8/2002
Ormond	E83079	Non-Potable Water	Chrysene	EPA 625	1/8/2002
Ormond	E83079	Non-Potable Water	Di-n-butyl phthalate	EPA 625	1/8/2002
Ormond	E83079	Non-Potable Water	Di-n-octyl phthalate	EPA 625	1/8/2002

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 102 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Lab	FLDOH ID	Matrix	Analyte	Method	Certification Date
Ormond	E83079	Non-Potable Water	Dibenz(a,h)anthracene	EPA 625	1/8/2002
Ormond	E83079	Non-Potable Water	Diethyl phthalate	EPA 625	1/8/2002
Ormond	E83079	Non-Potable Water	Dimethyl phthalate	EPA 625	1/8/2002
Ormond	E83079	Non-Potable Water	Fluoranthene	EPA 625	1/8/2002
Ormond	E83079	Non-Potable Water	Fluorene	EPA 625	1/8/2002
Ormond	E83079	Non-Potable Water	Hexachlorobenzene	EPA 625	1/8/2002
Ormond	E83079	Non-Potable Water	Hexachlorobutadiene	EPA 625	1/8/2002
Ormond	E83079	Non-Potable Water	Hexachlorocyclopentadiene	EPA 625	1/8/2002
Ormond	E83079	Non-Potable Water	Hexachloroethane	EPA 625	1/8/2002
Ormond	E83079	Non-Potable Water	Indeno(1,2,3-cd)pyrene	EPA 625	1/8/2002
Ormond	E83079	Non-Potable Water	Isophorone	EPA 625	1/8/2002
Ormond	E83079	Non-Potable Water	Naphthalene	EPA 625	1/8/2002
Ormond	E83079	Non-Potable Water	Nitrobenzene	EPA 625	1/8/2002
Ormond	E83079	Non-Potable Water	Pentachlorophenol	EPA 625	1/8/2002
Ormond	E83079	Non-Potable Water	Phenanthrene	EPA 625	1/8/2002
Ormond	E83079	Non-Potable Water	Phenol	EPA 625	1/8/2002
Ormond	E83079	Non-Potable Water	Pyrene	EPA 625	1/8/2002
Ormond	E83079	Non-Potable Water	bis(2-Chloroethoxy)methane	EPA 625	1/8/2002
Ormond	E83079	Non-Potable Water	bis(2-Chloroethyl) ether	EPA 625	1/8/2002
Ormond	E83079	Non-Potable Water	bis(2-Ethylhexyl) phthalate (DEHP)	EPA 625	1/8/2002
Ormond	E83079	Non-Potable Water	n-Nitrosodi-n-propylamine	EPA 625	1/8/2002
Ormond	E83079	Non-Potable Water	n-Nitrosodimethylamine	EPA 625	1/8/2002
Ormond	E83079	Non-Potable Water	n-Nitrosodiphenylamine	EPA 625	1/8/2002
Ormond	E83079	Non-Potable Water	1,2,4-Trichlorobenzene	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	1,2-Dichlorobenzene	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	1,2-Dinitrobenzene	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	1,2-Diphenylhydrazine	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	1,3-Dichlorobenzene	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	1,3-Dinitrobenzene (1,3-DNB)	EPA 8270	9/2/2008
Ormond	E83079	Non-Potable Water	1,4-Dichlorobenzene	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	1-Methylnaphthalene	EPA 8270	1/3/2012
Ormond	E83079	Non-Potable Water	2,2 -Oxybis(1-chloropropane),bis(2-Chloro-1-methylethyl)ether (fka bis(2-Chloroisopropyl) ether	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	2,3,4,6-Tetrachlorophenol	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	2,4,5-Trichlorophenol	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	2,4,6-Trichlorophenol	EPA 8270	7/1/2003

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 103 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Lab	FLDOH ID	Matrix	Analyte	Method	Certification Date
Ormond	E83079	Non-Potable Water	2,4-Dichlorophenol	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	2,4-Dimethylphenol	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	2,4-Dinitrophenol	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	2,4-Dinitrotoluene (2,4-DNT)	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	2,6-Dinitrotoluene (2,6-DNT)	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	2-Chloronaphthalene	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	2-Chlorophenol	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	2-Methyl-4,6-dinitrophenol	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	2-Methylnaphthalene	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	2-Methylphenol (o-Cresol)	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	2-Nitroaniline	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	2-Nitrophenol	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	3,3 -Dichlorobenzidine	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	3,3 -Dimethylbenzidine	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	3-Nitroaniline	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	3/4-Methylphenols (m/p-Cresols)	EPA 8270	1/2/2008
Ormond	E83079	Non-Potable Water	4-Bromophenyl phenyl ether	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	4-Chloro-3-methylphenol	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	4-Chloroaniline	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	4-Chlorophenyl phenylether	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	4-Nitroaniline	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	4-Nitrophenol	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	Acenaphthene	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	Acenaphthylene	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	Aniline	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	Anthracene	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	Benzdine	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	Benzo(a)anthracene	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	Benzo(a)pyrene	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	Benzo(b)fluoranthene	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	Benzo(g,h,i)perylene	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	Benzo(k)fluoranthene	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	Benzyl alcohol	EPA 8270	1/2/2008
Ormond	E83079	Non-Potable Water	Butyl benzyl phthalate	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	Carbazole	EPA 8270	1/3/2012
Ormond	E83079	Non-Potable Water	Chrysene	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	Di-n-butyl phthalate	EPA 8270	7/1/2003

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 104 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Lab	FLDOH ID	Matrix	Analyte	Method	Certification Date
Ormond	E83079	Non-Potable Water	Di-n-octyl phthalate	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	Dibenz(a,h)anthracene	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	Dibenzofuran	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	Diethyl phthalate	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	Dimethyl phthalate	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	Fluoranthene	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	Fluorene	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	Hexachlorobenzene	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	Hexachlorobutadiene	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	Hexachlorocyclopentadiene	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	Hexachloroethane	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	Indeno(1,2,3-cd)pyrene	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	Isophorone	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	Naphthalene	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	Nitrobenzene	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	Pentachlorophenol	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	Phenanthrene	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	Phenol	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	Pyrene	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	Pyridine	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	bis(2-Chloroethoxy)methane	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	bis(2-Chloroethyl) ether	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	bis(2-Ethylhexyl) phthalate (DEHP)	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	n-Nitrosodi-n-propylamine	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	n-Nitrosodimethylamine	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	n-Nitrosodiphenylamine	EPA 8270	7/1/2003
Ormond	E83079	Non-Potable Water	Formaldehyde	EPA 8315	7/1/2016
Ormond	E83079	Non-Potable Water	Total Petroleum Hydrocarbons (TPH)	FL-PRO	7/1/2003
Ormond	E83079	Non-Potable Water	Total Petroleum Hydrocarbons (TPH)	TPHCWG Direct Method	7/1/2016
Ormond	E83079	Non-Potable Water	Un-ionized Ammonia	DEP SOP 10/03/83	1/8/2002
Ormond	E83079	Non-Potable Water	Ignitability	EPA 1010	7/1/2003
Ormond	E83079	Non-Potable Water	Turbidity	EPA 180.1	1/8/2002
Ormond	E83079	Non-Potable Water	Chromium VI	EPA 218.6	1/17/2014
Ormond	E83079	Non-Potable Water	Bromide	EPA 300.0	1/8/2002
Ormond	E83079	Non-Potable Water	Chloride	EPA 300.0	1/8/2002

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 105 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Lab	FLDOH ID	Matrix	Analyte	Method	Certification Date
Ormond	E83079	Non-Potable Water	Fluoride	EPA 300.0	1/8/2002
Ormond	E83079	Non-Potable Water	Nitrate as N	EPA 300.0	1/8/2002
Ormond	E83079	Non-Potable Water	Nitrate-nitrite	EPA 300.0	1/8/2002
Ormond	E83079	Non-Potable Water	Nitrite as N	EPA 300.0	1/8/2002
Ormond	E83079	Non-Potable Water	Orthophosphate as P	EPA 300.0	1/8/2002
Ormond	E83079	Non-Potable Water	Sulfate	EPA 300.0	1/8/2002
Ormond	E83079	Non-Potable Water	Bromate	EPA 300.1	12/12/2012
Ormond	E83079	Non-Potable Water	Chlorate	EPA 300.1	12/12/2012
Ormond	E83079	Non-Potable Water	Chlorite	EPA 300.1	12/12/2012
Ormond	E83079	Non-Potable Water	Cyanide	EPA 335.4	1/8/2002
Ormond	E83079	Non-Potable Water	Ammonia as N	EPA 350.1	1/8/2002
Ormond	E83079	Non-Potable Water	Kjeldahl nitrogen - total	EPA 351.2	1/8/2002
Ormond	E83079	Non-Potable Water	Nitrate as N	EPA 353.2	1/8/2002
Ormond	E83079	Non-Potable Water	Nitrate-nitrite	EPA 353.2	1/8/2002
Ormond	E83079	Non-Potable Water	Nitrite as N	EPA 353.2	1/8/2002
Ormond	E83079	Non-Potable Water	Orthophosphate as P	EPA 365.1	1/8/2002
Ormond	E83079	Non-Potable Water	Phosphorus, total	EPA 365.3	12/4/2007
Ormond	E83079	Non-Potable Water	Phosphorus, total	EPA 365.4	1/8/2002
Ormond	E83079	Non-Potable Water	Chemical oxygen demand	EPA 410.4	1/8/2002
Ormond	E83079	Non-Potable Water	Total phenolics	EPA 420.4	1/8/2002
Ormond	E83079	Non-Potable Water	Total cyanide	EPA 9012	7/1/2003
Ormond	E83079	Non-Potable Water	pH	EPA 9040	7/1/2003
Ormond	E83079	Non-Potable Water	Bromide	EPA 9056	7/1/2003
Ormond	E83079	Non-Potable Water	Chloride	EPA 9056	7/1/2003
Ormond	E83079	Non-Potable Water	Fluoride	EPA 9056	7/1/2003
Ormond	E83079	Non-Potable Water	Nitrate	EPA 9056	7/1/2003
Ormond	E83079	Non-Potable Water	Nitrite	EPA 9056	7/1/2003
Ormond	E83079	Non-Potable Water	Orthophosphate as P	EPA 9056	7/1/2003
Ormond	E83079	Non-Potable Water	Sulfate	EPA 9056	7/1/2003
Ormond	E83079	Non-Potable Water	Total nitrate-nitrite	EPA 9056	7/1/2003
Ormond	E83079	Non-Potable Water	Total phenolics	EPA 9066	7/1/2003
Ormond	E83079	Non-Potable Water	Chlorophylls	SM 10200 H	1/8/2002
Ormond	E83079	Non-Potable Water	Color	SM 2120 B	10/3/2007
Ormond	E83079	Non-Potable Water	Alkalinity as CaCO3	SM 2320 B	1/8/2002
Ormond	E83079	Non-Potable Water	Corrosivity (langlier index)	SM 2330 B	1/8/2002
Ormond	E83079	Non-Potable Water	Conductivity	SM 2510 B	1/3/2012
Ormond	E83079	Non-Potable Water	Residue-total	SM 2540 B	10/3/2007

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 106 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Lab	FLDOH ID	Matrix	Analyte	Method	Certification Date
Ormond	E83079	Non-Potable Water	Residue-filterable (TDS)	SM 2540 C	10/3/2007
Ormond	E83079	Non-Potable Water	Residue-nonfilterable (TSS)	SM 2540 D	10/3/2007
Ormond	E83079	Non-Potable Water	Residual free chlorine	SM 4500-Cl D	1/8/2002
Ormond	E83079	Non-Potable Water	pH	SM 4500-H+ B	10/3/2007
Ormond	E83079	Non-Potable Water	Sulfide	SM 4500-S F	1/3/2012
Ormond	E83079	Non-Potable Water	Biochemical oxygen demand	SM 5210 B	10/3/2007
Ormond	E83079	Non-Potable Water	Carbonaceous BOD (CBOD)	SM 5210 B	1/8/2002
Ormond	E83079	Non-Potable Water	Total organic carbon	SM 5310 B	2/21/2008
Ormond	E83079	Non-Potable Water	Surfactants - MBAS	SM 5540 C	10/3/2007
Ormond	E83079	Non-Potable Water	Total nitrogen	TKN + Total nitrate-nitrite	1/3/2012
Ormond	E83079	Non-Potable Water	Organic nitrogen	TKN minus AMMONIA	1/3/2012
Ormond	E83079	Non-Potable Water	Aluminum	EPA 200.7	1/8/2002
Ormond	E83079	Non-Potable Water	Antimony	EPA 200.7	1/8/2002
Ormond	E83079	Non-Potable Water	Arsenic	EPA 200.7	1/8/2002
Ormond	E83079	Non-Potable Water	Barium	EPA 200.7	1/8/2002
Ormond	E83079	Non-Potable Water	Beryllium	EPA 200.7	1/8/2002
Ormond	E83079	Non-Potable Water	Boron	EPA 200.7	1/8/2002
Ormond	E83079	Non-Potable Water	Cadmium	EPA 200.7	1/8/2002
Ormond	E83079	Non-Potable Water	Calcium	EPA 200.7	1/8/2002
Ormond	E83079	Non-Potable Water	Chromium	EPA 200.7	1/8/2002
Ormond	E83079	Non-Potable Water	Cobalt	EPA 200.7	1/8/2002
Ormond	E83079	Non-Potable Water	Copper	EPA 200.7	1/8/2002
Ormond	E83079	Non-Potable Water	Iron	EPA 200.7	1/8/2002
Ormond	E83079	Non-Potable Water	Lead	EPA 200.7	1/8/2002
Ormond	E83079	Non-Potable Water	Lithium	EPA 200.7	7/1/2016
Ormond	E83079	Non-Potable Water	Magnesium	EPA 200.7	1/8/2002
Ormond	E83079	Non-Potable Water	Manganese	EPA 200.7	1/8/2002
Ormond	E83079	Non-Potable Water	Molybdenum	EPA 200.7	1/8/2002
Ormond	E83079	Non-Potable Water	Nickel	EPA 200.7	1/8/2002
Ormond	E83079	Non-Potable Water	Potassium	EPA 200.7	1/8/2002
Ormond	E83079	Non-Potable Water	Selenium	EPA 200.7	1/8/2002
Ormond	E83079	Non-Potable Water	Silica as SiO ₂	EPA 200.7	1/3/2012
Ormond	E83079	Non-Potable Water	Silicon	EPA 200.7	1/3/2012
Ormond	E83079	Non-Potable Water	Silver	EPA 200.7	1/8/2002
Ormond	E83079	Non-Potable Water	Sodium	EPA 200.7	1/8/2002

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 107 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Lab	FLDOH ID	Matrix	Analyte	Method	Certification Date
Ormond	E83079	Non-Potable Water	Strontium	EPA 200.7	10/14/2004
Ormond	E83079	Non-Potable Water	Sulfur	EPA 200.7	7/1/2016
Ormond	E83079	Non-Potable Water	Tin	EPA 200.7	1/8/2002
Ormond	E83079	Non-Potable Water	Titanium	EPA 200.7	1/3/2012
Ormond	E83079	Non-Potable Water	Total hardness as CaCO3	EPA 200.7	1/8/2002
Ormond	E83079	Non-Potable Water	Vanadium	EPA 200.7	1/8/2002
Ormond	E83079	Non-Potable Water	Zinc	EPA 200.7	1/8/2002
Ormond	E83079	Non-Potable Water	Aluminum	EPA 200.8	5/11/2004
Ormond	E83079	Non-Potable Water	Antimony	EPA 200.8	5/11/2004
Ormond	E83079	Non-Potable Water	Arsenic	EPA 200.8	5/11/2004
Ormond	E83079	Non-Potable Water	Barium	EPA 200.8	5/11/2004
Ormond	E83079	Non-Potable Water	Beryllium	EPA 200.8	5/11/2004
Ormond	E83079	Non-Potable Water	Cadmium	EPA 200.8	5/11/2004
Ormond	E83079	Non-Potable Water	Chromium	EPA 200.8	5/11/2004
Ormond	E83079	Non-Potable Water	Cobalt	EPA 200.8	5/11/2004
Ormond	E83079	Non-Potable Water	Copper	EPA 200.8	5/11/2004
Ormond	E83079	Non-Potable Water	Lead	EPA 200.8	5/11/2004
Ormond	E83079	Non-Potable Water	Manganese	EPA 200.8	5/11/2004
Ormond	E83079	Non-Potable Water	Molybdenum	EPA 200.8	5/11/2004
Ormond	E83079	Non-Potable Water	Nickel	EPA 200.8	5/11/2004
Ormond	E83079	Non-Potable Water	Selenium	EPA 200.8	5/11/2004
Ormond	E83079	Non-Potable Water	Silver	EPA 200.8	5/11/2004
Ormond	E83079	Non-Potable Water	Strontium	EPA 200.8	12/12/2012
Ormond	E83079	Non-Potable Water	Thallium	EPA 200.8	5/11/2004
Ormond	E83079	Non-Potable Water	Uranium	EPA 200.8	3/10/2010
Ormond	E83079	Non-Potable Water	Vanadium	EPA 200.8	5/11/2004
Ormond	E83079	Non-Potable Water	Zinc	EPA 200.8	5/11/2004
Ormond	E83079	Non-Potable Water	Mercury	EPA 245.1	1/8/2002
Ormond	E83079	Non-Potable Water	Aluminum	EPA 6010	7/1/2003
Ormond	E83079	Non-Potable Water	Antimony	EPA 6010	7/1/2003
Ormond	E83079	Non-Potable Water	Arsenic	EPA 6010	1/8/2002
Ormond	E83079	Non-Potable Water	Barium	EPA 6010	7/1/2003
Ormond	E83079	Non-Potable Water	Beryllium	EPA 6010	7/1/2003
Ormond	E83079	Non-Potable Water	Boron	EPA 6010	7/1/2003
Ormond	E83079	Non-Potable Water	Cadmium	EPA 6010	1/8/2002
Ormond	E83079	Non-Potable Water	Calcium	EPA 6010	7/1/2003
Ormond	E83079	Non-Potable Water	Chromium	EPA 6010	7/1/2003

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 108 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Lab	FLDOH ID	Matrix	Analyte	Method	Certification Date
Ormond	E83079	Non-Potable Water	Cobalt	EPA 6010	7/1/2003
Ormond	E83079	Non-Potable Water	Copper	EPA 6010	1/8/2002
Ormond	E83079	Non-Potable Water	Iron	EPA 6010	7/1/2003
Ormond	E83079	Non-Potable Water	Lead	EPA 6010	1/8/2002
Ormond	E83079	Non-Potable Water	Magnesium	EPA 6010	7/1/2003
Ormond	E83079	Non-Potable Water	Manganese	EPA 6010	7/1/2003
Ormond	E83079	Non-Potable Water	Molybdenum	EPA 6010	1/8/2002
Ormond	E83079	Non-Potable Water	Nickel	EPA 6010	1/8/2002
Ormond	E83079	Non-Potable Water	Potassium	EPA 6010	7/1/2003
Ormond	E83079	Non-Potable Water	Selenium	EPA 6010	1/8/2002
Ormond	E83079	Non-Potable Water	Silica as SiO2	EPA 6010	1/3/2012
Ormond	E83079	Non-Potable Water	Silicon	EPA 6010	1/3/2012
Ormond	E83079	Non-Potable Water	Silver	EPA 6010	7/1/2003
Ormond	E83079	Non-Potable Water	Sodium	EPA 6010	7/1/2003
Ormond	E83079	Non-Potable Water	Strontium	EPA 6010	7/1/2003
Ormond	E83079	Non-Potable Water	Sulfur	EPA 6010	7/1/2016
Ormond	E83079	Non-Potable Water	Thallium	EPA 6010	7/1/2003
Ormond	E83079	Non-Potable Water	Tin	EPA 6010	7/1/2003
Ormond	E83079	Non-Potable Water	Titanium	EPA 6010	1/3/2012
Ormond	E83079	Non-Potable Water	Vanadium	EPA 6010	7/1/2003
Ormond	E83079	Non-Potable Water	Zinc	EPA 6010	1/8/2002
Ormond	E83079	Non-Potable Water	Aluminum	EPA 6020	5/11/2004
Ormond	E83079	Non-Potable Water	Antimony	EPA 6020	5/11/2004
Ormond	E83079	Non-Potable Water	Arsenic	EPA 6020	5/11/2004
Ormond	E83079	Non-Potable Water	Barium	EPA 6020	5/11/2004
Ormond	E83079	Non-Potable Water	Beryllium	EPA 6020	5/11/2004
Ormond	E83079	Non-Potable Water	Cadmium	EPA 6020	5/11/2004
Ormond	E83079	Non-Potable Water	Chromium	EPA 6020	5/11/2004
Ormond	E83079	Non-Potable Water	Cobalt	EPA 6020	5/11/2004
Ormond	E83079	Non-Potable Water	Copper	EPA 6020	5/11/2004
Ormond	E83079	Non-Potable Water	Iron	EPA 6020	1/3/2012
Ormond	E83079	Non-Potable Water	Lead	EPA 6020	5/11/2004
Ormond	E83079	Non-Potable Water	Manganese	EPA 6020	5/11/2004
Ormond	E83079	Non-Potable Water	Molybdenum	EPA 6020	1/3/2012
Ormond	E83079	Non-Potable Water	Nickel	EPA 6020	5/11/2004
Ormond	E83079	Non-Potable Water	Selenium	EPA 6020	1/3/2012
Ormond	E83079	Non-Potable Water	Silver	EPA 6020	5/11/2004

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 109 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Lab	FLDOH ID	Matrix	Analyte	Method	Certification Date
Ormond	E83079	Non-Potable Water	Thallium	EPA 6020	5/11/2004
Ormond	E83079	Non-Potable Water	Vanadium	EPA 6020	1/3/2012
Ormond	E83079	Non-Potable Water	Zinc	EPA 6020	5/11/2004
Ormond	E83079	Non-Potable Water	Mercury	EPA 7470	1/8/2002
Ormond	E83079	Non-Potable Water	Total hardness as CaCO3	SM 2340 B	1/8/2002
Ormond	E83079	Non-Potable Water	Fecal coliforms	COLILERT-18 (Fecal Coliforms)	7/1/2016
Ormond	E83079	Non-Potable Water	Enterococci	ENTEROLERT/QUANTI-TRAY	7/1/2016
Ormond	E83079	Non-Potable Water	Total coliforms	SM 9222 B	1/8/2002
Ormond	E83079	Non-Potable Water	Fecal coliforms	SM 9222 D	1/8/2002
Ormond	E83079	Non-Potable Water	Escherichia coli	SM 9223 B /QUANTI-TRAY	7/1/2016
Ormond	E83079	Non-Potable Water	Total coliforms	SM 9223 B /QUANTI-TRAY	7/1/2016
Ormond	E83079	Non-Potable Water	4,4 -DDD	EPA 608	1/8/2002
Ormond	E83079	Non-Potable Water	4,4 -DDE	EPA 608	1/8/2002
Ormond	E83079	Non-Potable Water	4,4 -DDT	EPA 608	1/8/2002
Ormond	E83079	Non-Potable Water	Aldrin	EPA 608	1/8/2002
Ormond	E83079	Non-Potable Water	Aroclor-1016 (PCB-1016)	EPA 608	1/8/2002
Ormond	E83079	Non-Potable Water	Aroclor-1221 (PCB-1221)	EPA 608	1/8/2002
Ormond	E83079	Non-Potable Water	Aroclor-1232 (PCB-1232)	EPA 608	1/8/2002
Ormond	E83079	Non-Potable Water	Aroclor-1242 (PCB-1242)	EPA 608	1/8/2002
Ormond	E83079	Non-Potable Water	Aroclor-1248 (PCB-1248)	EPA 608	1/8/2002
Ormond	E83079	Non-Potable Water	Aroclor-1254 (PCB-1254)	EPA 608	1/8/2002
Ormond	E83079	Non-Potable Water	Aroclor-1260 (PCB-1260)	EPA 608	1/8/2002
Ormond	E83079	Non-Potable Water	Chlordane (tech.)	EPA 608	1/8/2002
Ormond	E83079	Non-Potable Water	Dieldrin	EPA 608	1/8/2002
Ormond	E83079	Non-Potable Water	Endosulfan I	EPA 608	1/8/2002
Ormond	E83079	Non-Potable Water	Endosulfan II	EPA 608	1/8/2002
Ormond	E83079	Non-Potable Water	Endosulfan sulfate	EPA 608	1/8/2002
Ormond	E83079	Non-Potable Water	Endrin	EPA 608	1/8/2002
Ormond	E83079	Non-Potable Water	Endrin aldehyde	EPA 608	1/8/2002
Ormond	E83079	Non-Potable Water	Heptachlor	EPA 608	1/8/2002

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 110 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Lab	FLDOH ID	Matrix	Analyte	Method	Certification Date
Ormond	E83079	Non-Potable Water	Heptachlor epoxide	EPA 608	1/8/2002
Ormond	E83079	Non-Potable Water	Mirex	EPA 608	3/15/2013
Ormond	E83079	Non-Potable Water	Toxaphene (Chlorinated camphene)	EPA 608	1/8/2002
Ormond	E83079	Non-Potable Water	alpha-BHC (alpha-Hexachlorocyclohexane)	EPA 608	1/8/2002
Ormond	E83079	Non-Potable Water	beta-BHC (beta-Hexachlorocyclohexane)	EPA 608	1/8/2002
Ormond	E83079	Non-Potable Water	delta-BHC	EPA 608	1/8/2002
Ormond	E83079	Non-Potable Water	gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	EPA 608	1/8/2002
Ormond	E83079	Non-Potable Water	2,3-Dichloroaniline	EPA 625	5/11/2004
Ormond	E83079	Non-Potable Water	Carbazole	EPA 625	5/11/2004
Ormond	E83079	Non-Potable Water	n-Decane	EPA 625	5/11/2004
Ormond	E83079	Non-Potable Water	n-Octadecane	EPA 625	5/11/2004
Ormond	E83079	Non-Potable Water	4,4 -DDD	EPA 8081	7/1/2003
Ormond	E83079	Non-Potable Water	4,4 -DDE	EPA 8081	7/1/2003
Ormond	E83079	Non-Potable Water	4,4 -DDT	EPA 8081	7/1/2003
Ormond	E83079	Non-Potable Water	Aldrin	EPA 8081	7/1/2003
Ormond	E83079	Non-Potable Water	Chlordane (tech.)	EPA 8081	7/1/2003
Ormond	E83079	Non-Potable Water	Chlorobenzilate	EPA 8081	7/1/2003
Ormond	E83079	Non-Potable Water	Dieldrin	EPA 8081	7/1/2003
Ormond	E83079	Non-Potable Water	Endosulfan I	EPA 8081	7/1/2003
Ormond	E83079	Non-Potable Water	Endosulfan II	EPA 8081	7/1/2003
Ormond	E83079	Non-Potable Water	Endosulfan sulfate	EPA 8081	7/1/2003
Ormond	E83079	Non-Potable Water	Endrin	EPA 8081	7/1/2003
Ormond	E83079	Non-Potable Water	Endrin aldehyde	EPA 8081	7/1/2003
Ormond	E83079	Non-Potable Water	Endrin ketone	EPA 8081	7/1/2003
Ormond	E83079	Non-Potable Water	Heptachlor	EPA 8081	7/1/2003
Ormond	E83079	Non-Potable Water	Heptachlor epoxide	EPA 8081	7/1/2003
Ormond	E83079	Non-Potable Water	Methoxychlor	EPA 8081	7/1/2003
Ormond	E83079	Non-Potable Water	Mirex	EPA 8081	1/3/2012
Ormond	E83079	Non-Potable Water	Pentachloronitrobenzene (Quintozone)	EPA 8081	1/2/2008
Ormond	E83079	Non-Potable Water	Toxaphene (Chlorinated camphene)	EPA 8081	7/1/2003
Ormond	E83079	Non-Potable Water	alpha-BHC (alpha-Hexachlorocyclohexane)	EPA 8081	7/1/2003
Ormond	E83079	Non-Potable Water	alpha-Chlordane	EPA 8081	7/1/2003
Ormond	E83079	Non-Potable Water	beta-BHC (beta-Hexachlorocyclohexane)	EPA 8081	7/1/2003
Ormond	E83079	Non-Potable Water	delta-BHC	EPA 8081	7/1/2003
Ormond	E83079	Non-Potable Water	gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	EPA 8081	7/1/2003

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 111 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Lab	FLDOH ID	Matrix	Analyte	Method	Certification Date
Ormond	E83079	Non-Potable Water	gamma-Chlordane	EPA 8081	7/1/2003
Ormond	E83079	Non-Potable Water	Aroclor-1016 (PCB-1016)	EPA 8082	7/1/2003
Ormond	E83079	Non-Potable Water	Aroclor-1221 (PCB-1221)	EPA 8082	7/1/2003
Ormond	E83079	Non-Potable Water	Aroclor-1232 (PCB-1232)	EPA 8082	7/1/2003
Ormond	E83079	Non-Potable Water	Aroclor-1242 (PCB-1242)	EPA 8082	7/1/2003
Ormond	E83079	Non-Potable Water	Aroclor-1248 (PCB-1248)	EPA 8082	7/1/2003
Ormond	E83079	Non-Potable Water	Aroclor-1254 (PCB-1254)	EPA 8082	7/1/2003
Ormond	E83079	Non-Potable Water	Aroclor-1260 (PCB-1260)	EPA 8082	7/1/2003
Ormond	E83079	Non-Potable Water	Atrazine	EPA 8141	7/1/2003
Ormond	E83079	Non-Potable Water	Azinphos-methyl (Guthion)	EPA 8141	7/1/2003
Ormond	E83079	Non-Potable Water	Carbophenothion	EPA 8141	7/1/2003
Ormond	E83079	Non-Potable Water	Chlorpyrifos	EPA 8141	7/1/2003
Ormond	E83079	Non-Potable Water	Coumaphos	EPA 8141	7/1/2003
Ormond	E83079	Non-Potable Water	Demeton-o	EPA 8141	7/1/2003
Ormond	E83079	Non-Potable Water	Demeton-s	EPA 8141	7/1/2003
Ormond	E83079	Non-Potable Water	Diazinon	EPA 8141	7/1/2003
Ormond	E83079	Non-Potable Water	Dichlorvos (DDVP, Dichlorvos)	EPA 8141	7/1/2003
Ormond	E83079	Non-Potable Water	Dimethoate	EPA 8141	7/1/2003
Ormond	E83079	Non-Potable Water	Disulfoton	EPA 8141	1/2/2008
Ormond	E83079	Non-Potable Water	Ethion	EPA 8141	7/1/2003
Ormond	E83079	Non-Potable Water	Famphur	EPA 8141	7/1/2003
Ormond	E83079	Non-Potable Water	Malathion	EPA 8141	7/1/2003
Ormond	E83079	Non-Potable Water	Methyl parathion (Parathion, methyl)	EPA 8141	7/1/2003
Ormond	E83079	Non-Potable Water	Mevinphos	EPA 8141	7/1/2003
Ormond	E83079	Non-Potable Water	Monocrotophos	EPA 8141	7/1/2003
Ormond	E83079	Non-Potable Water	Parathion, ethyl	EPA 8141	7/1/2003
Ormond	E83079	Non-Potable Water	Phorate	EPA 8141	7/1/2003
Ormond	E83079	Non-Potable Water	Phosmet (Imidan)	EPA 8141	7/1/2003
Ormond	E83079	Non-Potable Water	2,4,5-T	EPA 8151	7/1/2003
Ormond	E83079	Non-Potable Water	2,4-D	EPA 8151	7/1/2003
Ormond	E83079	Non-Potable Water	2,4-DB	EPA 8151	7/1/2003
Ormond	E83079	Non-Potable Water	Bentazon	EPA 8151	7/1/2003
Ormond	E83079	Non-Potable Water	Dalapon	EPA 8151	7/1/2003
Ormond	E83079	Non-Potable Water	Dicamba	EPA 8151	7/1/2003
Ormond	E83079	Non-Potable Water	Dichloroprop (Dichlorprop)	EPA 8151	3/10/2010
Ormond	E83079	Non-Potable Water	Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	EPA 8151	7/1/2003

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 112 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Lab	FLDOH ID	Matrix	Analyte	Method	Certification Date
Ormond	E83079	Non-Potable Water	MCPA	EPA 8151	1/3/2012
Ormond	E83079	Non-Potable Water	MCPD	EPA 8151	1/3/2012
Ormond	E83079	Non-Potable Water	Pentachlorophenol	EPA 8151	9/4/2008
Ormond	E83079	Non-Potable Water	Picloram	EPA 8151	7/1/2003
Ormond	E83079	Non-Potable Water	Silvex (2,4,5-TP)	EPA 8151	7/1/2003
Ormond	E83079	Non-Potable Water	4,4 -DDD	SM 6630 C	3/15/2013
Ormond	E83079	Non-Potable Water	4,4 -DDE	SM 6630 C	3/15/2013
Ormond	E83079	Non-Potable Water	4,4 -DDT	SM 6630 C	3/15/2013
Ormond	E83079	Non-Potable Water	Aldrin	SM 6630 C	3/15/2013
Ormond	E83079	Non-Potable Water	Dieldrin	SM 6630 C	3/15/2013
Ormond	E83079	Non-Potable Water	Endosulfan I	SM 6630 C	3/15/2013
Ormond	E83079	Non-Potable Water	Endosulfan II	SM 6630 C	3/15/2013
Ormond	E83079	Non-Potable Water	Endosulfan sulfate	SM 6630 C	3/15/2013
Ormond	E83079	Non-Potable Water	Endrin	SM 6630 C	3/15/2013
Ormond	E83079	Non-Potable Water	Endrin aldehyde	SM 6630 C	3/15/2013
Ormond	E83079	Non-Potable Water	Heptachlor	SM 6630 C	3/15/2013
Ormond	E83079	Non-Potable Water	Heptachlor epoxide	SM 6630 C	3/15/2013
Ormond	E83079	Non-Potable Water	Methoxychlor	SM 6630 C	3/15/2013
Ormond	E83079	Non-Potable Water	alpha-BHC (alpha-Hexachlorocyclohexane)	SM 6630 C	3/15/2013
Ormond	E83079	Non-Potable Water	beta-BHC (beta-Hexachlorocyclohexane)	SM 6630 C	3/15/2013
Ormond	E83079	Non-Potable Water	delta-BHC	SM 6630 C	3/15/2013
Ormond	E83079	Non-Potable Water	gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	SM 6630 C	3/15/2013
Ormond	E83079	Non-Potable Water	1,2-Dibromo-3-chloropropane (DBCP)	EPA 504.1	1/3/2012
Ormond	E83079	Non-Potable Water	1,2-Dibromoethane (EDB, Ethylene dibromide)	EPA 504.1	1/3/2012
Ormond	E83079	Non-Potable Water	1,4-Dioxane (1,4-Diethyleneoxide)	EPA 522	1/17/2014
Ormond	E83079	Non-Potable Water	1,1,1-Trichloroethane	EPA 624	1/8/2002
Ormond	E83079	Non-Potable Water	1,1,2,2-Tetrachloroethane	EPA 624	1/8/2002
Ormond	E83079	Non-Potable Water	1,1,2-Trichloroethane	EPA 624	1/8/2002
Ormond	E83079	Non-Potable Water	1,1-Dichloroethane	EPA 624	1/8/2002
Ormond	E83079	Non-Potable Water	1,1-Dichloroethylene	EPA 624	1/8/2002
Ormond	E83079	Non-Potable Water	1,2-Dichlorobenzene	EPA 624	1/8/2002
Ormond	E83079	Non-Potable Water	1,2-Dichloroethane	EPA 624	1/8/2002
Ormond	E83079	Non-Potable Water	1,2-Dichloropropane	EPA 624	1/8/2002
Ormond	E83079	Non-Potable Water	1,3-Dichlorobenzene	EPA 624	1/8/2002
Ormond	E83079	Non-Potable Water	1,4-Dichlorobenzene	EPA 624	1/8/2002

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 113 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Lab	FLDOH ID	Matrix	Analyte	Method	Certification Date
Ormond	E83079	Non-Potable Water	2-Chloroethyl vinyl ether	EPA 624	1/8/2002
Ormond	E83079	Non-Potable Water	Acetone	EPA 624	7/1/2016
Ormond	E83079	Non-Potable Water	Acrolein (Propenal)	EPA 624	1/8/2002
Ormond	E83079	Non-Potable Water	Acrylonitrile	EPA 624	1/8/2002
Ormond	E83079	Non-Potable Water	Benzene	EPA 624	1/8/2002
Ormond	E83079	Non-Potable Water	Bromodichloromethane	EPA 624	1/8/2002
Ormond	E83079	Non-Potable Water	Bromoform	EPA 624	1/8/2002
Ormond	E83079	Non-Potable Water	Carbon tetrachloride	EPA 624	1/8/2002
Ormond	E83079	Non-Potable Water	Chlorobenzene	EPA 624	1/8/2002
Ormond	E83079	Non-Potable Water	Chloroethane	EPA 624	1/8/2002
Ormond	E83079	Non-Potable Water	Chloroform	EPA 624	1/8/2002
Ormond	E83079	Non-Potable Water	Dibromochloromethane	EPA 624	1/8/2002
Ormond	E83079	Non-Potable Water	Dichlorodifluoromethane	EPA 624	4/29/2014
Ormond	E83079	Non-Potable Water	Ethylbenzene	EPA 624	1/8/2002
Ormond	E83079	Non-Potable Water	Methyl bromide (Bromomethane)	EPA 624	1/8/2002
Ormond	E83079	Non-Potable Water	Methyl chloride (Chloromethane)	EPA 624	1/8/2002
Ormond	E83079	Non-Potable Water	Methyl tert-butyl ether (MTBE)	EPA 624	1/3/2012
Ormond	E83079	Non-Potable Water	Methylene chloride	EPA 624	1/8/2002
Ormond	E83079	Non-Potable Water	Tetrachloroethylene (Perchloroethylene)	EPA 624	1/8/2002
Ormond	E83079	Non-Potable Water	Toluene	EPA 624	1/8/2002
Ormond	E83079	Non-Potable Water	Trichloroethene (Trichloroethylene)	EPA 624	1/8/2002
Ormond	E83079	Non-Potable Water	Trichlorofluoromethane	EPA 624	1/8/2002
Ormond	E83079	Non-Potable Water	Vinyl chloride	EPA 624	1/8/2002
Ormond	E83079	Non-Potable Water	Xylene (total)	EPA 624	1/8/2002
Ormond	E83079	Non-Potable Water	cis-1,3-Dichloropropene	EPA 624	1/8/2002
Ormond	E83079	Non-Potable Water	m+p-Xylenes	EPA 624	1/3/2012
Ormond	E83079	Non-Potable Water	o-Xylene	EPA 624	1/3/2012
Ormond	E83079	Non-Potable Water	trans-1,2-Dichloroethylene	EPA 624	1/8/2002
Ormond	E83079	Non-Potable Water	trans-1,3-Dichloropropene	EPA 624	1/8/2002
Ormond	E83079	Non-Potable Water	1,2-Dibromo-3-chloropropane (DBCP)	EPA 8011	7/1/2003
Ormond	E83079	Non-Potable Water	1,2-Dibromoethane (EDB, Ethylene dibromide)	EPA 8011	7/1/2003
Ormond	E83079	Non-Potable Water	1,1,1,2-Tetrachloroethane	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	1,1,1-Trichloroethane	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	1,1,2,2-Tetrachloroethane	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	EPA 8260	1/3/2012

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 114 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Lab	FLDOH ID	Matrix	Analyte	Method	Certification Date
Ormond	E83079	Non-Potable Water	1,1,2-Trichloroethane	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	1,1-Dichloroethane	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	1,1-Dichloroethylene	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	1,1-Dichloropropene	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	1,2,3-Trichlorobenzene	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	1,2,3-Trichloropropane	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	1,2,3-Trimethylbenzene	EPA 8260	3/15/2013
Ormond	E83079	Non-Potable Water	1,2,4-Trichlorobenzene	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	1,2,4-Trimethylbenzene	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	1,2-Dibromo-3-chloropropane (DBCP)	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	1,2-Dibromoethane (EDB, Ethylene dibromide)	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	1,2-Dichlorobenzene	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	1,2-Dichloroethane	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	1,2-Dichloropropane	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	1,3,5-Trimethylbenzene	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	1,3-Dichlorobenzene	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	1,3-Dichloropropane	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	1,4-Dichlorobenzene	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	2,2-Dichloropropane	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	2-Butanone (Methyl ethyl ketone, MEK)	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	2-Chloroethyl vinyl ether	EPA 8260	1/3/2012
Ormond	E83079	Non-Potable Water	2-Chlorotoluene	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	2-Hexanone	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	4-Chlorotoluene	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	4-Methyl-2-pentanone (MIBK)	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	Acetone	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	Acetonitrile	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	Acrolein (Propenal)	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	Acrylonitrile	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	Allyl chloride (3-Chloropropene)	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	Benzene	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	Bromobenzene	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	Bromochloromethane	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	Bromodichloromethane	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	Bromoform	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	Carbon disulfide	EPA 8260	7/1/2003

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 115 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Lab	FLDOH ID	Matrix	Analyte	Method	Certification Date
Ormond	E83079	Non-Potable Water	Carbon tetrachloride	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	Chlorobenzene	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	Chloroethane	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	Chloroform	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	Chloroprene	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	Cyclohexane	EPA 8260	1/3/2012
Ormond	E83079	Non-Potable Water	Di-isopropylether (DIPE)	EPA 8260	1/3/2012
Ormond	E83079	Non-Potable Water	Dibromochloromethane	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	Dibromomethane	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	Dichlorodifluoromethane	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	Diethyl ether	EPA 8260	1/3/2012
Ormond	E83079	Non-Potable Water	Ethyl acetate	EPA 8260	1/3/2012
Ormond	E83079	Non-Potable Water	Ethyl methacrylate	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	Ethyl-t-butylether (ETBE)	EPA 8260	1/3/2012
Ormond	E83079	Non-Potable Water	Ethylbenzene	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	Hexachlorobutadiene	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	Iodomethane (Methyl iodide)	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	Isobutyl alcohol (2-Methyl-1-propanol)	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	Isopropylbenzene	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	Methacrylonitrile	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	Methyl acetate	EPA 8260	1/3/2012
Ormond	E83079	Non-Potable Water	Methyl bromide (Bromomethane)	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	Methyl chloride (Chloromethane)	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	Methyl methacrylate	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	Methyl tert-butyl ether (MTBE)	EPA 8260	10/21/2003
Ormond	E83079	Non-Potable Water	Methylcyclohexane	EPA 8260	1/3/2012
Ormond	E83079	Non-Potable Water	Methylene chloride	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	Naphthalene	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	Pentachloroethane	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	Propionitrile (Ethyl cyanide)	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	Styrene	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	T-amylmethylether (TAME)	EPA 8260	1/3/2012
Ormond	E83079	Non-Potable Water	Tetrachloroethylene (Perchloroethylene)	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	Toluene	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	Trichloroethene (Trichloroethylene)	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	Trichlorofluoromethane	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	Vinyl acetate	EPA 8260	7/1/2003

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 116 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Lab	FLDOH ID	Matrix	Analyte	Method	Certification Date
Ormond	E83079	Non-Potable Water	Vinyl chloride	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	Xylene (total)	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	cis-1,2-Dichloroethylene	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	cis-1,3-Dichloropropene	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	cis-1,4-Dichloro-2-butene	EPA 8260	1/3/2012
Ormond	E83079	Non-Potable Water	m/p-Xylenes	EPA 8260	1/3/2012
Ormond	E83079	Non-Potable Water	n-Butylbenzene	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	n-Propylbenzene	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	o-Xylene	EPA 8260	1/3/2012
Ormond	E83079	Non-Potable Water	p-Isopropyltoluene	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	sec-Butylbenzene	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	tert-Butyl alcohol (2-Methyl-2-propanol)	EPA 8260	1/3/2012
Ormond	E83079	Non-Potable Water	tert-Butylbenzene	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	trans-1,2-Dichloroethylene	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	trans-1,3-Dichloropropene	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	trans-1,4-Dichloro-2-butene	EPA 8260	7/1/2003
Ormond	E83079	Non-Potable Water	Perfluorobutane sulfonate (PFBS, perfluorobutane sulfonic acid)	PACE SOP S-FL-0-045/LC-MS-MS	3/24/2017
Ormond	E83079	Non-Potable Water	Perfluoroheptanoate (PFHpA, perfluoroheptanoic acid)	PACE SOP S-FL-0-045/LC-MS-MS	3/24/2017
Ormond	E83079	Non-Potable Water	Perfluorohexane sulfonate (PFHxS, perfluorohexane sulfonic acid)	PACE SOP S-FL-0-045/LC-MS-MS	3/24/2017
Ormond	E83079	Non-Potable Water	Perfluorononanoate (PFNA, perfluorononanoic acid)	PACE SOP S-FL-0-045/LC-MS-MS	3/24/2017
Ormond	E83079	Non-Potable Water	Perfluorooctane sulfonate (PFOS, perfluorooctane sulfonic acid)	PACE SOP S-FL-0-045/LC-MS-MS	3/24/2017
Ormond	E83079	Non-Potable Water	Perfluorooctanoate (PFOA, perfluorooctanoic acid)	PACE SOP S-FL-0-045/LC-MS-MS	3/24/2017
Ormond	E83079	Non-Potable Water	3,3-Dimethyl-1-butanol	PACE SOP S-FL-O-037/GC-MS	1/3/2012
Ormond	E83079	Non-Potable Water	Tetrahydrofuran (THF)	PACE SOP S-FL-O-037/GC-MS	1/3/2012

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 117 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Lab	FLDOH ID	Matrix	Analyte	Method	Certification Date
Ormond	E83079	Non-Potable Water	n-Hexane	PACE SOP S-FL-O-037/GC-MS	1/3/2012
Ormond	E83079	Non-Potable Water	tert-Amyl alcohol (2-methyl-2-butanol)	PACE SOP S-FL-O-037/GC-MS	1/3/2012
Ormond	E83079	Non-Potable Water	tert-Butyl formate	PACE SOP S-FL-O-037/GC-MS	1/3/2012
Ormond	E83079	Solids	1,2,4-Trichlorobenzene	EPA 8270	1/8/2002
Ormond	E83079	Solids	1,2-Dichlorobenzene	EPA 8270	1/8/2002
Ormond	E83079	Solids	1,2-Diphenylhydrazine	EPA 8270	1/8/2002
Ormond	E83079	Solids	1,3-Dichlorobenzene	EPA 8270	1/8/2002
Ormond	E83079	Solids	1,4-Dichlorobenzene	EPA 8270	1/8/2002
Ormond	E83079	Solids	1-Methylnaphthalene	EPA 8270	1/3/2012
Ormond	E83079	Solids	2,2 -Oxybis(1-chloropropane),bis(2-Chloro-1-methylethyl)ether (fka bis(2-Chloroisopropyl) ether	EPA 8270	1/8/2002
Ormond	E83079	Solids	2,3,4,6-Tetrachlorophenol	EPA 8270	1/8/2002
Ormond	E83079	Solids	2,4,5-Trichlorophenol	EPA 8270	1/8/2002
Ormond	E83079	Solids	2,4,6-Trichlorophenol	EPA 8270	1/8/2002
Ormond	E83079	Solids	2,4-Dichlorophenol	EPA 8270	1/8/2002
Ormond	E83079	Solids	2,4-Dimethylphenol	EPA 8270	1/8/2002
Ormond	E83079	Solids	2,4-Dinitrophenol	EPA 8270	1/8/2002
Ormond	E83079	Solids	2,4-Dinitrotoluene (2,4-DNT)	EPA 8270	1/8/2002
Ormond	E83079	Solids	2,6-Dinitrotoluene (2,6-DNT)	EPA 8270	1/8/2002
Ormond	E83079	Solids	2-Chloronaphthalene	EPA 8270	1/8/2002
Ormond	E83079	Solids	2-Chlorophenol	EPA 8270	1/8/2002
Ormond	E83079	Solids	2-Methyl-4,6-dinitrophenol	EPA 8270	1/8/2002
Ormond	E83079	Solids	2-Methylnaphthalene	EPA 8270	1/8/2002
Ormond	E83079	Solids	2-Methylphenol (o-Cresol)	EPA 8270	1/8/2002
Ormond	E83079	Solids	2-Nitroaniline	EPA 8270	1/8/2002
Ormond	E83079	Solids	2-Nitrophenol	EPA 8270	1/8/2002
Ormond	E83079	Solids	3,3 -Dichlorobenzidine	EPA 8270	1/8/2002
Ormond	E83079	Solids	3-Nitroaniline	EPA 8270	1/8/2002
Ormond	E83079	Solids	3/4-Methylphenols (m/p-Cresols)	EPA 8270	1/2/2008
Ormond	E83079	Solids	4-Bromophenyl phenyl ether	EPA 8270	1/8/2002
Ormond	E83079	Solids	4-Chloro-3-methylphenol	EPA 8270	1/8/2002
Ormond	E83079	Solids	4-Chloroaniline	EPA 8270	1/8/2002
Ormond	E83079	Solids	4-Chlorophenyl phenylether	EPA 8270	1/8/2002

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 118 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Lab	FLDOH ID	Matrix	Analyte	Method	Certification Date
Ormond	E83079	Solids	4-Nitroaniline	EPA 8270	1/8/2002
Ormond	E83079	Solids	4-Nitrophenol	EPA 8270	1/8/2002
Ormond	E83079	Solids	Acenaphthene	EPA 8270	1/8/2002
Ormond	E83079	Solids	Acenaphthylene	EPA 8270	1/8/2002
Ormond	E83079	Solids	Aniline	EPA 8270	1/3/2012
Ormond	E83079	Solids	Anthracene	EPA 8270	1/8/2002
Ormond	E83079	Solids	Benidine	EPA 8270	1/8/2002
Ormond	E83079	Solids	Benzo(a)anthracene	EPA 8270	1/8/2002
Ormond	E83079	Solids	Benzo(a)pyrene	EPA 8270	1/8/2002
Ormond	E83079	Solids	Benzo(b)fluoranthene	EPA 8270	1/8/2002
Ormond	E83079	Solids	Benzo(g,h,i)perylene	EPA 8270	1/8/2002
Ormond	E83079	Solids	Benzo(k)fluoranthene	EPA 8270	1/8/2002
Ormond	E83079	Solids	Benzyl alcohol	EPA 8270	1/3/2012
Ormond	E83079	Solids	Butyl benzyl phthalate	EPA 8270	1/8/2002
Ormond	E83079	Solids	Carbazole	EPA 8270	1/3/2012
Ormond	E83079	Solids	Chrysene	EPA 8270	1/8/2002
Ormond	E83079	Solids	Di-n-butyl phthalate	EPA 8270	1/8/2002
Ormond	E83079	Solids	Di-n-octyl phthalate	EPA 8270	1/8/2002
Ormond	E83079	Solids	Dibenz(a,h)anthracene	EPA 8270	1/8/2002
Ormond	E83079	Solids	Dibenzofuran	EPA 8270	1/8/2002
Ormond	E83079	Solids	Diethyl phthalate	EPA 8270	1/8/2002
Ormond	E83079	Solids	Dimethyl phthalate	EPA 8270	1/8/2002
Ormond	E83079	Solids	Fluoranthene	EPA 8270	1/8/2002
Ormond	E83079	Solids	Fluorene	EPA 8270	1/8/2002
Ormond	E83079	Solids	Hexachlorobenzene	EPA 8270	1/8/2002
Ormond	E83079	Solids	Hexachlorobutadiene	EPA 8270	1/8/2002
Ormond	E83079	Solids	Hexachlorocyclopentadiene	EPA 8270	1/8/2002
Ormond	E83079	Solids	Hexachloroethane	EPA 8270	1/8/2002
Ormond	E83079	Solids	Indeno(1,2,3-cd)pyrene	EPA 8270	1/8/2002
Ormond	E83079	Solids	Isophorone	EPA 8270	1/8/2002
Ormond	E83079	Solids	Naphthalene	EPA 8270	1/8/2002
Ormond	E83079	Solids	Nitrobenzene	EPA 8270	1/8/2002
Ormond	E83079	Solids	Pentachlorophenol	EPA 8270	1/8/2002
Ormond	E83079	Solids	Phenanthrene	EPA 8270	1/8/2002
Ormond	E83079	Solids	Phenol	EPA 8270	1/8/2002
Ormond	E83079	Solids	Pyrene	EPA 8270	1/8/2002
Ormond	E83079	Solids	Pyridine	EPA 8270	1/8/2002

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 119 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Lab	FLDOH ID	Matrix	Analyte	Method	Certification Date
Ormond	E83079	Solids	bis(2-Chloroethoxy)methane	EPA 8270	1/8/2002
Ormond	E83079	Solids	bis(2-Chloroethyl) ether	EPA 8270	8/4/2008
Ormond	E83079	Solids	bis(2-Ethylhexyl) phthalate (DEHP)	EPA 8270	1/8/2002
Ormond	E83079	Solids	n-Nitrosodi-n-propylamine	EPA 8270	1/8/2002
Ormond	E83079	Solids	n-Nitrosodimethylamine	EPA 8270	1/8/2002
Ormond	E83079	Solids	n-Nitrosodiphenylamine	EPA 8270	1/8/2002
Ormond	E83079	Solids	Formaldehyde	EPA 8315	3/21/2016
Ormond	E83079	Solids	Total Petroleum Hydrocarbons (TPH)	FL-PRO	1/8/2002
Ormond	E83079	Solids	Ignitability	EPA 1010	1/8/2002
Ormond	E83079	Solids	Ignitability	EPA 1030	1/8/2002
Ormond	E83079	Solids	Toxicity Characteristic Leaching Procedure	EPA 1311	1/8/2002
Ormond	E83079	Solids	Synthetic Precipitation Leaching Procedure	EPA 1312	1/8/2002
Ormond	E83079	Solids	Ammonia as N	EPA 350.1	8/14/2008
Ormond	E83079	Solids	Kjeldahl nitrogen - total	EPA 351.2	8/14/2008
Ormond	E83079	Solids	Nitrate as N	EPA 353.2	7/1/2003
Ormond	E83079	Solids	Nitrite as N	EPA 353.2	7/1/2003
Ormond	E83079	Solids	Total nitrate-nitrite	EPA 353.2	7/1/2003
Ormond	E83079	Solids	Phosphorus, total	EPA 365.4	8/14/2008
Ormond	E83079	Solids	Chromium VI	EPA 7199	7/1/2016
Ormond	E83079	Solids	Total cyanide	EPA 9012	1/8/2002
Ormond	E83079	Solids	pH	EPA 9045	1/8/2002
Ormond	E83079	Solids	Bromide	EPA 9056	8/14/2008
Ormond	E83079	Solids	Chloride	EPA 9056	8/14/2008
Ormond	E83079	Solids	Fluoride	EPA 9056	8/14/2008
Ormond	E83079	Solids	Nitrate	EPA 9056	8/14/2008
Ormond	E83079	Solids	Nitrite	EPA 9056	1/8/2002
Ormond	E83079	Solids	Orthophosphate as P	EPA 9056	8/14/2008
Ormond	E83079	Solids	Sulfate	EPA 9056	8/14/2008
Ormond	E83079	Solids	Total nitrate-nitrite	EPA 9056	1/8/2002
Ormond	E83079	Solids	Total phenolics	EPA 9066	1/8/2002
Ormond	E83079	Solids	Paint Filter Liquids Test	EPA 9095	1/8/2002
Ormond	E83079	Solids	Residue-total	SM 2540 G	5/11/2004
Ormond	E83079	Solids	Residue-volatile	SM 2540 G	1/17/2014
Ormond	E83079	Solids	Total nitrogen	TKN + Total nitrate-nitrite	1/3/2012
Ormond	E83079	Solids	Organic nitrogen	TKN minus AMMONIA	1/3/2012

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 120 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Lab	FLDOH ID	Matrix	Analyte	Method	Certification Date
Ormond	E83079	Solids	Total Petroleum Hydrocarbons (TPH)	TPHCWG Direct Method	7/1/2016
Ormond	E83079	Solids	Aluminum	EPA 6010	1/8/2002
Ormond	E83079	Solids	Antimony	EPA 6010	1/8/2002
Ormond	E83079	Solids	Arsenic	EPA 6010	1/8/2002
Ormond	E83079	Solids	Barium	EPA 6010	1/8/2002
Ormond	E83079	Solids	Beryllium	EPA 6010	1/8/2002
Ormond	E83079	Solids	Boron	EPA 6010	1/8/2002
Ormond	E83079	Solids	Cadmium	EPA 6010	1/8/2002
Ormond	E83079	Solids	Calcium	EPA 6010	1/8/2002
Ormond	E83079	Solids	Chromium	EPA 6010	1/8/2002
Ormond	E83079	Solids	Cobalt	EPA 6010	1/8/2002
Ormond	E83079	Solids	Copper	EPA 6010	1/8/2002
Ormond	E83079	Solids	Iron	EPA 6010	1/8/2002
Ormond	E83079	Solids	Lead	EPA 6010	1/8/2002
Ormond	E83079	Solids	Magnesium	EPA 6010	1/8/2002
Ormond	E83079	Solids	Manganese	EPA 6010	1/8/2002
Ormond	E83079	Solids	Molybdenum	EPA 6010	1/8/2002
Ormond	E83079	Solids	Nickel	EPA 6010	1/8/2002
Ormond	E83079	Solids	Potassium	EPA 6010	1/8/2002
Ormond	E83079	Solids	Selenium	EPA 6010	1/8/2002
Ormond	E83079	Solids	Silver	EPA 6010	1/8/2002
Ormond	E83079	Solids	Sodium	EPA 6010	1/8/2002
Ormond	E83079	Solids	Strontium	EPA 6010	1/8/2002
Ormond	E83079	Solids	Sulfur	EPA 6010	7/1/2016
Ormond	E83079	Solids	Thallium	EPA 6010	1/8/2002
Ormond	E83079	Solids	Tin	EPA 6010	1/8/2002
Ormond	E83079	Solids	Titanium	EPA 6010	3/15/2013
Ormond	E83079	Solids	Vanadium	EPA 6010	1/8/2002
Ormond	E83079	Solids	Zinc	EPA 6010	1/8/2002
Ormond	E83079	Solids	Arsenic	EPA 6020	1/3/2012
Ormond	E83079	Solids	Barium	EPA 6020	1/3/2012
Ormond	E83079	Solids	Beryllium	EPA 6020	1/3/2012
Ormond	E83079	Solids	Cadmium	EPA 6020	1/3/2012
Ormond	E83079	Solids	Chromium	EPA 6020	1/3/2012
Ormond	E83079	Solids	Cobalt	EPA 6020	1/3/2012
Ormond	E83079	Solids	Copper	EPA 6020	1/3/2012

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 121 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Lab	FLDOH ID	Matrix	Analyte	Method	Certification Date
Ormond	E83079	Solids	Lead	EPA 6020	1/3/2012
Ormond	E83079	Solids	Manganese	EPA 6020	1/3/2012
Ormond	E83079	Solids	Nickel	EPA 6020	1/3/2012
Ormond	E83079	Solids	Selenium	EPA 6020	1/3/2012
Ormond	E83079	Solids	Thallium	EPA 6020	1/3/2012
Ormond	E83079	Solids	Vanadium	EPA 6020	1/3/2012
Ormond	E83079	Solids	Zinc	EPA 6020	1/3/2012
Ormond	E83079	Solids	Mercury	EPA 7471	1/8/2002
Ormond	E83079	Solids	Fecal coliforms	SM 9221 E	8/14/2006
Ormond	E83079	Solids	4,4 -DDD	EPA 8081	1/8/2002
Ormond	E83079	Solids	4,4 -DDE	EPA 8081	1/8/2002
Ormond	E83079	Solids	4,4 -DDT	EPA 8081	1/8/2002
Ormond	E83079	Solids	Aldrin	EPA 8081	1/8/2002
Ormond	E83079	Solids	Chlordane (tech.)	EPA 8081	1/8/2002
Ormond	E83079	Solids	Dieldrin	EPA 8081	1/8/2002
Ormond	E83079	Solids	Endosulfan I	EPA 8081	1/8/2002
Ormond	E83079	Solids	Endosulfan II	EPA 8081	1/8/2002
Ormond	E83079	Solids	Endosulfan sulfate	EPA 8081	1/8/2002
Ormond	E83079	Solids	Endrin	EPA 8081	1/8/2002
Ormond	E83079	Solids	Endrin aldehyde	EPA 8081	1/8/2002
Ormond	E83079	Solids	Endrin ketone	EPA 8081	1/8/2002
Ormond	E83079	Solids	Heptachlor	EPA 8081	1/8/2002
Ormond	E83079	Solids	Heptachlor epoxide	EPA 8081	1/8/2002
Ormond	E83079	Solids	Methoxychlor	EPA 8081	1/8/2002
Ormond	E83079	Solids	Mirex	EPA 8081	1/3/2012
Ormond	E83079	Solids	Toxaphene (Chlorinated camphene)	EPA 8081	1/8/2002
Ormond	E83079	Solids	alpha-BHC (alpha-Hexachlorocyclohexane)	EPA 8081	1/8/2002
Ormond	E83079	Solids	alpha-Chlordane	EPA 8081	1/8/2002
Ormond	E83079	Solids	beta-BHC (beta-Hexachlorocyclohexane)	EPA 8081	1/8/2002
Ormond	E83079	Solids	delta-BHC	EPA 8081	1/8/2002
Ormond	E83079	Solids	gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	EPA 8081	1/8/2002
Ormond	E83079	Solids	gamma-Chlordane	EPA 8081	1/8/2002
Ormond	E83079	Solids	Aroclor-1016 (PCB-1016)	EPA 8082	1/8/2002
Ormond	E83079	Solids	Aroclor-1221 (PCB-1221)	EPA 8082	1/8/2002
Ormond	E83079	Solids	Aroclor-1232 (PCB-1232)	EPA 8082	1/8/2002
Ormond	E83079	Solids	Aroclor-1242 (PCB-1242)	EPA 8082	1/8/2002

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 122 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Lab	FLDOH ID	Matrix	Analyte	Method	Certification Date
Ormond	E83079	Solids	Aroclor-1248 (PCB-1248)	EPA 8082	1/8/2002
Ormond	E83079	Solids	Aroclor-1254 (PCB-1254)	EPA 8082	1/8/2002
Ormond	E83079	Solids	Aroclor-1260 (PCB-1260)	EPA 8082	1/8/2002
Ormond	E83079	Solids	Atrazine	EPA 8141	1/8/2002
Ormond	E83079	Solids	Azinphos-methyl (Guthion)	EPA 8141	1/8/2002
Ormond	E83079	Solids	Carbophenothion	EPA 8141	1/8/2002
Ormond	E83079	Solids	Chlorpyrifos	EPA 8141	1/8/2002
Ormond	E83079	Solids	Coumaphos	EPA 8141	1/8/2002
Ormond	E83079	Solids	Demeton-o	EPA 8141	1/8/2002
Ormond	E83079	Solids	Demeton-s	EPA 8141	1/8/2002
Ormond	E83079	Solids	Diazinon	EPA 8141	1/8/2002
Ormond	E83079	Solids	Dichlorvos (DDVP, Dichlorvos)	EPA 8141	1/8/2002
Ormond	E83079	Solids	Dimethoate	EPA 8141	1/8/2002
Ormond	E83079	Solids	Disulfoton	EPA 8141	1/2/2008
Ormond	E83079	Solids	Ethion	EPA 8141	1/8/2002
Ormond	E83079	Solids	Famphur	EPA 8141	1/8/2002
Ormond	E83079	Solids	Malathion	EPA 8141	1/8/2002
Ormond	E83079	Solids	Methyl parathion (Parathion, methyl)	EPA 8141	1/8/2002
Ormond	E83079	Solids	Mevinphos	EPA 8141	1/8/2002
Ormond	E83079	Solids	Monocrotophos	EPA 8141	1/8/2002
Ormond	E83079	Solids	Parathion, ethyl	EPA 8141	1/8/2002
Ormond	E83079	Solids	Phorate	EPA 8141	1/8/2002
Ormond	E83079	Solids	Phosmet (Imidan)	EPA 8141	1/8/2002
Ormond	E83079	Solids	1,1,1,2-Tetrachloroethane	EPA 8260	1/8/2002
Ormond	E83079	Solids	1,1,1-Trichloroethane	EPA 8260	1/8/2002
Ormond	E83079	Solids	1,1,2,2-Tetrachloroethane	EPA 8260	1/8/2002
Ormond	E83079	Solids	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	EPA 8260	1/3/2012
Ormond	E83079	Solids	1,1,2-Trichloroethane	EPA 8260	1/8/2002
Ormond	E83079	Solids	1,1-Dichloroethane	EPA 8260	1/8/2002
Ormond	E83079	Solids	1,1-Dichloroethylene	EPA 8260	1/8/2002
Ormond	E83079	Solids	1,1-Dichloropropene	EPA 8260	1/8/2002
Ormond	E83079	Solids	1,2,3-Trichlorobenzene	EPA 8260	1/8/2002
Ormond	E83079	Solids	1,2,3-Trichloropropane	EPA 8260	1/8/2002
Ormond	E83079	Solids	1,2,3-Trimethylbenzene	EPA 8260	4/29/2014
Ormond	E83079	Solids	1,2,4-Trichlorobenzene	EPA 8260	1/8/2002
Ormond	E83079	Solids	1,2,4-Trimethylbenzene	EPA 8260	1/8/2002

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 123 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Lab	FLDOH ID	Matrix	Analyte	Method	Certification Date
Ormond	E83079	Solids	1,2-Dibromo-3-chloropropane (DBCP)	EPA 8260	1/8/2002
Ormond	E83079	Solids	1,2-Dibromoethane (EDB, Ethylene dibromide)	EPA 8260	1/8/2002
Ormond	E83079	Solids	1,2-Dichlorobenzene	EPA 8260	1/8/2002
Ormond	E83079	Solids	1,2-Dichloroethane	EPA 8260	1/8/2002
Ormond	E83079	Solids	1,2-Dichloropropane	EPA 8260	1/8/2002
Ormond	E83079	Solids	1,3,5-Trimethylbenzene	EPA 8260	1/8/2002
Ormond	E83079	Solids	1,3-Dichlorobenzene	EPA 8260	1/8/2002
Ormond	E83079	Solids	1,3-Dichloropropane	EPA 8260	1/8/2002
Ormond	E83079	Solids	1,4-Dichlorobenzene	EPA 8260	1/8/2002
Ormond	E83079	Solids	2,2-Dichloropropane	EPA 8260	1/8/2002
Ormond	E83079	Solids	2-Butanone (Methyl ethyl ketone, MEK)	EPA 8260	1/8/2002
Ormond	E83079	Solids	2-Chloroethyl vinyl ether	EPA 8260	1/3/2012
Ormond	E83079	Solids	2-Chlorotoluene	EPA 8260	1/8/2002
Ormond	E83079	Solids	2-Hexanone	EPA 8260	1/8/2002
Ormond	E83079	Solids	4-Chlorotoluene	EPA 8260	1/8/2002
Ormond	E83079	Solids	4-Methyl-2-pentanone (MIBK)	EPA 8260	1/8/2002
Ormond	E83079	Solids	Acetone	EPA 8260	1/8/2002
Ormond	E83079	Solids	Acetonitrile	EPA 8260	1/8/2002
Ormond	E83079	Solids	Acrolein (Propenal)	EPA 8260	1/8/2002
Ormond	E83079	Solids	Acrylonitrile	EPA 8260	1/8/2002
Ormond	E83079	Solids	Allyl chloride (3-Chloropropene)	EPA 8260	1/8/2002
Ormond	E83079	Solids	Benzene	EPA 8260	1/8/2002
Ormond	E83079	Solids	Bromobenzene	EPA 8260	1/8/2002
Ormond	E83079	Solids	Bromochloromethane	EPA 8260	1/8/2002
Ormond	E83079	Solids	Bromodichloromethane	EPA 8260	1/8/2002
Ormond	E83079	Solids	Bromoform	EPA 8260	1/8/2002
Ormond	E83079	Solids	Carbon disulfide	EPA 8260	1/8/2002
Ormond	E83079	Solids	Carbon tetrachloride	EPA 8260	1/8/2002
Ormond	E83079	Solids	Chlorobenzene	EPA 8260	1/8/2002
Ormond	E83079	Solids	Chloroethane	EPA 8260	1/8/2002
Ormond	E83079	Solids	Chloroform	EPA 8260	1/8/2002
Ormond	E83079	Solids	Chloroprene	EPA 8260	1/8/2002
Ormond	E83079	Solids	Cyclohexane	EPA 8260	1/3/2012
Ormond	E83079	Solids	Di-isopropylether (DIPE)	EPA 8260	1/3/2012
Ormond	E83079	Solids	Dibromochloromethane	EPA 8260	1/8/2002
Ormond	E83079	Solids	Dibromomethane	EPA 8260	1/8/2002

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 124 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Lab	FLDOH ID	Matrix	Analyte	Method	Certification Date
Ormond	E83079	Solids	Dichlorodifluoromethane	EPA 8260	1/8/2002
Ormond	E83079	Solids	Diethyl ether	EPA 8260	1/3/2012
Ormond	E83079	Solids	Ethyl acetate	EPA 8260	1/3/2012
Ormond	E83079	Solids	Ethyl methacrylate	EPA 8260	1/8/2002
Ormond	E83079	Solids	Ethyl-t-butylether (ETBE)	EPA 8260	1/3/2012
Ormond	E83079	Solids	Ethylbenzene	EPA 8260	1/8/2002
Ormond	E83079	Solids	Hexachlorobutadiene	EPA 8260	1/8/2002
Ormond	E83079	Solids	Iodomethane (Methyl iodide)	EPA 8260	1/8/2002
Ormond	E83079	Solids	Isobutyl alcohol (2-Methyl-1-propanol)	EPA 8260	1/8/2002
Ormond	E83079	Solids	Isopropylbenzene	EPA 8260	1/8/2002
Ormond	E83079	Solids	Methacrylonitrile	EPA 8260	1/8/2002
Ormond	E83079	Solids	Methyl acetate	EPA 8260	1/3/2012
Ormond	E83079	Solids	Methyl bromide (Bromomethane)	EPA 8260	1/8/2002
Ormond	E83079	Solids	Methyl chloride (Chloromethane)	EPA 8260	1/8/2002
Ormond	E83079	Solids	Methyl methacrylate	EPA 8260	1/8/2002
Ormond	E83079	Solids	Methyl tert-butyl ether (MTBE)	EPA 8260	1/8/2002
Ormond	E83079	Solids	Methylcyclohexane	EPA 8260	1/3/2012
Ormond	E83079	Solids	Methylene chloride	EPA 8260	1/8/2002
Ormond	E83079	Solids	Naphthalene	EPA 8260	1/8/2002
Ormond	E83079	Solids	Pentachloroethane	EPA 8260	1/8/2002
Ormond	E83079	Solids	Propionitrile (Ethyl cyanide)	EPA 8260	1/8/2002
Ormond	E83079	Solids	Styrene	EPA 8260	1/8/2002
Ormond	E83079	Solids	T-amylmethylether (TAME)	EPA 8260	1/3/2012
Ormond	E83079	Solids	Tetrachloroethylene (Perchloroethylene)	EPA 8260	1/8/2002
Ormond	E83079	Solids	Tetrahydrofuran (THF)	EPA 8260	1/3/2012
Ormond	E83079	Solids	Toluene	EPA 8260	1/8/2002
Ormond	E83079	Solids	Trichloroethene (Trichloroethylene)	EPA 8260	12/22/2010
Ormond	E83079	Solids	Trichlorofluoromethane	EPA 8260	1/8/2002
Ormond	E83079	Solids	Vinyl acetate	EPA 8260	1/8/2002
Ormond	E83079	Solids	Vinyl chloride	EPA 8260	1/8/2002
Ormond	E83079	Solids	Xylene (total)	EPA 8260	1/8/2002
Ormond	E83079	Solids	cis-1,2-Dichloroethylene	EPA 8260	1/8/2002
Ormond	E83079	Solids	cis-1,3-Dichloropropene	EPA 8260	1/8/2002
Ormond	E83079	Solids	cis-1,4-Dichloro-2-butene	EPA 8260	1/3/2012
Ormond	E83079	Solids	m/p-Xylenes	EPA 8260	1/3/2012
Ormond	E83079	Solids	n-Butylbenzene	EPA 8260	1/8/2002
Ormond	E83079	Solids	n-Propylbenzene	EPA 8260	1/8/2002

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 125 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Lab	FLDOH ID	Matrix	Analyte	Method	Certification Date
Ormond	E83079	Solids	o-Xylene	EPA 8260	1/3/2012
Ormond	E83079	Solids	p-Dioxane	EPA 8260	1/8/2002
Ormond	E83079	Solids	p-Isopropyltoluene	EPA 8260	1/8/2002
Ormond	E83079	Solids	sec-Butylbenzene	EPA 8260	1/8/2002
Ormond	E83079	Solids	tert-Butyl alcohol (2-Methyl-2-propanol)	EPA 8260	1/3/2012
Ormond	E83079	Solids	tert-Butylbenzene	EPA 8260	1/8/2002
Ormond	E83079	Solids	trans-1,2-Dichloroethylene	EPA 8260	1/8/2002
Ormond	E83079	Solids	trans-1,3-Dichloropropene	EPA 8260	1/8/2002
Ormond	E83079	Solids	trans-1,4-Dichloro-2-butene	EPA 8260	1/8/2002
Ormond	E83079	Solids	3,3-Dimethyl-1-butanol	PACE SOP S-FL-O-037/GC-MS	1/3/2012
Ormond	E83079	Solids	Tetrahydrofuran (THF)	PACE SOP S-FL-O-037/GC-MS	1/3/2012
Ormond	E83079	Solids	n-Hexane	PACE SOP S-FL-O-037/GC-MS	1/3/2012
Ormond	E83079	Solids	tert-Amyl alcohol (2-methyl-2-butanol)	PACE SOP S-FL-O-037/GC-MS	1/3/2012
Ormond	E83079	Solids	tert-Butyl formate	PACE SOP S-FL-O-037/GC-MS	1/3/2012
Pompano	E86420	Drinking Water	Heterotrophic plate count	SIMPLATE	3/22/2010
Pompano	E86420	Drinking Water	Total coliforms	SM 9222 B	2/25/2002
Pompano	E86420	Drinking Water	Escherichia coli	SM 9223 B	3/22/2010
Pompano	E86420	Drinking Water	Total coliforms	SM 9223 B	2/25/2002
Pompano	E86420	Drinking Water	Conductivity	SM 2510 B	4/15/2011
Pompano	E86420	Drinking Water	pH	SM 4500-H+-B	5/21/2007
Pompano	E86420	Drinking Water	Turbidity	EPA 180.1	4/15/2011
Pompano	E86420	Drinking Water	Odor	SM 2150 B	2/25/2002
Pompano	E86420	Drinking Water	Total dissolved solids	SM 2540 C	2/25/2002
Pompano	E86420	Non-Potable Water	Conductivity	EPA 120.1	2/25/2002
Pompano	E86420	Non-Potable Water	Turbidity	EPA 180.1	2/25/2002
Pompano	E86420	Non-Potable Water	Chromium VI	EPA 7196	7/1/2003
Pompano	E86420	Non-Potable Water	Turbidity	SM 2130 B	2/25/2002
Pompano	E86420	Non-Potable Water	Salinity	SM 2520 B	5/8/2003
Pompano	E86420	Non-Potable Water	Residue-filterable (TDS)	SM 2540 C	5/21/2007
Pompano	E86420	Non-Potable Water	Residue-nonfilterable (TSS)	SM 2540 D	5/21/2007
Pompano	E86420	Non-Potable Water	Residue-settleable	SM 2540 F	4/15/2011
Pompano	E86420	Non-Potable Water	pH	SM 4500-H+-B	5/21/2007

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 126 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office

Lab	FLDOH ID	Matrix	Analyte	Method	Certification Date
Pompano	E86420	Non-Potable Water	Biochemical oxygen demand	SM 5210 B	2/25/2002
Pompano	E86420	Non-Potable Water	Carbonaceous BOD (CBOD)	SM 5210 B	2/25/2002
Pompano	E86420	Non-Potable Water	Fecal coliforms	COLILERT [®] -18 (Fecal Coliforms)	9/15/2015
Pompano	E86420	Non-Potable Water	Enterococci	ENTEROLERT/ QUANTI-TRAY	10/13/2014
Pompano	E86420	Non-Potable Water	Heterotrophic plate count	SIMPLATE	6/28/2004
Pompano	E86420	Non-Potable Water	Fecal coliforms	SM 9221 E	2/25/2002
Pompano	E86420	Non-Potable Water	Total coliforms	SM 9222 B	2/25/2002
Pompano	E86420	Non-Potable Water	Fecal coliforms	SM 9222 D	2/25/2002
Pompano	E86420	Non-Potable Water	Escherichia coli	SM 9223 B /QUANTI-TRAY	10/13/2014
Pompano	E86420	Non-Potable Water	Total coliforms	SM 9223 B /QUANTI-TRAY	10/13/2014
Pompano	E86420	Non-Potable Water	Fecal streptococci	SM 9230 B	2/25/2002
Pompano	E86420	Solids	Fecal coliforms	SM 9221 E	1/9/2006
Tampa	E84129	Drinking Water	Heterotrophic plate count	SIMPLATE	3/27/2017
Tampa	E84129	Drinking Water	Heterotrophic plate count	SM 9215 B	1/28/2005
Tampa	E84129	Drinking Water	Total coliforms	SM 9222 B	5/24/2011
Tampa	E84129	Drinking Water	Escherichia coli	SM 9223 B	3/22/2002
Tampa	E84129	Drinking Water	Total coliforms	SM 9223 B	3/22/2002
Tampa	E84129	Drinking Water	Conductivity	SM 2510 B	3/22/2002
Tampa	E84129	Drinking Water	UV 254	SM 5910 B	3/6/2003
Tampa	E84129	Drinking Water	Gross-alpha	EPA 00- 02	4/1/2004
Tampa	E84129	Drinking Water	Gross-alpha	EPA 900.0	4/1/2004
Tampa	E84129	Drinking Water	Gross-beta	EPA 900.0	4/1/2004
Tampa	E84129	Drinking Water	Radium-226	EPA 903.1	4/1/2004
Tampa	E84129	Drinking Water	Radium-228	EPA Ra-05	4/1/2004
Tampa	E84129	Drinking Water	Gross-alpha	SM 7110 B	4/16/2010
Tampa	E84129	Drinking Water	Gross-beta	SM 7110 B	4/16/2010
Tampa	E84129	Drinking Water	pH	EPA 150.1	3/22/2002
Tampa	E84129	Drinking Water	Turbidity	EPA 180.1	3/22/2002
Tampa	E84129	Drinking Water	Color	SM 2120 B	3/22/2002
Tampa	E84129	Drinking Water	Odor	SM 2150 B	3/22/2002

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 127 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Lab	FLDOH ID	Matrix	Analyte	Method	Certification Date
Tampa	E84129	Drinking Water	Total dissolved solids	SM 2540 C	3/22/2002
Tampa	E84129	Drinking Water	Surfactants - MBAS	SM 5540 C	3/22/2002
Tampa	E84129	Non-Potable Water	Turbidity	EPA 180.1	3/22/2002
Tampa	E84129	Non-Potable Water	Chlorophylls	EPA 445	1/7/2013
Tampa	E84129	Non-Potable Water	pH	EPA 9040	7/1/2003
Tampa	E84129	Non-Potable Water	Color	SM 2120 B	3/22/2002
Tampa	E84129	Non-Potable Water	Turbidity	SM 2130 B	5/29/2009
Tampa	E84129	Non-Potable Water	Conductivity	SM 2510 B	3/22/2002
Tampa	E84129	Non-Potable Water	Residue-total	SM 2540 B	5/29/2009
Tampa	E84129	Non-Potable Water	Residue-filterable (TDS)	SM 2540 C	5/29/2009
Tampa	E84129	Non-Potable Water	Residue-nonfilterable (TSS)	SM 2540 D	5/29/2009
Tampa	E84129	Non-Potable Water	pH	SM 4500-H+-B	5/29/2009
Tampa	E84129	Non-Potable Water	Biochemical oxygen demand	SM 5210 B	3/22/2002
Tampa	E84129	Non-Potable Water	Carbonaceous BOD (CBOD)	SM 5210 B	3/22/2002
Tampa	E84129	Non-Potable Water	Surfactants - MBAS	SM 5540 C	3/22/2002
Tampa	E84129	Non-Potable Water	Enterococci	ENTEROLERT/ QUANTI-TRAY	3/27/2017
Tampa	E84129	Non-Potable Water	Total coliforms	SM 9221 B	3/22/2002
Tampa	E84129	Non-Potable Water	Fecal coliforms	SM 9221 E	3/22/2002
Tampa	E84129	Non-Potable Water	Total coliforms	SM 9222 B	3/22/2002
Tampa	E84129	Non-Potable Water	Fecal coliforms	SM 9222 D	3/22/2002
Tampa	E84129	Non-Potable Water	Escherichia coli	SM 9223 B /QUANTI-TRAY	4/16/2010
Tampa	E84129	Non-Potable Water	Total coliforms	SM 9223 B /QUANTI-TRAY	4/16/2010
Tampa	E84129	Non-Potable Water	Gross-alpha	EPA 00-02	3/27/2017
Tampa	E84129	Non-Potable Water	Gross-alpha	EPA 900.0	4/1/2004
Tampa	E84129	Non-Potable Water	Gross-beta	EPA 900.0	4/1/2004
Tampa	E84129	Non-Potable Water	Radium-226	EPA 903.1	4/1/2004
Tampa	E84129	Non-Potable Water	Radium-228	EPA Ra-05	3/27/2017
Tampa	E84129	Non-Potable Water	Gross-alpha	SM 7110 B	4/16/2010
Tampa	E84129	Non-Potable Water	Gross-beta	SM 7110 B	4/16/2010
Tampa	E84129	Solids	Fecal coliforms	SM 9221 E	4/16/2010

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 128 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


ATTACHMENT VII- METHOD HOLD TIME, CONTAINER AND PRESERVATION GUIDE (CURRENT AS OF ISSUE DATE)

THE HOLDING TIME INDICATED IN THE CHART BELOW IS THE MAXIMUM ALLOWABLE TIME FROM COLLECTION TO EXTRACTION AND/OR ANALYSIS PER THE ANALYTICAL METHOD. FOR METHODS THAT REQUIRE PROCESSING PRIOR TO ANALYSIS, THE HOLDING TIME IS DESIGNATED AS ‘PREPARATION HOLDING TIME/ANALYSIS HOLDING TIME’.


Parameter	Method	Matrix	Container	Preservative	Max Hold Time
Acid Base Accounting	Sobek	Solid	Plastic/Glass	None	N/A
Acidity	SM2310B	Water	Plastic/Glass	$\leq 6^{\circ}\text{C}$	14 Days
Acid Volatile Sulfide	Draft EPA 1629	Solid	8oz Glass	$\leq 6^{\circ}\text{C}$	14 Days
Actinides	HASL-300	Water	Plastic/Glass	$\text{pH}<2 \text{ HNO}_3$	180 Days
Actinides	HASL-300	Solid	Plastic/Glass	None	180 Days
Alkalinity	SM2320B/310.2	Water	Plastic/Glass (NY requires separate bottle filled to the exclusion of air)	$\leq 6^{\circ}\text{C}$	14 Days
Alkylated PAHs		Water	1L Amber Glass	$\leq 6^{\circ}\text{C}$; $\text{pH}<2$ 1:1 HCl (optional)	14/40 Days preserved; 7/40 Days unpreserved
Alkylated PAHs		Solid	8oz Glass	$\leq 10^{\circ}\text{C}$	1 Year/40 Days
Anions (Br, Cl, F, NO_2 , NO_3 , o-Phos, SO_4 , bromate, chlorite, chlorate)	300.0/300.1/SM4110 B	Water	Plastic/Glass	$\leq 6^{\circ}\text{C}$; EDA if bromate or chlorite run	All analytes 28 days except: NO_2 , NO_3 , o-Phos (48 Hours); chlorite (immediately for 300.0; 14 Days for 300.1). NO_2/NO_3 combo 28 days.
Anions (Br, Cl, F, NO_2 , NO_3 , o-Phos, SO_4 , bromate, chlorite, chlorate)	300.0	Solid	Plastic/Glass	$\leq 6^{\circ}\text{C}$	All analytes 28 days except: NO_2 , NO_3 , o-Phos (48 hours); chlorite (immediately). NO_2/NO_3 combo 28 days.
Anions (Br, Cl, F, NO_2 , NO_3 , o-Phos, SO_4)	9056	Water/ Solid	Plastic/Glass	$\leq 6^{\circ}\text{C}$	48 hours
Aromatic and Halogenated Volatiles (see note 1)	8021	Solid	5035 vial kit	See note 1	14 days
Aromatic and Halogenated Volatiles	602/8021	Water	40mL vials	$\text{pH}<2$ HCl; $\leq 6^{\circ}\text{C}$; $\text{Na}_2\text{S}_2\text{O}_3$ if Cl	14 Days (7 Days for aromatics if

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 129 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Parameter	Method	Matrix	Container	Preservative	Max Hold Time
				present	unpreserved)
Asbestos	EPA 600/R-93/116	Solid	Plastic/Glass; bulk- 2” square; popcorn ceiling- 2tbsp; soil- 4oz	None (handling must be done in HEPA filtered fume hood; drying may be required)	N/A
Bacteria, Total Plate Count	SM9221D	Water	Plastic/WK	≤ 6°C; Na ₂ S ₂ O ₃	24 Hours
Base/Neutrals and Acids	8270	Solid	8oz Glass	≤ 6°C	14/40 Days
Base/Neutrals and Acids	625/8270	Water	1L Amber Glass	≤ 6°C; Na ₂ S ₂ O ₃ if Cl present	7/40 Days
Base/Neutrals, Acids & Pesticides	525.2	Water	1L Amber Glass	pH<2 HCl; ≤ 6°C; Na sulfite if Cl present	14/30 Days
Biomarkers		Water	≤ 6°C; pH<2 1:1 HCl (optional)	14/40 Days preserved; 7/40 Days unpreserved	≤ 6°C; pH<2 1:1 HCl (optional)
Biomarkers		Solid	≤ 10°C	1 Year/40 Days	≤ 10°C
BOD/cBOD	SM5210B	Water	Plastic/Glass	≤ 6°C	48 hours
Boiling Range Distribution of Petroleum Fractions	ASTM D2887-98	Product	10mL glass vials	≤ 6°C	N/A
BTEX/Total Hydrocarbons	TO-3	Air	Summa Canister	None	28 Days
BTEX/Total Hydrocarbons	TO-3	Air	Tedlar Bag or equivalent	None	72 Hours
Carbamates	531.1	Water	Glass	Na ₂ S ₂ O ₃ , Monochloroacetic acid pH <3; ≤ 6°C	28 Days
Carbamates	8318	Water	Glass	Monochloroacetic acid pH 4-5; ≤ 6°C	7/40 Days
Carbamates	8318	Solid	Glass	≤ 6°C	7/40 Days
Carbon Specific Isotope Analysis (CSIA)	AM24	Water	40mL clear VOA vial with TLS	≤ 6°C, trisodium phosphate or HCl	N/A
Cation/Anion Balance	SM1030E	Water	Plastic/Glass	None	None
Cation Exchange	9081	Solid	8oz Glass	None	unknown
Cations (Ferrous Iron, Ferric Iron, Divalent Manganese)	7199 modified	Water	40mL clear VOA vials with mylar septum	≤ 6°C; HCl	48 Hours
Chloride	SM4500Cl-C,G,E	Water	Plastic/Glass	None	28 Days
Chlorinated Hydrocarbons in Vapor	AM4.02	Vapor	20cc vapor vial with flat septum	None	N/A
Chlorine, Residual	SM4500Cl- D,E,G/330.5/Hach	Water	Plastic/Glass	None	15 minutes

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 130 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Parameter	Method	Matrix	Container	Preservative	Max Hold Time
	8167				
Chlorophyll	SM10200H, EPA 445	Water	Opaque bottle or aluminum foil	$\leq 6^{\circ}\text{C}$	48 Hours to filtration
COD	SM5220C, D/410.4/Hach 8000	Water	Plastic/Glass	$\text{pH} < 2 \text{ H}_2\text{SO}_4; \leq 6^{\circ}\text{C}$	28 Days
Coliform, Fecal	SM9222D	Water	100mL Plastic	$\leq 10^{\circ}\text{C}; \text{Na}_2\text{S}_2\text{O}_3$	8 Hours
Coliform, Fecal	SM9222D	Solid	100mL Plastic	$\leq 10^{\circ}\text{C}; \text{Na}_2\text{S}_2\text{O}_3$	24 Hours
Coliform, Fecal	SM9221E	Water	100mL Plastic	$\leq 10^{\circ}\text{C}; \text{Na}_2\text{S}_2\text{O}_3$	8 Hours
Coliform, Fecal	SM9221E	Solid	100mL Plastic	$\leq 10^{\circ}\text{C}; \text{Na}_2\text{S}_2\text{O}_3$	24 Hours
Coliform, Total	SM9222B	Water	100mL Plastic	$\leq 10^{\circ}\text{C}; \text{Na}_2\text{S}_2\text{O}_3$	8 Hours
Coliform, Total	SM9221B	Solid	100mL Plastic	$\leq 10^{\circ}\text{C}; \text{Na}_2\text{S}_2\text{O}_3$	8 Hours
Coliform, Total, Fecal and E. coli	Colilert/ Quanti-tray	Water	100mL Plastic	$\leq 10^{\circ}\text{C}; \text{Na}_2\text{S}_2\text{O}_3$	8 Hours
Coliform, Total and E. coli	SM9223B, Colisure, Colitag	Drinking Water	100mL Plastic	$\leq 10^{\circ}\text{C}; \text{Na}_2\text{S}_2\text{O}_3$	30 Hours
Color	SM2120B,E	Water	Covered Plastic/Acid Washed Amber Glass	$\leq 6^{\circ}\text{C}$	48 Hours
Condensable Particulate Emissions	EPA 202	Air	Solutions	None	180 Days
Cyanide, Reactive	SW846 chap.7	Water	Plastic/Glass	None	28 Days
Cyanide, Reactive	SW846 chap.7	Solid	Plastic/Glass	None	28 Days
Cyanide, Total and Amenable	SM4500CN-A,B,C,D,E,G,LN/9010/ 9012/335.4	Water	Plastic/Glass	$\text{pH} \geq 12 \text{ NaOH}; \leq 6^{\circ}\text{C}; \text{ascorbic acid if Cl present}$	14 Days (24 Hours if sulfide present-applies to SM4500CN only)
Diesel Range Organics- Alaska DRO	AK102	Solid	8oz Glass	$\leq 6^{\circ}\text{C}$	14/40 Days
Diesel Range Organics- Alaska DRO	AK102	Water	1L Glass	$\text{pH} < 2 \text{ HCl}; \leq 6^{\circ}\text{C}$	14/40 Days
Diesel Range Organics- TPH DRO	8015	Solid	8oz Glass Jar	$\leq 6^{\circ}\text{C}$	14/40 Days
Diesel Range Organics- TPH DRO	8015	Water	1L Amber Glass	$\leq 6^{\circ}\text{C}; \text{Na}_2\text{S}_2\text{O}_3 \text{ if Cl present}$	7/40 Days
Diesel Range Organics- TPH DRO	8015	Tissue	1L Amber Glass	$\leq - 10^{\circ}\text{C}$	1 Year if frozen/40 Days
Diesel Range Organics- TPH DRO	TO-17	Air	Thermal desorption tubes via SKC Pocket Pumps or equivalent	$\leq 6^{\circ}\text{C}$ but above freezing	28 Days
Diesel Range Organics- NwTPH-Dx	Nw-TPH-Dx	Solid	8oz Glass Jar	$\leq 6^{\circ}\text{C}$	14/40 Days
Diesel Range Organics- NwTPH-Dx	Nw-TPH-Dx	Water	1L Amber Glass	$\text{pH} < 2 \text{ HCl}; \leq 6^{\circ}\text{C}$	14/40 Days; 7 Days from

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 131 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Parameter	Method	Matrix	Container	Preservative	Max Hold Time
					collection to extraction if unpreserved
Diesel Range Organics- Wisconsin DRO	WI MOD DRO	Solid	Tared 4oz Glass Jar	$\leq 6^{\circ}\text{C}$	10/47 Days
Diesel Range Organics- Wisconsin DRO	WI MOD DRO	Water	1L Amber Glass	$\leq 6^{\circ}\text{C}$; pH <2 HCl	14/40 Days
Dioxins and Furans	1613B	Solid	8oz Glass	$\leq 6^{\circ}\text{C}$	1 year
Dioxins and Furans	1613B	Water	1L Amber Glass	$\leq 6^{\circ}\text{C}$; $\text{Na}_2\text{S}_2\text{O}_3$ if Cl present	1 year
Dioxins and Furans	1613B	Fish/Tissue	Aluminum foil	$\leq 6^{\circ}\text{C}$	1 year
Dioxins and Furans	8290	Water	1L Amber Glass	$\leq 6^{\circ}\text{C}$; $\text{Na}_2\text{S}_2\text{O}_3$ if Cl present	30/45 Days
Dioxins and Furans	8290	Solid	8oz Glass	$\leq 6^{\circ}\text{C}$	30/45 Days
Dioxins and Furans	8290	Fish/Tissue	Not specified	$< -10^{\circ}\text{C}$	30/45 Days
Dioxins and Furans	TO-9	Air	PUF	None	7/40 Days
Diquat/Paraquat	549.2	Water	Amber Plastic	$\leq 6^{\circ}\text{C}$; $\text{Na}_2\text{S}_2\text{O}_3$	7/21 Days
EDB/DBCP (8011) EDB/DBCP/1,2,3-TCP (504.1)	504.1/8011	Water	40mL vials	$\leq 6^{\circ}\text{C}$; $\text{Na}_2\text{S}_2\text{O}_3$ if Cl present	14 Days
Endothall	548.1	Water	Amber Glass	$\leq 6^{\circ}\text{C}$; $\text{Na}_2\text{S}_2\text{O}_3$	7/14 Days
Enterococci	EPA 1600	Water	100mL Plastic	$\leq 10^{\circ}\text{C}$	8 Hours
Enterococci	Enterolert	Water	100mL Plastic	$\leq 10^{\circ}\text{C}$; $\text{Na}_2\text{S}_2\text{O}_3$	8 Hours
Explosives	8330/8332	Water	1L Amber Glass	$\leq 6^{\circ}\text{C}$	7/40 Days
Explosives	8330/8332	Solid	8oz Glass Jar	$\leq 6^{\circ}\text{C}$	14/40 Days
Extractable Petroleum Hydrocarbons (aliphatic and aromatic)	NJ EPH	Water	1L Amber Glass	pH < 2 HCl; $\leq 6^{\circ}\text{C}$	14/40 Days
Extractable Petroleum Hydrocarbons (aliphatic and aromatic)	NJ EPH	Solid	4oz Glass Jar	$\leq 6^{\circ}\text{C}$	14/40 Days
Extractable Petroleum Hydrocarbons (aliphatic and aromatic)	MA-EPH	Water	1L Amber Glass	pH<2 HCl; $\leq 6^{\circ}\text{C}$	14/40 Days
Extractable Petroleum Hydrocarbons (aliphatic and aromatic)	MA-EPH	Solid	4oz Glass Jar	$\leq 6^{\circ}\text{C}$	7/40 Days
Fecal Streptococci	SM9230B	Water	100mL Plastic	$\leq 10^{\circ}\text{C}$; $\text{Na}_2\text{S}_2\text{O}_3$	8 Hours
Ferrous Iron	SN3500Fe-D; Hach 8146	Water	Glass	None	Immediate
Flashpoint/ Ignitability	1010	Liquid	Plastic/Glass	None	28 Days
Florida PRO	FL PRO DEP	Liquid	Glass, PTFE	$\leq 6^{\circ}\text{C}$; pH <2 H_2SO_4	7/40 Days

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 132 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Parameter	Method	Matrix	Container	Preservative	Max Hold Time
	(11/1/95)		lined cap	or HCl	
Fluoride	SM4500FI-C,D	Water	Plastic	None	28 Days
Formaldehyde	8315	Water	Amber Glass	$\leq 6^{\circ}\text{C}$	3 days to extract, 3 days to analysis
Formaldehyde	8315	Solid	Glass	$\leq 6^{\circ}\text{C}$	14 days to tumble, 3 days to extract, 3 days to analysis
Gamma Emitting Radionuclides	901.1	Water	Plastic/Glass	$\text{pH} < 2 \text{ HNO}_3$	180 days
Gasoline Range Organics	8015	Water	40mL vials	$\text{pH} < 2 \text{ HCl}$	14 Days
Gasoline Range Organics	8015	Solid	5035 vial kit	See note 1	14 days
Gasoline Range Organics (C3-C10)	8260B modified	Water	40mL vials	$\leq 6^{\circ}\text{C}$; HCl	14 Days
Gasoline Range Organics (C3-C10)	8260B modified	Solid	4oz Glass Jar	$\leq 6^{\circ}\text{C}$	14 Days
Gasoline Range Organics- Alaska GRO	AK101	Solid	5035 vial kit	See 5035 note*	28 Days if GRO only (14 Days with BTEX)
Gasoline Range Organics- Alaska GRO	AK101	Water	40mL vials	$\text{pH} < 2 \text{ HCl}$; $\leq 6^{\circ}\text{C}$	14 Days
Gasoline Range Organics- NwTPH-Gx	Nw-TPH-Gx	Water	40mL vials	$\text{pH} < 2 \text{ HCl}$; $\leq 6^{\circ}\text{C}$	7 Days unpreserved; 14 Days preserved
Gasoline Range Organics- NwTPH-Gx	Nw-TPH-Gx	Solid	40mL vials	$\leq 6^{\circ}\text{C}$; packed jars with no headspace	14 Days
Gasoline Range Organics- Wisconsin GRO	WI MOD GRO	Water	40mL vials	$\text{pH} < 2 \text{ HCl}$; $\leq 6^{\circ}\text{C}$	14 Days
Gasoline Range Organics- Wisconsin GRO	WI MOD GRO	Solid	40mL MeOH vials	$\leq 6^{\circ}\text{C}$ in MeOH	21 Days
Glyphosate	547	Water	Glass	$\leq 6^{\circ}\text{C}$; $\text{Na}_2\text{S}_2\text{O}_3$	14 Days (18 Months frozen)
Grain Size	ASTM D422	Solid	Not specified	Ambient	N/A
Gross Alpha (NJ 48Hr Method)	NJAC 7:18-6	Water	Plastic/Glass	$\text{pH} < 2 \text{ HNO}_3$	48 Hrs
Gross Alpha and Gross Beta	9310/900.0/SM7110 B/00-02	Water	Plastic/Glass	$\text{pH} < 2 \text{ HNO}_3$	180 Days
Gross Alpha and Gross Beta	9310	Solid	Glass	None	180 Days
Haloacetic Acids	552.1/552.2	Water	40mL Amber vials	NH_4Cl ; $\leq 6^{\circ}\text{C}$	14/7 Days if extracts stored \leq 6°C or 14/14 Days if extracts stored at $\leq -10^{\circ}\text{C}$
Hardness, Total	SM2340B,C/130.1	Water	Plastic/Glass	$\text{pH} < 2 \text{ HNO}_3$	180 Days

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 133 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Parameter	Method	Matrix	Container	Preservative	Max Hold Time
(CaCO ₃)					
Heterotrophic Plate Count (SPC/HPC)	SM9215B	Water	100mL Plastic	≤ 10°C; Na ₂ S ₂ O ₃	8 Hours
Heterotrophic Plate Count (SPC/HPC)	SimPlate	Water	100mL Plastic	≤ 10°C; Na ₂ S ₂ O ₃	8 Hours
Herbicides, Chlorinated	8151	Solid	8oz Glass Jar	≤ 6°C	14/40 Days
Herbicides, Chlorinated	8151	Water	1L Amber Glass	≤ 6°C; Na ₂ S ₂ O ₃ if Cl present	7/40 Days
Herbicides, Chlorinated	515.1/515.3	Water	1L Amber Glass	≤ 6°C; Na ₂ S ₂ O ₃ if Cl present	14/28 Days
Hexavalent Chromium	7196/218.6/SM3500Cr-B, C, D	Water	Plastic/Glass	≤ 6°C	24 Hours (see note 4)
Hexavalent Chromium	218.6/SM3500Cr-B, C, D	Water	Plastic/Glass	Ammonium Buffer pH 9.3-9.7	28 Days (see note 4)
Hexavalent Chromium	218.6/218.7	Drinking Water	Plastic/Glass	Ammonium Buffer pH >8	14 Days (see note 4)
Hexavalent Chromium	7196/7199 (with 3060A)	Solid	Glass	≤ 6°C	30 Days from collection to extraction and 7 days from extraction to analysis
Hydrocarbons in Vapor	AM4.02	Vapor	20cc vapor vial with flat septum	None	N/A
Hydrogen by Bubble Strip	SM9/AM20GAx	Water	20cc vapor vial with stopper septum	None	14 Days
Hydrogen Halide and Halogen Emissions	EPA 26	Air	Solutions	None	6 Months
Ignitability of Solids	1030	Non-liquid Waste	Plastic/Glass	None	28 Days
Lead Emissions	EPA 12	Air	Filter/Solutions	None	6 Months
Light Hydrocarbons by Bubble Strip	SM9/AM20GAx	Water	20cc vapor vial with stopper septum	None	14 Days
Light Hydrocarbons in Vapor	AM20GAx	Vapor	20cc vapor vial with flat septum	None	14 Days
Lipids	Pace Lipids	Tissue	Plastic/Glass	≤ -10°C	1 Year if frozen
Mercury, Low-Level	1631E	Solid	Glass	None	28 Days
Mercury, Low-Level	1631E	Water	Fluoropolymer bottles (Glass if Hg is only analyte being tested)	12N HCl or BrCl	48 Hours for preservation or analysis; 28 Days to preservation if

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 134 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Parameter	Method	Matrix	Container	Preservative	Max Hold Time
					sample oxidized in bottle; 90 Days for analysis if preserved
Mercury, Low-Level	1631E	Tissue	Plastic/Glass	$\leq -10^{\circ}\text{C}$	28 Days if frozen
Mercury	7471	Solid	8oz Glass Jar	$\leq 6^{\circ}\text{C}$	28 Days
Mercury	7470/245.1/245.2	Water	Plastic/Glass	$\text{pH} < 2 \text{ HNO}_3$	28 Days
Mercury	7471/245.6	Tissue	Plastic/Glass	$\leq -10^{\circ}\text{C}$	28 Days if frozen
Metals (GFAA)	7000/200.9	Water	Plastic/Glass	$\text{pH} < 2 \text{ HNO}_3$	180 Days
Metals (ICP)	NIOSH 7300A/7303	Air	Filters	None	180 Days
Metals (ICP/ICPMS)	6010/6020	Solid	8oz Glass Jar	None	180 Days
Metals (ICP/ICPMS)	6010/6020/200.7/200.8	Water	Plastic/Glass	$\text{pH} < 2 \text{ HNO}_3$	180 Days
Metals (ICP/ICPMS)	6020	Tissue	Plastic/Glass	$\leq -10^{\circ}\text{C}$	180 Days if frozen
Methane, Ethane, Ethene	8015 modified	Water	40mL vials	HCl	14 Days
Methane, Ethane, Ethene	RSK-175; PM01/AM20GAx	Water	20mL vials	HCl; or trisodium phosphate or benzalkonium chloride and $\leq 6^{\circ}\text{C}$	14 Days; 7 Days unpreserved
Methane, Ethane, Ethene	EPA 3C	Air	Summa Canister	None	28 Days
Methane, Ethane, Ethene	EPA 3C	Air	Tedlar Bag or equivalent	None	5 Days
Methanol, Ethanol	8015 modified	Water	40mL vials	$\leq 6^{\circ}\text{C}$	14 Days
Methanol, Ethanol	8015 modified	Solid	2oz Glass	$\leq 6^{\circ}\text{C}$	14 Days
Methyl Mercury	1630	Water	Teflon/ fluoropolymer	Fresh water- 4mL/L HCl; Saline water- 2mL/L H_2SO_4 (must be preserved within 48 hours of collection)	6 months
Methyl Mercury	1630	Tissue	2-4oz glass jar	$\leq 0^{\circ}\text{C}$	28 Days; ethylated distillate 48 hours
Nitrogen, Ammonia	SM4500NH3/350.1	Water	Plastic/Glass	$\text{pH} < 2 \text{ H}_2\text{SO}_4$; $\leq 6^{\circ}\text{C}$	28 Days
Nitrogen, Total Kjeldahl (TKN)	351.2	Solid	Plastic/Glass	$\leq 6^{\circ}\text{C}$	28 Days
Nitrogen, Total Kjeldahl (TKN)	SM4500-Norg/351.2	Water	Plastic/Glass	$\text{pH} < 2 \text{ H}_2\text{SO}_4$; $\leq 6^{\circ}\text{C}$	28 Days
Nitrogen, Nitrate	SM4500-NO3/352.1	Water	Plastic/Glass	$\leq 6^{\circ}\text{C}$	24 Hours preferred
Nitrogen, Nitrate & Nitrite combination	353.2	Solid	Plastic/Glass	$\leq 6^{\circ}\text{C}$	28 Days
Nitrogen, Nitrate & Nitrite combination	SM4500-NO3/353.2	Water	Plastic/Glass	$\text{pH} < 2 \text{ H}_2\text{SO}_4$; $\leq 6^{\circ}\text{C}$	28 Days

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 135 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Parameter	Method	Matrix	Container	Preservative	Max Hold Time
Nitrogen, Nitrite or Nitrate separately	SM4500-NO2/353.2	Water	Plastic/Glass	$\leq 6^{\circ}\text{C}$	48 Hours
Nitrogen, Organic	SM4500-Norg/351.2	Water	Plastic/Glass	$\text{pH} < 2 \text{ H}_2\text{SO}_4; \leq 6^{\circ}\text{C}$	28 Days
Non-Methane Organics	EPA 25C	Air	Summa Canister	None	28 Days
Non-Methane Organics	EPA 25C	Air	Tedlar Bag or equivalent	None	72 Hours
Odor	SM2150B	Water	Glass	$\leq 6^{\circ}\text{C}$	24 Hours
Oil and Grease/HEM	1664A/SM5520B/9070	Water	Glass	$\text{pH} < 2 \text{ H}_2\text{SO}_4 \text{ or } \text{HCl}; \leq 6^{\circ}\text{C}$	28 Days
Oil and Grease/HEM	9071	Solid	Glass	$\leq 6^{\circ}\text{C}$	28 Days
Oil Range Organics	8015	Solid	Glass	$\leq 6^{\circ}\text{C}$	14/40 Days
Oil Range Organics	8015	Water	Glass	$\leq 6^{\circ}\text{C}$	7/40 Days
Organic Matter	ASA 29-3.5.2	Solid	Plastic/Glass	None; samples air-dried and processed prior to analysis	N/A
Oxygen, Dissolved (Probe)	SM4500-O	Water	Glass	None	15 minutes
Oxygenates on Product (GCMS SIM)	1625 modified	Product	10mL glass vial	$\leq 6^{\circ}\text{C}$	14 Days (7 Days from extraction)
PBDEs	1614	Water	1L Amber Glass	$\leq 6^{\circ}\text{C}$	1 Year/1 Year
PBDEs	1614	Solid	Wide Mouth Jar	$\leq 6^{\circ}\text{C}$	1 Year/1 Year
PBDEs	1614	Tissue	Aluminum Foil	$\leq -10^{\circ}\text{C}$	1 Year/1 Year
PCBs and Pesticides, Organochlorine (OC)	TO-4/TO-10	Air	PUF	None	7/40 Days
PCBs and Pesticides, Organochlorine (OC)	608	Water	1L Amber Glass	$\leq 6^{\circ}\text{C}$; $\text{Na}_2\text{S}_2\text{O}_3$ if Cl present	Pest: 7/40 Days; PCB: 1 Year/1 Year
PCBs, Pesticides (OC), Herbicides	508.1	Water	Glass	Na_2SO_3 ; $\text{pH} < 2 \text{ HCl}; \leq 6^{\circ}\text{C}$	14/30 Days
PCBs, total as Decachlorobiphenyl	508A	Water	1L Glass, TFE lined cap	$\leq 6^{\circ}\text{C}$	14/30 Days
Perchlorate	331	Water	Plastic/Glass	$\geq 0-6^{\circ}\text{C}$, field filtered with headspace	28 Days
Perfluorinated Compounds	537	Water	Polypropylene	Trizma, $\leq 6^{\circ}\text{C}$	14 Days
Permanent Gases (O_2 , N_2 , CO_2)	RSK-175; PM01/AM20GAx	Water	40mL vials	benzalkonium chloride and $\leq 6^{\circ}\text{C}$	14 Days
Permanent Gases by Bubble Strip	SM9/AM20GAx	Water	20cc vapor vial with stopper septum	None	14 Days
Permanent Gases in Vapor	AM20GAx	Vapor	20cc vapor vial with flat septum	None	14 Days
Pesticides, Organochlorine (OC)	8081	Water	1L Amber Glass	$\leq 6^{\circ}\text{C}$; $\text{Na}_2\text{S}_2\text{O}_3$ if Cl present	7/40 Days
Pesticides,	8081	Solid	8oz Glass Jar	$\leq 6^{\circ}\text{C}$	14/40 Days

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 136 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Parameter	Method	Matrix	Container	Preservative	Max Hold Time
Organochlorine (OC)					
Pesticides, Organochlorine (OC)	8081	Tissue	8oz Glass Jar	$\leq -10^{\circ}\text{C}$	1 Year if frozen/40 Days
Pesticides, Organophosphorous (OP)	8141	Solid	8oz Glass Jar	$\leq 6^{\circ}\text{C}$	14/40 Days
Pesticides, Organophosphorous (OP)	8141	Water	1L Amber Glass	pH 5-8 with NaOH or H_2SO_4 ; $\leq 6^{\circ}\text{C}$; $\text{Na}_2\text{S}_2\text{O}_3$ if Cl present	7/40 Days
PCBs (Aroclors)	8082	Water	1L Amber Glass	$\leq 6^{\circ}\text{C}$; $\text{Na}_2\text{S}_2\text{O}_3$ if Cl present	1 Year/1 Year
PCBs (Aroclors)	8082	Solid	8oz Glass Jar	$\leq 6^{\circ}\text{C}$	1 Year/1 Year
PCBs (Aroclors)	8082	Tissue	Plastic/Glass	$\leq -10^{\circ}\text{C}$	1 Year if frozen/1 Year
PCB Congeners	1668A	Water	1L Amber Glass	$\leq 6^{\circ}\text{C}$ but above freezing	1 Year/1 Year
PCB Congeners	1668A	Solid	4-8oz Glass Jar	$\leq 6^{\circ}\text{C}$ but above freezing	1 Year/1 Year
PCB Congeners	1668A	Tissue	4-8oz Glass Jar	$\leq -10^{\circ}\text{C}$	1 Year/1 Year
Paint Filter Liquid Test	9095	Water	Plastic/Glass	None	N/A
Particle Size	ASA 15-5 modified	Solid	Plastic/Glass (100g sample)	None	N/A
Particulates	PM-10	Air	Filters	None	180 Days
Permanent Gases	EPA 3C	Air	Summa Canister	None	28 Days
Permanent Gases	EPA 3C	Air	Tedlar Bag or equivalent	None	5 Days
pH	SM4500H+B/9040	Water	Plastic/Glass	None	15 minutes
pH	9045	Solid	Plastic/Glass	None	7 Days
Phenol, Total	420.1/420.4/9065/90 66	Water	Glass	$\text{pH} < 2 \text{ H}_2\text{SO}_4$; $\leq 6^{\circ}\text{C}$	28 Days
Phosphorus, Orthophosphate	SM4500P/365.1/365. 3	Water	Plastic	$\leq 6^{\circ}\text{C}$	Filter within 15 minutes, Analyze within 48 Hours
Phosphorus, Total	SM4500P/ 365.1/365.3/365.4	Water	Plastic/Glass	$\text{pH} < 2 \text{ H}_2\text{SO}_4$; $\leq 6^{\circ}\text{C}$	28 Days
Phosphorus, Total	365.4	Solid	Plastic/Glass	$\leq 6^{\circ}\text{C}$	28 Days
Polynuclear Aromatic Hydrocarbons (PAH)	TO-13	Air	PUF	None	7/40 Days
Polynuclear Aromatic Hydrocarbons (PAH)	TO-17	Air	Thermal desorption tubes via SKC Pocket Pumps or equivalent	$\leq 6^{\circ}\text{C}$ but above freezing	28 Days
Polynuclear Aromatic Hydrocarbons (PAH)	8270 SIM	Solid	8oz Glass Jar	$\leq 6^{\circ}\text{C}$	14/40 Days
Polynuclear Aromatic	8270 SIM	Water	1L Amber	$\leq 6^{\circ}\text{C}$; $\text{Na}_2\text{S}_2\text{O}_3$ if Cl	7/40 Days

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 137 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office


Parameter	Method	Matrix	Container	Preservative	Max Hold Time
Hydrocarbons (PAH)			Glass	present	
Polynuclear Aromatic Hydrocarbons (PAH)	8270 SIM	Tissue	Plastic/Glass	$\leq -10^{\circ}\text{C}$	1 Year if frozen/40 Days
Purgeable Organic Halides (POX)	9021	Water	Glass; no headspace	$\leq 6^{\circ}\text{C}$	14 Days
Radioactive Strontium	905.0	Water	Plastic/Glass	pH<2 HNO ₃	180 days
Radium-226	903.0/903.1	Water	Plastic/Glass	pH<2 HNO ₃	180 days
Radium-228 (see note 3)	9320/904.0/Ra-05	Water	Plastic/Glass	pH<2 HNO ₃	180 days
Radium-228 (see note 3)	9320	Solid	Plastic/Glass		
Residual Range Organics- Alaska RRO	AK103	Solid	8oz Glass	$\leq 6^{\circ}\text{C}$	14/40 Days
Saturated Hydrocarbons		Water	$\leq 6^{\circ}\text{C}$; pH<2 1:1 HCl (optional)	14/40 Days preserved; 7/40 Days unpreserved	$\leq 6^{\circ}\text{C}$; pH<2 1:1 HCl (optional)
Saturated Hydrocarbons		Solid	$\leq 10^{\circ}\text{C}$	1 Year/40 Days	$\leq 10^{\circ}\text{C}$
Silica, Dissolved	SM4500Si-D	Water	Plastic	$\leq 6^{\circ}\text{C}$	28 Days
Solids, Settleable	SM2540F	Water	Glass	$\leq 6^{\circ}\text{C}$	48 Hours
Solids, Total	SM2540B	Water	Plastic/Glass	$\leq 6^{\circ}\text{C}$	7 Days
Solids, Total	SM2540G	Solid	Plastic/Glass	$\leq 6^{\circ}\text{C}$	7 Days
Solids, Total (FOC, OM, Ash)	ASTM D2974	Solid	Plastic/Glass	$\leq 6^{\circ}\text{C}$	7 Days
Solids, Total Dissolved	SM2540C	Water	Plastic/Glass	$\leq 6^{\circ}\text{C}$	7 Days
Solids, Total Suspended	SM2540D/USGS 1-3765-85	Water	Plastic/Glass	$\leq 6^{\circ}\text{C}$	7 Days
Solids, Total Volatile	160.4/SM2540E	Water	Plastic/Glass	$\leq 6^{\circ}\text{C}$	7 Days
Solids, Total Volatile	160.4	Solid	Plastic/Glass	$\leq 6^{\circ}\text{C}$	7 Days
Specific Conductance	SM2510B/9050/120.1	Water	Plastic/Glass	$\leq 6^{\circ}\text{C}$	28 Days
Stationary Source Dioxins and Furans	EPA 23	Air	XAD Trap	None	30/45 Days
Stationary Source Mercury	EPA 101	Air	Filters	None	180 Days, 28 Days for Hg
Stationary Source Metals	EPA 29	Air	Filters	None	180 Days, 28 Days for Hg
Stationary Source PM10	EPA 201A	Air	Filters	None	180 Days
Stationary Source Particulates	EPA 5	Air	Filter/Solutions	None	180 Days
Sulfate	SM4500SO4/9036/9038/375.2/ASTM D516	Water	Plastic/Glass	$\leq 6^{\circ}\text{C}$	28 Days
Sulfide, Reactive	SW-846 Chap.7	Water	Plastic/Glass	None	28 Days
Sulfide, Reactive	SW-846 Chap.7	Solid	Plastic/Glass	None	28 Days
Sulfide, Total	SM4500S/9030	Water	Plastic/Glass	pH>9 NaOH; ZnOAc; $\leq 6^{\circ}\text{C}$	7 Days

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 138 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office

Parameter	Method	Matrix	Container	Preservative	Max Hold Time
Sulfite	SM4500SO3	Water	Plastic/Glass	None	15 minutes
Surfactants (MBAS)	SM5540C	Water	Plastic/Glass	$\leq 6^{\circ}\text{C}$	48 Hours
Total Alpha Radium (see note 3)	9315/903.0	Water	Plastic/Glass	$\text{pH} < 2 \text{ HNO}_3$	180 days
Total Alpha Radium (see note 3)	9315	Solid	Plastic/Glass	None	180 days
Total Inorganic Carbon (TIC)	PM01/AM20GAx	Water	40mL VOA vial with mylar septum	$\leq 6^{\circ}\text{C}$	14 Days
Total Organic Carbon (TOC)	SM5310B,C,D/9060	Water	Glass	$\text{pH} < 2 \text{ H}_2\text{SO}_4$ or HCl ; $\leq 6^{\circ}\text{C}$	28 Days
Total Organic Carbon (TOC)	9060/Walkley Black/Lloyd Kahn	Solid	Glass	$\leq 6^{\circ}\text{C}$	14 Days
Total Organic Halogen (TOX)	SM5320/9020	Water	Glass; no headspace	$\leq 6^{\circ}\text{C}$	14 Days
Total Petroleum Hydrocarbons (aliphatic and aromatic)	TPHCWG	Water	40mL vials	$\text{pH} < 2 \text{ HCl}$, no headspace, $\leq 6^{\circ}\text{C}$	7 Days
Total Petroleum Hydrocarbons (aliphatic and aromatic)	TPHCWG	Solid	Glass	$\leq 6^{\circ}\text{C}$	14 days
Tritium	906.0	Water	Glass	None	180 days
Turbidity	SM2130B/180.1	Water	Plastic/Glass	$\leq 6^{\circ}\text{C}$	48 Hours
Total Uranium	908.0/ASTM D5174-97	Water	Plastic/Glass	$\text{pH} < 2 \text{ HNO}_3$	180 days
UCMR Metals	200.8	Water	Plastic or glass	$\text{pH} < 2 \text{ HNO}_3$	28 Days
UCMR Hexavalent Chromium	218.7	Water	HDPE or propylene	$\text{Na}_2\text{CO}_3/\text{NaHCO}_3/(\text{NH}_4)_2\text{SO}_4$; $\text{pH} > 8$	14 Days
UCMR Chlorate	300.1	Water	Plastic or glass	EDA	28 Days
UCMR Perfluorinated Compounds	537	Water	Polypropylene	Trizma	14 Days
UCMR 1, 4 Dioxane	522	Water	Glass	Na_2SO_3 , NaHSO_4 ; $\text{pH} < 4$	28 Days
UV254	SM5910B	Water	Glass	$\leq 6^{\circ}\text{C}$	48 Hours
Vermiculite	EPA 600/R-93/116	Solid	Plastic/Glass	None (handling must be done in HEPA filtered fume hood; drying may be required)	N/A
Volatile Fatty Acids	AM21G	Water	40mL clear VOA vials	$\leq 6^{\circ}\text{C}$	21 Days
Volatile Fatty Acids (low level)	AM23G	Water	40mL clear VOA vials	$\leq 6^{\circ}\text{C}$ with benzalkonium chloride	14 Days
Volatile Petroleum Hydrocarbons (aliphatic and aromatic)	MA-VPH	Water	40mL vials	$\text{pH} < 2 \text{ HCl}$; $\leq 6^{\circ}\text{C}$	14 Days preserved
Volatile Petroleum	MA-VPH	Solid	4-8oz Glass	$\leq 6^{\circ}\text{C}$; packed jars	7/28 Days

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 139 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office

Parameter	Method	Matrix	Container	Preservative	Max Hold Time
Hydrocarbons (aliphatic and aromatic)			Jar	with no headspace	
Volatiles	TO-14	Air	Summa Canister	None	28 Days
Volatiles	TO-14	Air	Tedlar Bag or equivalent	None	72 Hours
Volatiles	TO-15	Air	Summa Canister or Tedlar Bag	None	28 Days
Volatiles	TO-17	Air	Thermal desorption tubes via SKC Pocket Pumps or equivalent	$\leq 6^{\circ}\text{C}$ but above freezing	28 Days
Volatiles	TO-18/8260	Air	Tedlar Bag or equivalent	None	72 Hours
Volatiles	8260	Solid	5035 vial kit	See note 1 (analyze for acrolein and acrylonitrile per local requirements)	14 days
Volatiles	8260	Water	40mL vials	pH<2 HCl; $\leq 6^{\circ}\text{C}$; $\text{Na}_2\text{S}_2\text{O}_3$ if Cl present (preserve and analyze for acrolein and acrylonitrile per local requirements)	14 Days
Volatiles	8260	Conc. Waste	5035 vial kit or 40mL vials	$\leq 6^{\circ}\text{C}$	14 Days
Volatiles	624	Water	40mL vials	pH<2 HCl; $\leq 6^{\circ}\text{C}$; $\text{Na}_2\text{S}_2\text{O}_3$ if Cl present (or unpreserved if run within 7 days of collection) (preserve and analyze for acrolein and acrylonitrile per local requirements)	14 Days (7 Days for aromatics if unpreserved)
Volatiles (see note 2)	524.2	Water	40mL vials (in duplicate)	pH<2 HCl; $\leq 6^{\circ}\text{C}$; Ascorbic acid or $\text{Na}_2\text{S}_2\text{O}_3$ if Cl present ²	14 Days
Whole Oil	ASTM D3328 (prep); ASTM D5739	Product	10mL glass vials	$\leq 6^{\circ}\text{C}$	N/A
UCMR4 Pesticides and Pesticide Byproducts	525.3	Drinking Water	Amber glass	Ascorbic acid pH ≤ 4 , Trisodium EDTA, $\text{C}_6\text{H}_7\text{KO}_7$, $\leq 6^{\circ}\text{C}$	14/28 Days
UCMR4 Semivolatiles	530	Drinking Water	Amber glass	Trizma, Ascorbic acid, Trisodium	14/14 Days

	Document Name: Quality Assurance Manual	Document Revised: June 6, 2017 Effective Date of Final Signature Page 140 of 140
	Document No.: Quality Assurance Manual rev.19.0	Issuing Authorities: Pace Florida Quality Office

Parameter	Method	Matrix	Container	Preservative	Max Hold Time
				EDTA, Diazolidinyl urea, $\leq 6^{\circ}\text{C}$	
UCMR4 Alcohols	541	Drinking Water	60 mL amber vial	Sodium sulfite, sodium bisulfate, $\text{pH} < 3$, $\leq 6^{\circ}\text{C}$	28/28 Days
UCMR4 Microcystins and Nodularin	544	Drinking Water	500 mL amber glass	Trizma, Ascorbic acid, Trisodium EDTA, 2-chloroacetamide, pH 6.5-7.5, $\leq 6^{\circ}\text{C}$	28/28 Days
UCMR4 Cylindrospermopsin and Anatoxin-a	545	Drinking Water	40 mL amber vial	Ascorbic acid, sodium bisulfate, $\leq 6^{\circ}\text{C}$	28 Days
UCMR4 Total Microcystins	546	Drinking Water	500 mL amber glass	Sodium thiosulfate, $\leq 6^{\circ}\text{C}$	14 Days
UCMR4 Metals	200.8	Drinking Water	Plastic	Nitric acid $\text{pH} < 2$, $\leq 6^{\circ}\text{C}$	28/28 Days
UCMR4 Haloacetic acids	552.3	Drinking Water	250 mL amber glass	NH_4Cl , $\leq 6^{\circ}\text{C}$	14/28 Days

¹ **5035/5035A Note:** 5035 vial kit typically contains 2 vials water, preserved by freezing **or**, 2 vials aqueous sodium bisulfate preserved at 4°C , **and** one vial methanol preserved at $\leq 6^{\circ}\text{C}$ **and** one container of unpreserved sample stored at $\leq 6^{\circ}\text{C}$.

² Method 524.2 lists ascorbic acid as the preservative when residual chlorine is suspected, unless gases or Table 7 compounds are NOT compounds of interest and then sodium thiosulfate is the preservative recommended.

³ Methods 9315 and 9320 both state that if samples are unpreserved, the samples should be brought to the lab within 5 days of collection, preserved in the lab, and then allowed to sit for a minimum of 16 hours before sample preparation/analysis.

⁴ The holding time for hexavalent chromium may be extended by the addition of the ammonium buffer listed in EPA 218.6 per the 2012 EPA Method Update Rule. Although Method 218.6 stipulates a different pH range (9.0 to 9.5) for buffering, this method requirement was modified in the Method Update Rule to a pH range of 9.3 to 9.7. For non-potable waters, adjust the pH of the sample to 9.3 to 9.7 during collection with the method required ammonium sulfate buffer to extend the holding time to 28 days. For potable waters, addition of the buffer during collection will extend the holding time for 14 days per EPA 218.7 and the EPA UCMR program.

TAB 4

Pace FDOH Certifications
&
EMSL (sub)



State of Florida
Department of Health, Bureau of Public Health Laboratories
This is to certify that



E83079

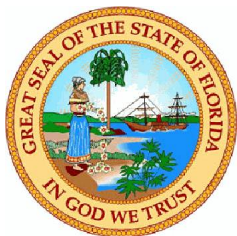
PACE ANALYTICAL SERVICES, LLC - ORMOND BEACH FL
8 EAST TOWER CIRCLE
ORMOND BEACH, FL 32174

has complied with Florida Administrative Code 64E-1,
for the examination of environmental samples in the following categories

DRINKING WATER - GROUP I UNREGULATED CONTAMINANTS, DRINKING WATER - GROUP II UNREGULATED CONTAMINANTS, DRINKING WATER - OTHER REGULATED CONTAMINANTS, DRINKING WATER - GROUP III UNREGULATED CONTAMINANTS, DRINKING WATER - MICROBIOLOGY, DRINKING WATER - PRIMARY INORGANIC CONTAMINANTS, DRINKING WATER - SECONDARY INORGANIC CONTAMINANTS, DRINKING WATER - RADIOCHEMISTRY, DRINKING WATER - SYNTHETIC ORGANIC CONTAMINANTS, NON-POTABLE WATER - EXTRACTABLE ORGANICS, NON-POTABLE WATER - GENERAL CHEMISTRY, NON-POTABLE WATER - METALS, NON-POTABLE WATER - MICROBIOLOGY, NON-POTABLE WATER - PESTICIDES-HERBICIDES-PCB'S, NON-POTABLE WATER - VOLATILE ORGANICS, SOLID AND CHEMICAL MATERIALS - EXTRACTABLE ORGANICS, SOLID AND CHEMICAL MATERIALS - GENERAL CHEMISTRY, SOLID AND CHEMICAL MATERIALS - METALS, SOLID AND CHEMICAL MATERIALS - MICROBIOLOGY, SOLID AND CHEMICAL MATERIALS - PESTICIDES-HERBICIDES-PCB'S, SOLID AND CHEMICAL MATERIALS - VOLATILE ORGANICS, BIOLOGICAL TISSUE - METALS

Continued certification is contingent upon successful on-going compliance with the NELAC Standards and FAC Rule 64E-1 regulations. Specific methods and analytes certified are cited on the Laboratory Scope of Accreditation for this laboratory and are on file at the Bureau of Public Health Laboratories, P. O. Box 210, Jacksonville, Florida 32231. Clients and customers are urged to verify with this agency the laboratory's certification status in Florida for particular methods and analytes.

Date Issued: July 01, 2018 Expiration Date: June 30, 2019



Patty A. Lewandowski, MBA, MT(ASCP)
Chief Bureau of Public Health Laboratories
DH Form 1697, 7/04

NON-TRANSFERABLE E83079-71-07/01/2018
Supersedes all previously issued certificates

**Laboratory Scope of Accreditation**

Page 1 of 33

Attachment to Certificate #: E83079-71, expiration date June 30, 2019. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: **E83079**EPA Lab Code: **FL01264****(386) 672-5668****E83079****Pace Analytical Services, LLC - Ormond Beach FL****8 East Tower Circle****Ormond Beach, FL 32174**Matrix: **Drinking Water**

Analyte	Method/Tech	Category	Certification Type	Effective Date
1,1,1,2-Tetrachloroethane	EPA 524.2	Group II Unregulated Contaminants	NELAP	1/8/2002
1,1,1-Trichloroethane	EPA 524.2	Other Regulated Contaminants	NELAP	1/8/2002
1,1,2,2-Tetrachloroethane	EPA 524.2	Group II Unregulated Contaminants	NELAP	1/8/2002
1,1,2-Trichloroethane	EPA 524.2	Other Regulated Contaminants	NELAP	1/8/2002
1,1-Dichloroethane	EPA 524.2	Group II Unregulated Contaminants	NELAP	1/8/2002
1,1-Dichloroethylene	EPA 524.2	Other Regulated Contaminants	NELAP	1/8/2002
1,1-Dichloropropene	EPA 524.2	Group II Unregulated Contaminants	NELAP	1/8/2002
1,2,3-Trichlorobenzene	EPA 524.2	Group II Unregulated Contaminants	NELAP	1/8/2002
1,2,3-Trichloropropane	EPA 524.2	Group II Unregulated Contaminants	NELAP	1/8/2002
1,2,4-Trichlorobenzene	EPA 524.2	Other Regulated Contaminants	NELAP	1/8/2002
1,2,4-Trimethylbenzene	EPA 524.2	Group II Unregulated Contaminants	NELAP	1/8/2002
1,2-Dibromo-3-chloropropane (DBCP)	EPA 504.1	Synthetic Organic Contaminants	NELAP	1/8/2002
1,2-Dibromoethane (EDB, Ethylene dibromide)	EPA 504.1	Synthetic Organic Contaminants	NELAP	1/8/2002
1,2-Dichlorobenzene	EPA 524.2	Other Regulated Contaminants	NELAP	1/8/2002
1,2-Dichloroethane	EPA 524.2	Other Regulated Contaminants	NELAP	1/8/2002
1,2-Dichloropropane	EPA 524.2	Other Regulated Contaminants	NELAP	1/8/2002
1,3,5-Trimethylbenzene	EPA 524.2	Group II Unregulated Contaminants	NELAP	1/8/2002
1,3-Dichlorobenzene	EPA 524.2	Group II Unregulated Contaminants	NELAP	1/8/2002
1,3-Dichloropropane	EPA 524.2	Group II Unregulated Contaminants	NELAP	1/8/2002
1,4-Dichlorobenzene	EPA 524.2	Other Regulated Contaminants	NELAP	1/8/2002
1,4-Dioxane (1,4-Diethyleneoxide)	EPA 522	Synthetic Organic Contaminants	NELAP	1/17/2014
2,2',3,3',4,5',6,6'-Octachlorobiphenyl (BZ 201)	EPA 525.2	Group I Unregulated Contaminants	NELAP	1/8/2002
2,2',3',4,6-Pentachlorobiphenyl (525.2 typo for 2,2',3,4',6'-Pentachlorobiphenyl)	EPA 525.2	Group I Unregulated Contaminants	NELAP	1/8/2002
2,2',4,4'-Tetrachlorobiphenyl (BZ 47)	EPA 525.2	Group I Unregulated Contaminants	NELAP	1/8/2002
2,2-Dichloropropane	EPA 524.2	Group II Unregulated Contaminants	NELAP	1/8/2002
2,4,5-T	EPA 515.3	Synthetic Organic Contaminants	NELAP	10/14/2004
2,4-D	EPA 515.3	Synthetic Organic Contaminants	NELAP	5/11/2004
2,4-DB	EPA 515.3	Synthetic Organic Contaminants	NELAP	10/14/2004
2-Chlorobiphenyl (BZ 1)	EPA 525.2	Group I Unregulated Contaminants	NELAP	1/8/2002
2-Chlorotoluene	EPA 524.2	Group II Unregulated Contaminants	NELAP	1/8/2002
3-Hydroxycarbofuran	EPA 531.1	Group I Unregulated Contaminants	NELAP	1/8/2002
3-Hydroxycarbofuran	EPA 531.2	Group I Unregulated Contaminants	NELAP	4/26/2018
4-Chlorotoluene	EPA 524.2	Group II Unregulated Contaminants	NELAP	1/8/2002
4-Isopropyltoluene	EPA 524.2	Group II Unregulated Contaminants	NELAP	1/8/2002
Acetone	EPA 524.2	Group II Unregulated Contaminants	NELAP	1/3/2012
Acifluorfen	EPA 515.3	Group I Unregulated Contaminants	NELAP	5/11/2004

Clients and Customers are urged to verify the laboratory's current certification status with the Environmental Laboratory Certification Program.

Issue Date: 7/1/2018**Expiration Date: 6/30/2019**

**Laboratory Scope of Accreditation**

Page 2 of 33

Attachment to Certificate #: E83079-71, expiration date June 30, 2019. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: **E83079**EPA Lab Code: **FL01264****(386) 672-5668****E83079****Pace Analytical Services, LLC - Ormond Beach FL****8 East Tower Circle****Ormond Beach, FL 32174**Matrix: **Drinking Water**

Analyte	Method/Tech	Category	Certification Type	Effective Date
Alachlor	EPA 508.1	Synthetic Organic Contaminants	NELAP	1/8/2002
Aldicarb (Temik)	EPA 531.1	Group I Unregulated Contaminants	NELAP	1/8/2002
Aldicarb (Temik)	EPA 531.2	Group I Unregulated Contaminants	NELAP	4/26/2018
Aldicarb sulfone	EPA 531.1	Group I Unregulated Contaminants	NELAP	1/8/2002
Aldicarb sulfone	EPA 531.2	Group I Unregulated Contaminants	NELAP	4/26/2018
Aldicarb sulfoxide	EPA 531.1	Group I Unregulated Contaminants	NELAP	1/8/2002
Aldicarb sulfoxide	EPA 531.2	Group I Unregulated Contaminants	NELAP	4/26/2018
Aldrin	EPA 525.2	Group I Unregulated Contaminants	NELAP	1/8/2002
Alkalinity as CaCO ₃	SM 2320 B	Primary Inorganic Contaminants	NELAP	1/8/2002
Aluminum	EPA 200.7	Secondary Inorganic Contaminants	NELAP	1/8/2002
Aluminum	EPA 200.8	Secondary Inorganic Contaminants	NELAP	5/11/2004
Antimony	EPA 200.8	Primary Inorganic Contaminants	NELAP	5/11/2004
Aroclor-1016 (PCB-1016)	EPA 508.1	Synthetic Organic Contaminants	NELAP	3/10/2010
Aroclor-1221 (PCB-1221)	EPA 508.1	Synthetic Organic Contaminants	NELAP	3/10/2010
Aroclor-1232 (PCB-1232)	EPA 508.1	Synthetic Organic Contaminants	NELAP	3/10/2010
Aroclor-1242 (PCB-1242)	EPA 508.1	Synthetic Organic Contaminants	NELAP	3/10/2010
Aroclor-1248 (PCB-1248)	EPA 508.1	Synthetic Organic Contaminants	NELAP	3/10/2010
Aroclor-1254 (PCB-1254)	EPA 508.1	Synthetic Organic Contaminants	NELAP	3/10/2010
Aroclor-1260 (PCB-1260)	EPA 508.1	Synthetic Organic Contaminants	NELAP	3/10/2010
Arsenic	EPA 200.7	Primary Inorganic Contaminants	NELAP	1/8/2002
Arsenic	EPA 200.8	Primary Inorganic Contaminants	NELAP	5/11/2004
Atrazine	EPA 525.2	Synthetic Organic Contaminants	NELAP	7/1/2016
Barium	EPA 200.7	Primary Inorganic Contaminants	NELAP	1/8/2002
Barium	EPA 200.8	Primary Inorganic Contaminants	NELAP	5/11/2004
Bentazon	EPA 515.3	Synthetic Organic Contaminants	NELAP	10/14/2004
Benzene	EPA 524.2	Other Regulated Contaminants	NELAP	1/8/2002
Benzo(a)pyrene	EPA 525.2	Synthetic Organic Contaminants	NELAP	1/8/2002
Beryllium	EPA 200.7	Primary Inorganic Contaminants	NELAP	1/8/2002
Beryllium	EPA 200.8	Primary Inorganic Contaminants	NELAP	5/11/2004
Bromacil	EPA 525.2	Group I Unregulated Contaminants	NELAP	3/15/2013
Bromate	EPA 300.1	Primary Inorganic Contaminants	NELAP	5/11/2004
Bromide	EPA 300.0	Primary Inorganic Contaminants	NELAP	1/8/2002
Bromide	EPA 300.1	Primary Inorganic Contaminants	NELAP	5/11/2004
Bromoacetic acid	EPA 552.2	Group I Unregulated Contaminants	NELAP	8/14/2006
Bromoacetic acid	EPA 552.3	Group I Unregulated Contaminants	NELAP	7/1/2016
Bromobenzene	EPA 524.2	Group II Unregulated Contaminants	NELAP	1/8/2002

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Issue Date: 7/1/2018**Expiration Date: 6/30/2019**

**Laboratory Scope of Accreditation**

Attachment to Certificate #: E83079-71, expiration date June 30, 2019. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: **E83079**EPA Lab Code: **FL01264****(386) 672-5668****E83079****Pace Analytical Services, LLC - Ormond Beach FL****8 East Tower Circle****Ormond Beach, FL 32174**Matrix: **Drinking Water**

Analyte	Method/Tech	Category	Certification Type	Effective Date
Bromochloroacetic acid	EPA 552.2	Group I Unregulated Contaminants	NELAP	9/14/2010
Bromochloroacetic acid	EPA 552.3	Group I Unregulated Contaminants	NELAP	7/1/2016
Bromochloromethane	EPA 524.2	Group II Unregulated Contaminants	NELAP	1/8/2002
Bromodichloromethane	EPA 524.2	Group II Unregulated Contaminants, Other Regulated Contaminants	NELAP	1/8/2002
Bromoform	EPA 524.2	Group II Unregulated Contaminants, Other Regulated Contaminants	NELAP	1/8/2002
Butachlor	EPA 525.2	Group I Unregulated Contaminants	NELAP	1/8/2002
Butyl benzyl phthalate	EPA 525.2	Group III Unregulated Contaminants	NELAP	1/8/2002
Cadmium	EPA 200.7	Primary Inorganic Contaminants	NELAP	1/8/2002
Cadmium	EPA 200.8	Primary Inorganic Contaminants	NELAP	5/11/2004
Calcium	EPA 200.7	Primary Inorganic Contaminants	NELAP	1/8/2002
Carbaryl (Sevin)	EPA 531.1	Group I Unregulated Contaminants	NELAP	1/8/2002
Carbaryl (Sevin)	EPA 531.2	Group I Unregulated Contaminants	NELAP	4/26/2018
Carbofuran (Furadan)	EPA 531.1	Synthetic Organic Contaminants	NELAP	1/8/2002
Carbofuran (Furadan)	EPA 531.2	Synthetic Organic Contaminants	NELAP	4/26/2018
Carbon tetrachloride	EPA 524.2	Other Regulated Contaminants	NELAP	1/8/2002
Chlorate	EPA 300.1	Primary Inorganic Contaminants	NELAP	5/11/2004
Chlordane (tech.)	EPA 508.1	Synthetic Organic Contaminants	NELAP	1/8/2002
Chloride	EPA 300.0	Secondary Inorganic Contaminants	NELAP	1/8/2002
Chlorine	SM 4500-Cl D	Primary Inorganic Contaminants	NELAP	1/8/2002
Chlorine	SM 4500-Cl G	Primary Inorganic Contaminants	NELAP	4/26/2018
Chlorine dioxide, res. disinfectant	SM 4500-ClO2 D	Primary Inorganic Contaminants	NELAP	10/14/2004
Chlorite	EPA 300.1	Primary Inorganic Contaminants	NELAP	5/11/2004
Chloroacetic acid	EPA 552.2	Group I Unregulated Contaminants	NELAP	8/14/2006
Chloroacetic acid	EPA 552.3	Group I Unregulated Contaminants	NELAP	7/1/2016
Chlorobenzene	EPA 524.2	Other Regulated Contaminants	NELAP	1/8/2002
Chloroethane	EPA 524.2	Group II Unregulated Contaminants	NELAP	1/8/2002
Chloroform	EPA 524.2	Other Regulated Contaminants, Group II Unregulated Contaminants	NELAP	1/8/2002
Chromium	EPA 200.7	Primary Inorganic Contaminants	NELAP	1/8/2002
Chromium	EPA 200.8	Primary Inorganic Contaminants	NELAP	5/11/2004
Chromium VI	EPA 218.6	Primary Inorganic Contaminants	NELAP	12/12/2012
Chromium VI	EPA 218.7	Primary Inorganic Contaminants	NELAP	12/12/2012
cis-1,2-Dichloroethylene	EPA 524.2	Other Regulated Contaminants	NELAP	1/8/2002
cis-1,3-Dichloropropene	EPA 524.2	Group II Unregulated Contaminants	NELAP	4/26/2018

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Analyte	Method/Tech	Category	Certification Type	Effective Date
Cobalt	EPA 200.8	Primary Inorganic Contaminants	NELAP	12/12/2012
Color	SM 2120 B	Secondary Inorganic Contaminants	NELAP	1/8/2002
Conductivity	SM 2510 B	Primary Inorganic Contaminants	NELAP	1/8/2002
Copper	EPA 200.7	Primary Inorganic Contaminants, Secondary Inorganic Contaminants	NELAP	1/8/2002
Copper	EPA 200.8	Primary Inorganic Contaminants, Secondary Inorganic Contaminants	NELAP	5/11/2004
Corrosivity (langier index)	SM 2330 B	Secondary Inorganic Contaminants	NELAP	1/8/2002
Cyanide	EPA 335.4	Primary Inorganic Contaminants	NELAP	1/8/2002
Dalapon	EPA 515.3	Synthetic Organic Contaminants	NELAP	5/11/2004
Di(2-ethylhexyl) phthalate (DEHP)	EPA 525.2	Synthetic Organic Contaminants	NELAP	1/8/2002
Di(2-ethylhexyl) adipate	EPA 525.2	Synthetic Organic Contaminants	NELAP	1/8/2002
Dibromoacetic acid	EPA 552.2	Group I Unregulated Contaminants	NELAP	8/14/2006
Dibromoacetic acid	EPA 552.3	Group I Unregulated Contaminants	NELAP	7/1/2016
Dibromochloromethane	EPA 524.2	Other Regulated Contaminants, Group II Unregulated Contaminants	NELAP	1/8/2002
Dibromomethane	EPA 524.2	Group II Unregulated Contaminants	NELAP	1/8/2002
Dicamba	EPA 515.3	Group I Unregulated Contaminants	NELAP	5/11/2004
Dichloroacetic acid	EPA 552.2	Group I Unregulated Contaminants	NELAP	8/14/2006
Dichloroacetic acid	EPA 552.3	Group I Unregulated Contaminants	NELAP	7/1/2016
Dichlorodifluoromethane	EPA 524.2	Group II Unregulated Contaminants	NELAP	1/8/2002
Dichloromethane (DCM, Methylene chloride)	EPA 524.2	Other Regulated Contaminants	NELAP	1/8/2002
Dichloroprop (Dichloroprop)	EPA 515.3	Synthetic Organic Contaminants	NELAP	10/14/2004
Dieldrin	EPA 508.1	Group I Unregulated Contaminants	NELAP	1/8/2002
Dieldrin	EPA 525.2	Group I Unregulated Contaminants	NELAP	1/8/2002
Diethyl phthalate	EPA 525.2	Group III Unregulated Contaminants	NELAP	1/8/2002
Dimethyl phthalate	EPA 525.2	Group III Unregulated Contaminants	NELAP	1/8/2002
Di-n-butyl phthalate	EPA 525.2	Group III Unregulated Contaminants	NELAP	1/8/2002
Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	EPA 515.3	Synthetic Organic Contaminants	NELAP	5/11/2004
Diquat	EPA 549.2	Synthetic Organic Contaminants	NELAP	1/8/2002
Dissolved organic carbon (DOC)	SM 5310 B	Primary Inorganic Contaminants	NELAP	1/3/2012
Endothall	EPA 548.1	Synthetic Organic Contaminants	NELAP	1/8/2002
Endrin	EPA 508.1	Synthetic Organic Contaminants	NELAP	1/8/2002
Escherichia coli	COLISURE	Microbiology	NELAP	11/1/2011
Escherichia coli	SM 9223 B	Microbiology	NELAP	11/1/2011
Ethylbenzene	EPA 524.2	Other Regulated Contaminants	NELAP	1/8/2002

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Issue Date: 7/1/2018**Expiration Date: 6/30/2019**

**Laboratory Scope of Accreditation**

Page 5 of 33

Attachment to Certificate #: E83079-71, expiration date June 30, 2019. This listing of accredited analytes should be used only when associated with a valid certificate.

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Analyte	Method/Tech	Category	Certification Type	Effective Date
Fluorene	EPA 525.2	Group III Unregulated Contaminants	NELAP	1/8/2002
Fluoride	EPA 300.0	Primary Inorganic Contaminants, Secondary Inorganic Contaminants	NELAP	1/8/2002
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	EPA 508.1	Synthetic Organic Contaminants	NELAP	1/8/2002
Glyphosate	EPA 547	Synthetic Organic Contaminants	NELAP	1/8/2002
Hardness	SM 2340 B	Secondary Inorganic Contaminants	NELAP	8/14/2006
Hardness (calc.)	EPA 200.7	Secondary Inorganic Contaminants	NELAP	8/14/2006
Heptachlor	EPA 508.1	Synthetic Organic Contaminants	NELAP	1/8/2002
Heptachlor epoxide	EPA 508.1	Synthetic Organic Contaminants	NELAP	1/8/2002
Heterotrophic plate count	SIMPLATE	Microbiology	NELAP	3/15/2013
Hexachlorobenzene	EPA 508.1	Synthetic Organic Contaminants	NELAP	1/8/2002
Hexachlorobutadiene	EPA 524.2	Group II Unregulated Contaminants	NELAP	1/8/2002
Hexachlorocyclopentadiene	EPA 508.1	Synthetic Organic Contaminants	NELAP	1/8/2002
Indeno(1,2,3-cd)pyrene	EPA 525.2	Group III Unregulated Contaminants	NELAP	1/8/2002
Iron	EPA 200.7	Secondary Inorganic Contaminants	NELAP	1/8/2002
Isopropylbenzene	EPA 524.2	Group II Unregulated Contaminants	NELAP	1/8/2002
Lead	EPA 200.8	Primary Inorganic Contaminants	NELAP	5/11/2004
m/p-Xylenes	EPA 524.2	Group II Unregulated Contaminants	NELAP	1/3/2012
Magnesium	EPA 200.7	Primary Inorganic Contaminants	NELAP	1/8/2002
Manganese	EPA 200.7	Secondary Inorganic Contaminants	NELAP	1/8/2002
Manganese	EPA 200.8	Secondary Inorganic Contaminants	NELAP	5/11/2004
Mercury	EPA 245.1	Primary Inorganic Contaminants	NELAP	1/8/2002
Methiocarb (Mesurol)	EPA 531.1	Group I Unregulated Contaminants	NELAP	1/8/2002
Methiocarb (Mesurol)	EPA 531.2	Group I Unregulated Contaminants	NELAP	4/26/2018
Methomyl (Lannate)	EPA 531.1	Group I Unregulated Contaminants	NELAP	1/8/2002
Methomyl (Lannate)	EPA 531.2	Group I Unregulated Contaminants	NELAP	4/26/2018
Methoxychlor	EPA 508.1	Synthetic Organic Contaminants	NELAP	1/8/2002
Methyl bromide (Bromomethane)	EPA 524.2	Group II Unregulated Contaminants	NELAP	1/8/2002
Methyl chloride (Chloromethane)	EPA 524.2	Group II Unregulated Contaminants	NELAP	1/8/2002
Methyl tert-butyl ether (MTBE)	EPA 524.2	Group II Unregulated Contaminants	NELAP	1/8/2002
Metolachlor	EPA 508.1	Group I Unregulated Contaminants	NELAP	1/8/2002
Metolachlor	EPA 525.2	Group I Unregulated Contaminants	NELAP	1/8/2002
Metribuzin	EPA 525.2	Group I Unregulated Contaminants	NELAP	1/8/2002
Naphthalene	EPA 524.2	Group II Unregulated Contaminants	NELAP	1/8/2002
n-Butylbenzene	EPA 524.2	Group II Unregulated Contaminants	NELAP	1/8/2002
Nickel	EPA 200.7	Primary Inorganic Contaminants	NELAP	1/8/2002

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Analyte	Method/Tech	Category	Certification Type	Effective Date
Nickel	EPA 200.8	Primary Inorganic Contaminants	NELAP	5/11/2004
Nitrate	EPA 300.0	Primary Inorganic Contaminants	NELAP	1/8/2002
Nitrate	EPA 353.2	Primary Inorganic Contaminants	NELAP	1/8/2002
Nitrite	EPA 300.0	Primary Inorganic Contaminants	NELAP	1/8/2002
Nitrite	EPA 353.2	Primary Inorganic Contaminants	NELAP	1/8/2002
n-Propylbenzene	EPA 524.2	Group II Unregulated Contaminants	NELAP	1/8/2002
Odor	SM 2150 B	Secondary Inorganic Contaminants	NELAP	1/8/2002
Orthophosphate as P	EPA 300.0	Primary Inorganic Contaminants	NELAP	1/8/2002
Orthophosphate as P	EPA 365.1	Primary Inorganic Contaminants	NELAP	1/8/2002
Oxamyl	EPA 531.1	Synthetic Organic Contaminants	NELAP	1/8/2002
Oxamyl	EPA 531.2	Synthetic Organic Contaminants	NELAP	4/26/2018
o-Xylene	EPA 524.2	Group II Unregulated Contaminants	NELAP	1/3/2012
Paraquat	EPA 549.2	Synthetic Organic Contaminants	NELAP	3/10/2010
PCBs	EPA 508.1	Synthetic Organic Contaminants	NELAP	1/8/2002
Pentachlorophenol	EPA 515.3	Synthetic Organic Contaminants	NELAP	5/11/2004
Perfluorobutane sulfonate (PFBS, perfluorobutane sulfonic acid)	EPA 537	Group III Unregulated Contaminants	NELAP	7/1/2016
Perfluoroheptanoate (PFHpA, perfluoroheptanoic acid)	EPA 537	Group III Unregulated Contaminants	NELAP	7/1/2016
Perfluorohexane sulfonate (PFHxS, perfluorohexane sulfonic acid)	EPA 537	Group III Unregulated Contaminants	NELAP	7/1/2016
Perfluorononanoate (PFNA, perfluorononanoic acid)	EPA 537	Group III Unregulated Contaminants	NELAP	7/1/2016
Perfluorooctane sulfonate (PFOS, perfluorooctane sulfonic acid)	EPA 537	Group III Unregulated Contaminants	NELAP	7/1/2016
Perfluorooctanoate (PFOA, perfluorooctanoic acid)	EPA 537	Group III Unregulated Contaminants	NELAP	7/1/2016
pH	SM 4500-H+-B	Secondary Inorganic Contaminants	NELAP	2/19/2008
Picloram	EPA 515.3	Synthetic Organic Contaminants	NELAP	5/11/2004
Potassium	EPA 200.7	Secondary Inorganic Contaminants	NELAP	10/18/2004
Propachlor (Ramrod)	EPA 508.1	Group I Unregulated Contaminants	NELAP	1/8/2002
Propachlor (Ramrod)	EPA 525.2	Group I Unregulated Contaminants	NELAP	1/8/2002
Pyrene	EPA 525.2	Group III Unregulated Contaminants	NELAP	1/8/2002
sec-Butylbenzene	EPA 524.2	Group II Unregulated Contaminants	NELAP	1/8/2002
Selenium	EPA 200.8	Primary Inorganic Contaminants	NELAP	5/11/2004
Silica as SiO ₂	EPA 200.7	Primary Inorganic Contaminants	NELAP	12/12/2012
Silver	EPA 200.7	Secondary Inorganic Contaminants	NELAP	1/8/2002
Silver	EPA 200.8	Secondary Inorganic Contaminants	NELAP	5/11/2004
Silvex (2,4,5-TP)	EPA 515.3	Synthetic Organic Contaminants	NELAP	5/11/2004
Simazine	EPA 508.1	Synthetic Organic Contaminants	NELAP	1/8/2002

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**Laboratory Scope of Accreditation**

Page 7 of 33

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State Laboratory ID: **E83079**EPA Lab Code: **FL01264****(386) 672-5668****E83079****Pace Analytical Services, LLC - Ormond Beach FL****8 East Tower Circle****Ormond Beach, FL 32174**Matrix: **Drinking Water**

Analyte	Method/Tech	Category	Certification Type	Effective Date
Sodium	EPA 200.7	Primary Inorganic Contaminants	NELAP	1/8/2002
Strontium	PACE SOP S-FL-M-004/ICP-MS	Secondary Inorganic Contaminants	NELAP	12/12/2012
Styrene	EPA 524.2	Other Regulated Contaminants	NELAP	1/8/2002
Sulfate	EPA 300.0	Primary Inorganic Contaminants, Secondary Inorganic Contaminants	NELAP	1/8/2002
Surfactants - MBAS	SM 5540 C	Secondary Inorganic Contaminants	NELAP	1/8/2002
tert-Butylbenzene	EPA 524.2	Group II Unregulated Contaminants	NELAP	1/8/2002
Tetrachloroethylene (Perchloroethylene)	EPA 524.2	Other Regulated Contaminants	NELAP	1/8/2002
Thallium	EPA 200.8	Primary Inorganic Contaminants	NELAP	5/11/2004
Toluene	EPA 524.2	Other Regulated Contaminants	NELAP	1/8/2002
Total coliforms	COLISURE	Microbiology	NELAP	11/1/2011
Total coliforms	SM 9223 B	Microbiology	NELAP	11/1/2011
Total dissolved solids	SM 2540 C	Secondary Inorganic Contaminants	NELAP	1/8/2002
Total haloacetic acids (HAA5)	EPA 552.2	Synthetic Organic Contaminants	NELAP	8/14/2006
Total haloacetic acids (HAA5)	EPA 552.3	Synthetic Organic Contaminants	NELAP	7/1/2016
Total nitrate-nitrite	EPA 300.0	Primary Inorganic Contaminants	NELAP	1/8/2002
Total nitrate-nitrite	EPA 353.2	Primary Inorganic Contaminants	NELAP	1/8/2002
Total organic carbon	SM 5310 B	Primary Inorganic Contaminants	NELAP	1/8/2002
Total phenolics	EPA 420.4	Secondary Inorganic Contaminants	NELAP	7/1/2016
Total trihalomethanes	EPA 524.2	Other Regulated Contaminants	NELAP	1/8/2002
Toxaphene (Chlorinated camphene)	EPA 508.1	Synthetic Organic Contaminants	NELAP	1/8/2002
trans-1,2-Dichloroethylene	EPA 524.2	Other Regulated Contaminants	NELAP	1/8/2002
trans-1,3-Dichloropropene	EPA 524.2	Group II Unregulated Contaminants	NELAP	1/8/2002
Trichloroacetic acid	EPA 552.2	Group I Unregulated Contaminants	NELAP	8/14/2006
Trichloroacetic acid	EPA 552.3	Group I Unregulated Contaminants	NELAP	7/1/2016
Trichloroethene (Trichloroethylene)	EPA 524.2	Other Regulated Contaminants	NELAP	1/8/2002
Trichlorofluoromethane	EPA 524.2	Group II Unregulated Contaminants	NELAP	1/8/2002
Turbidity	EPA 180.1	Secondary Inorganic Contaminants	NELAP	1/8/2002
Uranium	EPA 200.8	Radiochemistry	NELAP	12/12/2012
UV 254	SM 5910 B	Primary Inorganic Contaminants	NELAP	1/8/2002
Vinyl chloride	EPA 524.2	Other Regulated Contaminants	NELAP	1/8/2002
Xylene (total)	EPA 524.2	Other Regulated Contaminants	NELAP	1/8/2002
Zinc	EPA 200.7	Secondary Inorganic Contaminants	NELAP	1/8/2002
Zinc	EPA 200.8	Secondary Inorganic Contaminants	NELAP	5/11/2004

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**Laboratory Scope of Accreditation**

Page 8 of 33

Attachment to Certificate #: E83079-71, expiration date June 30, 2019. This listing of accredited analytes should be used only when associated with a valid certificate.

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Analyte	Method/Tech	Category	Certification Type	Effective Date
1,1,1,2-Tetrachloroethane	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,1,1-Trichloroethane	EPA 624.1	Volatile Organics	NELAP	5/21/2018
1,1,1-Trichloroethane	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,1,2,2-Tetrachloroethane	EPA 624.1	Volatile Organics	NELAP	5/21/2018
1,1,2,2-Tetrachloroethane	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	EPA 8260	Volatile Organics	NELAP	1/3/2012
1,1,2-Trichloroethane	EPA 624.1	Volatile Organics	NELAP	5/21/2018
1,1,2-Trichloroethane	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,1-Dichloroethane	EPA 624.1	Volatile Organics	NELAP	5/21/2018
1,1-Dichloroethane	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,1-Dichloroethylene	EPA 624.1	Volatile Organics	NELAP	5/21/2018
1,1-Dichloroethylene	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,1-Dichloropropene	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,2,3-Trichlorobenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,2,3-Trichloropropane	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,2,3-Trimethylbenzene	EPA 8260	Volatile Organics	NELAP	3/15/2013
1,2,4-Trichlorobenzene	EPA 625.1	Extractable Organics	NELAP	5/21/2018
1,2,4-Trichlorobenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,2,4-Trichlorobenzene	EPA 8270	Extractable Organics	NELAP	7/1/2003
1,2,4-Trimethylbenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,2-Dibromo-3-chloropropane (DBCP)	EPA 504.1	Volatile Organics	NELAP	1/3/2012
1,2-Dibromo-3-chloropropane (DBCP)	EPA 8011	Volatile Organics	NELAP	7/1/2003
1,2-Dibromo-3-chloropropane (DBCP)	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,2-Dibromoethane (EDB, Ethylene dibromide)	EPA 504.1	Volatile Organics	NELAP	1/3/2012
1,2-Dibromoethane (EDB, Ethylene dibromide)	EPA 8011	Volatile Organics	NELAP	7/1/2003
1,2-Dibromoethane (EDB, Ethylene dibromide)	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,2-Dichlorobenzene	EPA 624.1	Volatile Organics	NELAP	5/21/2018
1,2-Dichlorobenzene	EPA 625.1	Extractable Organics	NELAP	5/21/2018
1,2-Dichlorobenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,2-Dichlorobenzene	EPA 8270	Extractable Organics	NELAP	7/1/2003
1,2-Dichloroethane	EPA 624.1	Volatile Organics	NELAP	5/21/2018
1,2-Dichloroethane	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,2-Dichloropropane	EPA 624.1	Volatile Organics	NELAP	5/21/2018
1,2-Dichloropropane	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,2-Dinitrobenzene	EPA 8270	Extractable Organics	NELAP	7/1/2003
1,2-Diphenylhydrazine	EPA 8270	Extractable Organics	NELAP	7/1/2003

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Issue Date: 7/1/2018**Expiration Date: 6/30/2019**

**Laboratory Scope of Accreditation**

Page 9 of 33

Attachment to Certificate #: E83079-71, expiration date June 30, 2019. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: **E83079**EPA Lab Code: **FL01264****(386) 672-5668****E83079****Pace Analytical Services, LLC - Ormond Beach FL****8 East Tower Circle****Ormond Beach, FL 32174****Matrix: Non-Potable Water**

Analyte	Method/Tech	Category	Certification Type	Effective Date
1,2-Diphenylhydrazine (as Azobenzene)	EPA 625.1	Extractable Organics	NELAP	5/21/2018
1,3,5-Trimethylbenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,3-Dichlorobenzene	EPA 624.1	Volatile Organics	NELAP	5/21/2018
1,3-Dichlorobenzene	EPA 625.1	Extractable Organics	NELAP	5/21/2018
1,3-Dichlorobenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,3-Dichlorobenzene	EPA 8270	Extractable Organics	NELAP	7/1/2003
1,3-Dichloropropane	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,3-Dinitrobenzene (1,3-DNB)	EPA 8270	Extractable Organics	NELAP	9/2/2008
1,4-Dichlorobenzene	EPA 624.1	Volatile Organics	NELAP	5/21/2018
1,4-Dichlorobenzene	EPA 625.1	Extractable Organics	NELAP	5/21/2018
1,4-Dichlorobenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,4-Dichlorobenzene	EPA 8270	Extractable Organics	NELAP	7/1/2003
1,4-Dioxane (1,4-Diethyleneoxide)	EPA 522	Volatile Organics	NELAP	1/17/2014
1-Methylnaphthalene	EPA 625.1	Extractable Organics	NELAP	5/21/2018
1-Methylnaphthalene	EPA 8270	Extractable Organics	NELAP	1/3/2012
2,2-Dichloropropane	EPA 8260	Volatile Organics	NELAP	7/1/2003
2,2'-Oxybis(1-chloropropane),bis(2-Chloro-1-methylethyl)ether (fka bis(2-Chloroisopropyl) ether	EPA 625.1	Extractable Organics	NELAP	5/21/2018
2,2'-Oxybis(1-chloropropane),bis(2-Chloro-1-methylethyl)ether (fka bis(2-Chloroisopropyl) ether	EPA 8270	Extractable Organics	NELAP	7/1/2003
2,3,4,6-Tetrachlorophenol	EPA 8270	Extractable Organics	NELAP	7/1/2003
2,3-Dichloroaniline	EPA 625.1	Extractable Organics	NELAP	5/21/2018
2,4,5-T	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
2,4,5-Trichlorophenol	EPA 8270	Extractable Organics	NELAP	7/1/2003
2,4,6-Trichlorophenol	EPA 625.1	Extractable Organics	NELAP	5/21/2018
2,4,6-Trichlorophenol	EPA 8270	Extractable Organics	NELAP	7/1/2003
2,4-D	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
2,4-DB	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
2,4-Dichlorophenol	EPA 625.1	Extractable Organics	NELAP	5/21/2018
2,4-Dichlorophenol	EPA 8270	Extractable Organics	NELAP	7/1/2003
2,4-Dimethylphenol	EPA 625.1	Extractable Organics	NELAP	5/21/2018
2,4-Dimethylphenol	EPA 8270	Extractable Organics	NELAP	7/1/2003
2,4-Dinitrophenol	EPA 625.1	Extractable Organics	NELAP	5/21/2018
2,4-Dinitrophenol	EPA 8270	Extractable Organics	NELAP	7/1/2003
2,4-Dinitrotoluene (2,4-DNT)	EPA 625.1	Extractable Organics	NELAP	5/21/2018
2,4-Dinitrotoluene (2,4-DNT)	EPA 8270	Extractable Organics	NELAP	7/1/2003
2,6-Dinitrotoluene (2,6-DNT)	EPA 625.1	Extractable Organics	NELAP	5/21/2018

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Issue Date: 7/1/2018**Expiration Date: 6/30/2019**

**Laboratory Scope of Accreditation**

Attachment to Certificate #: E83079-71, expiration date June 30, 2019. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: **E83079**EPA Lab Code: **FL01264****(386) 672-5668****E83079****Pace Analytical Services, LLC - Ormond Beach FL****8 East Tower Circle****Ormond Beach, FL 32174**Matrix: **Non-Potable Water**

Analyte	Method/Tech	Category	Certification Type	Effective Date
2,6-Dinitrotoluene (2,6-DNT)	EPA 8270	Extractable Organics	NELAP	7/1/2003
2-Butanone (Methyl ethyl ketone, MEK)	EPA 8260	Volatile Organics	NELAP	7/1/2003
2-Chloroethyl vinyl ether	EPA 624.1	Volatile Organics	NELAP	5/21/2018
2-Chloroethyl vinyl ether	EPA 8260	Volatile Organics	NELAP	1/3/2012
2-Chloronaphthalene	EPA 625.1	Extractable Organics	NELAP	5/21/2018
2-Chloronaphthalene	EPA 8270	Extractable Organics	NELAP	7/1/2003
2-Chlorophenol	EPA 625.1	Extractable Organics	NELAP	5/21/2018
2-Chlorophenol	EPA 8270	Extractable Organics	NELAP	7/1/2003
2-Chlorotoluene	EPA 8260	Volatile Organics	NELAP	7/1/2003
2-Hexanone	EPA 8260	Volatile Organics	NELAP	7/1/2003
2-Methyl-4,6-dinitrophenol	EPA 625.1	Extractable Organics	NELAP	5/21/2018
2-Methyl-4,6-dinitrophenol	EPA 8270	Extractable Organics	NELAP	7/1/2003
2-Methylnaphthalene	EPA 625.1	Extractable Organics	NELAP	5/21/2018
2-Methylnaphthalene	EPA 8270	Extractable Organics	NELAP	7/1/2003
2-Methylphenol (o-Cresol)	EPA 625.1	Extractable Organics	NELAP	5/21/2018
2-Methylphenol (o-Cresol)	EPA 8270	Extractable Organics	NELAP	7/1/2003
2-Nitroaniline	EPA 8270	Extractable Organics	NELAP	7/1/2003
2-Nitrophenol	EPA 625.1	Extractable Organics	NELAP	5/21/2018
2-Nitrophenol	EPA 8270	Extractable Organics	NELAP	7/1/2003
3,3'-Dichlorobenzidine	EPA 625.1	Extractable Organics	NELAP	5/21/2018
3,3'-Dichlorobenzidine	EPA 8270	Extractable Organics	NELAP	7/1/2003
3,3-Dimethyl-1-butanol	PACE SOP S-FL-O-037/GC-MS	Volatile Organics	NELAP	1/3/2012
3,3'-Dimethylbenzidine	EPA 8270	Extractable Organics	NELAP	7/1/2003
3/4-Methylphenols (m/p-Cresols)	EPA 625.1	Extractable Organics	NELAP	5/21/2018
3/4-Methylphenols (m/p-Cresols)	EPA 8270	Extractable Organics	NELAP	1/2/2008
3-Nitroaniline	EPA 8270	Extractable Organics	NELAP	7/1/2003
4,4'-DDD	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	5/21/2018
4,4'-DDD	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
4,4'-DDE	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	5/21/2018
4,4'-DDE	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
4,4'-DDT	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	5/21/2018
4,4'-DDT	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
4-Bromophenyl phenyl ether	EPA 625.1	Extractable Organics	NELAP	5/21/2018
4-Bromophenyl phenyl ether	EPA 8270	Extractable Organics	NELAP	7/1/2003
4-Chloro-3-methylphenol	EPA 625.1	Extractable Organics	NELAP	5/21/2018
4-Chloro-3-methylphenol	EPA 8270	Extractable Organics	NELAP	7/1/2003

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Issue Date: 7/1/2018**Expiration Date: 6/30/2019**

**Laboratory Scope of Accreditation**

Page 11 of 33

Attachment to Certificate #: E83079-71, expiration date June 30, 2019. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: **E83079**EPA Lab Code: **FL01264****(386) 672-5668****E83079****Pace Analytical Services, LLC - Ormond Beach FL****8 East Tower Circle****Ormond Beach, FL 32174****Matrix: Non-Potable Water**

Analyte	Method/Tech	Category	Certification Type	Effective Date
4-Chloroaniline	EPA 8270	Extractable Organics	NELAP	7/1/2003
4-Chlorophenyl phenylether	EPA 625.1	Extractable Organics	NELAP	5/21/2018
4-Chlorophenyl phenylether	EPA 8270	Extractable Organics	NELAP	7/1/2003
4-Chlorotoluene	EPA 8260	Volatile Organics	NELAP	7/1/2003
4-Methyl-2-pentanone (MIBK)	EPA 8260	Volatile Organics	NELAP	7/1/2003
4-Nitroaniline	EPA 8270	Extractable Organics	NELAP	7/1/2003
4-Nitrophenol	EPA 625.1	Extractable Organics	NELAP	5/21/2018
4-Nitrophenol	EPA 8270	Extractable Organics	NELAP	7/1/2003
Acenaphthene	EPA 625.1	Extractable Organics	NELAP	5/21/2018
Acenaphthene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Acenaphthylene	EPA 625.1	Extractable Organics	NELAP	5/21/2018
Acenaphthylene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Acetone	EPA 624.1	Volatile Organics	NELAP	5/21/2018
Acetone	EPA 8260	Volatile Organics	NELAP	7/1/2003
Acetonitrile	EPA 8260	Volatile Organics	NELAP	7/1/2003
Acrolein (Propenal)	EPA 624.1	Volatile Organics	NELAP	5/21/2018
Acrolein (Propenal)	EPA 8260	Volatile Organics	NELAP	7/1/2003
Acrylonitrile	EPA 624.1	Volatile Organics	NELAP	5/21/2018
Acrylonitrile	EPA 8260	Volatile Organics	NELAP	7/1/2003
Aldrin	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	5/21/2018
Aldrin	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Alkalinity as CaCO ₃	SM 2320 B	General Chemistry	NELAP	1/8/2002
Allyl chloride (3-Chloropropene)	EPA 8260	Volatile Organics	NELAP	7/1/2003
alpha-BHC (alpha-Hexachlorocyclohexane)	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	5/21/2018
alpha-BHC (alpha-Hexachlorocyclohexane)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
alpha-Chlordane	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Aluminum	EPA 200.7	Metals	NELAP	1/8/2002
Aluminum	EPA 200.8	Metals	NELAP	5/11/2004
Aluminum	EPA 6010	Metals	NELAP	7/1/2003
Aluminum	EPA 6020	Metals	NELAP	5/11/2004
Ammonia as N	EPA 350.1	General Chemistry	NELAP	1/8/2002
Aniline	EPA 8270	Extractable Organics	NELAP	7/1/2003
Anthracene	EPA 625.1	Extractable Organics	NELAP	5/21/2018
Anthracene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Antimony	EPA 200.7	Metals	NELAP	1/8/2002
Antimony	EPA 200.8	Metals	NELAP	5/11/2004

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Analyte	Method/Tech	Category	Certification Type	Effective Date
Antimony	EPA 6010	Metals	NELAP	7/1/2003
Antimony	EPA 6020	Metals	NELAP	5/11/2004
Aroclor-1016 (PCB-1016)	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	5/21/2018
Aroclor-1016 (PCB-1016)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Aroclor-1221 (PCB-1221)	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	5/21/2018
Aroclor-1221 (PCB-1221)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Aroclor-1232 (PCB-1232)	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	5/21/2018
Aroclor-1232 (PCB-1232)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Aroclor-1242 (PCB-1242)	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	5/21/2018
Aroclor-1242 (PCB-1242)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Aroclor-1248 (PCB-1248)	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	5/21/2018
Aroclor-1248 (PCB-1248)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Aroclor-1254 (PCB-1254)	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	5/21/2018
Aroclor-1254 (PCB-1254)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Aroclor-1260 (PCB-1260)	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	5/21/2018
Aroclor-1260 (PCB-1260)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Arsenic	EPA 200.7	Metals	NELAP	1/8/2002
Arsenic	EPA 200.8	Metals	NELAP	5/11/2004
Arsenic	EPA 6010	Metals	NELAP	1/8/2002
Arsenic	EPA 6020	Metals	NELAP	5/11/2004
Atrazine	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Azinphos-methyl (Guthion)	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Barium	EPA 200.7	Metals	NELAP	1/8/2002
Barium	EPA 200.8	Metals	NELAP	5/11/2004
Barium	EPA 6010	Metals	NELAP	7/1/2003
Barium	EPA 6020	Metals	NELAP	5/11/2004
Bentazon	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Benzene	EPA 624.1	Volatile Organics	NELAP	5/21/2018
Benzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Benzidine	EPA 625.1	Extractable Organics	NELAP	5/21/2018
Benzidine	EPA 8270	Extractable Organics	NELAP	7/1/2003
Benzo(a)anthracene	EPA 625.1	Extractable Organics	NELAP	5/21/2018
Benzo(a)anthracene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Benzo(a)pyrene	EPA 625.1	Extractable Organics	NELAP	5/21/2018
Benzo(a)pyrene	EPA 8270	Extractable Organics	NELAP	11/21/2017
Benzo(b)fluoranthene	EPA 625.1	Extractable Organics	NELAP	5/21/2018

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Issue Date: 7/1/2018**Expiration Date: 6/30/2019**

**Laboratory Scope of Accreditation**

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State Laboratory ID: **E83079**EPA Lab Code: **FL01264****(386) 672-5668****E83079****Pace Analytical Services, LLC - Ormond Beach FL****8 East Tower Circle****Ormond Beach, FL 32174**Matrix: **Non-Potable Water**

Analyte	Method/Tech	Category	Certification Type	Effective Date
Benzo(b)fluoranthene	EPA 8270	Extractable Organics	NELAP	12/8/2017
Benzo(g,h,i)perylene	EPA 625.1	Extractable Organics	NELAP	5/21/2018
Benzo(g,h,i)perylene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Benzo(k)fluoranthene	EPA 625.1	Extractable Organics	NELAP	5/21/2018
Benzo(k)fluoranthene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Benzyl alcohol	EPA 8270	Extractable Organics	NELAP	1/2/2008
Beryllium	EPA 200.7	Metals	NELAP	1/8/2002
Beryllium	EPA 200.8	Metals	NELAP	5/11/2004
Beryllium	EPA 6010	Metals	NELAP	7/1/2003
Beryllium	EPA 6020	Metals	NELAP	5/11/2004
beta-BHC (beta-Hexachlorocyclohexane)	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	5/21/2018
beta-BHC (beta-Hexachlorocyclohexane)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Biochemical oxygen demand	SM 5210 B	General Chemistry	NELAP	10/3/2007
bis(2-Chloroethoxy)methane	EPA 625.1	Extractable Organics	NELAP	5/21/2018
bis(2-Chloroethoxy)methane	EPA 8270	Extractable Organics	NELAP	7/1/2003
bis(2-Chloroethyl) ether	EPA 625.1	Extractable Organics	NELAP	5/21/2018
bis(2-Chloroethyl) ether	EPA 8270	Extractable Organics	NELAP	7/1/2003
Boron	EPA 200.7	Metals	NELAP	1/8/2002
Boron	EPA 6010	Metals	NELAP	7/1/2003
Bromate	EPA 300.1	General Chemistry	NELAP	12/12/2012
Bromide	EPA 300.0	General Chemistry	NELAP	1/8/2002
Bromide	EPA 9056	General Chemistry	NELAP	7/1/2003
Bromobenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Bromochloromethane	EPA 8260	Volatile Organics	NELAP	7/1/2003
Bromodichloromethane	EPA 624.1	Volatile Organics	NELAP	5/21/2018
Bromodichloromethane	EPA 8260	Volatile Organics	NELAP	7/1/2003
Bromoform	EPA 624.1	Volatile Organics	NELAP	5/21/2018
Bromoform	EPA 8260	Volatile Organics	NELAP	7/1/2003
Butyl benzyl phthalate	EPA 625.1	Extractable Organics	NELAP	5/21/2018
Butyl benzyl phthalate	EPA 8270	Extractable Organics	NELAP	7/1/2003
Cadmium	EPA 200.7	Metals	NELAP	1/8/2002
Cadmium	EPA 200.8	Metals	NELAP	5/11/2004
Cadmium	EPA 6010	Metals	NELAP	1/8/2002
Cadmium	EPA 6020	Metals	NELAP	5/11/2004
Calcium	EPA 200.7	Metals	NELAP	1/8/2002
Calcium	EPA 6010	Metals	NELAP	7/1/2003

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Issue Date: 7/1/2018**Expiration Date: 6/30/2019**

**Laboratory Scope of Accreditation**

Page 14 of 33

Attachment to Certificate #: E83079-71, expiration date June 30, 2019. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: **E83079**EPA Lab Code: **FL01264****(386) 672-5668****E83079****Pace Analytical Services, LLC - Ormond Beach FL****8 East Tower Circle****Ormond Beach, FL 32174****Matrix: Non-Potable Water**

Analyte	Method/Tech	Category	Certification Type	Effective Date
Carbazole	EPA 625.1	Extractable Organics	NELAP	5/21/2018
Carbazole	EPA 8270	Extractable Organics	NELAP	1/3/2012
Carbon disulfide	EPA 8260	Volatile Organics	NELAP	7/1/2003
Carbon tetrachloride	EPA 624.1	Volatile Organics	NELAP	5/21/2018
Carbon tetrachloride	EPA 8260	Volatile Organics	NELAP	7/1/2003
Carbonaceous BOD (CBOD)	SM 5210 B	General Chemistry	NELAP	1/8/2002
Carbophenothion	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Chemical oxygen demand	EPA 410.4	General Chemistry	NELAP	1/8/2002
Chlorate	EPA 300.1	General Chemistry	NELAP	12/12/2012
Chlordane (tech.)	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	5/21/2018
Chlordane (tech.)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Chloride	EPA 300.0	General Chemistry	NELAP	1/8/2002
Chloride	EPA 9056	General Chemistry	NELAP	7/1/2003
Chlorite	EPA 300.1	General Chemistry	NELAP	12/12/2012
Chlorobenzene	EPA 624.1	Volatile Organics	NELAP	5/21/2018
Chlorobenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Chlorobenzilate	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Chloroethane	EPA 624.1	Volatile Organics	NELAP	5/21/2018
Chloroethane	EPA 8260	Volatile Organics	NELAP	7/1/2003
Chloroform	EPA 624.1	Volatile Organics	NELAP	5/21/2018
Chloroform	EPA 8260	Volatile Organics	NELAP	7/1/2003
Chlorophylls	SM 10200 H	General Chemistry	NELAP	1/8/2002
Chloroprene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Chlorpyrifos	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Chromium	EPA 200.7	Metals	NELAP	1/8/2002
Chromium	EPA 200.8	Metals	NELAP	5/11/2004
Chromium	EPA 6010	Metals	NELAP	7/1/2003
Chromium	EPA 6020	Metals	NELAP	5/11/2004
Chromium VI	EPA 218.6	General Chemistry	NELAP	1/17/2014
Chrysene	EPA 625.1	Extractable Organics	NELAP	5/21/2018
Chrysene	EPA 8270	Extractable Organics	NELAP	7/1/2003
cis-1,2-Dichloroethylene	EPA 8260	Volatile Organics	NELAP	7/1/2003
cis-1,3-Dichloropropene	EPA 624.1	Volatile Organics	NELAP	5/21/2018
cis-1,3-Dichloropropene	EPA 8260	Volatile Organics	NELAP	7/1/2003
cis-1,4-Dichloro-2-butene	EPA 8260	Volatile Organics	NELAP	1/3/2012
Cobalt	EPA 200.7	Metals	NELAP	1/8/2002

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Issue Date: 7/1/2018**Expiration Date: 6/30/2019**

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State Laboratory ID: **E83079**EPA Lab Code: **FL01264****(386) 672-5668****E83079****Pace Analytical Services, LLC - Ormond Beach FL****8 East Tower Circle****Ormond Beach, FL 32174****Matrix: Non-Potable Water**

Analyte	Method/Tech	Category	Certification Type	Effective Date
Cobalt	EPA 200.8	Metals	NELAP	5/11/2004
Cobalt	EPA 6010	Metals	NELAP	7/1/2003
Cobalt	EPA 6020	Metals	NELAP	5/11/2004
Color	SM 2120 B	General Chemistry	NELAP	10/3/2007
Conductivity	SM 2510 B	General Chemistry	NELAP	1/3/2012
Copper	EPA 200.7	Metals	NELAP	1/8/2002
Copper	EPA 200.8	Metals	NELAP	5/11/2004
Copper	EPA 6010	Metals	NELAP	1/8/2002
Copper	EPA 6020	Metals	NELAP	5/11/2004
Corrosivity (langlier index)	SM 2330 B	General Chemistry	NELAP	1/8/2002
Coumaphos	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Cyanide	EPA 335.4	General Chemistry	NELAP	1/8/2002
Cyclohexane	EPA 8260	Volatile Organics	NELAP	1/3/2012
Dalapon	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
delta-BHC	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	5/21/2018
delta-BHC	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Demeton-o	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Demeton-s	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Di(2-ethylhexyl) phthalate (DEHP)	EPA 625.1	Extractable Organics	NELAP	5/21/2018
Di(2-ethylhexyl) phthalate (DEHP)	EPA 8270	Extractable Organics	NELAP	7/1/2003
Diazinon	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Dibenz(a,h)anthracene	EPA 625.1	Extractable Organics	NELAP	5/21/2018
Dibenz(a,h)anthracene	EPA 8270	Extractable Organics	NELAP	12/8/2017
Dibenzofuran	EPA 8270	Extractable Organics	NELAP	7/1/2003
Dibromochloromethane	EPA 624.1	Volatile Organics	NELAP	5/21/2018
Dibromochloromethane	EPA 8260	Volatile Organics	NELAP	7/1/2003
Dibromomethane	EPA 8260	Volatile Organics	NELAP	7/1/2003
Dicamba	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Dichlorodifluoromethane	EPA 624.1	Volatile Organics	NELAP	5/21/2018
Dichlorodifluoromethane	EPA 8260	Volatile Organics	NELAP	7/1/2003
Dichloroprop (Dichlorprop)	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	3/10/2010
Dichlorovos (DDVP, Dichlorvos)	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Dieldrin	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	5/21/2018
Dieldrin	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Diethyl ether	EPA 8260	Volatile Organics	NELAP	1/3/2012
Diethyl phthalate	EPA 625.1	Extractable Organics	NELAP	5/21/2018

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Issue Date: 7/1/2018**Expiration Date: 6/30/2019**

**Laboratory Scope of Accreditation**

Page 16 of 33

Attachment to Certificate #: E83079-71, expiration date June 30, 2019. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: **E83079**EPA Lab Code: **FL01264****(386) 672-5668****E83079****Pace Analytical Services, LLC - Ormond Beach FL****8 East Tower Circle****Ormond Beach, FL 32174****Matrix: Non-Potable Water**

Analyte	Method/Tech	Category	Certification Type	Effective Date
Diethyl phthalate	EPA 8270	Extractable Organics	NELAP	7/1/2003
Di-isopropylether (DIPE)	EPA 8260	Volatile Organics	NELAP	1/3/2012
Dimethoate	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Dimethyl phthalate	EPA 625.1	Extractable Organics	NELAP	5/21/2018
Dimethyl phthalate	EPA 8270	Extractable Organics	NELAP	7/1/2003
Di-n-butyl phthalate	EPA 625.1	Extractable Organics	NELAP	5/21/2018
Di-n-butyl phthalate	EPA 8270	Extractable Organics	NELAP	7/1/2003
Di-n-octyl phthalate	EPA 625.1	Extractable Organics	NELAP	5/21/2018
Di-n-octyl phthalate	EPA 8270	Extractable Organics	NELAP	7/1/2003
Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Disulfoton	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	1/2/2008
Endosulfan I	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	5/21/2018
Endosulfan I	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Endosulfan II	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	5/21/2018
Endosulfan II	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Endosulfan sulfate	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	5/21/2018
Endosulfan sulfate	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Endrin	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	5/21/2018
Endrin	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Endrin aldehyde	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	5/21/2018
Endrin aldehyde	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Endrin ketone	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Enterococci	ENTEROLERT/ QUANTI-TRAY	Microbiology	NELAP	7/1/2016
Escherichia coli	SM 9223 B /QUANTI-TRAY	Microbiology	NELAP	7/1/2016
Ethion	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Ethyl acetate	EPA 8260	Volatile Organics	NELAP	1/3/2012
Ethyl methacrylate	EPA 8260	Volatile Organics	NELAP	7/1/2003
Ethylbenzene	EPA 624.1	Volatile Organics	NELAP	5/21/2018
Ethylbenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Ethyl-t-butylether (ETBE)	EPA 8260	Volatile Organics	NELAP	1/3/2012
Famphur	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Fecal coliforms	COLILERT®-18 (Fecal Coliforms)	Microbiology	NELAP	7/1/2016
Fecal coliforms	SM 9222 D	Microbiology	NELAP	1/8/2002
Fluoranthene	EPA 625.1	Extractable Organics	NELAP	5/21/2018
Fluoranthene	EPA 8270	Extractable Organics	NELAP	7/1/2003

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Issue Date: 7/1/2018**Expiration Date: 6/30/2019**

**Laboratory Scope of Accreditation**

Page 17 of 33

Attachment to Certificate #: E83079-71, expiration date June 30, 2019. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: **E83079**EPA Lab Code: **FL01264****(386) 672-5668****E83079****Pace Analytical Services, LLC - Ormond Beach FL****8 East Tower Circle****Ormond Beach, FL 32174****Matrix: Non-Potable Water**

Analyte	Method/Tech	Category	Certification Type	Effective Date
Fluorene	EPA 625.1	Extractable Organics	NELAP	5/21/2018
Fluorene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Fluoride	EPA 300.0	General Chemistry	NELAP	1/8/2002
Fluoride	EPA 9056	General Chemistry	NELAP	7/1/2003
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	5/21/2018
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
gamma-Chlordane	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Heptachlor	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	5/21/2018
Heptachlor	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Heptachlor epoxide	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	5/21/2018
Heptachlor epoxide	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Hexachlorobenzene	EPA 625.1	Extractable Organics	NELAP	5/21/2018
Hexachlorobenzene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Hexachlorobutadiene	EPA 625.1	Extractable Organics	NELAP	5/21/2018
Hexachlorobutadiene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Hexachlorobutadiene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Hexachlorocyclopentadiene	EPA 625.1	Extractable Organics	NELAP	5/21/2018
Hexachlorocyclopentadiene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Hexachloroethane	EPA 625.1	Extractable Organics	NELAP	5/21/2018
Hexachloroethane	EPA 8270	Extractable Organics	NELAP	7/1/2003
Indeno(1,2,3-cd)pyrene	EPA 625.1	Extractable Organics	NELAP	5/21/2018
Indeno(1,2,3-cd)pyrene	EPA 8270	Extractable Organics	NELAP	12/8/2017
Iodomethane (Methyl iodide)	EPA 8260	Volatile Organics	NELAP	7/1/2003
Iron	EPA 200.7	Metals	NELAP	1/8/2002
Iron	EPA 6010	Metals	NELAP	7/1/2003
Iron	EPA 6020	Metals	NELAP	1/3/2012
Isobutyl alcohol (2-Methyl-1-propanol)	EPA 8260	Volatile Organics	NELAP	7/1/2003
Isophorone	EPA 625.1	Extractable Organics	NELAP	5/21/2018
Isophorone	EPA 8270	Extractable Organics	NELAP	7/1/2003
Isopropylbenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Kjeldahl nitrogen - total	EPA 351.2	General Chemistry	NELAP	1/8/2002
Lead	EPA 200.7	Metals	NELAP	1/8/2002
Lead	EPA 200.8	Metals	NELAP	5/11/2004
Lead	EPA 6010	Metals	NELAP	1/8/2002
Lead	EPA 6020	Metals	NELAP	5/11/2004

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Issue Date: 7/1/2018**Expiration Date: 6/30/2019**

**Laboratory Scope of Accreditation**

Page 18 of 33

Attachment to Certificate #: E83079-71, expiration date June 30, 2019. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: **E83079**EPA Lab Code: **FL01264****(386) 672-5668****E83079****Pace Analytical Services, LLC - Ormond Beach FL****8 East Tower Circle****Ormond Beach, FL 32174****Matrix: Non-Potable Water**

Analyte	Method/Tech	Category	Certification Type	Effective Date
Lithium	EPA 200.7	Metals	NELAP	7/1/2016
m/p-Xylenes	EPA 8260	Volatile Organics	NELAP	1/3/2012
m+p-Xylenes	EPA 624.1	Volatile Organics	NELAP	5/21/2018
Magnesium	EPA 200.7	Metals	NELAP	1/8/2002
Magnesium	EPA 6010	Metals	NELAP	7/1/2003
Malathion	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Manganese	EPA 200.7	Metals	NELAP	1/8/2002
Manganese	EPA 200.8	Metals	NELAP	5/11/2004
Manganese	EPA 6010	Metals	NELAP	7/1/2003
Manganese	EPA 6020	Metals	NELAP	5/11/2004
MCPA	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	1/3/2012
MCPP	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	1/3/2012
Mercury	EPA 245.1	Metals	NELAP	1/8/2002
Mercury	EPA 7470	Metals	NELAP	1/8/2002
Methacrylonitrile	EPA 8260	Volatile Organics	NELAP	7/1/2003
Methoxychlor	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Methoxychlor	SM 6630 C	Pesticides-Herbicides-PCB's	NELAP	3/15/2013
Methyl acetate	EPA 8260	Volatile Organics	NELAP	1/3/2012
Methyl bromide (Bromomethane)	EPA 624.1	Volatile Organics	NELAP	5/21/2018
Methyl bromide (Bromomethane)	EPA 8260	Volatile Organics	NELAP	7/1/2003
Methyl chloride (Chloromethane)	EPA 624.1	Volatile Organics	NELAP	5/21/2018
Methyl chloride (Chloromethane)	EPA 8260	Volatile Organics	NELAP	7/1/2003
Methyl methacrylate	EPA 8260	Volatile Organics	NELAP	7/1/2003
Methyl parathion (Parathion, methyl)	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Methyl tert-butyl ether (MTBE)	EPA 624.1	Volatile Organics	NELAP	5/21/2018
Methyl tert-butyl ether (MTBE)	EPA 8260	Volatile Organics	NELAP	10/21/2003
Methylcyclohexane	EPA 8260	Volatile Organics	NELAP	1/3/2012
Methylene chloride	EPA 624.1	Volatile Organics	NELAP	5/21/2018
Methylene chloride	EPA 8260	Volatile Organics	NELAP	7/1/2003
Mevinphos	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Mirex	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	5/21/2018
Mirex	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	1/3/2012
Molybdenum	EPA 200.7	Metals	NELAP	1/8/2002
Molybdenum	EPA 200.8	Metals	NELAP	5/11/2004
Molybdenum	EPA 6010	Metals	NELAP	1/8/2002
Molybdenum	EPA 6020	Metals	NELAP	1/3/2012

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Issue Date: 7/1/2018**Expiration Date: 6/30/2019**

**Laboratory Scope of Accreditation**

Page 19 of 33

Attachment to Certificate #: E83079-71, expiration date June 30, 2019. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: **E83079**EPA Lab Code: **FL01264****(386) 672-5668****E83079****Pace Analytical Services, LLC - Ormond Beach FL****8 East Tower Circle****Ormond Beach, FL 32174**Matrix: **Non-Potable Water**

Analyte	Method/Tech	Category	Certification Type	Effective Date
Naphthalene	EPA 625.1	Extractable Organics	NELAP	5/21/2018
Naphthalene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Naphthalene	EPA 8270	Extractable Organics	NELAP	7/1/2003
n-Butylbenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
n-Decane	EPA 625.1	Extractable Organics	NELAP	5/21/2018
n-Hexane	PACE SOP S-FL-O-037/GC-MS	Volatile Organics	NELAP	1/3/2012
Nickel	EPA 200.7	Metals	NELAP	1/8/2002
Nickel	EPA 200.8	Metals	NELAP	5/11/2004
Nickel	EPA 6010	Metals	NELAP	1/8/2002
Nickel	EPA 6020	Metals	NELAP	5/11/2004
Nitrate	EPA 9056	General Chemistry	NELAP	7/1/2003
Nitrate as N	EPA 300.0	General Chemistry	NELAP	1/8/2002
Nitrate as N	EPA 353.2	General Chemistry	NELAP	1/8/2002
Nitrate-nitrite	EPA 300.0	General Chemistry	NELAP	1/8/2002
Nitrate-nitrite	EPA 353.2	General Chemistry	NELAP	1/8/2002
Nitrite	EPA 9056	General Chemistry	NELAP	7/1/2003
Nitrite as N	EPA 300.0	General Chemistry	NELAP	1/8/2002
Nitrite as N	EPA 353.2	General Chemistry	NELAP	1/8/2002
Nitrobenzene	EPA 625.1	Extractable Organics	NELAP	5/21/2018
Nitrobenzene	EPA 8270	Extractable Organics	NELAP	7/1/2003
n-Nitrosodimethylamine	EPA 625.1	Extractable Organics	NELAP	5/21/2018
n-Nitrosodimethylamine	EPA 8270	Extractable Organics	NELAP	7/1/2003
n-Nitrosodi-n-propylamine	EPA 625.1	Extractable Organics	NELAP	5/21/2018
n-Nitrosodi-n-propylamine	EPA 8270	Extractable Organics	NELAP	7/1/2003
n-Nitrosodiphenylamine	EPA 625.1	Extractable Organics	NELAP	5/21/2018
n-Nitrosodiphenylamine	EPA 8270	Extractable Organics	NELAP	7/1/2003
n-Octadecane	EPA 625.1	Extractable Organics	NELAP	5/21/2018
n-Propylbenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Organic nitrogen	TKN minus AMMONIA	General Chemistry	NELAP	1/3/2012
Orthophosphate as P	EPA 300.0	General Chemistry	NELAP	1/8/2002
Orthophosphate as P	EPA 365.1	General Chemistry	NELAP	1/8/2002
Orthophosphate as P	EPA 9056	General Chemistry	NELAP	7/1/2003
o-Xylene	EPA 624.1	Volatile Organics	NELAP	5/21/2018
o-Xylene	EPA 8260	Volatile Organics	NELAP	1/3/2012
Parathion, ethyl	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Pentachloroethane	EPA 8260	Volatile Organics	NELAP	7/1/2003

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Analyte	Method/Tech	Category	Certification Type	Effective Date
Pentachloronitrobenzene (Quintozone)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	1/2/2008
Pentachlorophenol	EPA 625.1	Extractable Organics	NELAP	5/21/2018
Pentachlorophenol	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	9/4/2008
Pentachlorophenol	EPA 8270	Extractable Organics	NELAP	7/1/2003
Perfluorobutane sulfonate (PFBS, perfluorobutane sulfonic acid)	PACE SOP S-FL-0-045/LC-MS-MS	Volatile Organics	NELAP	3/24/2017
Perfluoroheptanoate (PFHpA, perfluoroheptanoic acid)	PACE SOP S-FL-0-045/LC-MS-MS	Volatile Organics	NELAP	3/24/2017
Perfluorohexane sulfonate (PFHxS, perfluorohexane sulfonic acid)	PACE SOP S-FL-0-045/LC-MS-MS	Volatile Organics	NELAP	3/24/2017
Perfluorononanoate (PFNA, perfluorononanoic acid)	PACE SOP S-FL-0-045/LC-MS-MS	Volatile Organics	NELAP	3/24/2017
Perfluorooctane sulfonate (PFOS, perfluorooctane sulfonic acid)	PACE SOP S-FL-0-045/LC-MS-MS	Volatile Organics	NELAP	3/24/2017
Perfluorooctanoate (PFOA, perfluorooctanoic acid)	PACE SOP S-FL-0-045/LC-MS-MS	Volatile Organics	NELAP	3/24/2017
pH	EPA 9040	General Chemistry	NELAP	7/1/2003
pH	SM 4500-H+-B	General Chemistry	NELAP	10/3/2007
Phenanthrene	EPA 625.1	Extractable Organics	NELAP	5/21/2018
Phenanthrene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Phenol	EPA 625.1	Extractable Organics	NELAP	5/21/2018
Phenol	EPA 8270	Extractable Organics	NELAP	7/1/2003
Phorate	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Phosmet (Imidan)	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Phosphorus, total	EPA 365.3	General Chemistry	NELAP	12/4/2007
Phosphorus, total	EPA 365.4	General Chemistry	NELAP	1/8/2002
Picloram	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
p-Isopropyltoluene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Potassium	EPA 200.7	Metals	NELAP	1/8/2002
Potassium	EPA 6010	Metals	NELAP	7/1/2003
Propionitrile (Ethyl cyanide)	EPA 8260	Volatile Organics	NELAP	7/1/2003
Pyrene	EPA 625.1	Extractable Organics	NELAP	5/21/2018
Pyrene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Pyridine	EPA 8270	Extractable Organics	NELAP	7/1/2003
Residual free chlorine	SM 4500-Cl D	General Chemistry	NELAP	1/8/2002
Residue-filterable (TDS)	SM 2540 C	General Chemistry	NELAP	10/3/2007
Residue-nonfilterable (TSS)	SM 2540 D	General Chemistry	NELAP	10/3/2007
Residue-total	SM 2540 B	General Chemistry	NELAP	10/3/2007
sec-Butylbenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Selenium	EPA 200.7	Metals	NELAP	1/8/2002

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Issue Date: 7/1/2018**Expiration Date: 6/30/2019**

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Analyte	Method/Tech	Category	Certification Type	Effective Date
Selenium	EPA 200.8	Metals	NELAP	5/11/2004
Selenium	EPA 6010	Metals	NELAP	1/8/2002
Selenium	EPA 6020	Metals	NELAP	1/3/2012
Silica as SiO ₂	EPA 200.7	Metals	NELAP	1/3/2012
Silica as SiO ₂	EPA 6010	Metals	NELAP	1/3/2012
Silicon	EPA 200.7	Metals	NELAP	1/3/2012
Silicon	EPA 6010	Metals	NELAP	1/3/2012
Silver	EPA 200.7	Metals	NELAP	1/8/2002
Silver	EPA 200.8	Metals	NELAP	5/11/2004
Silver	EPA 6010	Metals	NELAP	7/1/2003
Silver	EPA 6020	Metals	NELAP	5/11/2004
Silvex (2,4,5-TP)	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Sodium	EPA 200.7	Metals	NELAP	1/8/2002
Sodium	EPA 6010	Metals	NELAP	7/1/2003
Strontium	EPA 200.7	Metals	NELAP	10/14/2004
Strontium	EPA 200.8	Metals	NELAP	12/12/2012
Strontium	EPA 6010	Metals	NELAP	7/1/2003
Styrene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Sulfate	EPA 300.0	General Chemistry	NELAP	1/8/2002
Sulfate	EPA 9056	General Chemistry	NELAP	7/1/2003
Sulfide	SM 4500-S F	General Chemistry	NELAP	1/3/2012
Sulfur	EPA 200.7	Metals	NELAP	7/1/2016
Sulfur	EPA 6010	Metals	NELAP	7/1/2016
Surfactants - MBAS	SM 5540 C	General Chemistry	NELAP	10/3/2007
T-amylmethylether (TAME)	EPA 8260	Volatile Organics	NELAP	1/3/2012
tert-Amyl alcohol (2-methyl-2-butanol)	PACE SOP S-FL-O-037/GC-MS	Volatile Organics	NELAP	1/3/2012
tert-Butyl alcohol (2-Methyl-2-propanol)	EPA 8260	Volatile Organics	NELAP	1/3/2012
tert-Butyl formate	PACE SOP S-FL-O-037/GC-MS	Volatile Organics	NELAP	1/3/2012
tert-Butylbenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Tetrachloroethylene (Perchloroethylene)	EPA 624.1	Volatile Organics	NELAP	5/21/2018
Tetrachloroethylene (Perchloroethylene)	EPA 8260	Volatile Organics	NELAP	7/1/2003
Tetrahydrofuran (THF)	PACE SOP S-FL-O-037/GC-MS	Volatile Organics	NELAP	1/3/2012
Thallium	EPA 200.8	Metals	NELAP	5/11/2004
Thallium	EPA 6010	Metals	NELAP	7/1/2003
Thallium	EPA 6020	Metals	NELAP	5/11/2004

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Issue Date: 7/1/2018**Expiration Date: 6/30/2019**

**Laboratory Scope of Accreditation**

Attachment to Certificate #: E83079-71, expiration date June 30, 2019. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: **E83079**EPA Lab Code: **FL01264****(386) 672-5668****E83079****Pace Analytical Services, LLC - Ormond Beach FL****8 East Tower Circle****Ormond Beach, FL 32174**Matrix: **Non-Potable Water**

Analyte	Method/Tech	Category	Certification Type	Effective Date
Tin	EPA 200.7	Metals	NELAP	1/8/2002
Tin	EPA 6010	Metals	NELAP	7/1/2003
Titanium	EPA 200.7	Metals	NELAP	1/3/2012
Titanium	EPA 6010	Metals	NELAP	1/3/2012
Toluene	EPA 624.1	Volatile Organics	NELAP	5/21/2018
Toluene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Total coliforms	SM 9222 B	Microbiology	NELAP	1/8/2002
Total coliforms	SM 9223 B /QUANTI-TRAY	Microbiology	NELAP	7/1/2016
Total cyanide	EPA 9012	General Chemistry	NELAP	7/1/2003
Total hardness as CaCO ₃	EPA 200.7	Metals	NELAP	1/8/2002
Total hardness as CaCO ₃	SM 2340 B	Metals	NELAP	1/8/2002
Total nitrate-nitrite	EPA 9056	General Chemistry	NELAP	7/1/2003
Total nitrogen	TKN + Total nitrate-nitrite	General Chemistry	NELAP	1/3/2012
Total organic carbon	SM 5310 B	General Chemistry	NELAP	2/21/2008
Total Petroleum Hydrocarbons (TPH)	FL-PRO	Extractable Organics	NELAP	7/1/2003
Total Petroleum Hydrocarbons (TPH)	TPHCWG Direct Method	Extractable Organics	NELAP	7/1/2016
Total phenolics	EPA 420.4	General Chemistry	NELAP	1/8/2002
Total phenolics	EPA 9066	General Chemistry	NELAP	7/1/2003
Toxaphene (Chlorinated camphene)	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	5/21/2018
Toxaphene (Chlorinated camphene)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
trans-1,2-Dichloroethylene	EPA 624.1	Volatile Organics	NELAP	5/21/2018
trans-1,2-Dichloroethylene	EPA 8260	Volatile Organics	NELAP	7/1/2003
trans-1,3-Dichloropropene	EPA 624.1	Volatile Organics	NELAP	5/21/2018
trans-1,3-Dichloropropene	EPA 8260	Volatile Organics	NELAP	7/1/2003
trans-1,4-Dichloro-2-butene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Trichloroethene (Trichloroethylene)	EPA 624.1	Volatile Organics	NELAP	5/21/2018
Trichloroethene (Trichloroethylene)	EPA 8260	Volatile Organics	NELAP	7/1/2003
Trichlorofluoromethane	EPA 624.1	Volatile Organics	NELAP	5/21/2018
Trichlorofluoromethane	EPA 8260	Volatile Organics	NELAP	7/1/2003
Turbidity	EPA 180.1	General Chemistry	NELAP	1/8/2002
Un-ionized Ammonia	DEP SOP 10/03/83	General Chemistry	NELAP	1/8/2002
Uranium	EPA 200.8	Metals	NELAP	3/10/2010
Vanadium	EPA 200.7	Metals	NELAP	1/8/2002
Vanadium	EPA 200.8	Metals	NELAP	5/11/2004
Vanadium	EPA 6010	Metals	NELAP	7/1/2003
Vanadium	EPA 6020	Metals	NELAP	1/3/2012

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State Laboratory ID: **E83079**

EPA Lab Code: **FL01264**

(386) 672-5668

E83079

Pace Analytical Services, LLC - Ormond Beach FL

8 East Tower Circle

Ormond Beach, FL 32174

Matrix: **Non-Potable Water**

Analyte	Method/Tech	Category	Certification Type	Effective Date
Vinyl acetate	EPA 8260	Volatile Organics	NELAP	7/1/2003
Vinyl chloride	EPA 624.1	Volatile Organics	NELAP	5/21/2018
Vinyl chloride	EPA 8260	Volatile Organics	NELAP	7/1/2003
Xylene (total)	EPA 624.1	Volatile Organics	NELAP	5/21/2018
Xylene (total)	EPA 8260	Volatile Organics	NELAP	7/1/2003
Zinc	EPA 200.7	Metals	NELAP	1/8/2002
Zinc	EPA 200.8	Metals	NELAP	5/11/2004
Zinc	EPA 6010	Metals	NELAP	1/8/2002
Zinc	EPA 6020	Metals	NELAP	5/11/2004

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State Laboratory ID: **E83079**EPA Lab Code: **FL01264****(386) 672-5668****E83079****Pace Analytical Services, LLC - Ormond Beach FL****8 East Tower Circle****Ormond Beach, FL 32174**Matrix: **Solid and Chemical Materials**

Analyte	Method/Tech	Category	Certification Type	Effective Date
1,1,1,2-Tetrachloroethane	EPA 8260	Volatile Organics	NELAP	1/8/2002
1,1,1-Trichloroethane	EPA 8260	Volatile Organics	NELAP	1/8/2002
1,1,2,2-Tetrachloroethane	EPA 8260	Volatile Organics	NELAP	1/8/2002
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	EPA 8260	Volatile Organics	NELAP	1/3/2012
1,1,2-Trichloroethane	EPA 8260	Volatile Organics	NELAP	1/8/2002
1,1-Dichloroethane	EPA 8260	Volatile Organics	NELAP	1/8/2002
1,1-Dichloroethylene	EPA 8260	Volatile Organics	NELAP	1/8/2002
1,1-Dichloropropene	EPA 8260	Volatile Organics	NELAP	1/8/2002
1,2,3-Trichlorobenzene	EPA 8260	Volatile Organics	NELAP	1/8/2002
1,2,3-Trichloropropane	EPA 8260	Volatile Organics	NELAP	1/8/2002
1,2,3-Trimethylbenzene	EPA 8260	Volatile Organics	NELAP	4/29/2014
1,2,4-Trichlorobenzene	EPA 8260	Volatile Organics	NELAP	1/8/2002
1,2,4-Trichlorobenzene	EPA 8270	Extractable Organics	NELAP	1/8/2002
1,2,4-Trimethylbenzene	EPA 8260	Volatile Organics	NELAP	1/8/2002
1,2-Dibromo-3-chloropropane (DBCP)	EPA 8260	Volatile Organics	NELAP	1/8/2002
1,2-Dibromoethane (EDB, Ethylene dibromide)	EPA 8260	Volatile Organics	NELAP	1/8/2002
1,2-Dichlorobenzene	EPA 8260	Volatile Organics	NELAP	1/8/2002
1,2-Dichlorobenzene	EPA 8270	Extractable Organics	NELAP	1/8/2002
1,2-Dichloroethane	EPA 8260	Volatile Organics	NELAP	1/8/2002
1,2-Dichloropropane	EPA 8260	Volatile Organics	NELAP	1/8/2002
1,2-Diphenylhydrazine	EPA 8270	Extractable Organics	NELAP	1/8/2002
1,3,5-Trimethylbenzene	EPA 8260	Volatile Organics	NELAP	1/8/2002
1,3-Dichlorobenzene	EPA 8260	Volatile Organics	NELAP	1/8/2002
1,3-Dichlorobenzene	EPA 8270	Extractable Organics	NELAP	1/8/2002
1,3-Dichloropropane	EPA 8260	Volatile Organics	NELAP	1/8/2002
1,4-Dichlorobenzene	EPA 8260	Volatile Organics	NELAP	1/8/2002
1,4-Dichlorobenzene	EPA 8270	Extractable Organics	NELAP	1/8/2002
1-Methylnaphthalene	EPA 8270	Extractable Organics	NELAP	1/3/2012
2,2-Dichloropropane	EPA 8260	Volatile Organics	NELAP	1/8/2002
2,2'-Oxybis(1-chloropropane),bis(2-Chloro-1-methylethyl)ether (fka bis(2-Chloroisopropyl) ether	EPA 8270	Extractable Organics	NELAP	1/8/2002
2,3,4,6-Tetrachlorophenol	EPA 8270	Extractable Organics	NELAP	1/8/2002
2,4,5-Trichlorophenol	EPA 8270	Extractable Organics	NELAP	1/8/2002
2,4,6-Trichlorophenol	EPA 8270	Extractable Organics	NELAP	1/8/2002
2,4-Dichlorophenol	EPA 8270	Extractable Organics	NELAP	1/8/2002
2,4-Dimethylphenol	EPA 8270	Extractable Organics	NELAP	1/8/2002
2,4-Dinitrophenol	EPA 8270	Extractable Organics	NELAP	1/8/2002

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**Laboratory Scope of Accreditation**

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State Laboratory ID: **E83079**EPA Lab Code: **FL01264****(386) 672-5668****E83079****Pace Analytical Services, LLC - Ormond Beach FL****8 East Tower Circle****Ormond Beach, FL 32174**Matrix: **Solid and Chemical Materials**

Analyte	Method/Tech	Category	Certification Type	Effective Date
2,4-Dinitrotoluene (2,4-DNT)	EPA 8270	Extractable Organics	NELAP	1/8/2002
2,6-Dinitrotoluene (2,6-DNT)	EPA 8270	Extractable Organics	NELAP	1/8/2002
2-Butanone (Methyl ethyl ketone, MEK)	EPA 8260	Volatile Organics	NELAP	1/8/2002
2-Chloroethyl vinyl ether	EPA 8260	Volatile Organics	NELAP	1/3/2012
2-Chloronaphthalene	EPA 8270	Extractable Organics	NELAP	1/8/2002
2-Chlorophenol	EPA 8270	Extractable Organics	NELAP	1/8/2002
2-Chlorotoluene	EPA 8260	Volatile Organics	NELAP	1/8/2002
2-Hexanone	EPA 8260	Volatile Organics	NELAP	1/8/2002
2-Methyl-4,6-dinitrophenol	EPA 8270	Extractable Organics	NELAP	1/8/2002
2-Methylnaphthalene	EPA 8270	Extractable Organics	NELAP	1/8/2002
2-Methylphenol (o-Cresol)	EPA 8270	Extractable Organics	NELAP	1/8/2002
2-Nitroaniline	EPA 8270	Extractable Organics	NELAP	1/8/2002
2-Nitrophenol	EPA 8270	Extractable Organics	NELAP	1/8/2002
3,3'-Dichlorobenzidine	EPA 8270	Extractable Organics	NELAP	1/8/2002
3,3-Dimethyl-1-butanol	PACE SOP S-FL-O-037/GC-MS	Volatile Organics	NELAP	1/3/2012
3/4-Methylphenols (m/p-Cresols)	EPA 8270	Extractable Organics	NELAP	1/2/2008
3-Nitroaniline	EPA 8270	Extractable Organics	NELAP	1/8/2002
4,4'-DDD	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	1/8/2002
4,4'-DDE	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	1/8/2002
4,4'-DDT	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	1/8/2002
4-Bromophenyl phenyl ether	EPA 8270	Extractable Organics	NELAP	1/8/2002
4-Chloro-3-methylphenol	EPA 8270	Extractable Organics	NELAP	1/8/2002
4-Chloroaniline	EPA 8270	Extractable Organics	NELAP	1/8/2002
4-Chlorophenyl phenylether	EPA 8270	Extractable Organics	NELAP	1/8/2002
4-Chlorotoluene	EPA 8260	Volatile Organics	NELAP	1/8/2002
4-Methyl-2-pentanone (MIBK)	EPA 8260	Volatile Organics	NELAP	1/8/2002
4-Nitroaniline	EPA 8270	Extractable Organics	NELAP	1/8/2002
4-Nitrophenol	EPA 8270	Extractable Organics	NELAP	1/8/2002
Acenaphthene	EPA 8270	Extractable Organics	NELAP	1/8/2002
Acenaphthylene	EPA 8270	Extractable Organics	NELAP	1/8/2002
Acetone	EPA 8260	Volatile Organics	NELAP	1/8/2002
Acetonitrile	EPA 8260	Volatile Organics	NELAP	1/8/2002
Acrolein (Propenal)	EPA 8260	Volatile Organics	NELAP	1/8/2002
Acrylonitrile	EPA 8260	Volatile Organics	NELAP	1/8/2002
Aldrin	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	1/8/2002
Allyl chloride (3-Chloropropene)	EPA 8260	Volatile Organics	NELAP	1/8/2002

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State Laboratory ID: **E83079**EPA Lab Code: **FL01264****(386) 672-5668****E83079****Pace Analytical Services, LLC - Ormond Beach FL****8 East Tower Circle****Ormond Beach, FL 32174****Matrix: Solid and Chemical Materials**

Analyte	Method/Tech	Category	Certification Type	Effective Date
alpha-BHC (alpha-Hexachlorocyclohexane)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	1/8/2002
alpha-Chlordane	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	1/8/2002
Aluminum	EPA 6010	Metals	NELAP	1/8/2002
Ammonia as N	EPA 350.1	General Chemistry	NELAP	8/14/2008
Aniline	EPA 8270	Extractable Organics	NELAP	1/3/2012
Anthracene	EPA 8270	Extractable Organics	NELAP	1/8/2002
Antimony	EPA 6010	Metals	NELAP	1/8/2002
Aroclor-1016 (PCB-1016)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	1/8/2002
Aroclor-1221 (PCB-1221)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	1/8/2002
Aroclor-1232 (PCB-1232)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	1/8/2002
Aroclor-1242 (PCB-1242)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	1/8/2002
Aroclor-1248 (PCB-1248)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	1/8/2002
Aroclor-1254 (PCB-1254)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	1/8/2002
Aroclor-1260 (PCB-1260)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	1/8/2002
Arsenic	EPA 6010	Metals	NELAP	1/8/2002
Arsenic	EPA 6020	Metals	NELAP	1/3/2012
Atrazine	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	1/8/2002
Azinphos-methyl (Guthion)	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	1/8/2002
Barium	EPA 6010	Metals	NELAP	1/8/2002
Barium	EPA 6020	Metals	NELAP	1/3/2012
Benzene	EPA 8260	Volatile Organics	NELAP	1/8/2002
Benidine	EPA 8270	Extractable Organics	NELAP	1/8/2002
Benzo(a)anthracene	EPA 8270	Extractable Organics	NELAP	1/8/2002
Benzo(a)pyrene	EPA 8270	Extractable Organics	NELAP	1/8/2002
Benzo(b)fluoranthene	EPA 8270	Extractable Organics	NELAP	1/8/2002
Benzo(g,h,i)perylene	EPA 8270	Extractable Organics	NELAP	1/8/2002
Benzo(k)fluoranthene	EPA 8270	Extractable Organics	NELAP	1/8/2002
Benzyl alcohol	EPA 8270	Extractable Organics	NELAP	1/3/2012
Beryllium	EPA 6010	Metals	NELAP	1/8/2002
Beryllium	EPA 6020	Metals	NELAP	1/3/2012
beta-BHC (beta-Hexachlorocyclohexane)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	1/8/2002
bis(2-Chloroethoxy)methane	EPA 8270	Extractable Organics	NELAP	1/8/2002
bis(2-Chloroethyl) ether	EPA 8270	Extractable Organics	NELAP	8/4/2008
Boron	EPA 6010	Metals	NELAP	1/8/2002
Bromide	EPA 9056	General Chemistry	NELAP	8/14/2008
Bromobenzene	EPA 8260	Volatile Organics	NELAP	1/8/2002

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Analyte	Method/Tech	Category	Certification Type	Effective Date
Bromochloromethane	EPA 8260	Volatile Organics	NELAP	1/8/2002
Bromodichloromethane	EPA 8260	Volatile Organics	NELAP	1/8/2002
Bromoform	EPA 8260	Volatile Organics	NELAP	1/8/2002
Butyl benzyl phthalate	EPA 8270	Extractable Organics	NELAP	1/8/2002
Cadmium	EPA 6010	Metals	NELAP	1/8/2002
Cadmium	EPA 6020	Metals	NELAP	1/3/2012
Calcium	EPA 6010	Metals	NELAP	1/8/2002
Carbazole	EPA 8270	Extractable Organics	NELAP	1/3/2012
Carbon disulfide	EPA 8260	Volatile Organics	NELAP	1/8/2002
Carbon tetrachloride	EPA 8260	Volatile Organics	NELAP	1/8/2002
Carbophenothion	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	1/8/2002
Chlordane (tech.)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	1/8/2002
Chloride	EPA 9056	General Chemistry	NELAP	8/14/2008
Chlorobenzene	EPA 8260	Volatile Organics	NELAP	1/8/2002
Chloroethane	EPA 8260	Volatile Organics	NELAP	1/8/2002
Chloroform	EPA 8260	Volatile Organics	NELAP	1/8/2002
Chloroprene	EPA 8260	Volatile Organics	NELAP	1/8/2002
Chlorpyrifos	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	1/8/2002
Chromium	EPA 6010	Metals	NELAP	1/8/2002
Chromium	EPA 6020	Metals	NELAP	1/3/2012
Chromium VI	EPA 7199	General Chemistry	NELAP	7/1/2016
Chrysene	EPA 8270	Extractable Organics	NELAP	1/8/2002
cis-1,2-Dichloroethylene	EPA 8260	Volatile Organics	NELAP	1/8/2002
cis-1,3-Dichloropropene	EPA 8260	Volatile Organics	NELAP	1/8/2002
cis-1,4-Dichloro-2-butene	EPA 8260	Volatile Organics	NELAP	1/3/2012
Cobalt	EPA 6010	Metals	NELAP	1/8/2002
Cobalt	EPA 6020	Metals	NELAP	1/3/2012
Copper	EPA 6010	Metals	NELAP	1/8/2002
Copper	EPA 6020	Metals	NELAP	1/3/2012
Coumaphos	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	1/8/2002
Cyclohexane	EPA 8260	Volatile Organics	NELAP	1/3/2012
delta-BHC	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	1/8/2002
Demeton-o	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	1/8/2002
Demeton-s	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	1/8/2002
Di(2-ethylhexyl) phthalate (DEHP)	EPA 8270	Extractable Organics	NELAP	1/8/2002
Diazinon	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	1/8/2002

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Analyte	Method/Tech	Category	Certification Type	Effective Date
Dibenz(a,h)anthracene	EPA 8270	Extractable Organics	NELAP	1/8/2002
Dibenzofuran	EPA 8270	Extractable Organics	NELAP	1/8/2002
Dibromochloromethane	EPA 8260	Volatile Organics	NELAP	1/8/2002
Dibromomethane	EPA 8260	Volatile Organics	NELAP	1/8/2002
Dichlorodifluoromethane	EPA 8260	Volatile Organics	NELAP	1/8/2002
Dichlorovos (DDVP, Dichlorvos)	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	1/8/2002
Dieldrin	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	1/8/2002
Diethyl ether	EPA 8260	Volatile Organics	NELAP	1/3/2012
Diethyl phthalate	EPA 8270	Extractable Organics	NELAP	1/8/2002
Di-isopropylether (DIPE)	EPA 8260	Volatile Organics	NELAP	1/3/2012
Dimethoate	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	1/8/2002
Dimethyl phthalate	EPA 8270	Extractable Organics	NELAP	1/8/2002
Di-n-butyl phthalate	EPA 8270	Extractable Organics	NELAP	1/8/2002
Di-n-octyl phthalate	EPA 8270	Extractable Organics	NELAP	1/8/2002
Disulfoton	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	1/2/2008
Endosulfan I	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	1/8/2002
Endosulfan II	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	1/8/2002
Endosulfan sulfate	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	1/8/2002
Endrin	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	1/8/2002
Endrin aldehyde	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	1/8/2002
Endrin ketone	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	1/8/2002
Ethion	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	1/8/2002
Ethyl acetate	EPA 8260	Volatile Organics	NELAP	1/3/2012
Ethyl methacrylate	EPA 8260	Volatile Organics	NELAP	1/8/2002
Ethylbenzene	EPA 8260	Volatile Organics	NELAP	1/8/2002
Ethyl-t-butylether (ETBE)	EPA 8260	Volatile Organics	NELAP	1/3/2012
Famphur	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	1/8/2002
Fecal coliforms	SM 9221 E	Microbiology	NELAP	8/14/2006
Fluoranthene	EPA 8270	Extractable Organics	NELAP	1/8/2002
Fluorene	EPA 8270	Extractable Organics	NELAP	1/8/2002
Fluoride	EPA 9056	General Chemistry	NELAP	8/14/2008
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	1/8/2002
gamma-Chlordane	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	1/8/2002
Heptachlor	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	1/8/2002
Heptachlor epoxide	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	1/8/2002
Hexachlorobenzene	EPA 8270	Extractable Organics	NELAP	1/8/2002

Clients and Customers are urged to verify the laboratory's current certification status with the Environmental Laboratory Certification Program.

Issue Date: 7/1/2018**Expiration Date: 6/30/2019**

**Laboratory Scope of Accreditation**

Attachment to Certificate #: E83079-71, expiration date June 30, 2019. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: **E83079**EPA Lab Code: **FL01264****(386) 672-5668****E83079****Pace Analytical Services, LLC - Ormond Beach FL****8 East Tower Circle****Ormond Beach, FL 32174**Matrix: **Solid and Chemical Materials**

Analyte	Method/Tech	Category	Certification Type	Effective Date
Hexachlorobutadiene	EPA 8260	Volatile Organics	NELAP	1/8/2002
Hexachlorobutadiene	EPA 8270	Extractable Organics	NELAP	1/8/2002
Hexachlorocyclopentadiene	EPA 8270	Extractable Organics	NELAP	1/8/2002
Hexachloroethane	EPA 8270	Extractable Organics	NELAP	1/8/2002
Ignitability	EPA 1030	General Chemistry	NELAP	1/8/2002
Indeno(1,2,3-cd)pyrene	EPA 8270	Extractable Organics	NELAP	1/8/2002
Iodomethane (Methyl iodide)	EPA 8260	Volatile Organics	NELAP	1/8/2002
Iron	EPA 6010	Metals	NELAP	1/8/2002
Isobutyl alcohol (2-Methyl-1-propanol)	EPA 8260	Volatile Organics	NELAP	1/8/2002
Isophorone	EPA 8270	Extractable Organics	NELAP	1/8/2002
Isopropylbenzene	EPA 8260	Volatile Organics	NELAP	1/8/2002
Kjeldahl nitrogen - total	EPA 351.2	General Chemistry	NELAP	8/14/2008
Lead	EPA 6010	Metals	NELAP	1/8/2002
Lead	EPA 6020	Metals	NELAP	1/3/2012
m/p-Xylenes	EPA 8260	Volatile Organics	NELAP	1/3/2012
Magnesium	EPA 6010	Metals	NELAP	1/8/2002
Malathion	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	1/8/2002
Manganese	EPA 6010	Metals	NELAP	1/8/2002
Manganese	EPA 6020	Metals	NELAP	1/3/2012
Mercury	EPA 7471	Metals	NELAP	1/8/2002
Methacrylonitrile	EPA 8260	Volatile Organics	NELAP	1/8/2002
Methoxychlor	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	1/8/2002
Methyl acetate	EPA 8260	Volatile Organics	NELAP	1/3/2012
Methyl bromide (Bromomethane)	EPA 8260	Volatile Organics	NELAP	1/8/2002
Methyl chloride (Chloromethane)	EPA 8260	Volatile Organics	NELAP	1/8/2002
Methyl methacrylate	EPA 8260	Volatile Organics	NELAP	1/8/2002
Methyl parathion (Parathion, methyl)	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	1/8/2002
Methyl tert-butyl ether (MTBE)	EPA 8260	Volatile Organics	NELAP	1/8/2002
Methylcyclohexane	EPA 8260	Volatile Organics	NELAP	1/3/2012
Methylene chloride	EPA 8260	Volatile Organics	NELAP	1/8/2002
Mevinphos	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	1/8/2002
Mirex	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	1/3/2012
Molybdenum	EPA 6010	Metals	NELAP	1/8/2002
Naphthalene	EPA 8260	Volatile Organics	NELAP	1/8/2002
Naphthalene	EPA 8270	Extractable Organics	NELAP	1/8/2002
n-Butylbenzene	EPA 8260	Volatile Organics	NELAP	1/8/2002

Clients and Customers are urged to verify the laboratory's current certification status with the Environmental Laboratory Certification Program.

Issue Date: 7/1/2018**Expiration Date: 6/30/2019**

**Laboratory Scope of Accreditation**

Attachment to Certificate #: E83079-71, expiration date June 30, 2019. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: **E83079**EPA Lab Code: **FL01264****(386) 672-5668****E83079****Pace Analytical Services, LLC - Ormond Beach FL****8 East Tower Circle****Ormond Beach, FL 32174**Matrix: **Solid and Chemical Materials**

Analyte	Method/Tech	Category	Certification Type	Effective Date
n-Hexane	PACE SOP S-FL-O-037/GC-MS	Volatile Organics	NELAP	1/3/2012
Nickel	EPA 6010	Metals	NELAP	1/8/2002
Nickel	EPA 6020	Metals	NELAP	1/3/2012
Nitrate	EPA 9056	General Chemistry	NELAP	8/14/2008
Nitrate as N	EPA 353.2	General Chemistry	NELAP	7/1/2003
Nitrite	EPA 9056	General Chemistry	NELAP	1/8/2002
Nitrite as N	EPA 353.2	General Chemistry	NELAP	7/1/2003
Nitrobenzene	EPA 8270	Extractable Organics	NELAP	1/8/2002
n-Nitrosodimethylamine	EPA 8270	Extractable Organics	NELAP	1/8/2002
n-Nitrosodi-n-propylamine	EPA 8270	Extractable Organics	NELAP	1/8/2002
n-Nitrosodiphenylamine	EPA 8270	Extractable Organics	NELAP	1/8/2002
n-Propylbenzene	EPA 8260	Volatile Organics	NELAP	1/8/2002
Organic nitrogen	TKN minus AMMONIA	General Chemistry	NELAP	1/3/2012
Orthophosphate as P	EPA 9056	General Chemistry	NELAP	8/14/2008
o-Xylene	EPA 8260	Volatile Organics	NELAP	1/3/2012
Paint Filter Liquids Test	EPA 9095	General Chemistry	NELAP	1/8/2002
Parathion, ethyl	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	1/8/2002
p-Dioxane	EPA 8260	Volatile Organics	NELAP	1/8/2002
Pentachloroethane	EPA 8260	Volatile Organics	NELAP	1/8/2002
Pentachlorophenol	EPA 8270	Extractable Organics	NELAP	1/8/2002
pH	EPA 9045	General Chemistry	NELAP	1/8/2002
Phenanthrene	EPA 8270	Extractable Organics	NELAP	1/8/2002
Phenol	EPA 8270	Extractable Organics	NELAP	1/8/2002
Phorate	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	1/8/2002
Phosmet (Imidan)	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	1/8/2002
Phosphorus, total	EPA 365.4	General Chemistry	NELAP	8/14/2008
p-Isopropyltoluene	EPA 8260	Volatile Organics	NELAP	1/8/2002
Potassium	EPA 6010	Metals	NELAP	1/8/2002
Propionitrile (Ethyl cyanide)	EPA 8260	Volatile Organics	NELAP	1/8/2002
Pyrene	EPA 8270	Extractable Organics	NELAP	1/8/2002
Pyridine	EPA 8270	Extractable Organics	NELAP	1/8/2002
Residue-total	SM 2540 G	General Chemistry	NELAP	5/11/2004
Residue-volatile	SM 2540 G	General Chemistry	NELAP	1/17/2014
sec-Butylbenzene	EPA 8260	Volatile Organics	NELAP	1/8/2002
Selenium	EPA 6010	Metals	NELAP	1/8/2002
Selenium	EPA 6020	Metals	NELAP	1/3/2012

Clients and Customers are urged to verify the laboratory's current certification status with the Environmental Laboratory Certification Program.

Issue Date: 7/1/2018**Expiration Date: 6/30/2019**

**Laboratory Scope of Accreditation**

Attachment to Certificate #: E83079-71, expiration date June 30, 2019. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: **E83079**EPA Lab Code: **FL01264****(386) 672-5668****E83079****Pace Analytical Services, LLC - Ormond Beach FL****8 East Tower Circle****Ormond Beach, FL 32174****Matrix: Solid and Chemical Materials**

Analyte	Method/Tech	Category	Certification Type	Effective Date
Silver	EPA 6010	Metals	NELAP	1/8/2002
Sodium	EPA 6010	Metals	NELAP	1/8/2002
Strontium	EPA 6010	Metals	NELAP	1/8/2002
Styrene	EPA 8260	Volatile Organics	NELAP	1/8/2002
Sulfate	EPA 9056	General Chemistry	NELAP	8/14/2008
Sulfur	EPA 6010	Metals	NELAP	7/1/2016
Synthetic Precipitation Leaching Procedure	EPA 1312	General Chemistry	NELAP	1/8/2002
T-amylmethylether (TAME)	EPA 8260	Volatile Organics	NELAP	1/3/2012
tert-Amyl alcohol (2-methyl-2-butanol)	PACE SOP S-FL-O-037/GC-MS	Volatile Organics	NELAP	1/3/2012
tert-Butyl alcohol (2-Methyl-2-propanol)	EPA 8260	Volatile Organics	NELAP	1/3/2012
tert-Butyl formate	PACE SOP S-FL-O-037/GC-MS	Volatile Organics	NELAP	1/3/2012
tert-Butylbenzene	EPA 8260	Volatile Organics	NELAP	1/8/2002
Tetrachloroethylene (Perchloroethylene)	EPA 8260	Volatile Organics	NELAP	1/8/2002
Tetrahydrofuran (THF)	EPA 8260	Volatile Organics	NELAP	1/3/2012
Tetrahydrofuran (THF)	PACE SOP S-FL-O-037/GC-MS	Volatile Organics	NELAP	1/3/2012
Thallium	EPA 6010	Metals	NELAP	1/8/2002
Thallium	EPA 6020	Metals	NELAP	1/3/2012
Tin	EPA 6010	Metals	NELAP	1/8/2002
Titanium	EPA 6010	Metals	NELAP	3/15/2013
Toluene	EPA 8260	Volatile Organics	NELAP	1/8/2002
Total cyanide	EPA 9012	General Chemistry	NELAP	1/8/2002
Total nitrate-nitrite	EPA 353.2	General Chemistry	NELAP	7/1/2003
Total nitrate-nitrite	EPA 9056	General Chemistry	NELAP	1/8/2002
Total nitrogen	TKN + Total nitrate-nitrite	General Chemistry	NELAP	1/3/2012
Total Petroleum Hydrocarbons (TPH)	FL-PRO	Extractable Organics	NELAP	1/8/2002
Total Petroleum Hydrocarbons (TPH)	TPHCWG Direct Method	General Chemistry	NELAP	7/1/2016
Total phenolics	EPA 9066	General Chemistry	NELAP	1/8/2002
Toxaphene (Chlorinated camphene)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	1/8/2002
Toxicity Characteristic Leaching Procedure	EPA 1311	General Chemistry	NELAP	1/8/2002
trans-1,2-Dichloroethylene	EPA 8260	Volatile Organics	NELAP	1/8/2002
trans-1,3-Dichloropropene	EPA 8260	Volatile Organics	NELAP	1/8/2002
trans-1,4-Dichloro-2-butene	EPA 8260	Volatile Organics	NELAP	1/8/2002
Trichloroethene (Trichloroethylene)	EPA 8260	Volatile Organics	NELAP	12/22/2010
Trichlorofluoromethane	EPA 8260	Volatile Organics	NELAP	1/8/2002
Vanadium	EPA 6010	Metals	NELAP	1/8/2002

Clients and Customers are urged to verify the laboratory's current certification status with the Environmental Laboratory Certification Program.

Issue Date: 7/1/2018**Expiration Date: 6/30/2019**



Laboratory Scope of Accreditation

Attachment to Certificate #: E83079-71, expiration date June 30, 2019. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: **E83079**

EPA Lab Code: **FL01264**

(386) 672-5668

E83079

Pace Analytical Services, LLC - Ormond Beach FL

8 East Tower Circle

Ormond Beach, FL 32174

Matrix: **Solid and Chemical Materials**

Analyte	Method/Tech	Category	Certification Type	Effective Date
Vanadium	EPA 6020	Metals	NELAP	1/3/2012
Vinyl acetate	EPA 8260	Volatile Organics	NELAP	1/8/2002
Vinyl chloride	EPA 8260	Volatile Organics	NELAP	1/8/2002
Xylene (total)	EPA 8260	Volatile Organics	NELAP	1/8/2002
Zinc	EPA 6010	Metals	NELAP	1/8/2002
Zinc	EPA 6020	Metals	NELAP	1/3/2012

Rick Scott
Governor



Celeste Philip, MD, MPH
State Surgeon General

Laboratory Scope of Accreditation

Page 33 of 33

Attachment to Certificate #: E83079-71, expiration date June 30, 2019. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: **E83079**

EPA Lab Code: **FL01264**

(386) 672-5668

E83079

Pace Analytical Services, LLC - Ormond Beach FL

8 East Tower Circle

Ormond Beach, FL 32174

Matrix: **Biological Tissue**

Analyte	Method/Tech	Category	Certification Type	Effective Date
Calcium	EPA 6010	Metals	NELAP	7/1/2016

Clients and Customers are urged to verify the laboratory's current certification status with the Environmental Laboratory Certification Program.

Issue Date: 7/1/2018

Expiration Date: 6/30/2019



State of Florida
Department of Health, Bureau of Public Health Laboratories
This is to certify that



E86240

PACE ANALYTICAL SERVICES, LLC-POMPANO FL
3610 PARK CENTRAL N.
POMPANO BEACH, FL 33064

has complied with Florida Administrative Code 64E-1,
for the examination of environmental samples in the following categories

DRINKING WATER - MICROBIOLOGY, DRINKING WATER - PRIMARY INORGANIC CONTAMINANTS, DRINKING WATER - SECONDARY INORGANIC CONTAMINANTS, NON-POTABLE WATER - GENERAL CHEMISTRY, NON-POTABLE WATER - MICROBIOLOGY, SOLID AND CHEMICAL MATERIALS - MICROBIOLOGY

Continued certification is contingent upon successful on-going compliance with the NELAC Standards and FAC Rule 64E-1 regulations. Specific methods and analytes certified are cited on the Laboratory Scope of Accreditation for this laboratory and are on file at the Bureau of Public Health Laboratories, P. O. Box 210, Jacksonville, Florida 32231. Clients and customers are urged to verify with this agency the laboratory's certification status in Florida for particular methods and analytes.

Date Issued: July 01, 2018 Expiration Date: June 30, 2019



Patty A. Lewandowski, MBA, MT(ASCP)
Chief Bureau of Public Health Laboratories
DH Form 1697, 7/04

NON-TRANSFERABLE E86240-51-07/01/2018
Supersedes all previously issued certificates



Laboratory Scope of Accreditation

Page 1 of 3

Attachment to Certificate #: E86240-51, expiration date June 30, 2019. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E86240

EPA Lab Code: FL01273

(954) 582-4300

E86240

Pace Analytical Services, LLC-Pompano FL

3610 Park Central N.

Pompano Beach, FL 33064

Matrix: Drinking Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Conductivity	SM 2510 B	Primary Inorganic Contaminants	NELAP	4/15/2011
Escherichia coli	SM 9222 G	Microbiology	NELAP	2/1/2018
Escherichia coli	SM 9223 B	Microbiology	NELAP	3/22/2010
Heterotrophic plate count	SIMPLATE	Microbiology	NELAP	3/22/2010
Odor	SM 2150 B	Secondary Inorganic Contaminants	NELAP	2/25/2002
pH	SM 4500-H+-B	Primary Inorganic Contaminants	NELAP	5/21/2007
Total coliforms	SM 9222 B	Microbiology	NELAP	2/25/2002
Total coliforms	SM 9223 B	Microbiology	NELAP	2/25/2002
Total dissolved solids	SM 2540 C	Secondary Inorganic Contaminants	NELAP	2/25/2002
Turbidity	EPA 180.1	Secondary Inorganic Contaminants	NELAP	4/15/2011



Laboratory Scope of Accreditation

Page 2 of 3

Attachment to Certificate #: E86240-51, expiration date June 30, 2019. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E86240

EPA Lab Code: FL01273

(954) 582-4300

E86240

Pace Analytical Services, LLC-Pompano FL

3610 Park Central N.

Pompano Beach, FL 33064

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Biochemical oxygen demand	SM 5210 B	General Chemistry	NELAP	2/25/2002
Carbonaceous BOD (CBOD)	SM 5210 B	General Chemistry	NELAP	2/25/2002
Chromium VI	EPA 7196	General Chemistry	NELAP	7/1/2003
Conductivity	EPA 120.1	General Chemistry	NELAP	2/25/2002
Enterococci	ENTEROLERT/ QUANTI-TRAY	Microbiology	NELAP	10/13/2014
Escherichia coli	SM 9223 B /QUANTI-TRAY	Microbiology	NELAP	10/13/2014
Fecal coliforms	COLILERT®-18 (Fecal Coliforms)	Microbiology	NELAP	9/15/2015
Fecal coliforms	SM 9221 E	Microbiology	NELAP	2/25/2002
Fecal coliforms	SM 9222 D	Microbiology	NELAP	2/25/2002
Fecal streptococci	SM 9230 B	Microbiology	NELAP	2/25/2002
Heterotrophic plate count	SIMPLATE	Microbiology	NELAP	6/28/2004
pH	SM 4500-H+-B	General Chemistry	NELAP	5/21/2007
Residue-filterable (TDS)	SM 2540 C	General Chemistry	NELAP	5/21/2007
Residue-nonfilterable (TSS)	SM 2540 D	General Chemistry	NELAP	5/21/2007
Residue-settleable	SM 2540 F	General Chemistry	NELAP	4/15/2011
Salinity	SM 2520 B	General Chemistry	NELAP	5/8/2003
Total coliforms	SM 9222 B	Microbiology	NELAP	2/25/2002
Total coliforms	SM 9223 B /QUANTI-TRAY	Microbiology	NELAP	10/13/2014
Turbidity	EPA 180.1	General Chemistry	NELAP	2/25/2002
Turbidity	SM 2130 B	General Chemistry	NELAP	2/25/2002

Rick Scott
Governor



Celeste Philip, MD, MPH
State Surgeon General

Laboratory Scope of Accreditation

Page 3 of 3

Attachment to Certificate #: E86240-51, expiration date June 30, 2019. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E86240

EPA Lab Code:

FL01273

(954) 582-4300

E86240

Pace Analytical Services, LLC-Pompano FL

3610 Park Central N.

Pompano Beach, FL 33064

Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
Fecal coliforms	SM 9221 E	Microbiology	NELAP	1/9/2006

Clients and Customers are urged to verify the laboratory's current certification status with the Environmental Laboratory Certification Program.

Issue Date: 7/1/2018

Expiration Date: 6/30/2019



State of Florida
Department of Health, Bureau of Public Health Laboratories
This is to certify that



E84129

PACE ANALYTICAL SERVICES - TAMPA
110 BAYVIEW BLVD
OLDSMAR, FL 34677

has complied with Florida Administrative Code 64E-1,
for the examination of environmental samples in the following categories

DRINKING WATER - MICROBIOLOGY, DRINKING WATER - PRIMARY INORGANIC CONTAMINANTS, DRINKING WATER - SECONDARY INORGANIC
CONTAMINANTS, NON-POTABLE WATER - GENERAL CHEMISTRY, NON-POTABLE WATER - METALS, NON-POTABLE WATER - MICROBIOLOGY,
SOLID AND CHEMICAL MATERIALS - MICROBIOLOGY

Continued certification is contingent upon successful on-going compliance with the NELAC Standards and FAC Rule 64E-1 regulations. Specific methods and analytes certified are cited on the Laboratory Scope of Accreditation for this laboratory and are on file at the Bureau of Public Health Laboratories, P. O. Box 210, Jacksonville, Florida 32231. Clients and customers are urged to verify with this agency the laboratory's certification status in Florida for particular methods and analytes.

Date Issued: July 01, 2018 Expiration Date: June 30, 2019



Patty A. Lewandowski, MBA, MT(ASCP)
Chief Bureau of Public Health Laboratories
DH Form 1697, 7/04

NON-TRANSFERABLE E84129-52-07/01/2018
Supersedes all previously issued certificates



Laboratory Scope of Accreditation

Page 1 of 3

Attachment to Certificate #: E84129-52, expiration date June 30, 2019. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E84129

EPA Lab Code: FL00237

(813) 855-1844

E84129

Pace Analytical Services - Tampa

110 Bayview Blvd

Oldsmar, FL 34677

Matrix: Drinking Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Color	SM 2120 B	Secondary Inorganic Contaminants	NELAP	3/22/2002
Conductivity	SM 2510 B	Primary Inorganic Contaminants	NELAP	3/22/2002
Escherichia coli	m-COLIBLUE24	Microbiology	NELAP	11/26/2007
Escherichia coli	SM 9222 G	Microbiology	NELAP	1/24/2018
Escherichia coli	SM 9223 B	Microbiology	NELAP	3/22/2002
Heterotrophic plate count	SIMPLATE	Microbiology	NELAP	3/27/2017
Heterotrophic plate count	SM 9215 B	Microbiology	NELAP	1/28/2005
Odor	SM 2150 B	Secondary Inorganic Contaminants	NELAP	3/22/2002
pH	EPA 150.1	Secondary Inorganic Contaminants	NELAP	3/22/2002
Surfactants - MBAS	SM 5540 C	Secondary Inorganic Contaminants	NELAP	3/22/2002
Total coliforms	m-COLIBLUE24	Microbiology	NELAP	11/26/2007
Total coliforms	SM 9222 B	Microbiology	NELAP	5/24/2011
Total coliforms	SM 9223 B	Microbiology	NELAP	3/22/2002
Total dissolved solids	SM 2540 C	Secondary Inorganic Contaminants	NELAP	3/22/2002
Turbidity	EPA 180.1	Secondary Inorganic Contaminants	NELAP	3/22/2002
UV 254	SM 5910 B	Primary Inorganic Contaminants	NELAP	3/6/2003



Laboratory Scope of Accreditation

Page 2 of 3

Attachment to Certificate #: E84129-52, expiration date June 30, 2019. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E84129

EPA Lab Code: FL00237

(813) 855-1844

E84129

Pace Analytical Services - Tampa

110 Bayview Blvd

Oldsmar, FL 34677

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Biochemical oxygen demand	SM 5210 B	General Chemistry	NELAP	3/22/2002
Carbonaceous BOD (CBOD)	SM 5210 B	General Chemistry	NELAP	3/22/2002
Chlorophylls	EPA 445	General Chemistry	NELAP	1/7/2013
Color	SM 2120 B	General Chemistry	NELAP	3/22/2002
Conductivity	SM 2510 B	General Chemistry	NELAP	3/22/2002
Enterococci	ENTEROLERT/ QUANTI-TRAY	Microbiology	NELAP	3/27/2017
Escherichia coli	SM 9223 B /QUANTI-TRAY	Microbiology	NELAP	4/16/2010
Fecal coliforms	SM 9221 E	Microbiology	NELAP	3/22/2002
Fecal coliforms	SM 9222 D	Microbiology	NELAP	3/22/2002
Mercury	EPA 1631	Metals	NELAP	1/28/2005
pH	EPA 9040	General Chemistry	NELAP	7/1/2003
pH	SM 4500-H+-B	General Chemistry	NELAP	5/29/2009
Residue-filterable (TDS)	SM 2540 C	General Chemistry	NELAP	5/29/2009
Residue-nonfilterable (TSS)	SM 2540 D	General Chemistry	NELAP	5/29/2009
Residue-total	SM 2540 B	General Chemistry	NELAP	5/29/2009
Surfactants - MBAS	SM 5540 C	General Chemistry	NELAP	3/22/2002
Total coliforms	SM 9221 B	Microbiology	NELAP	3/22/2002
Total coliforms	SM 9222 B	Microbiology	NELAP	3/22/2002
Total coliforms	SM 9223 B /QUANTI-TRAY	Microbiology	NELAP	4/16/2010
Turbidity	EPA 180.1	General Chemistry	NELAP	3/22/2002
Turbidity	SM 2130 B	General Chemistry	NELAP	5/29/2009

Rick Scott
Governor



Celeste Philip, MD, MPH
State Surgeon General

Laboratory Scope of Accreditation

Page 3 of 3

Attachment to Certificate #: E84129-52, expiration date June 30, 2019. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E84129

EPA Lab Code:

FL00237

(813) 855-1844

E84129

Pace Analytical Services - Tampa

110 Bayview Blvd

Oldsmar, FL 34677

Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
Fecal coliforms	SM 9221 E	Microbiology	NELAP	4/16/2010

Clients and Customers are urged to verify the laboratory's current certification status with the Environmental Laboratory Certification Program.

Issue Date: 7/1/2018

Expiration Date: 6/30/2019



State of Florida
Department of Health, Bureau of Public Health Laboratories
This is to certify that

E87605

PACE ANALYTICAL SERVICES, LLC - MINNEAPOLIS MN
1700 ELM STREET, SUITE 200
MINNEAPOLIS, MN 55414


has complied with Florida Administrative Code 64E-1,
for the examination of environmental samples in the following categories

DRINKING WATER - DIOXIN, DRINKING WATER - PRIMARY INORGANIC CONTAMINANTS, DRINKING WATER - RADIOCHEMISTRY, DRINKING WATER - SECONDARY INORGANIC CONTAMINANTS, NON-POTABLE WATER - EXTRACTABLE ORGANICS, NON-POTABLE WATER - GENERAL CHEMISTRY, NON-POTABLE WATER - METALS, NON-POTABLE WATER - MICROBIOLOGY, NON-POTABLE WATER - PESTICIDES-HERBICIDES-PCB'S, NON-POTABLE WATER - RADIOCHEMISTRY, NON-POTABLE WATER - VOLATILE ORGANICS, SOLID AND CHEMICAL MATERIALS - EXTRACTABLE ORGANICS, SOLID AND CHEMICAL MATERIALS - GENERAL CHEMISTRY, SOLID AND CHEMICAL MATERIALS - METALS, SOLID AND CHEMICAL MATERIALS - PESTICIDES-HERBICIDES-PCB'S, SOLID AND CHEMICAL MATERIALS - RADIOCHEMISTRY, SOLID AND CHEMICAL MATERIALS - VOLATILE ORGANICS, BIOLOGICAL TISSUE - EXTRACTABLE ORGANICS, BIOLOGICAL TISSUE - PESTICIDES-HERBICIDES-PCB'S, AIR AND EMISSIONS - EXTRACTABLE ORGANICS, AIR AND EMISSIONS - VOLATILE ORGANICS

Continued certification is contingent upon successful on-going compliance with the NELAC Standards and regulations. Specific methods and analytes certified are cited on the Laboratory Scope of Accreditation form, which are on file at the Bureau of Public Health Laboratories, P. O. Box 210, Jacksonville, Florida 32231. Clients are urged to verify with this agency the laboratory's certification status in Florida for particular methods.

Date Issued: July 01, 2018 Expiration Date: June 30, 2020




Patty A. Lewandowski, MBA, MT(ASCP)
Chief Bureau of Public Health Laboratories
DH Form 1697, 7/04

NON-TRANSFERABLE E87605-39-07/01/2018
Supersedes all previously issued certificates



Laboratory Scope of Accreditation

Page 1 of 48

Attachment to Certificate #: E87605-39, expiration date June 30, 2019. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E87605

EPA Lab Code: MN00064

(612) 607-1700

E87605

Pace Analytical Services, LLC - Minneapolis MN

1700 Elm Street, Suite 200

Minneapolis, MN 55414

Matrix: Drinking Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
2,3,7,8-TCDD (Dioxin, 2,3,7,8-Tetrachlorodibenzo-p-dioxin)	EPA 1613	Dioxin	NELAP	6/24/2011
Aluminum	EPA 200.8	Secondary Inorganic Contaminants	NELAP	6/24/2011
Antimony	EPA 200.8	Primary Inorganic Contaminants	NELAP	6/24/2011
Arsenic	EPA 200.8	Primary Inorganic Contaminants	NELAP	6/24/2011
Barium	EPA 200.8	Primary Inorganic Contaminants	NELAP	6/24/2011
Beryllium	EPA 200.8	Primary Inorganic Contaminants	NELAP	6/24/2011
Cadmium	EPA 200.8	Primary Inorganic Contaminants	NELAP	6/24/2011
Chromium	EPA 200.8	Primary Inorganic Contaminants	NELAP	6/24/2011
Copper	EPA 200.8	Secondary Inorganic Contaminants, Primary Inorganic Contaminants	NELAP	6/24/2011
Lead	EPA 200.8	Primary Inorganic Contaminants	NELAP	6/24/2011
Manganese	EPA 200.8	Secondary Inorganic Contaminants	NELAP	6/24/2011
Mercury	EPA 245.1	Primary Inorganic Contaminants	NELAP	3/7/2017
Nickel	EPA 200.8	Primary Inorganic Contaminants	NELAP	6/24/2011
Selenium	EPA 200.8	Primary Inorganic Contaminants	NELAP	6/24/2011
Silver	EPA 200.8	Secondary Inorganic Contaminants	NELAP	6/24/2011
Thallium	EPA 200.8	Primary Inorganic Contaminants	NELAP	6/24/2011
Uranium	EPA 200.8	Radiochemistry	NELAP	5/22/2018
Zinc	EPA 200.8	Secondary Inorganic Contaminants	NELAP	6/24/2011



Laboratory Scope of Accreditation

Page 2 of 48

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EPA Lab Code: MN00064

(612) 607-1700

E87605

Pace Analytical Services, LLC - Minneapolis MN

1700 Elm Street, Suite 200

Minneapolis, MN 55414

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
1,1,1,2-Tetrachloroethane	EPA 8260	Volatile Organics	NELAP	8/12/2015
1,1,1-Trichloroethane	EPA 624	Volatile Organics	NELAP	8/12/2015
1,1,1-Trichloroethane	EPA 8260	Volatile Organics	NELAP	8/12/2015
1,1,2,2-Tetrachloroethane	EPA 624	Volatile Organics	NELAP	8/12/2015
1,1,2,2-Tetrachloroethane	EPA 8260	Volatile Organics	NELAP	8/12/2015
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	EPA 8260	Volatile Organics	NELAP	4/30/2018
1,1,2-Trichloroethane	EPA 624	Volatile Organics	NELAP	8/12/2015
1,1,2-Trichloroethane	EPA 8260	Volatile Organics	NELAP	8/12/2015
1,1-Dichloroethane	EPA 624	Volatile Organics	NELAP	8/12/2015
1,1-Dichloroethane	EPA 8260	Volatile Organics	NELAP	8/12/2015
1,1-Dichloroethylene	EPA 624	Volatile Organics	NELAP	8/12/2015
1,1-Dichloroethylene	EPA 8260	Volatile Organics	NELAP	4/30/2018
1,1-Dichloropropene	EPA 8260	Volatile Organics	NELAP	8/12/2015
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	EPA 1613	Extractable Organics	NELAP	6/24/2011
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	EPA 8280	Extractable Organics	NELAP	1/23/2012
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	EPA 8290	Extractable Organics	NELAP	6/24/2011
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	EPA 1613	Extractable Organics	NELAP	6/24/2011
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	EPA 8280	Extractable Organics	NELAP	1/23/2012
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	EPA 8290	Extractable Organics	NELAP	6/24/2011
1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-hpcdf)	EPA 1613	Extractable Organics	NELAP	6/24/2011
1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-hpcdf)	EPA 8280	Extractable Organics	NELAP	1/23/2012
1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-hpcdf)	EPA 8290	Extractable Organics	NELAP	6/24/2011
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-hpcdd)	EPA 1613	Extractable Organics	NELAP	6/24/2011
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-hpcdd)	EPA 8280	Extractable Organics	NELAP	1/23/2012
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-hpcdd)	EPA 8290	Extractable Organics	NELAP	6/24/2011
1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-hpcdf)	EPA 1613	Extractable Organics	NELAP	6/24/2011
1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-hpcdf)	EPA 8280	Extractable Organics	NELAP	1/23/2012
1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-hpcdf)	EPA 8290	Extractable Organics	NELAP	6/24/2011
1,2,3,4,7,8-Hxcdd	EPA 1613	Extractable Organics	NELAP	6/24/2011
1,2,3,4,7,8-Hxcdd	EPA 8280	Extractable Organics	NELAP	1/23/2012
1,2,3,4,7,8-Hxcdd	EPA 8290	Extractable Organics	NELAP	6/24/2011

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Issue Date: 7/1/2018

Expiration Date: 6/30/2019



Laboratory Scope of Accreditation

Page 3 of 48

Attachment to Certificate #: E87605-39, expiration date June 30, 2019. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E87605

EPA Lab Code: MN00064

(612) 607-1700

E87605

Pace Analytical Services, LLC - Minneapolis MN

1700 Elm Street, Suite 200

Minneapolis, MN 55414

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
1,2,3,4,7,8-Hxcdf	EPA 1613	Extractable Organics	NELAP	6/24/2011
1,2,3,4,7,8-Hxcdf	EPA 8280	Extractable Organics	NELAP	1/23/2012
1,2,3,4,7,8-Hxcdf	EPA 8290	Extractable Organics	NELAP	6/24/2011
1,2,3,6,7,8-Hxcdd	EPA 1613	Extractable Organics	NELAP	6/24/2011
1,2,3,6,7,8-Hxcdd	EPA 8280	Extractable Organics	NELAP	1/23/2012
1,2,3,6,7,8-Hxcdd	EPA 8290	Extractable Organics	NELAP	6/24/2011
1,2,3,6,7,8-Hxcdf	EPA 1613	Extractable Organics	NELAP	6/24/2011
1,2,3,6,7,8-Hxcdf	EPA 8280	Extractable Organics	NELAP	1/23/2012
1,2,3,6,7,8-Hxcdf	EPA 8290	Extractable Organics	NELAP	6/24/2011
1,2,3,7,8,9-Hxcdd	EPA 1613	Extractable Organics	NELAP	6/24/2011
1,2,3,7,8,9-Hxcdd	EPA 8280	Extractable Organics	NELAP	1/23/2012
1,2,3,7,8,9-Hxcdd	EPA 8290	Extractable Organics	NELAP	6/24/2011
1,2,3,7,8,9-Hxcdf	EPA 1613	Extractable Organics	NELAP	6/24/2011
1,2,3,7,8,9-Hxcdf	EPA 8280	Extractable Organics	NELAP	1/23/2012
1,2,3,7,8,9-Hxcdf	EPA 8290	Extractable Organics	NELAP	6/24/2011
1,2,3,7,8-Pecdd	EPA 1613	Extractable Organics	NELAP	6/24/2011
1,2,3,7,8-Pecdd	EPA 8280	Extractable Organics	NELAP	1/23/2012
1,2,3,7,8-Pecdd	EPA 8290	Extractable Organics	NELAP	6/24/2011
1,2,3,7,8-Pecdf	EPA 1613	Extractable Organics	NELAP	6/24/2011
1,2,3,7,8-Pecdf	EPA 8280	Extractable Organics	NELAP	1/23/2012
1,2,3,7,8-Pecdf	EPA 8290	Extractable Organics	NELAP	6/24/2011
1,2,3-Trichlorobenzene	EPA 8260	Volatile Organics	NELAP	8/12/2015
1,2,3-Trichloropropane	EPA 8260	Volatile Organics	NELAP	8/12/2015
1,2,4-Trichlorobenzene	EPA 624	Volatile Organics	NELAP	8/12/2015
1,2,4-Trichlorobenzene	EPA 625	Extractable Organics	NELAP	8/12/2015
1,2,4-Trichlorobenzene	EPA 8260	Volatile Organics	NELAP	4/30/2018
1,2,4-Trichlorobenzene	EPA 8270	Extractable Organics	NELAP	8/12/2015
1,2,4-Trimethylbenzene	EPA 8021	Volatile Organics	NELAP	4/30/2018
1,2,4-Trimethylbenzene	EPA 8260	Volatile Organics	NELAP	8/12/2015
1,2-Dibromo-3-chloropropane (DBCP)	EPA 8011	Volatile Organics	NELAP	8/12/2015
1,2-Dibromo-3-chloropropane (DBCP)	EPA 8260	Volatile Organics	NELAP	8/12/2015
1,2-Dibromoethane (EDB, Ethylene dibromide)	EPA 8011	Volatile Organics	NELAP	8/12/2015
1,2-Dibromoethane (EDB, Ethylene dibromide)	EPA 8260	Volatile Organics	NELAP	8/12/2015
1,2-Dichlorobenzene	EPA 624	Volatile Organics	NELAP	8/12/2015
1,2-Dichlorobenzene	EPA 8260	Volatile Organics	NELAP	8/12/2015
1,2-Dichlorobenzene	EPA 8270	Extractable Organics	NELAP	8/12/2015

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Issue Date: 7/1/2018

Expiration Date: 6/30/2019



Laboratory Scope of Accreditation

Page 4 of 48

Attachment to Certificate #: E87605-39, expiration date June 30, 2019. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E87605

EPA Lab Code: MN00064

(612) 607-1700

E87605

Pace Analytical Services, LLC - Minneapolis MN

1700 Elm Street, Suite 200

Minneapolis, MN 55414

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
1,2-Dichloroethane	EPA 624	Volatile Organics	NELAP	8/12/2015
1,2-Dichloroethane	EPA 8260	Volatile Organics	NELAP	8/12/2015
1,2-Dichloropropane	EPA 624	Volatile Organics	NELAP	8/12/2015
1,2-Dichloropropane	EPA 8260	Volatile Organics	NELAP	8/12/2015
1,2-Diphenylhydrazine	EPA 8270	Extractable Organics	NELAP	8/12/2015
1,3,5-Trimethylbenzene	EPA 8021	Volatile Organics	NELAP	8/12/2015
1,3,5-Trimethylbenzene	EPA 8260	Volatile Organics	NELAP	8/12/2015
1,3-Dichlorobenzene	EPA 624	Volatile Organics	NELAP	8/12/2015
1,3-Dichlorobenzene	EPA 8260	Volatile Organics	NELAP	8/12/2015
1,3-Dichlorobenzene	EPA 8270	Extractable Organics	NELAP	8/12/2015
1,3-Dichloropropane	EPA 8260	Volatile Organics	NELAP	8/12/2015
1,4-Dichlorobenzene	EPA 624	Volatile Organics	NELAP	8/12/2015
1,4-Dichlorobenzene	EPA 8260	Volatile Organics	NELAP	8/12/2015
1,4-Dichlorobenzene	EPA 8270	Extractable Organics	NELAP	8/12/2015
1,4-Dioxane (1,4-Diethyleneoxide)	EPA 8260	Volatile Organics	NELAP	1/23/2012
2,2',3,3',4,4',5,5',6'-Nonachlorobiphenyl (BZ 206)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',4,4',5,5',6'-Octachlorobiphenyl (BZ 194)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl (BZ 207)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',4,4',5,6-Octachlorobiphenyl (BZ 195)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',4,4',5,6'-Octachlorobiphenyl (BZ 196)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',4,4',5-Heptachlorobiphenyl (BZ 170)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',4,4',6,6'+2,2',3,3',4,5,6,6'-Octachlorobiphenyls (BZ 197+200)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',4,4',6+2,2',3,3',4,5,6-Heptachlorobiphenyls (BZ 171+173)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',4,4'+2,3,4,4',5,6-Hexachlorobiphenyls (BZ 128+166)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl (BZ 208)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',4,5,5',6+2,2',3,3',4,5,5',6'-Octachlorobiphenyls (BZ 198+199)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',4,5,5'-Heptachlorobiphenyl (BZ 172)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',4,5',6,6'-Octachlorobiphenyl (BZ 201)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',4,5,6'-Heptachlorobiphenyl (BZ 174)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',4,5',6-Heptachlorobiphenyl (BZ 175)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',4,5',6'-Heptachlorobiphenyl (BZ 177)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',4,5+2,2',3,4,4',5+2,3,3',4',5,6-Hexachlorobiphenyls (BZ 129+138+163)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',4,5'-Hexachlorobiphenyl (BZ 130)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',4,6,6'-Heptachlorobiphenyl (BZ 176)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011

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Laboratory Scope of Accreditation

Page 5 of 48

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EPA Lab Code: MN00064

(612) 607-1700

E87605

Pace Analytical Services, LLC - Minneapolis MN

1700 Elm Street, Suite 200

Minneapolis, MN 55414

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
2,2',3,3',4,6-Hexachlorobiphenyl (BZ 131)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',4,6'-Hexachlorobiphenyl (BZ 132)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',4-Pentachlorobiphenyl (BZ 82)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',5,5',6,6'-Octachlorobiphenyl (BZ 202)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',5,5',6-Heptachlorobiphenyl (BZ 178)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',5,5'-Hexachlorobiphenyl (BZ 133)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',5,6,6'-Heptachlorobiphenyl (BZ 179)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',5,6+2,2',3,4,5,6'-Hexachlorobiphenyls (BZ EPA 1668 134+143)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',5,6+2,2',3,5,5',6-Hexachlorobiphenyls (BZ 135+151)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',5-Pentachlorobiphenyl (BZ 83)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',6,6'-Hexachlorobiphenyl (BZ 136)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',6-Pentachlorobiphenyl (BZ 84)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3'+2,2',3,4+2,3',4',6-Tetrachlorobiphenyls (BZ 40+41+71)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4,4',5,5',6-Octachlorobiphenyl (BZ 203)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4,4',5,5'+2,3,3',4',5,5',6-Heptachlorobiphenyls (BZ 180+193)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4,4',5',6+2,2',3,4,5,5',6-Heptachlorobiphenyls (BZ 183+185)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4,4',5,6-Heptachlorobiphenyl (BZ 181)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4,4',5,6'-Heptachlorobiphenyl (BZ 182)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4,4',5-Hexachlorobiphenyl (BZ 137)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4,4',6,6'-Heptachlorobiphenyl (BZ 184)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4,4',6+2,2',3,4,4',6'-Hexachlorobiphenyls (BZ 139+140)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4,5,5'-Hexachlorobiphenyl (BZ 141)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4',5,5'-Hexachlorobiphenyl (BZ 146)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4,5,6,6'-Heptachlorobiphenyl (BZ 186)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4',5,6,6'-Heptachlorobiphenyl (BZ 188)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4',5,6+2,2',3,4',5',6-Hexachlorobiphenyls (BZ 147+149)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4,5,6-Hexachlorobiphenyl (BZ 142)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4,5',6-Hexachlorobiphenyl (BZ 144)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4',5,6'-Hexachlorobiphenyl (BZ 148)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4',5+2,2',4,5,5'+2,3,3',5',6-Pentachlorobiphenyls (BZ 90+101+113)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4',6,6'-Hexachlorobiphenyl (BZ 150)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4,6+2,2',3,4',6-Pentachlorobiphenyls (BZ 88+91)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011

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Laboratory Scope of Accreditation

Page 6 of 48

Attachment to Certificate #: E87605-39, expiration date June 30, 2019. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E87605

EPA Lab Code: MN00064

(612) 607-1700

E87605

Pace Analytical Services, LLC - Minneapolis MN

1700 Elm Street, Suite 200

Minneapolis, MN 55414

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
2,2',3,4,6'-Pentachlorobiphenyl (BZ 89)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4'-Tetrachlorobiphenyl (BZ 42)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,5,5'-Pentachlorobiphenyl (BZ 92)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,5,6,6'-Hexachlorobiphenyl (BZ 152)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,5,6'-Pentachlorobiphenyl (BZ 94)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,5',6'-Pentachlorobiphenyl (BZ 95)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,5'+2,2',4,4'+2,3,5,6-Tetrachlorobiphenyls (BZ 44+47+65)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,5+2,3',5',6-Tetrachlorobiphenyls (BZ 43+73)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,6,6'-Pentachlorobiphenyl (BZ 96)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,6+2,2',4,6'-Tetrachlorobiphenyls (BZ 45+51)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,6'-Tetrachlorobiphenyl (BZ 46)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3-Trichlorobiphenyl (BZ 16)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',4,4',5,5'+2,3',4,4',5',6-Hexachlorobiphenyls (BZ 153+168)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',4,4',5,6'-Hexachlorobiphenyl (BZ 154)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',4,4',5-Pentachlorobiphenyl (BZ 99)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',4,4',6,6'-Hexachlorobiphenyl (BZ 155)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',4,4',6+2,2',3,5,6+2,2',4,5,6'+2,2',3,4',6'-Pentachlorobiphenyls (BZ 100+93+102+98)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',4,5',6-Pentachlorobiphenyl (BZ 103)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',4,5'+2,3',4,6-Tetrachlorobiphenyls (BZ 49+69)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',4,5-Tetrachlorobiphenyl (BZ 48)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',4,6,6'-Pentachlorobiphenyl (BZ 104)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',4,6+2,2',5,6'-Tetrachlorobiphenyls (BZ 50+53)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',4-Trichlorobiphenyl (BZ 17)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',5,5'-Tetrachlorobiphenyl (BZ 52)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',5+2,4,6-Trichlorobiphenyls (BZ 18+30)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',6,6'-Tetrachlorobiphenyl (BZ 54)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',6-Trichlorobiphenyl (BZ 19)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2'-Dichlorobiphenyl (BZ 4)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2-Dichloropropane	EPA 8260	Volatile Organics	NELAP	8/12/2015
2,2'-Oxybis(1-chloropropane),bis(2-Chloro-1-methylethyl)ether (fka bis(2-Chloroisopropyl) ether)	EPA 625	Extractable Organics	NELAP	8/12/2015
2,2'-Oxybis(1-chloropropane),bis(2-Chloro-1-methylethyl)ether (fka bis(2-Chloroisopropyl) ether)	EPA 8270	Extractable Organics	NELAP	8/12/2015
2,3,3',4,4',5,5',6-Octachlorobiphenyl (BZ 205)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',4,4',5,5'-Heptachlorobiphenyl (BZ 189)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',4,4',5,6-Heptachlorobiphenyl (BZ 190)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011

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Issue Date: 7/1/2018

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Laboratory Scope of Accreditation

Page 7 of 48

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EPA Lab Code: MN00064

(612) 607-1700

E87605

Pace Analytical Services, LLC - Minneapolis MN

1700 Elm Street, Suite 200

Minneapolis, MN 55414

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
2,3,3',4,4',5',6-Heptachlorobiphenyl (BZ 191)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',4,4',5+2,3,3',4,4',5'-Hexachlorobiphenyls (BZ 156+157)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',4,4',6-Hexachlorobiphenyl (BZ 158)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',4,4'-Pentachlorobiphenyl (BZ 105)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',4,5,5',6-Heptachlorobiphenyl (BZ 192)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',4,5,5'-Hexachlorobiphenyl (BZ 159)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',4',5,5'-Hexachlorobiphenyl (BZ 162)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',4,5',6-Hexachlorobiphenyl (BZ 161)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',4,5',6-Hexachlorobiphenyl (BZ 164)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',4',5+2,3',4',5,5'-Pentachlorobiphenyls (BZ 107+124)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',4,5-Pentachlorobiphenyl (BZ 106)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',4',6+2,3,4,4',6-Pentachlorobiphenyls (BZ 110+115)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',4-Tetrachlorobiphenyl (BZ 55)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',4'-Tetrachlorobiphenyl (BZ 56)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',5,5',6-Hexachlorobiphenyl (BZ 165)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',5,5'-Pentachlorobiphenyl (BZ 111)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',5-Tetrachlorobiphenyl (BZ 57)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',5'-Tetrachlorobiphenyl (BZ 58)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',6+2,3,4,6+2,4,4',6-Tetrachlorobiphenyls (BZ EPA 1668 59+62+75)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3'+2,4,4'-Trichlorobiphenyls (BZ 20+28)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3',4,4',5,5'-Hexachlorobiphenyl (BZ 167)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,4,4',5-Pentachlorobiphenyl (BZ 114)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3',4,4',5-Pentachlorobiphenyl (BZ 118)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3',4,4',5'-Pentachlorobiphenyl (BZ 123)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,4,4'-Tetrachlorobiphenyl (BZ 60)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3',4,4'-Tetrachlorobiphenyl (BZ 66)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3',4,5,5'-Pentachlorobiphenyl (BZ 120)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3',4,5',6-Pentachlorobiphenyl (BZ 121)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,4,5+2,3',4',5+2,4,4',5+2,3',4',5'-Tetrachlorobiphenyls (BZ 61+70+74+76)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,4',5-Tetrachlorobiphenyl (BZ 63)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3',4,5-Tetrachlorobiphenyl (BZ 67)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3',4,5'-Tetrachlorobiphenyl (BZ 68)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,4,6,7,8-Hxcdf	EPA 1613	Extractable Organics	NELAP	6/24/2011
2,3,4,6,7,8-Hxcdf	EPA 8280	Extractable Organics	NELAP	1/23/2012

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Laboratory Scope of Accreditation

Page 8 of 48

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(612) 607-1700

E87605

Pace Analytical Services, LLC - Minneapolis MN

1700 Elm Street, Suite 200

Minneapolis, MN 55414

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
2,3,4,6,7,8-Hxcdf	EPA 8290	Extractable Organics	NELAP	6/24/2011
2,3,4',6-Tetrachlorobiphenyl (BZ 64)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,4,7,8-Pecdf	EPA 1613	Extractable Organics	NELAP	6/24/2011
2,3,4,7,8-Pecdf	EPA 8280	Extractable Organics	NELAP	1/23/2012
2,3,4,7,8-Pecdf	EPA 8290	Extractable Organics	NELAP	6/24/2011
2,3,4+2,3',4'-Trichlorobiphenyls (BZ 21+33)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,4'-Trichlorobiphenyl (BZ 22)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3',4-Trichlorobiphenyl (BZ 25)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3',5,5'-Tetrachlorobiphenyl (BZ 72)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3',5+2,4,5-Trichlorobiphenyls (BZ 26+29)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,5-Trichlorobiphenyl (BZ 23)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3',5'-Trichlorobiphenyl (BZ 34)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,6-Trichlorobiphenyl (BZ 24)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3',6-Trichlorobiphenyl (BZ 27)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,7,8-TCDD (Dioxin, 2,3,7,8-Tetrachlorodibenzo-p-dioxin)	EPA 1613	Extractable Organics	NELAP	6/24/2011
2,3,7,8-TCDD (Dioxin, 2,3,7,8-Tetrachlorodibenzo-p-dioxin)	EPA 8280	Extractable Organics	NELAP	1/23/2012
2,3,7,8-TCDD (Dioxin, 2,3,7,8-Tetrachlorodibenzo-p-dioxin)	EPA 8290	Extractable Organics	NELAP	6/24/2011
2,3,7,8-TCDF	EPA 1613	Extractable Organics	NELAP	6/24/2011
2,3,7,8-TCDF	EPA 8280	Extractable Organics	NELAP	1/23/2012
2,3,7,8-TCDF	EPA 8290	Extractable Organics	NELAP	6/24/2011
2,3-Dichlorobiphenyl (BZ 5)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3'-Dichlorobiphenyl (BZ 6)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,4',5-Trichlorobiphenyl (BZ 31)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,4,5-Trichlorophenol	EPA 625	Extractable Organics	NELAP	8/12/2015
2,4,5-Trichlorophenol	EPA 8270	Extractable Organics	NELAP	8/12/2015
2,4',6-Trichlorobiphenyl (BZ 32)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,4,6-Trichlorophenol	EPA 625	Extractable Organics	NELAP	8/12/2015
2,4,6-Trichlorophenol	EPA 8270	Extractable Organics	NELAP	8/12/2015
2,4-Dichlorobiphenyl (BZ 7)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,4'-Dichlorobiphenyl (BZ 8)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,4-Dichlorophenol	EPA 625	Extractable Organics	NELAP	8/12/2015
2,4-Dichlorophenol	EPA 8270	Extractable Organics	NELAP	8/12/2015
2,4-Dimethylphenol	EPA 625	Extractable Organics	NELAP	8/12/2015
2,4-Dimethylphenol	EPA 8270	Extractable Organics	NELAP	8/12/2015
2,4-Dinitrophenol	EPA 625	Extractable Organics	NELAP	8/12/2015

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Page 9 of 48

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E87605

Pace Analytical Services, LLC - Minneapolis MN

1700 Elm Street, Suite 200

Minneapolis, MN 55414

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
2,4-Dinitrophenol	EPA 8270	Extractable Organics	NELAP	8/12/2015
2,4-Dinitrotoluene (2,4-DNT)	EPA 625	Extractable Organics	NELAP	8/12/2015
2,4-Dinitrotoluene (2,4-DNT)	EPA 8270	Extractable Organics	NELAP	8/12/2015
2,5-Dichlorobiphenyl (BZ 9)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,6-Dichlorobiphenyl (BZ 10)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,6-Dinitrotoluene (2,6-DNT)	EPA 625	Extractable Organics	NELAP	8/12/2015
2,6-Dinitrotoluene (2,6-DNT)	EPA 8270	Extractable Organics	NELAP	8/12/2015
2-Butanone (Methyl ethyl ketone, MEK)	EPA 624	Volatile Organics	NELAP	4/30/2018
2-Butanone (Methyl ethyl ketone, MEK)	EPA 8260	Volatile Organics	NELAP	8/12/2015
2-Chlorobiphenyl (BZ 1)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2-Chloroethyl vinyl ether	EPA 624	Volatile Organics	NELAP	8/12/2015
2-Chloroethyl vinyl ether	EPA 8260	Volatile Organics	NELAP	8/12/2015
2-Chloronaphthalene	EPA 625	Extractable Organics	NELAP	8/12/2015
2-Chloronaphthalene	EPA 8270	Extractable Organics	NELAP	8/12/2015
2-Chlorophenol	EPA 625	Extractable Organics	NELAP	8/12/2015
2-Chlorophenol	EPA 8270	Extractable Organics	NELAP	8/12/2015
2-Chlorotoluene	EPA 8260	Volatile Organics	NELAP	8/12/2015
2-Hexanone	EPA 8260	Volatile Organics	NELAP	8/12/2015
2-Methyl-4,6-dinitrophenol	EPA 625	Extractable Organics	NELAP	8/12/2015
2-Methyl-4,6-dinitrophenol	EPA 8270	Extractable Organics	NELAP	8/12/2015
2-Methylnaphthalene	EPA 8270	Extractable Organics	NELAP	8/12/2015
2-Methylphenol (o-Cresol)	EPA 8270	Extractable Organics	NELAP	8/12/2015
2-Nitroaniline	EPA 8270	Extractable Organics	NELAP	8/12/2015
2-Nitrophenol	EPA 625	Extractable Organics	NELAP	8/12/2015
2-Nitrophenol	EPA 8270	Extractable Organics	NELAP	8/12/2015
2-Nitropropane	EPA 8260	Volatile Organics	NELAP	8/12/2015
3,3',4,4',5,5'-Hexachlorobiphenyl (BZ 169)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
3,3',4,4',5-Pentachlorobiphenyl (BZ 126)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
3,3',4,4'-Tetrachlorobiphenyl (BZ 77)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
3,3',4,5,5'-Pentachlorobiphenyl (BZ 127)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
3,3',4,5-Tetrachlorobiphenyl (BZ 78)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
3,3',4,5'-Tetrachlorobiphenyl (BZ 79)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
3,3',4-Trichlorobiphenyl (BZ 35)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
3,3',5,5'-Tetrachlorobiphenyl (BZ 80)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
3,3',5-Trichlorobiphenyl (BZ 36)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
3,3'-Dichlorobenzidine	EPA 625	Extractable Organics	NELAP	8/12/2015

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Page 10 of 48

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Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
3,3'-Dichlorobenzidine	EPA 8270	Extractable Organics	NELAP	8/12/2015
3,3'-Dichlorobiphenyl (BZ 11)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
3,4,4',5-Tetrachlorobiphenyl (BZ 81)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
3,4,4'-Trichlorobiphenyl (BZ 37)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
3,4,5-Trichlorobiphenyl (BZ 38)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
3,4',5-Trichlorobiphenyl (BZ 39)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
3,4+3,4'-Dichlorobiphenyls (BZ 12+13)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
3,5-Dichlorobiphenyl (BZ 14)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
3-Chlorobiphenyl (BZ 2)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
3-Methylphenol (m-Cresol)	EPA 8270	Extractable Organics	NELAP	8/12/2015
3-Nitroaniline	EPA 8270	Extractable Organics	NELAP	8/12/2015
4,4'-DDD	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/12/2015
4,4'-DDE	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/12/2015
4,4'-DDT	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/12/2015
4,4'-Dichlorobiphenyl (BZ 15)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
4-Bromophenyl phenyl ether	EPA 625	Extractable Organics	NELAP	8/12/2015
4-Bromophenyl phenyl ether	EPA 8270	Extractable Organics	NELAP	8/12/2015
4-Chloro-3-methylphenol	EPA 625	Extractable Organics	NELAP	8/12/2015
4-Chloro-3-methylphenol	EPA 8270	Extractable Organics	NELAP	8/12/2015
4-Chloroaniline	EPA 8270	Extractable Organics	NELAP	8/12/2015
4-Chlorobiphenyl (BZ 3)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
4-Chlorophenyl phenylether	EPA 625	Extractable Organics	NELAP	8/12/2015
4-Chlorophenyl phenylether	EPA 8270	Extractable Organics	NELAP	8/12/2015
4-Chlorotoluene	EPA 8260	Volatile Organics	NELAP	8/12/2015
4-Methyl-2-pentanone (MIBK)	EPA 8260	Volatile Organics	NELAP	4/30/2018
4-Methylphenol (p-Cresol)	EPA 8270	Extractable Organics	NELAP	8/12/2015
4-Nitroaniline	EPA 8270	Extractable Organics	NELAP	8/12/2015
4-Nitrophenol	EPA 625	Extractable Organics	NELAP	8/12/2015
4-Nitrophenol	EPA 8270	Extractable Organics	NELAP	8/12/2015
Acenaphthene	EPA 625	Extractable Organics	NELAP	8/12/2015
Acenaphthene	EPA 8270	Extractable Organics	NELAP	8/12/2015
Acenaphthylene	EPA 625	Extractable Organics	NELAP	8/12/2015
Acenaphthylene	EPA 8270	Extractable Organics	NELAP	8/12/2015
Acetone	EPA 624	Volatile Organics	NELAP	4/30/2018
Acetone	EPA 8260	Volatile Organics	NELAP	8/12/2015
Acetonitrile	EPA 8260	Volatile Organics	NELAP	8/12/2015

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Issue Date: 7/1/2018

Expiration Date: 6/30/2019



Laboratory Scope of Accreditation

Page 11 of 48

Attachment to Certificate #: E87605-39, expiration date June 30, 2019. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E87605

EPA Lab Code: MN00064

(612) 607-1700

E87605

Pace Analytical Services, LLC - Minneapolis MN

1700 Elm Street, Suite 200

Minneapolis, MN 55414

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Acrolein (Propenal)	EPA 624	Volatile Organics	NELAP	8/12/2015
Acrolein (Propenal)	EPA 8260	Volatile Organics	NELAP	8/12/2015
Acrylonitrile	EPA 624	Volatile Organics	NELAP	8/12/2015
Acrylonitrile	EPA 8260	Volatile Organics	NELAP	8/12/2015
Aldrin	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/12/2015
Alkalinity as CaCO ₃	SM 2320 B	General Chemistry	NELAP	8/12/2015
Allyl chloride (3-Chloropropene)	EPA 8260	Volatile Organics	NELAP	8/12/2015
alpha-BHC (alpha-Hexachlorocyclohexane)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/12/2015
alpha-Chlordane	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/12/2015
Aluminum	EPA 200.7	Metals	NELAP	8/12/2015
Aluminum	EPA 200.8	Metals	NELAP	6/24/2011
Aluminum	EPA 6010	Metals	NELAP	8/12/2015
Aluminum	EPA 6020	Metals	NELAP	6/24/2011
Amenable cyanide	SM 4500-CN- G	General Chemistry	NELAP	4/30/2018
Ammonia as N	EPA 350.1	General Chemistry	NELAP	8/12/2015
Anthracene	EPA 625	Extractable Organics	NELAP	8/12/2015
Anthracene	EPA 8270	Extractable Organics	NELAP	8/12/2015
Antimony	EPA 200.7	Metals	NELAP	8/12/2015
Antimony	EPA 200.8	Metals	NELAP	6/24/2011
Antimony	EPA 6010	Metals	NELAP	8/12/2015
Antimony	EPA 6020	Metals	NELAP	6/24/2011
Aroclor-1016 (PCB-1016)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	8/12/2015
Aroclor-1221 (PCB-1221)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	8/12/2015
Aroclor-1232 (PCB-1232)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	8/12/2015
Aroclor-1242 (PCB-1242)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	8/12/2015
Aroclor-1248 (PCB-1248)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	8/12/2015
Aroclor-1254 (PCB-1254)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	8/12/2015
Aroclor-1260 (PCB-1260)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	8/12/2015
Arsenic	EPA 200.7	Metals	NELAP	8/12/2015
Arsenic	EPA 200.8	Metals	NELAP	6/24/2011
Arsenic	EPA 6010	Metals	NELAP	8/12/2015
Arsenic	EPA 6020	Metals	NELAP	6/24/2011
Barium	EPA 200.7	Metals	NELAP	8/12/2015
Barium	EPA 200.8	Metals	NELAP	6/24/2011
Barium	EPA 6010	Metals	NELAP	8/12/2015
Barium	EPA 6020	Metals	NELAP	6/24/2011

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Expiration Date: 6/30/2019



Laboratory Scope of Accreditation

Page 12 of 48

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Pace Analytical Services, LLC - Minneapolis MN

1700 Elm Street, Suite 200

Minneapolis, MN 55414

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Benzene	EPA 624	Volatile Organics	NELAP	8/12/2015
Benzene	EPA 8021	Volatile Organics	NELAP	8/12/2015
Benzene	EPA 8260	Volatile Organics	NELAP	8/12/2015
Benzidine	EPA 625	Extractable Organics	NELAP	8/12/2015
Benzidine	EPA 8270	Extractable Organics	NELAP	8/12/2015
Benzo(a)anthracene	EPA 625	Extractable Organics	NELAP	8/12/2015
Benzo(a)anthracene	EPA 8270	Extractable Organics	NELAP	8/12/2015
Benzo(a)pyrene	EPA 625	Extractable Organics	NELAP	8/12/2015
Benzo(a)pyrene	EPA 8270	Extractable Organics	NELAP	8/12/2015
Benzo(b)fluoranthene	EPA 625	Extractable Organics	NELAP	8/12/2015
Benzo(b)fluoranthene	EPA 8270	Extractable Organics	NELAP	8/12/2015
Benzo(g,h,i)perylene	EPA 625	Extractable Organics	NELAP	8/12/2015
Benzo(g,h,i)perylene	EPA 8270	Extractable Organics	NELAP	8/12/2015
Benzo(k)fluoranthene	EPA 625	Extractable Organics	NELAP	8/12/2015
Benzo(k)fluoranthene	EPA 8270	Extractable Organics	NELAP	8/12/2015
Benzoic acid	EPA 8270	Extractable Organics	NELAP	8/12/2015
Benzyl alcohol	EPA 8270	Extractable Organics	NELAP	8/12/2015
Beryllium	EPA 200.7	Metals	NELAP	8/12/2015
Beryllium	EPA 200.8	Metals	NELAP	6/24/2011
Beryllium	EPA 6010	Metals	NELAP	8/12/2015
Beryllium	EPA 6020	Metals	NELAP	6/24/2011
beta-BHC (beta-Hexachlorocyclohexane)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/12/2015
bis(2-Chloroethoxy)methane	EPA 625	Extractable Organics	NELAP	8/12/2015
bis(2-Chloroethoxy)methane	EPA 8270	Extractable Organics	NELAP	8/12/2015
bis(2-Chloroethyl) ether	EPA 625	Extractable Organics	NELAP	8/12/2015
bis(2-Chloroethyl) ether	EPA 8270	Extractable Organics	NELAP	8/12/2015
Bismuth	EPA 6020	Metals	NELAP	4/30/2018
Boron	EPA 200.7	Metals	NELAP	8/12/2015
Boron	EPA 200.8	Metals	NELAP	4/30/2018
Boron	EPA 6010	Metals	NELAP	8/12/2015
Boron	EPA 6020	Metals	NELAP	4/30/2018
Bromide	EPA 300.0	General Chemistry	NELAP	8/12/2015
Bromide	EPA 9056	General Chemistry	NELAP	8/12/2015
Bromobenzene	EPA 8260	Volatile Organics	NELAP	8/12/2015
Bromochloromethane	EPA 8260	Volatile Organics	NELAP	8/12/2015
Bromodichloromethane	EPA 624	Volatile Organics	NELAP	8/12/2015

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Laboratory Scope of Accreditation

Page 13 of 48

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Minneapolis, MN 55414

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Bromodichloromethane	EPA 8260	Volatile Organics	NELAP	8/12/2015
Bromoform	EPA 624	Volatile Organics	NELAP	8/12/2015
Bromoform	EPA 8260	Volatile Organics	NELAP	8/12/2015
Butyl benzyl phthalate	EPA 625	Extractable Organics	NELAP	8/12/2015
Butyl benzyl phthalate	EPA 8270	Extractable Organics	NELAP	8/12/2015
Cadmium	EPA 200.7	Metals	NELAP	8/12/2015
Cadmium	EPA 200.8	Metals	NELAP	6/24/2011
Cadmium	EPA 6010	Metals	NELAP	8/12/2015
Cadmium	EPA 6020	Metals	NELAP	6/24/2011
Calcium	EPA 200.7	Metals	NELAP	8/12/2015
Calcium	EPA 200.8	Metals	NELAP	4/30/2018
Calcium	EPA 6010	Metals	NELAP	8/12/2015
Calcium	EPA 6020	Metals	NELAP	6/24/2011
Carbazole	EPA 8270	Extractable Organics	NELAP	8/12/2015
Carbon disulfide	EPA 8260	Volatile Organics	NELAP	8/12/2015
Carbon tetrachloride	EPA 624	Volatile Organics	NELAP	8/12/2015
Carbon tetrachloride	EPA 8260	Volatile Organics	NELAP	8/12/2015
Chemical oxygen demand	EPA 410.4	General Chemistry	NELAP	4/30/2018
Chemical oxygen demand	SM 5220 D	General Chemistry	NELAP	8/12/2015
Chlordane (tech.)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/12/2015
Chloride	EPA 300.0	General Chemistry	NELAP	8/12/2015
Chloride	EPA 9056	General Chemistry	NELAP	8/12/2015
Chloride	SM 4500-Cl ⁻ E	General Chemistry	NELAP	8/12/2015
Chlorobenzene	EPA 624	Volatile Organics	NELAP	8/12/2015
Chlorobenzene	EPA 8260	Volatile Organics	NELAP	8/12/2015
Chloroethane	EPA 624	Volatile Organics	NELAP	8/12/2015
Chloroethane	EPA 8260	Volatile Organics	NELAP	8/12/2015
Chloroform	EPA 624	Volatile Organics	NELAP	8/12/2015
Chloroform	EPA 8260	Volatile Organics	NELAP	8/12/2015
Chloroprene	EPA 8260	Volatile Organics	NELAP	8/12/2015
Chromium	EPA 200.7	Metals	NELAP	8/12/2015
Chromium	EPA 200.8	Metals	NELAP	6/24/2011
Chromium	EPA 6010	Metals	NELAP	8/12/2015
Chromium	EPA 6020	Metals	NELAP	6/24/2011
Chromium VI	SM 3500-Cr B (20th/21st/22nd Ed.)/UV-VIS	General Chemistry	NELAP	4/30/2018

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Laboratory Scope of Accreditation

Page 14 of 48

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Pace Analytical Services, LLC - Minneapolis MN

1700 Elm Street, Suite 200

Minneapolis, MN 55414

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Chrysene	EPA 625	Extractable Organics	NELAP	8/12/2015
Chrysene	EPA 8270	Extractable Organics	NELAP	8/12/2015
cis-1,2-Dichloroethylene	EPA 8260	Volatile Organics	NELAP	8/12/2015
cis-1,3-Dichloropropene	EPA 624	Volatile Organics	NELAP	8/12/2015
cis-1,3-Dichloropropene	EPA 8260	Volatile Organics	NELAP	8/12/2015
cis-1,4-Dichloro-2-butene	EPA 8260	Volatile Organics	NELAP	8/12/2015
Cobalt	EPA 200.7	Metals	NELAP	8/12/2015
Cobalt	EPA 200.8	Metals	NELAP	6/24/2011
Cobalt	EPA 6010	Metals	NELAP	8/12/2015
Cobalt	EPA 6020	Metals	NELAP	6/24/2011
Conductivity	EPA 120.1	General Chemistry	NELAP	8/12/2015
Conductivity	SM 2510 B	General Chemistry	NELAP	8/12/2015
Copper	EPA 200.7	Metals	NELAP	8/12/2015
Copper	EPA 200.8	Metals	NELAP	6/24/2011
Copper	EPA 6010	Metals	NELAP	8/12/2015
Copper	EPA 6020	Metals	NELAP	6/24/2011
Cyanide	SM 4500CN-E	General Chemistry	NELAP	8/12/2015
Decachlorobiphenyl (BZ 209)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
delta-BHC	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/12/2015
Di(2-ethylhexyl) phthalate (DEHP)	EPA 625	Extractable Organics	NELAP	8/12/2015
Dibenz(a,h)anthracene	EPA 625	Extractable Organics	NELAP	8/12/2015
Dibenz(a,h)anthracene	EPA 8270	Extractable Organics	NELAP	8/12/2015
Dibenzofuran	EPA 8270	Extractable Organics	NELAP	8/12/2015
Dibromochloromethane	EPA 624	Volatile Organics	NELAP	8/12/2015
Dibromochloromethane	EPA 8260	Volatile Organics	NELAP	4/30/2018
Dibromomethane	EPA 8260	Volatile Organics	NELAP	8/12/2015
Dichlorodifluoromethane	EPA 8260	Volatile Organics	NELAP	8/12/2015
Dieldrin	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/12/2015
Diesel range organics (DRO)	EPA 8015	Extractable Organics	NELAP	8/12/2015
Diethyl ether	EPA 8260	Volatile Organics	NELAP	8/12/2015
Diethyl phthalate	EPA 625	Extractable Organics	NELAP	8/12/2015
Diethyl phthalate	EPA 8270	Extractable Organics	NELAP	8/12/2015
Di-isopropylether (DIPE)	EPA 8260	Volatile Organics	NELAP	4/30/2018
Dimethyl phthalate	EPA 625	Extractable Organics	NELAP	8/12/2015
Dimethyl phthalate	EPA 8270	Extractable Organics	NELAP	8/12/2015
Di-n-butyl phthalate	EPA 625	Extractable Organics	NELAP	8/12/2015

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Laboratory Scope of Accreditation

Page 15 of 48

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Minneapolis, MN 55414

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Di-n-butyl phthalate	EPA 8270	Extractable Organics	NELAP	8/12/2015
Di-n-octyl phthalate	EPA 625	Extractable Organics	NELAP	8/12/2015
Di-n-octyl phthalate	EPA 8270	Extractable Organics	NELAP	8/12/2015
Endosulfan I	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/12/2015
Endosulfan II	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/12/2015
Endosulfan sulfate	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/12/2015
Endrin	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/12/2015
Endrin aldehyde	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/12/2015
Endrin ketone	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/12/2015
Escherichia coli	SM 9223 B	Microbiology	NELAP	8/12/2015
Ethane	RSK-175	Volatile Organics	NELAP	3/7/2017
Ethanol	EPA 8260	Volatile Organics	NELAP	8/12/2015
Ethyl acetate	EPA 8260	Volatile Organics	NELAP	8/12/2015
Ethyl methacrylate	EPA 8260	Volatile Organics	NELAP	8/12/2015
Ethylbenzene	EPA 624	Volatile Organics	NELAP	8/12/2015
Ethylbenzene	EPA 8021	Volatile Organics	NELAP	8/12/2015
Ethylbenzene	EPA 8260	Volatile Organics	NELAP	8/12/2015
Ethylene	RSK-175	Volatile Organics	NELAP	3/7/2017
Ethyl-t-butylether (ETBE)	EPA 8260	Volatile Organics	NELAP	4/30/2018
Fecal coliforms	SM 9222 D	Microbiology	NELAP	8/12/2015
Fluoranthene	EPA 625	Extractable Organics	NELAP	8/12/2015
Fluoranthene	EPA 8270	Extractable Organics	NELAP	8/12/2015
Fluorene	EPA 625	Extractable Organics	NELAP	8/12/2015
Fluorene	EPA 8270	Extractable Organics	NELAP	8/12/2015
Fluoride	EPA 300.0	General Chemistry	NELAP	8/12/2015
Fluoride	EPA 9056	General Chemistry	NELAP	8/12/2015
Fluoride	SM 4500 F-C	General Chemistry	NELAP	8/12/2015
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/12/2015
gamma-Chlordane	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/12/2015
Gasoline range organics (GRO)	EPA 8015	Volatile Organics	NELAP	8/12/2015
Hardness	SM 2340 B	General Chemistry	NELAP	6/24/2011
Heptachlor	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/12/2015
Heptachlor epoxide	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/12/2015
Hexachlorobenzene	EPA 625	Extractable Organics	NELAP	8/12/2015
Hexachlorobenzene	EPA 8270	Extractable Organics	NELAP	8/12/2015
Hexachlorobutadiene	EPA 625	Extractable Organics	NELAP	8/12/2015

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Laboratory Scope of Accreditation

Page 16 of 48

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Minneapolis, MN 55414

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Hexachlorobutadiene	EPA 8260	Volatile Organics	NELAP	8/12/2015
Hexachlorobutadiene	EPA 8270	Extractable Organics	NELAP	8/12/2015
Hexachlorocyclopentadiene	EPA 625	Extractable Organics	NELAP	8/12/2015
Hexachlorocyclopentadiene	EPA 8270	Extractable Organics	NELAP	8/12/2015
Hexachloroethane	EPA 625	Extractable Organics	NELAP	8/12/2015
Hexachloroethane	EPA 8270	Extractable Organics	NELAP	8/12/2015
Indeno(1,2,3-cd)pyrene	EPA 625	Extractable Organics	NELAP	8/12/2015
Indeno(1,2,3-cd)pyrene	EPA 8270	Extractable Organics	NELAP	8/12/2015
Iodomethane (Methyl iodide)	EPA 8260	Volatile Organics	NELAP	8/12/2015
Iron	EPA 200.7	Metals	NELAP	8/12/2015
Iron	EPA 200.8	Metals	NELAP	4/30/2018
Iron	EPA 6010	Metals	NELAP	8/12/2015
Iron	EPA 6020	Metals	NELAP	6/24/2011
Iron	SM 3500-Fe B (20th/21st Ed.)UV-VIS	General Chemistry	NELAP	4/30/2018
Isobutyl alcohol (2-Methyl-1-propanol)	EPA 8260	Volatile Organics	NELAP	8/12/2015
Isophorone	EPA 625	Extractable Organics	NELAP	8/12/2015
Isophorone	EPA 8270	Extractable Organics	NELAP	8/12/2015
Isopropyl alcohol (2-Propanol)	EPA 8260	Volatile Organics	NELAP	8/12/2015
Isopropylbenzene	EPA 624	Volatile Organics	NELAP	8/12/2015
Isopropylbenzene	EPA 8260	Volatile Organics	NELAP	8/12/2015
Lead	EPA 200.7	Metals	NELAP	8/12/2015
Lead	EPA 200.8	Metals	NELAP	6/24/2011
Lead	EPA 6010	Metals	NELAP	8/12/2015
Lead	EPA 6020	Metals	NELAP	6/24/2011
Lithium	EPA 200.8	Metals	NELAP	4/30/2018
Lithium	EPA 6020	Metals	NELAP	4/30/2018
m/p-Xylenes	EPA 8021	Volatile Organics	NELAP	8/12/2015
m/p-Xylenes	EPA 8260	Volatile Organics	NELAP	8/12/2015
Magnesium	EPA 200.7	Metals	NELAP	8/12/2015
Magnesium	EPA 200.8	Metals	NELAP	4/30/2018
Magnesium	EPA 6010	Metals	NELAP	8/12/2015
Magnesium	EPA 6020	Metals	NELAP	6/24/2011
Manganese	EPA 200.7	Metals	NELAP	8/12/2015
Manganese	EPA 200.8	Metals	NELAP	6/24/2011
Manganese	EPA 6010	Metals	NELAP	8/12/2015
Manganese	EPA 6020	Metals	NELAP	6/24/2011

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Expiration Date: 6/30/2019



Laboratory Scope of Accreditation

Page 17 of 48

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Minneapolis, MN 55414

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Mercury	EPA 245.1	Metals	NELAP	8/12/2015
Mercury	EPA 7470	Metals	NELAP	4/30/2018
Methacrylonitrile	EPA 8260	Volatile Organics	NELAP	4/30/2018
Methane	RSK-175	Volatile Organics	NELAP	3/7/2017
Methoxychlor	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/12/2015
Methyl bromide (Bromomethane)	EPA 624	Volatile Organics	NELAP	8/12/2015
Methyl bromide (Bromomethane)	EPA 8260	Volatile Organics	NELAP	8/12/2015
Methyl chloride (Chloromethane)	EPA 624	Volatile Organics	NELAP	8/12/2015
Methyl chloride (Chloromethane)	EPA 8260	Volatile Organics	NELAP	8/12/2015
Methyl methacrylate	EPA 8260	Volatile Organics	NELAP	8/12/2015
Methyl tert-butyl ether (MTBE)	EPA 8021	Volatile Organics	NELAP	4/30/2018
Methyl tert-butyl ether (MTBE)	EPA 8260	Volatile Organics	NELAP	8/12/2015
Methylene chloride	EPA 624	Volatile Organics	NELAP	8/12/2015
Methylene chloride	EPA 8260	Volatile Organics	NELAP	8/12/2015
Molybdenum	EPA 200.7	Metals	NELAP	8/12/2015
Molybdenum	EPA 200.8	Metals	NELAP	6/24/2011
Molybdenum	EPA 6010	Metals	NELAP	8/12/2015
Molybdenum	EPA 6020	Metals	NELAP	6/24/2011
Naphthalene	EPA 625	Extractable Organics	NELAP	8/12/2015
Naphthalene	EPA 8260	Volatile Organics	NELAP	8/12/2015
Naphthalene	EPA 8270	Extractable Organics	NELAP	8/12/2015
n-Butyl alcohol	EPA 8260	Volatile Organics	NELAP	8/12/2015
n-Butylbenzene	EPA 8260	Volatile Organics	NELAP	8/12/2015
n-Hexane	EPA 8260	Volatile Organics	NELAP	8/12/2015
Nickel	EPA 200.7	Metals	NELAP	8/12/2015
Nickel	EPA 200.8	Metals	NELAP	6/24/2011
Nickel	EPA 6010	Metals	NELAP	8/12/2015
Nickel	EPA 6020	Metals	NELAP	6/24/2011
Nitrate	EPA 9056	General Chemistry	NELAP	8/12/2015
Nitrate as N	EPA 300.0	General Chemistry	NELAP	8/12/2015
Nitrate as N	EPA 353.2	General Chemistry	NELAP	8/12/2015
Nitrite	EPA 9056	General Chemistry	NELAP	8/12/2015
Nitrite	SM 4500-NO2-B	General Chemistry	NELAP	8/12/2015
Nitrite as N	EPA 300.0	General Chemistry	NELAP	8/12/2015
Nitrite as N	EPA 353.2	General Chemistry	NELAP	8/12/2015
Nitrobenzene	EPA 625	Extractable Organics	NELAP	8/12/2015

Clients and Customers are urged to verify the laboratory's current certification status with the Environmental Laboratory Certification Program.

Issue Date: 7/1/2018

Expiration Date: 6/30/2019



Laboratory Scope of Accreditation

Page 18 of 48

Attachment to Certificate #: E87605-39, expiration date June 30, 2019. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E87605

EPA Lab Code: MN00064

(612) 607-1700

E87605

Pace Analytical Services, LLC - Minneapolis MN

1700 Elm Street, Suite 200

Minneapolis, MN 55414

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Nitrobenzene	EPA 8270	Extractable Organics	NELAP	8/12/2015
n-Nitrosodimethylamine	EPA 625	Extractable Organics	NELAP	8/12/2015
n-Nitrosodimethylamine	EPA 8270	Extractable Organics	NELAP	8/12/2015
n-Nitrosodi-n-propylamine	EPA 625	Extractable Organics	NELAP	8/12/2015
n-Nitrosodi-n-propylamine	EPA 8270	Extractable Organics	NELAP	8/12/2015
n-Nitrosodiphenylamine	EPA 625	Extractable Organics	NELAP	8/12/2015
n-Nitrosodiphenylamine	EPA 8270	Extractable Organics	NELAP	8/12/2015
n-Propylbenzene	EPA 8260	Volatile Organics	NELAP	8/12/2015
Oil & Grease	EPA 1664A	General Chemistry	NELAP	8/12/2015
Orthophosphate as P	SM 4500-P G (21st Ed.)	General Chemistry	NELAP	4/30/2018
o-Xylene	EPA 8021	Volatile Organics	NELAP	8/12/2015
o-Xylene	EPA 8260	Volatile Organics	NELAP	8/12/2015
Palladium	EPA 200.8	Metals	NELAP	4/30/2018
Palladium	EPA 6020	Metals	NELAP	4/30/2018
Pentachlorophenol	EPA 625	Extractable Organics	NELAP	8/12/2015
Pentachlorophenol	EPA 8270	Extractable Organics	NELAP	8/12/2015
pH	SM 4500-H+-B	General Chemistry	NELAP	8/12/2015
Phenanthrene	EPA 625	Extractable Organics	NELAP	8/12/2015
Phenanthrene	EPA 8270	Extractable Organics	NELAP	8/12/2015
Phenol	EPA 625	Extractable Organics	NELAP	8/12/2015
Phenol	EPA 8270	Extractable Organics	NELAP	8/12/2015
Phosphorus, total	SM 4500-P E	General Chemistry	NELAP	4/30/2018
p-Isopropyltoluene	EPA 8260	Volatile Organics	NELAP	8/12/2015
Platinum	EPA 200.8	Metals	NELAP	4/30/2018
Platinum	EPA 6020	Metals	NELAP	4/30/2018
Potassium	EPA 200.7	Metals	NELAP	8/12/2015
Potassium	EPA 200.8	Metals	NELAP	4/30/2018
Potassium	EPA 6010	Metals	NELAP	8/12/2015
Potassium	EPA 6020	Metals	NELAP	6/24/2011
Propionitrile (Ethyl cyanide)	EPA 8260	Volatile Organics	NELAP	8/12/2015
Pyrene	EPA 625	Extractable Organics	NELAP	8/12/2015
Pyrene	EPA 8270	Extractable Organics	NELAP	8/12/2015
Pyridine	EPA 8270	Extractable Organics	NELAP	8/12/2015
Residue-filterable (TDS)	SM 2540 C	General Chemistry	NELAP	8/12/2015
Residue-nonfilterable (TSS)	SM 2540 D	General Chemistry	NELAP	8/12/2015
Residue-settleable	SM 2540 F	General Chemistry	NELAP	8/12/2015

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Issue Date: 7/1/2018

Expiration Date: 6/30/2019



Laboratory Scope of Accreditation

Page 19 of 48

Attachment to Certificate #: E87605-39, expiration date June 30, 2019. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E87605

EPA Lab Code: MN00064

(612) 607-1700

E87605

Pace Analytical Services, LLC - Minneapolis MN

1700 Elm Street, Suite 200

Minneapolis, MN 55414

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Residue-total	SM 2540 B	General Chemistry	NELAP	8/12/2015
Residue-volatile	EPA 160.4	General Chemistry	NELAP	8/12/2015
sec-Butylbenzene	EPA 8260	Volatile Organics	NELAP	8/12/2015
Selenium	EPA 200.7	Metals	NELAP	8/12/2015
Selenium	EPA 200.8	Metals	NELAP	6/24/2011
Selenium	EPA 6010	Metals	NELAP	8/12/2015
Selenium	EPA 6020	Metals	NELAP	6/24/2011
Silicon	EPA 200.8	Metals	NELAP	4/30/2018
Silicon	EPA 6020	Metals	NELAP	4/30/2018
Silver	EPA 200.7	Metals	NELAP	8/12/2015
Silver	EPA 200.8	Metals	NELAP	6/24/2011
Silver	EPA 6010	Metals	NELAP	4/30/2018
Silver	EPA 6020	Metals	NELAP	6/24/2011
Sodium	EPA 200.7	Metals	NELAP	8/12/2015
Sodium	EPA 200.8	Metals	NELAP	4/30/2018
Sodium	EPA 6010	Metals	NELAP	8/12/2015
Sodium	EPA 6020	Metals	NELAP	6/24/2011
Strontium	EPA 200.8	Metals	NELAP	4/30/2018
Strontium	EPA 6020	Metals	NELAP	6/24/2011
Styrene	EPA 8260	Volatile Organics	NELAP	8/12/2015
Sulfate	ASTM D516-90	General Chemistry	NELAP	8/12/2015
Sulfate	EPA 300.0	General Chemistry	NELAP	8/12/2015
Sulfate	EPA 9056	General Chemistry	NELAP	8/12/2015
T-amylmethylether (TAME)	EPA 8260	Volatile Organics	NELAP	4/30/2018
tert-Butyl alcohol (2-Methyl-2-propanol)	EPA 8260	Volatile Organics	NELAP	8/12/2015
tert-Butylbenzene	EPA 8260	Volatile Organics	NELAP	4/30/2018
Tetrachloroethylene (Perchloroethylene)	EPA 624	Volatile Organics	NELAP	8/12/2015
Tetrachloroethylene (Perchloroethylene)	EPA 8260	Volatile Organics	NELAP	8/12/2015
Tetrahydrofuran (THF)	EPA 8260	Volatile Organics	NELAP	8/12/2015
Thallium	EPA 200.7	Metals	NELAP	8/12/2015
Thallium	EPA 200.8	Metals	NELAP	6/24/2011
Thallium	EPA 6010	Metals	NELAP	8/12/2015
Thallium	EPA 6020	Metals	NELAP	6/24/2011
Tin	EPA 200.7	Metals	NELAP	8/12/2015
Tin	EPA 200.8	Metals	NELAP	4/30/2018
Tin	EPA 6010	Metals	NELAP	8/12/2015

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Issue Date: 7/1/2018

Expiration Date: 6/30/2019



Laboratory Scope of Accreditation

Page 20 of 48

Attachment to Certificate #: E87605-39, expiration date June 30, 2019. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E87605

EPA Lab Code: MN00064

(612) 607-1700

E87605

Pace Analytical Services, LLC - Minneapolis MN

1700 Elm Street, Suite 200

Minneapolis, MN 55414

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Tin	EPA 6020	Metals	NELAP	6/24/2011
Titanium	EPA 200.7	Metals	NELAP	4/30/2018
Titanium	EPA 200.8	Metals	NELAP	4/30/2018
Titanium	EPA 6010	Metals	NELAP	8/12/2015
Titanium	EPA 6020	Metals	NELAP	6/24/2011
Toluene	EPA 624	Volatile Organics	NELAP	8/12/2015
Toluene	EPA 8021	Volatile Organics	NELAP	4/30/2018
Toluene	EPA 8260	Volatile Organics	NELAP	8/12/2015
Total coliforms	SM 9222 B	Microbiology	NELAP	8/12/2015
Total hardness as CaCO ₃	EPA 200.7	Metals	NELAP	8/12/2015
Total Heptachlorodibenzofuran	EPA 1613	Extractable Organics	NELAP	6/24/2011
Total Heptachlorodibenzofuran	EPA 8280	Extractable Organics	NELAP	1/23/2012
Total Heptachlorodibenzofuran	EPA 8290	Extractable Organics	NELAP	6/24/2011
Total Heptachlorodibenzo-p-dioxin	EPA 1613	Extractable Organics	NELAP	6/24/2011
Total Heptachlorodibenzo-p-dioxin	EPA 8280	Extractable Organics	NELAP	1/23/2012
Total Heptachlorodibenzo-p-dioxin	EPA 8290	Extractable Organics	NELAP	6/24/2011
Total Hexachlorodibenzofuran	EPA 1613	Extractable Organics	NELAP	6/24/2011
Total Hexachlorodibenzofuran	EPA 8280	Extractable Organics	NELAP	1/23/2012
Total Hexachlorodibenzofuran	EPA 8290	Extractable Organics	NELAP	6/24/2011
Total Hexachlorodibenzo-p-dioxin	EPA 1613	Extractable Organics	NELAP	6/24/2011
Total Hexachlorodibenzo-p-dioxin	EPA 8280	Extractable Organics	NELAP	1/23/2012
Total Hexachlorodibenzo-p-dioxin	EPA 8290	Extractable Organics	NELAP	6/24/2011
Total nitrate-nitrite	EPA 353.2	General Chemistry	NELAP	4/30/2018
Total nitrate-nitrite	SM 4500-NO ₃ H	General Chemistry	NELAP	8/12/2015
Total Pentachlorodibenzofuran	EPA 1613	Extractable Organics	NELAP	6/24/2011
Total Pentachlorodibenzofuran	EPA 8280	Extractable Organics	NELAP	1/23/2012
Total Pentachlorodibenzofuran	EPA 8290	Extractable Organics	NELAP	6/24/2011
Total Pentachlorodibenzo-p-dioxin	EPA 1613	Extractable Organics	NELAP	6/24/2011
Total Pentachlorodibenzo-p-dioxin	EPA 8280	Extractable Organics	NELAP	1/23/2012
Total Pentachlorodibenzo-p-dioxin	EPA 8290	Extractable Organics	NELAP	6/24/2011
Total phenolics	EPA 420.4	General Chemistry	NELAP	8/12/2015
Total residual chlorine	SM 4500-Cl G	General Chemistry	NELAP	8/12/2015
Total Tetrachlorodibenzofuran	EPA 1613	Extractable Organics	NELAP	6/24/2011
Total Tetrachlorodibenzofuran	EPA 8280	Extractable Organics	NELAP	1/23/2012
Total Tetrachlorodibenzofuran	EPA 8290	Extractable Organics	NELAP	6/24/2011
Total Tetrachlorodibenzo-p-dioxin	EPA 1613	Extractable Organics	NELAP	6/24/2011

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Issue Date: 7/1/2018

Expiration Date: 6/30/2019



Laboratory Scope of Accreditation

Page 21 of 48

Attachment to Certificate #: E87605-39, expiration date June 30, 2019. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E87605

EPA Lab Code: MN00064

(612) 607-1700

E87605

Pace Analytical Services, LLC - Minneapolis MN

1700 Elm Street, Suite 200

Minneapolis, MN 55414

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Total Tetrachlorodibenzo-p-dioxin	EPA 8280	Extractable Organics	NELAP	1/23/2012
Total Tetrachlorodibenzo-p-dioxin	EPA 8290	Extractable Organics	NELAP	6/24/2011
Toxaphene (Chlorinated camphene)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/12/2015
trans-1,2-Dichloroethylene	EPA 624	Volatile Organics	NELAP	8/12/2015
trans-1,2-Dichloroethylene	EPA 8260	Volatile Organics	NELAP	8/12/2015
trans-1,3-Dichloropropene	EPA 624	Volatile Organics	NELAP	8/12/2015
trans-1,3-Dichloropropene	EPA 8260	Volatile Organics	NELAP	8/12/2015
trans-1,4-Dichloro-2-butene	EPA 8260	Volatile Organics	NELAP	8/12/2015
Trichloroethene (Trichloroethylene)	EPA 624	Volatile Organics	NELAP	8/12/2015
Trichloroethene (Trichloroethylene)	EPA 8260	Volatile Organics	NELAP	8/12/2015
Trichlorofluoromethane	EPA 624	Volatile Organics	NELAP	8/12/2015
Trichlorofluoromethane	EPA 8260	Volatile Organics	NELAP	8/12/2015
Turbidity	EPA 180.1	General Chemistry	NELAP	4/30/2018
Uranium	EPA 200.8	Radiochemistry	NELAP	5/22/2018
Uranium	EPA 6020	Radiochemistry	NELAP	5/22/2018
Vanadium	EPA 200.7	Metals	NELAP	8/12/2015
Vanadium	EPA 200.8	Metals	NELAP	6/24/2011
Vanadium	EPA 6010	Metals	NELAP	8/12/2015
Vanadium	EPA 6020	Metals	NELAP	6/24/2011
Vinyl acetate	EPA 8260	Volatile Organics	NELAP	8/12/2015
Vinyl chloride	EPA 624	Volatile Organics	NELAP	8/12/2015
Vinyl chloride	EPA 8260	Volatile Organics	NELAP	8/12/2015
Xylene (total)	EPA 8021	Volatile Organics	NELAP	4/30/2018
Xylene (total)	EPA 8260	Volatile Organics	NELAP	4/30/2018
Zinc	EPA 200.7	Metals	NELAP	8/12/2015
Zinc	EPA 200.8	Metals	NELAP	6/24/2011
Zinc	EPA 6010	Metals	NELAP	8/12/2015
Zinc	EPA 6020	Metals	NELAP	6/24/2011



Laboratory Scope of Accreditation

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State Laboratory ID: E87605

EPA Lab Code: MN00064

(612) 607-1700

E87605

Pace Analytical Services, LLC - Minneapolis MN

1700 Elm Street, Suite 200

Minneapolis, MN 55414

Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
1,1,1,2-Tetrachloroethane	EPA 8260	Volatile Organics	NELAP	8/12/2015
1,1,1-Trichloroethane	EPA 8260	Volatile Organics	NELAP	8/12/2015
1,1,2,2-Tetrachloroethane	EPA 8260	Volatile Organics	NELAP	4/30/2018
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	EPA 8260	Volatile Organics	NELAP	4/30/2018
1,1,2-Trichloroethane	EPA 8260	Volatile Organics	NELAP	8/12/2015
1,1-Dichloroethane	EPA 8260	Volatile Organics	NELAP	8/12/2015
1,1-Dichloroethylene	EPA 8260	Volatile Organics	NELAP	8/12/2015
1,1-Dichloropropene	EPA 8260	Volatile Organics	NELAP	4/30/2018
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	EPA 1613	Extractable Organics	NELAP	6/24/2011
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	EPA 8280	Extractable Organics	NELAP	1/23/2012
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	EPA 8290	Extractable Organics	NELAP	6/24/2011
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	EPA 1613	Extractable Organics	NELAP	6/24/2011
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	EPA 8280	Extractable Organics	NELAP	1/23/2012
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	EPA 8290	Extractable Organics	NELAP	6/24/2011
1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-hpcdf)	EPA 1613	Extractable Organics	NELAP	6/24/2011
1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-hpcdf)	EPA 8280	Extractable Organics	NELAP	1/23/2012
1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-hpcdf)	EPA 8290	Extractable Organics	NELAP	6/24/2011
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-hpcdd)	EPA 1613	Extractable Organics	NELAP	6/24/2011
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-hpcdd)	EPA 8280	Extractable Organics	NELAP	1/23/2012
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-hpcdd)	EPA 8290	Extractable Organics	NELAP	6/24/2011
1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-hpcdf)	EPA 1613	Extractable Organics	NELAP	6/24/2011
1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-hpcdf)	EPA 8280	Extractable Organics	NELAP	1/23/2012
1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-hpcdf)	EPA 8290	Extractable Organics	NELAP	6/24/2011
1,2,3,4,7,8-Hxcdd	EPA 1613	Extractable Organics	NELAP	6/24/2011
1,2,3,4,7,8-Hxcdd	EPA 8280	Extractable Organics	NELAP	1/23/2012
1,2,3,4,7,8-Hxcdd	EPA 8290	Extractable Organics	NELAP	6/24/2011
1,2,3,4,7,8-Hxcdf	EPA 1613	Extractable Organics	NELAP	6/24/2011
1,2,3,4,7,8-Hxcdf	EPA 8280	Extractable Organics	NELAP	1/23/2012
1,2,3,4,7,8-Hxcdf	EPA 8290	Extractable Organics	NELAP	6/24/2011
1,2,3,6,7,8-Hxcdd	EPA 1613	Extractable Organics	NELAP	6/24/2011
1,2,3,6,7,8-Hxcdd	EPA 8280	Extractable Organics	NELAP	1/23/2012

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Issue Date: 7/1/2018

Expiration Date: 6/30/2019



Laboratory Scope of Accreditation

Attachment to Certificate #: E87605-39, expiration date June 30, 2019. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E87605

EPA Lab Code: MN00064

(612) 607-1700

E87605

Pace Analytical Services, LLC - Minneapolis MN

1700 Elm Street, Suite 200

Minneapolis, MN 55414

Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
1,2,3,6,7,8-Hxcdd	EPA 8290	Extractable Organics	NELAP	6/24/2011
1,2,3,6,7,8-Hxcdf	EPA 1613	Extractable Organics	NELAP	6/24/2011
1,2,3,6,7,8-Hxcdf	EPA 8280	Extractable Organics	NELAP	1/23/2012
1,2,3,6,7,8-Hxcdf	EPA 8290	Extractable Organics	NELAP	6/24/2011
1,2,3,7,8,9-Hxcdd	EPA 1613	Extractable Organics	NELAP	6/24/2011
1,2,3,7,8,9-Hxcdd	EPA 8280	Extractable Organics	NELAP	1/23/2012
1,2,3,7,8,9-Hxcdd	EPA 8290	Extractable Organics	NELAP	6/24/2011
1,2,3,7,8,9-Hxcdf	EPA 1613	Extractable Organics	NELAP	6/24/2011
1,2,3,7,8,9-Hxcdf	EPA 8280	Extractable Organics	NELAP	1/23/2012
1,2,3,7,8,9-Hxcdf	EPA 8290	Extractable Organics	NELAP	6/24/2011
1,2,3,7,8-Pecdd	EPA 1613	Extractable Organics	NELAP	6/24/2011
1,2,3,7,8-Pecdd	EPA 8280	Extractable Organics	NELAP	1/23/2012
1,2,3,7,8-Pecdd	EPA 8290	Extractable Organics	NELAP	6/24/2011
1,2,3,7,8-Pecdf	EPA 1613	Extractable Organics	NELAP	6/24/2011
1,2,3,7,8-Pecdf	EPA 8280	Extractable Organics	NELAP	1/23/2012
1,2,3,7,8-Pecdf	EPA 8290	Extractable Organics	NELAP	6/24/2011
1,2,3-Trichlorobenzene	EPA 8260	Volatile Organics	NELAP	8/12/2015
1,2,3-Trichloropropane	EPA 8260	Volatile Organics	NELAP	8/12/2015
1,2,4-Trichlorobenzene	EPA 8260	Volatile Organics	NELAP	8/12/2015
1,2,4-Trichlorobenzene	EPA 8270	Extractable Organics	NELAP	8/12/2015
1,2,4-Trimethylbenzene	EPA 8021	Volatile Organics	NELAP	8/12/2015
1,2,4-Trimethylbenzene	EPA 8260	Volatile Organics	NELAP	8/12/2015
1,2-Dibromo-3-chloropropane (DBCP)	EPA 8260	Volatile Organics	NELAP	8/12/2015
1,2-Dibromoethane (EDB, Ethylene dibromide)	EPA 8260	Volatile Organics	NELAP	8/12/2015
1,2-Dichlorobenzene	EPA 8260	Volatile Organics	NELAP	8/12/2015
1,2-Dichlorobenzene	EPA 8270	Extractable Organics	NELAP	8/12/2015
1,2-Dichloroethane	EPA 8260	Volatile Organics	NELAP	8/12/2015
1,2-Dichloropropane	EPA 8260	Volatile Organics	NELAP	8/12/2015
1,2-Diphenylhydrazine	EPA 8270	Extractable Organics	NELAP	8/12/2015
1,3,5-Trimethylbenzene	EPA 8021	Volatile Organics	NELAP	8/12/2015
1,3,5-Trimethylbenzene	EPA 8260	Volatile Organics	NELAP	8/12/2015
1,3-Dichlorobenzene	EPA 8260	Volatile Organics	NELAP	8/12/2015
1,3-Dichlorobenzene	EPA 8270	Extractable Organics	NELAP	8/12/2015
1,3-Dichloropropane	EPA 8260	Volatile Organics	NELAP	8/12/2015
1,4-Dichlorobenzene	EPA 8260	Volatile Organics	NELAP	8/12/2015
1,4-Dichlorobenzene	EPA 8270	Extractable Organics	NELAP	8/12/2015

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Issue Date: 7/1/2018

Expiration Date: 6/30/2019



Laboratory Scope of Accreditation

Page 24 of 48

Attachment to Certificate #: E87605-39, expiration date June 30, 2019. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E87605

EPA Lab Code: MN00064

(612) 607-1700

E87605

Pace Analytical Services, LLC - Minneapolis MN

1700 Elm Street, Suite 200

Minneapolis, MN 55414

Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
1,4-Dioxane (1,4-Diethyleneoxide)	EPA 8260	Volatile Organics	NELAP	1/23/2012
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl (BZ 206)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',4,4',5,5',6-Octachlorobiphenyl (BZ 194)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl (BZ 207)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',4,4',5,6-Octachlorobiphenyl (BZ 195)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',4,4',5,6'-Octachlorobiphenyl (BZ 196)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',4,4',5-Heptachlorobiphenyl (BZ 170)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',4,4',6,6'+2,2',3,3',4,5,6,6'-Octachlorobiphenyls (BZ 197+200)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',4,4',6+2,2',3,3',4,5,6-Heptachlorobiphenyls (BZ 171+173)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',4,4'+2,3,4,4',5,6-Hexachlorobiphenyls (BZ 128+166)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl (BZ 208)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',4,5,5',6+2,2',3,3',4,5,5',6'-Octachlorobiphenyls (BZ 198+199)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',4,5,5'-Heptachlorobiphenyl (BZ 172)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',4,5',6,6'-Octachlorobiphenyl (BZ 201)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',4,5,6'-Heptachlorobiphenyl (BZ 174)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',4,5',6-Heptachlorobiphenyl (BZ 175)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',4,5',6'-Heptachlorobiphenyl (BZ 177)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',4,5+2,2',3,4,4',5'+2,3,3',4',5,6-Hexachlorobiphenyls (BZ 129+138+163)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',4,5'-Hexachlorobiphenyl (BZ 130)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',4,6,6'-Heptachlorobiphenyl (BZ 176)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',4,6-Hexachlorobiphenyl (BZ 131)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',4,6'-Hexachlorobiphenyl (BZ 132)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',4-Pentachlorobiphenyl (BZ 82)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',5,5',6,6'-Octachlorobiphenyl (BZ 202)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',5,5',6-Heptachlorobiphenyl (BZ 178)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',5,5'-Hexachlorobiphenyl (BZ 133)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',5,6,6'-Heptachlorobiphenyl (BZ 179)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',5,6+2,2',3,4,5,6'-Hexachlorobiphenyls (BZ 134+143)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',5,6+2,2',3,5,5',6-Hexachlorobiphenyls (BZ 135+151)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',5-Pentachlorobiphenyl (BZ 83)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',6,6'-Hexachlorobiphenyl (BZ 136)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',6-Pentachlorobiphenyl (BZ 84)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3'+2,2',3,4+2,3',4',6-Tetrachlorobiphenyls (BZ 40+41+71)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011

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Issue Date: 7/1/2018

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Laboratory Scope of Accreditation

Page 25 of 48

Attachment to Certificate #: E87605-39, expiration date June 30, 2019. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E87605

EPA Lab Code: MN00064

(612) 607-1700

E87605

Pace Analytical Services, LLC - Minneapolis MN

1700 Elm Street, Suite 200

Minneapolis, MN 55414

Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
2,2',3,4,4',5,5',6-Octachlorobiphenyl (BZ 203)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4,4',5,5'+2,3',4',5,5',6-Heptachlorobiphenyls (BZ 180+193)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4,4',5,6,6'-Octachlorobiphenyl (BZ 204)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4,4',5',6+2,2',3,4,5,5',6-Heptachlorobiphenyls (BZ 183+185)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4,4',5,6-Heptachlorobiphenyl (BZ 181)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4,4',5,6'-Heptachlorobiphenyl (BZ 182)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4,4',5-Hexachlorobiphenyl (BZ 137)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4,4',6,6'-Heptachlorobiphenyl (BZ 184)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4,4',6+2,2',3,4,4',6'-Hexachlorobiphenyls (BZ 139+140)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4,4'+2,3,4,5,6+2,3,4',5,6-Pentachlorobiphenyls (BZ 85+116+117)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4,5,5'-Hexachlorobiphenyl (BZ 141)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4',5,5'-Hexachlorobiphenyl (BZ 146)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4,5,6,6'-Heptachlorobiphenyl (BZ 186)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4',5,6,6'-Heptachlorobiphenyl (BZ 188)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4',5,6+2,2',3,4',5',6-Hexachlorobiphenyls (BZ 147+149)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4,5,6-Hexachlorobiphenyl (BZ 142)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4,5',6-Hexachlorobiphenyl (BZ 144)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4',5,6'-Hexachlorobiphenyl (BZ 148)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4,5+2,2',3,4,5'+2,2',3,4',5'+2,3,3',4,5'+2,3',4,6+2,3',4',5',6-PeCBs(86+87+97+108+119+125)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4',5+2,2',4,5,5'+2,3,3',5',6-Pentachlorobiphenyls (BZ 90+101+113)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4,6,6'-Hexachlorobiphenyl (BZ 145)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4',6,6'-Hexachlorobiphenyl (BZ 150)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4,6+2,2',3,4',6-Pentachlorobiphenyls (BZ 88+91)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4,6'-Pentachlorobiphenyl (BZ 89)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4'-Tetrachlorobiphenyl (BZ 42)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,5,5'-Pentachlorobiphenyl (BZ 92)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,5,6,6'-Hexachlorobiphenyl (BZ 152)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,5,6'-Pentachlorobiphenyl (BZ 94)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,5',6-Pentachlorobiphenyl (BZ 95)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,5'+2,2',4,4'+2,3,5,6-Tetrachlorobiphenyls (BZ 44+47+65)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,5+2,3',5',6-Tetrachlorobiphenyls (BZ 43+73)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,6,6'-Pentachlorobiphenyl (BZ 96)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011

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Laboratory Scope of Accreditation

Page 26 of 48

Attachment to Certificate #: E87605-39, expiration date June 30, 2019. This listing of accredited analytes should be used only when associated with a valid certificate.

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EPA Lab Code: MN00064

(612) 607-1700

E87605

Pace Analytical Services, LLC - Minneapolis MN

1700 Elm Street, Suite 200

Minneapolis, MN 55414

Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
2,2',3,6+2,2',4,6'-Tetrachlorobiphenyls (BZ 45+51)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,6'-Tetrachlorobiphenyl (BZ 46)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3-Trichlorobiphenyl (BZ 16)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',4,4',5,5'+2,3',4,4',5',6'-Hexachlorobiphenyls (BZ 153+168)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',4,4',5,6'-Hexachlorobiphenyl (BZ 154)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',4,4',5-Pentachlorobiphenyl (BZ 99)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',4,4',6,6'-Hexachlorobiphenyl (BZ 155)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',4,4',6+2,2',3,5,6+2,2',4,5,6+2,2',3,4',6'-Pentachlorobiphenyls (BZ 100+93+102+98)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',4,5',6-Pentachlorobiphenyl (BZ 103)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',4,5'+2,3',4,6-Tetrachlorobiphenyls (BZ 49+69)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',4,5-Tetrachlorobiphenyl (BZ 48)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',4,6,6'-Pentachlorobiphenyl (BZ 104)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',4,6+2,2',5,6'-Tetrachlorobiphenyls (BZ 50+53)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',4-Trichlorobiphenyl (BZ 17)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',5,5'-Tetrachlorobiphenyl (BZ 52)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',5+2,4,6-Trichlorobiphenyls (BZ 18+30)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',6,6'-Tetrachlorobiphenyl (BZ 54)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',6-Trichlorobiphenyl (BZ 19)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2'-Dichlorobiphenyl (BZ 4)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2-Dichloropropane	EPA 8260	Volatile Organics	NELAP	8/12/2015
2,2'-Oxybis(1-chloropropane),bis(2-Chloro-1-methylethyl)ether (fka bis(2-Chloroisopropyl) ether	EPA 8270	Extractable Organics	NELAP	8/12/2015
2,3,3',4,4',5,5',6-Octachlorobiphenyl (BZ 205)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',4,4',5,5'-Heptachlorobiphenyl (BZ 189)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',4,4',5,6-Heptachlorobiphenyl (BZ 190)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',4,4',5',6-Heptachlorobiphenyl (BZ 191)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',4,4',5+2,3,3',4,4',5'-Hexachlorobiphenyls (BZ 156+157)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',4,4',6-Hexachlorobiphenyl (BZ 158)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',4,4'-Pentachlorobiphenyl (BZ 105)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',4,5,5',6-Heptachlorobiphenyl (BZ 192)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',4,5,5'-Hexachlorobiphenyl (BZ 159)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',4',5,5'-Hexachlorobiphenyl (BZ 162)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',4,5,6-Hexachlorobiphenyl (BZ 160)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',4,5',6-Hexachlorobiphenyl (BZ 161)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',4',5',6-Hexachlorobiphenyl (BZ 164)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011

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Laboratory Scope of Accreditation

Page 27 of 48

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Minneapolis, MN 55414

Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
2,3,3',4',5+2,3',4',5,5'-Pentachlorobiphenyls (BZ 107+124)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',4,5-Pentachlorobiphenyl (BZ 106)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',4',5'-Pentachlorobiphenyl (BZ 122)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',4',6+2,3,4,4',6-Pentachlorobiphenyls (BZ 110+115)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',4,6-Pentachlorobiphenyl (BZ 109)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',4-Tetrachlorobiphenyl (BZ 55)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',4'-Tetrachlorobiphenyl (BZ 56)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',5,5',6-Hexachlorobiphenyl (BZ 165)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',5,5'-Pentachlorobiphenyl (BZ 111)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',5,6-Pentachlorobiphenyl (BZ 112)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',5-Tetrachlorobiphenyl (BZ 57)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',5'-Tetrachlorobiphenyl (BZ 58)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',6+2,3,4,6+2,4,4',6-Tetrachlorobiphenyls (BZ EPA 1668 59+62+75)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3'+2,4,4'-Trichlorobiphenyls (BZ 20+28)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3',4,4',5,5'-Hexachlorobiphenyl (BZ 167)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,4,4',5-Pentachlorobiphenyl (BZ 114)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3',4,4',5-Pentachlorobiphenyl (BZ 118)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3',4,4',5'-Pentachlorobiphenyl (BZ 123)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	4/30/2018
2,3,4,4'-Tetrachlorobiphenyl (BZ 60)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3',4,4'-Tetrachlorobiphenyl (BZ 66)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3',4,5,5'-Pentachlorobiphenyl (BZ 120)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3',4,5',6-Pentachlorobiphenyl (BZ 121)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,4,5+2,3',4',5+2,4,4',5+2,3',4',5'-Tetrachlorobiphenyls (BZ 61+70+74+76)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,4',5-Tetrachlorobiphenyl (BZ 63)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3',4,5-Tetrachlorobiphenyl (BZ 67)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3',4,5'-Tetrachlorobiphenyl (BZ 68)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,4,6,7,8-Hxcdf	EPA 1613	Extractable Organics	NELAP	6/24/2011
2,3,4,6,7,8-Hxcdf	EPA 8280	Extractable Organics	NELAP	1/23/2012
2,3,4,6,7,8-Hxcdf	EPA 8290	Extractable Organics	NELAP	6/24/2011
2,3,4',6-Tetrachlorobiphenyl (BZ 64)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,4,7,8-Pecdf	EPA 1613	Extractable Organics	NELAP	6/24/2011
2,3,4,7,8-Pecdf	EPA 8280	Extractable Organics	NELAP	1/23/2012
2,3,4,7,8-Pecdf	EPA 8290	Extractable Organics	NELAP	6/24/2011
2,3,4+2,3',4'-Trichlorobiphenyls (BZ 21+33)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011

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Laboratory Scope of Accreditation

Page 28 of 48

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Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
2,3,4'-Trichlorobiphenyl (BZ 22)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3',4-Trichlorobiphenyl (BZ 25)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3',5,5'-Tetrachlorobiphenyl (BZ 72)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3',5+2,4,5-Trichlorobiphenyls (BZ 26+29)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,5-Trichlorobiphenyl (BZ 23)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3',5'-Trichlorobiphenyl (BZ 34)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,6-Trichlorobiphenyl (BZ 24)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3',6-Trichlorobiphenyl (BZ 27)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,7,8-TCDD	EPA 1613	Extractable Organics	NELAP	6/24/2011
2,3,7,8-TCDD (Dioxin, 2,3,7,8-Tetrachlorodibenzo-p-dioxin)	EPA 8280	Extractable Organics	NELAP	1/23/2012
2,3,7,8-TCDD (Dioxin, 2,3,7,8-Tetrachlorodibenzo-p-dioxin)	EPA 8290	Extractable Organics	NELAP	6/24/2011
2,3,7,8-TCDF	EPA 1613	Extractable Organics	NELAP	6/24/2011
2,3,7,8-TCDF	EPA 8280	Extractable Organics	NELAP	1/23/2012
2,3,7,8-TCDF	EPA 8290	Extractable Organics	NELAP	6/24/2011
2,3-Dichlorobiphenyl (BZ 5)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3'-Dichlorobiphenyl (BZ 6)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,4',5-Trichlorobiphenyl (BZ 31)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,4,5-Trichlorophenol	EPA 8270	Extractable Organics	NELAP	8/12/2015
2,4',6-Trichlorobiphenyl (BZ 32)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,4,6-Trichlorophenol	EPA 8270	Extractable Organics	NELAP	8/12/2015
2,4-Dichlorobiphenyl (BZ 7)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,4'-Dichlorobiphenyl (BZ 8)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,4-Dichlorophenol	EPA 8270	Extractable Organics	NELAP	8/12/2015
2,4-Dimethylphenol	EPA 8270	Extractable Organics	NELAP	8/12/2015
2,4-Dinitrophenol	EPA 8270	Extractable Organics	NELAP	8/12/2015
2,4-Dinitrotoluene (2,4-DNT)	EPA 8270	Extractable Organics	NELAP	8/12/2015
2,5-Dichlorobiphenyl (BZ 9)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,6-Dichlorobiphenyl (BZ 10)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,6-Dinitrotoluene (2,6-DNT)	EPA 8270	Extractable Organics	NELAP	8/12/2015
2-Butanone (Methyl ethyl ketone, MEK)	EPA 8260	Volatile Organics	NELAP	8/12/2015
2-Chlorobiphenyl (BZ 1)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2-Chloroethyl vinyl ether	EPA 8260	Volatile Organics	NELAP	8/12/2015
2-Chloronaphthalene	EPA 8270	Extractable Organics	NELAP	8/12/2015
2-Chlorophenol	EPA 8270	Extractable Organics	NELAP	8/12/2015
2-Chlorotoluene	EPA 8260	Volatile Organics	NELAP	8/12/2015

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Issue Date: 7/1/2018

Expiration Date: 6/30/2019



Laboratory Scope of Accreditation

Page 29 of 48

Attachment to Certificate #: E87605-39, expiration date June 30, 2019. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E87605

EPA Lab Code: MN00064

(612) 607-1700

E87605

Pace Analytical Services, LLC - Minneapolis MN

1700 Elm Street, Suite 200

Minneapolis, MN 55414

Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
2-Hexanone	EPA 8260	Volatile Organics	NELAP	8/12/2015
2-Methyl-4,6-dinitrophenol	EPA 8270	Extractable Organics	NELAP	8/12/2015
2-Methylnaphthalene	EPA 8260	Volatile Organics	NELAP	4/30/2018
2-Methylnaphthalene	EPA 8270	Extractable Organics	NELAP	8/12/2015
2-Methylphenol (o-Cresol)	EPA 8270	Extractable Organics	NELAP	8/12/2015
2-Nitroaniline	EPA 8270	Extractable Organics	NELAP	8/12/2015
2-Nitrophenol	EPA 8270	Extractable Organics	NELAP	8/12/2015
3,3',4,4',5,5'-Hexachlorobiphenyl (BZ 169)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
3,3',4,4',5-Pentachlorobiphenyl (BZ 126)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
3,3',4,4'-Tetrachlorobiphenyl (BZ 77)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
3,3',4,5,5'-Pentachlorobiphenyl (BZ 127)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
3,3',4,5-Tetrachlorobiphenyl (BZ 78)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
3,3',4,5'-Tetrachlorobiphenyl (BZ 79)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
3,3',4-Trichlorobiphenyl (BZ 35)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
3,3',5,5'-Tetrachlorobiphenyl (BZ 80)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
3,3',5-Trichlorobiphenyl (BZ 36)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
3,3'-Dichlorobenzidine	EPA 8270	Extractable Organics	NELAP	8/12/2015
3,3'-Dichlorobiphenyl (BZ 11)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
3,4,4',5-Tetrachlorobiphenyl (BZ 81)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
3,4,4'-Trichlorobiphenyl (BZ 37)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
3,4,5-Trichlorobiphenyl (BZ 38)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
3,4',5-Trichlorobiphenyl (BZ 39)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
3,4+3,4'-Dichlorobiphenyls (BZ 12+13)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
3,5-Dichlorobiphenyl (BZ 14)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
3-Chlorobiphenyl (BZ 2)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
3-Methylphenol (m-Cresol)	EPA 8270	Extractable Organics	NELAP	8/12/2015
3-Nitroaniline	EPA 8270	Extractable Organics	NELAP	8/12/2015
4,4'-DDD	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/12/2015
4,4'-DDE	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/12/2015
4,4'-DDT	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/12/2015
4,4'-Dichlorobiphenyl (BZ 15)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
4-Bromophenyl phenyl ether	EPA 8270	Extractable Organics	NELAP	8/12/2015
4-Chloro-3-methylphenol	EPA 8270	Extractable Organics	NELAP	4/30/2018
4-Chloroaniline	EPA 8270	Extractable Organics	NELAP	8/12/2015
4-Chlorobiphenyl (BZ 3)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
4-Chlorophenyl phenylether	EPA 8270	Extractable Organics	NELAP	8/12/2015

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Expiration Date: 6/30/2019



Laboratory Scope of Accreditation

Page 30 of 48

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EPA Lab Code: MN00064

(612) 607-1700

E87605

Pace Analytical Services, LLC - Minneapolis MN

1700 Elm Street, Suite 200

Minneapolis, MN 55414

Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
4-Chlorotoluene	EPA 8260	Volatile Organics	NELAP	8/12/2015
4-Methyl-2-pentanone (MIBK)	EPA 8260	Volatile Organics	NELAP	4/30/2018
4-Methylphenol (p-Cresol)	EPA 8270	Extractable Organics	NELAP	8/12/2015
4-Nitroaniline	EPA 8270	Extractable Organics	NELAP	8/12/2015
4-Nitrophenol	EPA 8270	Extractable Organics	NELAP	8/12/2015
Acenaphthene	EPA 8270	Extractable Organics	NELAP	8/12/2015
Acenaphthylene	EPA 8270	Extractable Organics	NELAP	8/12/2015
Acetone	EPA 8260	Volatile Organics	NELAP	8/12/2015
Acrolein (Propenal)	EPA 8260	Volatile Organics	NELAP	8/12/2015
Acrylonitrile	EPA 8260	Volatile Organics	NELAP	8/12/2015
Aldrin	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/12/2015
Allyl chloride (3-Chloropropene)	EPA 8260	Volatile Organics	NELAP	8/12/2015
alpha-BHC (alpha-Hexachlorocyclohexane)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/12/2015
alpha-Chlordane	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/12/2015
Aluminum	EPA 6010	Metals	NELAP	8/12/2015
Aluminum	EPA 6020	Metals	NELAP	6/24/2011
Anthracene	EPA 8270	Extractable Organics	NELAP	8/12/2015
Antimony	EPA 6010	Metals	NELAP	8/12/2015
Antimony	EPA 6020	Metals	NELAP	6/24/2011
Aroclor-1016 (PCB-1016)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	8/12/2015
Aroclor-1221 (PCB-1221)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	8/12/2015
Aroclor-1232 (PCB-1232)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	8/12/2015
Aroclor-1242 (PCB-1242)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	8/12/2015
Aroclor-1248 (PCB-1248)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	8/12/2015
Aroclor-1254 (PCB-1254)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	8/12/2015
Aroclor-1260 (PCB-1260)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	8/12/2015
Arsenic	EPA 6010	Metals	NELAP	8/12/2015
Arsenic	EPA 6020	Metals	NELAP	6/24/2011
Barium	EPA 6010	Metals	NELAP	8/12/2015
Barium	EPA 6020	Metals	NELAP	6/24/2011
Benzene	EPA 8021	Volatile Organics	NELAP	8/12/2015
Benzene	EPA 8260	Volatile Organics	NELAP	8/12/2015
Benzidine	EPA 8270	Extractable Organics	NELAP	8/12/2015
Benzo(a)anthracene	EPA 8270	Extractable Organics	NELAP	8/12/2015
Benzo(a)pyrene	EPA 8270	Extractable Organics	NELAP	8/12/2015
Benzo(b)fluoranthene	EPA 8270	Extractable Organics	NELAP	8/12/2015

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Issue Date: 7/1/2018

Expiration Date: 6/30/2019



Laboratory Scope of Accreditation

Page 31 of 48

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Pace Analytical Services, LLC - Minneapolis MN

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Minneapolis, MN 55414

Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
Benzo(g,h,i)perylene	EPA 8270	Extractable Organics	NELAP	8/12/2015
Benzo(k)fluoranthene	EPA 8270	Extractable Organics	NELAP	8/12/2015
Benzoic acid	EPA 8270	Extractable Organics	NELAP	8/12/2015
Benzyl alcohol	EPA 8270	Extractable Organics	NELAP	8/12/2015
Beryllium	EPA 6010	Metals	NELAP	8/12/2015
Beryllium	EPA 6020	Metals	NELAP	6/24/2011
beta-BHC (beta-Hexachlorocyclohexane)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/12/2015
bis(2-Chloroethoxy)methane	EPA 8270	Extractable Organics	NELAP	8/12/2015
bis(2-Chloroethyl) ether	EPA 8270	Extractable Organics	NELAP	8/12/2015
Bismuth	EPA 6020	Metals	NELAP	4/30/2018
Boron	EPA 6010	Metals	NELAP	8/12/2015
Boron	EPA 6020	Metals	NELAP	4/30/2018
Bromobenzene	EPA 8260	Volatile Organics	NELAP	8/12/2015
Bromochloromethane	EPA 8260	Volatile Organics	NELAP	8/12/2015
Bromodichloromethane	EPA 8260	Volatile Organics	NELAP	8/12/2015
Bromoform	EPA 8260	Volatile Organics	NELAP	8/12/2015
Butyl benzyl phthalate	EPA 8270	Extractable Organics	NELAP	8/12/2015
Cadmium	EPA 6010	Metals	NELAP	8/12/2015
Cadmium	EPA 6020	Metals	NELAP	6/24/2011
Calcium	EPA 6010	Metals	NELAP	8/12/2015
Calcium	EPA 6020	Metals	NELAP	6/24/2011
Carbazole	EPA 8270	Extractable Organics	NELAP	4/30/2018
Carbon disulfide	EPA 8260	Volatile Organics	NELAP	8/12/2015
Carbon tetrachloride	EPA 8260	Volatile Organics	NELAP	8/12/2015
Chlordane (tech.)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/12/2015
Chlorobenzene	EPA 8260	Volatile Organics	NELAP	8/12/2015
Chloroethane	EPA 8260	Volatile Organics	NELAP	8/12/2015
Chloroform	EPA 8260	Volatile Organics	NELAP	8/12/2015
Chromium	EPA 6010	Metals	NELAP	8/12/2015
Chromium	EPA 6020	Metals	NELAP	6/24/2011
Chrysene	EPA 8270	Extractable Organics	NELAP	8/12/2015
cis-1,2-Dichloroethylene	EPA 8260	Volatile Organics	NELAP	8/12/2015
cis-1,3-Dichloropropene	EPA 8260	Volatile Organics	NELAP	8/12/2015
Cobalt	EPA 6010	Metals	NELAP	8/12/2015
Cobalt	EPA 6020	Metals	NELAP	6/24/2011
Copper	EPA 6010	Metals	NELAP	8/12/2015

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Expiration Date: 6/30/2019



Laboratory Scope of Accreditation

Page 32 of 48

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Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
Copper	EPA 6020	Metals	NELAP	6/24/2011
Decachlorobiphenyl (BZ 209)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
delta-BHC	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/12/2015
Di(2-ethylhexyl) phthalate (DEHP)	EPA 8270	Extractable Organics	NELAP	8/12/2015
Dibenz(a,h)anthracene	EPA 8270	Extractable Organics	NELAP	8/12/2015
Dibenzofuran	EPA 8270	Extractable Organics	NELAP	8/12/2015
Dibromochloromethane	EPA 8260	Volatile Organics	NELAP	8/12/2015
Dibromomethane	EPA 8260	Volatile Organics	NELAP	8/12/2015
Dichlorodifluoromethane	EPA 8260	Volatile Organics	NELAP	8/12/2015
Dieldrin	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/12/2015
Diesel range organics (DRO)	EPA 8015	Extractable Organics	NELAP	8/12/2015
Diethyl ether	EPA 8260	Volatile Organics	NELAP	8/12/2015
Diethyl phthalate	EPA 8270	Extractable Organics	NELAP	8/12/2015
Di-isopropylether (DIPE)	EPA 8260	Volatile Organics	NELAP	4/30/2018
Dimethyl phthalate	EPA 8270	Extractable Organics	NELAP	8/12/2015
Di-n-butyl phthalate	EPA 8270	Extractable Organics	NELAP	8/12/2015
Di-n-octyl phthalate	EPA 8270	Extractable Organics	NELAP	8/12/2015
Endosulfan I	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/12/2015
Endosulfan II	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/12/2015
Endosulfan sulfate	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/12/2015
Endrin	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/12/2015
Endrin aldehyde	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/12/2015
Endrin ketone	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/12/2015
Ethylbenzene	EPA 8021	Volatile Organics	NELAP	8/12/2015
Ethylbenzene	EPA 8260	Volatile Organics	NELAP	8/12/2015
Ethyl-t-butylether (ETBE)	EPA 8260	Volatile Organics	NELAP	4/30/2018
Fluoranthene	EPA 8270	Extractable Organics	NELAP	8/12/2015
Fluorene	EPA 8270	Extractable Organics	NELAP	8/12/2015
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/12/2015
gamma-Chlordane	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/12/2015
Gasoline range organics (GRO)	EPA 8015	Extractable Organics	NELAP	8/12/2015
Heptachlor	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/12/2015
Heptachlor epoxide	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/12/2015
Hexachlorobenzene	EPA 8270	Extractable Organics	NELAP	8/12/2015
Hexachlorobutadiene	EPA 8260	Volatile Organics	NELAP	8/12/2015
Hexachlorobutadiene	EPA 8270	Extractable Organics	NELAP	8/12/2015

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Laboratory Scope of Accreditation

Page 33 of 48

Attachment to Certificate #: E87605-39, expiration date June 30, 2019. This listing of accredited analytes should be used only when associated with a valid certificate.

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Pace Analytical Services, LLC - Minneapolis MN

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Minneapolis, MN 55414

Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
Hexachlorocyclopentadiene	EPA 8270	Extractable Organics	NELAP	8/12/2015
Hexachloroethane	EPA 8270	Extractable Organics	NELAP	8/12/2015
Indeno(1,2,3-cd)pyrene	EPA 8270	Extractable Organics	NELAP	8/12/2015
Iodomethane (Methyl iodide)	EPA 8260	Volatile Organics	NELAP	8/12/2015
Iron	EPA 6010	Metals	NELAP	8/12/2015
Iron	EPA 6020	Metals	NELAP	6/24/2011
Isobutyl alcohol (2-Methyl-1-propanol)	EPA 8260	Volatile Organics	NELAP	8/12/2015
Isophorone	EPA 8270	Extractable Organics	NELAP	8/12/2015
Isopropylbenzene	EPA 8260	Volatile Organics	NELAP	8/12/2015
Lead	EPA 6010	Metals	NELAP	8/12/2015
Lead	EPA 6020	Metals	NELAP	6/24/2011
Lithium	EPA 6020	Metals	NELAP	4/30/2018
m/p-Xylenes	EPA 8021	Volatile Organics	NELAP	4/30/2018
m/p-Xylenes	EPA 8260	Volatile Organics	NELAP	4/30/2018
Magnesium	EPA 6010	Metals	NELAP	8/12/2015
Magnesium	EPA 6020	Metals	NELAP	6/24/2011
Manganese	EPA 6010	Metals	NELAP	8/12/2015
Manganese	EPA 6020	Metals	NELAP	6/24/2011
Mercury	EPA 7471	Metals	NELAP	8/12/2015
Methoxychlor	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/12/2015
Methyl bromide (Bromomethane)	EPA 8260	Volatile Organics	NELAP	8/12/2015
Methyl chloride (Chloromethane)	EPA 8260	Volatile Organics	NELAP	8/12/2015
Methyl tert-butyl ether (MTBE)	EPA 8021	Volatile Organics	NELAP	8/12/2015
Methyl tert-butyl ether (MTBE)	EPA 8260	Volatile Organics	NELAP	8/12/2015
Methylene chloride	EPA 8260	Volatile Organics	NELAP	8/12/2015
Molybdenum	EPA 6010	Metals	NELAP	8/12/2015
Molybdenum	EPA 6020	Metals	NELAP	6/24/2011
Naphthalene	EPA 8260	Volatile Organics	NELAP	8/12/2015
Naphthalene	EPA 8270	Extractable Organics	NELAP	8/12/2015
n-Butylbenzene	EPA 8260	Volatile Organics	NELAP	8/12/2015
Nickel	EPA 6010	Metals	NELAP	8/12/2015
Nickel	EPA 6020	Metals	NELAP	6/24/2011
Nitrobenzene	EPA 8270	Extractable Organics	NELAP	8/12/2015
n-Nitrosodimethylamine	EPA 8270	Extractable Organics	NELAP	8/12/2015
n-Nitrosodi-n-propylamine	EPA 8270	Extractable Organics	NELAP	8/12/2015
n-Nitrosodiphenylamine	EPA 8270	Extractable Organics	NELAP	8/12/2015

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Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
n-Propylbenzene	EPA 8260	Volatile Organics	NELAP	8/12/2015
Oil & Grease	EPA 9071	General Chemistry	NELAP	8/12/2015
o-Xylene	EPA 8021	Volatile Organics	NELAP	4/30/2018
o-Xylene	EPA 8260	Volatile Organics	NELAP	4/30/2018
Paint Filter Liquids Test	EPA 9095	General Chemistry	NELAP	8/12/2015
Pentachlorophenol	EPA 8270	Extractable Organics	NELAP	8/12/2015
pH	EPA 9045	General Chemistry	NELAP	8/12/2015
Phenanthrene	EPA 8270	Extractable Organics	NELAP	8/12/2015
Phenol	EPA 8270	Extractable Organics	NELAP	8/12/2015
p-Isopropyltoluene	EPA 8260	Volatile Organics	NELAP	8/12/2015
Potassium	EPA 6010	Metals	NELAP	8/12/2015
Potassium	EPA 6020	Metals	NELAP	6/24/2011
Pyrene	EPA 8270	Extractable Organics	NELAP	8/12/2015
Pyridine	EPA 8270	Extractable Organics	NELAP	8/12/2015
sec-Butylbenzene	EPA 8260	Volatile Organics	NELAP	8/12/2015
Selenium	EPA 6010	Metals	NELAP	8/12/2015
Selenium	EPA 6020	Metals	NELAP	6/24/2011
Silver	EPA 6010	Metals	NELAP	8/12/2015
Silver	EPA 6020	Metals	NELAP	6/24/2011
Sodium	EPA 6010	Metals	NELAP	8/12/2015
Sodium	EPA 6020	Metals	NELAP	6/24/2011
Strontium	EPA 6020	Metals	NELAP	6/24/2011
Styrene	EPA 8260	Volatile Organics	NELAP	8/12/2015
Synthetic Precipitation Leaching Procedure	EPA 1312	General Chemistry	NELAP	6/24/2011
T-amylmethylether (TAME)	EPA 8260	Volatile Organics	NELAP	4/30/2018
tert-Butyl alcohol (2-Methyl-2-propanol)	EPA 8260	Volatile Organics	NELAP	8/12/2015
tert-Butylbenzene	EPA 8260	Volatile Organics	NELAP	8/12/2015
Tetrachloroethylene (Perchloroethylene)	EPA 8260	Volatile Organics	NELAP	8/12/2015
Tetrahydrofuran (THF)	EPA 8260	Volatile Organics	NELAP	4/30/2018
Thallium	EPA 6010	Metals	NELAP	8/12/2015
Thallium	EPA 6020	Metals	NELAP	6/24/2011
Tin	EPA 6010	Metals	NELAP	8/12/2015
Tin	EPA 6020	Metals	NELAP	6/24/2011
Titanium	EPA 6010	Metals	NELAP	8/12/2015
Titanium	EPA 6020	Metals	NELAP	6/24/2011
Toluene	EPA 8021	Volatile Organics	NELAP	8/12/2015

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Issue Date: 7/1/2018

Expiration Date: 6/30/2019



Laboratory Scope of Accreditation

Page 35 of 48

Attachment to Certificate #: E87605-39, expiration date June 30, 2019. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E87605

EPA Lab Code: MN00064

(612) 607-1700

E87605

Pace Analytical Services, LLC - Minneapolis MN

1700 Elm Street, Suite 200

Minneapolis, MN 55414

Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
Toluene	EPA 8260	Volatile Organics	NELAP	8/12/2015
Total Heptachlorodibenzofuran	EPA 1613	Extractable Organics	NELAP	6/24/2011
Total Heptachlorodibenzofuran	EPA 8280	Extractable Organics	NELAP	1/23/2012
Total Heptachlorodibenzofuran	EPA 8290	Extractable Organics	NELAP	6/24/2011
Total Heptachlorodibenzo-p-dioxin	EPA 1613	Extractable Organics	NELAP	6/24/2011
Total Heptachlorodibenzo-p-dioxin	EPA 8280	Extractable Organics	NELAP	1/23/2012
Total Heptachlorodibenzo-p-dioxin	EPA 8290	Extractable Organics	NELAP	6/24/2011
Total Hexachlorodibenzofuran	EPA 1613	Extractable Organics	NELAP	6/24/2011
Total Hexachlorodibenzofuran	EPA 8280	Extractable Organics	NELAP	1/23/2012
Total Hexachlorodibenzofuran	EPA 8290	Extractable Organics	NELAP	6/24/2011
Total Hexachlorodibenzo-p-dioxin	EPA 1613	Extractable Organics	NELAP	6/24/2011
Total Hexachlorodibenzo-p-dioxin	EPA 8280	Extractable Organics	NELAP	1/23/2012
Total Hexachlorodibenzo-p-dioxin	EPA 8290	Extractable Organics	NELAP	6/24/2011
Total Pentachlorodibenzofuran	EPA 1613	Extractable Organics	NELAP	6/24/2011
Total Pentachlorodibenzofuran	EPA 8280	Extractable Organics	NELAP	1/23/2012
Total Pentachlorodibenzofuran	EPA 8290	Extractable Organics	NELAP	6/24/2011
Total Pentachlorodibenzo-p-dioxin	EPA 1613	Extractable Organics	NELAP	6/24/2011
Total Pentachlorodibenzo-p-dioxin	EPA 8280	Extractable Organics	NELAP	1/23/2012
Total Pentachlorodibenzo-p-dioxin	EPA 8290	Extractable Organics	NELAP	6/24/2011
Total Tetrachlorodibenzofuran	EPA 1613	Extractable Organics	NELAP	6/24/2011
Total Tetrachlorodibenzofuran	EPA 8280	Extractable Organics	NELAP	1/23/2012
Total Tetrachlorodibenzofuran	EPA 8290	Extractable Organics	NELAP	6/24/2011
Total Tetrachlorodibenzo-p-dioxin	EPA 1613	Extractable Organics	NELAP	6/24/2011
Total Tetrachlorodibenzo-p-dioxin	EPA 8280	Extractable Organics	NELAP	1/23/2012
Total Tetrachlorodibenzo-p-dioxin	EPA 8290	Extractable Organics	NELAP	6/24/2011
Toxaphene (Chlorinated camphene)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/12/2015
Toxicity Characteristic Leaching Procedure	EPA 1311	General Chemistry	NELAP	6/24/2011
trans-1,2-Dichloroethylene	EPA 8260	Volatile Organics	NELAP	8/12/2015
trans-1,3-Dichloropropene	EPA 8260	Volatile Organics	NELAP	8/12/2015
trans-1,4-Dichloro-2-butene	EPA 8260	Volatile Organics	NELAP	8/12/2015
Trichloroethene (Trichloroethylene)	EPA 8260	Volatile Organics	NELAP	4/30/2018
Trichlorofluoromethane	EPA 8260	Volatile Organics	NELAP	8/12/2015
Uranium	EPA 6020	Radiochemistry	NELAP	5/22/2018
Vanadium	EPA 6010	Metals	NELAP	8/12/2015
Vanadium	EPA 6020	Metals	NELAP	6/24/2011
Vinyl acetate	EPA 8260	Volatile Organics	NELAP	8/12/2015

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Laboratory Scope of Accreditation

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State Laboratory ID: E87605

EPA Lab Code: MN00064

(612) 607-1700

E87605

Pace Analytical Services, LLC - Minneapolis MN

1700 Elm Street, Suite 200

Minneapolis, MN 55414

Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
Vinyl chloride	EPA 8260	Volatile Organics	NELAP	8/12/2015
Xylene (total)	EPA 8021	Volatile Organics	NELAP	4/30/2018
Xylene (total)	EPA 8260	Volatile Organics	NELAP	8/12/2015
Zinc	EPA 6010	Metals	NELAP	8/12/2015
Zinc	EPA 6020	Metals	NELAP	6/24/2011



Laboratory Scope of Accreditation

Page 37 of 48

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E87605

Pace Analytical Services, LLC - Minneapolis MN

1700 Elm Street, Suite 200

Minneapolis, MN 55414

Matrix: Biological Tissue

Analyte	Method/Tech	Category	Certification Type	Effective Date
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	EPA 1613	Extractable Organics	NELAP	6/24/2011
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	EPA 8290	Extractable Organics	NELAP	6/24/2011
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	EPA 1613	Extractable Organics	NELAP	6/24/2011
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	EPA 8290	Extractable Organics	NELAP	6/24/2011
1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-hpcdf)	EPA 1613	Extractable Organics	NELAP	6/24/2011
1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-hpcdf)	EPA 8290	Extractable Organics	NELAP	6/24/2011
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-hpcdd)	EPA 1613	Extractable Organics	NELAP	6/24/2011
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-hpcdd)	EPA 8290	Extractable Organics	NELAP	6/24/2011
1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-hpcdf)	EPA 1613	Extractable Organics	NELAP	6/24/2011
1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-hpcdf)	EPA 8290	Extractable Organics	NELAP	6/24/2011
1,2,3,4,7,8-Hxcdd	EPA 1613	Extractable Organics	NELAP	6/24/2011
1,2,3,4,7,8-Hxcdd	EPA 8290	Extractable Organics	NELAP	6/24/2011
1,2,3,4,7,8-Hxcdf	EPA 1613	Extractable Organics	NELAP	6/24/2011
1,2,3,4,7,8-Hxcdf	EPA 8290	Extractable Organics	NELAP	6/24/2011
1,2,3,6,7,8-Hxcdd	EPA 1613	Extractable Organics	NELAP	6/24/2011
1,2,3,6,7,8-Hxcdd	EPA 8290	Extractable Organics	NELAP	6/24/2011
1,2,3,6,7,8-Hxcdf	EPA 1613	Extractable Organics	NELAP	6/24/2011
1,2,3,6,7,8-Hxcdf	EPA 8290	Extractable Organics	NELAP	6/24/2011
1,2,3,7,8,9-Hxcdd	EPA 1613	Extractable Organics	NELAP	6/24/2011
1,2,3,7,8,9-Hxcdd	EPA 8290	Extractable Organics	NELAP	6/24/2011
1,2,3,7,8,9-Hxcdf	EPA 1613	Extractable Organics	NELAP	6/24/2011
1,2,3,7,8,9-Hxcdf	EPA 8290	Extractable Organics	NELAP	6/24/2011
1,2,3,7,8-Pecdd	EPA 1613	Extractable Organics	NELAP	6/24/2011
1,2,3,7,8-Pecdd	EPA 8290	Extractable Organics	NELAP	6/24/2011
1,2,3,7,8-Pecdf	EPA 1613	Extractable Organics	NELAP	6/24/2011
1,2,3,7,8-Pecdf	EPA 8290	Extractable Organics	NELAP	6/24/2011
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl (BZ 206)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',4,4',5,5',6-Octachlorobiphenyl (BZ 194)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl (BZ 207)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',4,4',5,6-Octachlorobiphenyl (BZ 195)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	4/30/2018
2,2',3,3',4,4',5,6'-Octachlorobiphenyl (BZ 196)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',4,4',5-Heptachlorobiphenyl (BZ 170)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011

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Laboratory Scope of Accreditation

Page 38 of 48

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State Laboratory ID: E87605

EPA Lab Code: MN00064

(612) 607-1700

E87605

Pace Analytical Services, LLC - Minneapolis MN

1700 Elm Street, Suite 200

Minneapolis, MN 55414

Matrix: Biological Tissue

Analyte	Method/Tech	Category	Certification Type	Effective Date
2,2',3,3',4,4',6,6'+2,2',3,3',4,5,6,6'-Octachlorobiphenyls (BZ 197+200)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',4,4',6+2,2',3,3',4,5,6-Heptachlorobiphenyls (BZ 171+173)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',4,4'+2,3,4,4',5,6-Hexachlorobiphenyls (BZ 128+166)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl (BZ 208)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',4,5,5',6+2,2',3,3',4,5,5',6'-Octachlorobiphenyls (BZ 198+199)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',4,5,5'-Heptachlorobiphenyl (BZ 172)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',4,5',6,6'-Octachlorobiphenyl (BZ 201)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',4,5,6'-Heptachlorobiphenyl (BZ 174)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',4,5',6-Heptachlorobiphenyl (BZ 175)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',4,5',6'-Heptachlorobiphenyl (BZ 177)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',4,5+2,2',3,4,4',5'+2,3,3',4',5,6-Hexachlorobiphenyls (BZ 129+138+163)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',4,5'-Hexachlorobiphenyl (BZ 130)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',4,6'-Heptachlorobiphenyl (BZ 176)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',4,6-Hexachlorobiphenyl (BZ 131)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',4,6'-Hexachlorobiphenyl (BZ 132)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',4-Pentachlorobiphenyl (BZ 82)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',5,5',6,6'-Octachlorobiphenyl (BZ 202)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',5,5',6-Heptachlorobiphenyl (BZ 178)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',5,5'-Hexachlorobiphenyl (BZ 133)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',5,6,6'-Heptachlorobiphenyl (BZ 179)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',5,6+2,2',3,4,5,6'-Hexachlorobiphenyls (BZ 134+143)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',5,6+2,2',3,5,5',6-Hexachlorobiphenyls (BZ 135+151)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	4/30/2018
2,2',3,3',5-Pentachlorobiphenyl (BZ 83)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',6,6'-Hexachlorobiphenyl (BZ 136)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3',6-Pentachlorobiphenyl (BZ 84)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,3'+2,2',3,4+2,3',4',6-Tetrachlorobiphenyls (BZ 40+41+71)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4,4',5,5',6-Octachlorobiphenyl (BZ 203)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4,4',5,5'+2,3,3',4',5,5',6-Heptachlorobiphenyls (BZ 180+193)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4,4',5,6,6'-Octachlorobiphenyl (BZ 204)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4,4',5',6+2,2',3,4,5,5',6-Heptachlorobiphenyls (BZ 183+185)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4,4',5,6-Heptachlorobiphenyl (BZ 181)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4,4',5,6'-Heptachlorobiphenyl (BZ 182)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011

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Issue Date: 7/1/2018

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Laboratory Scope of Accreditation

Page 39 of 48

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1700 Elm Street, Suite 200

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Matrix: Biological Tissue

Analyte	Method/Tech	Category	Certification Type	Effective Date
2,2',3,4,4',5-Hexachlorobiphenyl (BZ 137)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4,4',6,6'-Heptachlorobiphenyl (BZ 184)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4,4',6+2,2',3,4,4',6'-Hexachlorobiphenyls (BZ 139+140)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4,4'+2,3,4,5,6+2,3,4',5,6-Pentachlorobiphenyls (BZ 85+116+117)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4,5,5'-Hexachlorobiphenyl (BZ 141)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4',5,5'-Hexachlorobiphenyl (BZ 146)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4,5,6,6'-Heptachlorobiphenyl (BZ 186)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4',5,6,6'-Heptachlorobiphenyl (BZ 188)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4',5,6+2,2',3,4',5',6-Hexachlorobiphenyls (BZ 147+149)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4,5,6-Hexachlorobiphenyl (BZ 142)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4,5',6-Hexachlorobiphenyl (BZ 144)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4',5,6'-Hexachlorobiphenyl (BZ 148)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4,5+2,2',3,4,5'+2,2',3,4',5'+2,3,3',4,5'+2,3',4,4',6+2,3',4',5',6-PeCBs(86+87+97+108+119+125)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4',5+2,2',4,5,5'+2,3,3',5',6-Pentachlorobiphenyls (BZ 90+101+113)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4,6,6'-Hexachlorobiphenyl (BZ 145)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4',6,6'-Hexachlorobiphenyl (BZ 150)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4,6+2,2',3,4',6-Pentachlorobiphenyls (BZ 88+91)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4,6'-Pentachlorobiphenyl (BZ 89)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,4'-Tetrachlorobiphenyl (BZ 42)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,5,5'-Pentachlorobiphenyl (BZ 92)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,5,6,6'-Hexachlorobiphenyl (BZ 152)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,5,6'-Pentachlorobiphenyl (BZ 94)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,5',6-Pentachlorobiphenyl (BZ 95)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,5'+2,2',4,4'+2,3,5,6-Tetrachlorobiphenyls (BZ 44+47+65)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,6,6'-Pentachlorobiphenyl (BZ 96)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,6+2,2',4,6'-Tetrachlorobiphenyls (BZ 45+51)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3,6'-Tetrachlorobiphenyl (BZ 46)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',3-Trichlorobiphenyl (BZ 16)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',4,4',5,5'+2,3',4,4',5',6-Hexachlorobiphenyls (BZ 153+168)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',4,4',5,6'-Hexachlorobiphenyl (BZ 154)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',4,4',5-Pentachlorobiphenyl (BZ 99)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',4,4',6,6'-Hexachlorobiphenyl (BZ 155)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011

Clients and Customers are urged to verify the laboratory's current certification status with the Environmental Laboratory Certification Program.

Issue Date: 7/1/2018

Expiration Date: 6/30/2019



Laboratory Scope of Accreditation

Page 40 of 48

Attachment to Certificate #: E87605-39, expiration date June 30, 2019. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E87605

EPA Lab Code: MN00064

(612) 607-1700

E87605

Pace Analytical Services, LLC - Minneapolis MN

1700 Elm Street, Suite 200

Minneapolis, MN 55414

Matrix: Biological Tissue

Analyte	Method/Tech	Category	Certification Type	Effective Date
2,2',4,4',6+2,2',3,5,6+2,2',4,5,6'+2,2',3,4',6'-Pentachlorobiphenyls (BZ 100+93+102+98)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',4,5',6-Pentachlorobiphenyl (BZ 103)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',4,5'+2,3',4,6-Tetrachlorobiphenyls (BZ 49+69)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',4,5-Tetrachlorobiphenyl (BZ 48)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',4,6,6'-Pentachlorobiphenyl (BZ 104)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',4,6+2,2',5,6'-Tetrachlorobiphenyls (BZ 50+53)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',4-Trichlorobiphenyl (BZ 17)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',5,5'-Tetrachlorobiphenyl (BZ 52)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',5+2,4,6-Trichlorobiphenyls (BZ 18+30)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',6,6'-Tetrachlorobiphenyl (BZ 54)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2',6-Trichlorobiphenyl (BZ 19)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,2'-Dichlorobiphenyl (BZ 4)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',4,4',5,5',6-Octachlorobiphenyl (BZ 205)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',4,4',5,5'-Heptachlorobiphenyl (BZ 189)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',4,4',5,6-Heptachlorobiphenyl (BZ 190)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',4,4',5',6-Heptachlorobiphenyl (BZ 191)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',4,4',5+2,3,3',4,4',5'-Hexachlorobiphenyls (BZ 156+157)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',4,4',6-Hexachlorobiphenyl (BZ 158)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',4,4'-Pentachlorobiphenyl (BZ 105)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',4,5,5',6-Heptachlorobiphenyl (BZ 192)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',4,5,5'-Hexachlorobiphenyl (BZ 159)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	4/30/2018
2,3,3',4',5,5'-Hexachlorobiphenyl (BZ 162)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',4,5,6-Hexachlorobiphenyl (BZ 160)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',4,5',6-Hexachlorobiphenyl (BZ 161)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',4',5',6-Hexachlorobiphenyl (BZ 164)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',4',5+2,3',4',5,5'-Pentachlorobiphenyls (BZ 107+124)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',4,5-Pentachlorobiphenyl (BZ 106)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',4',5'-Pentachlorobiphenyl (BZ 122)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',4',6+2,3,4,4',6-Pentachlorobiphenyls (BZ 110+115)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',4,6-Pentachlorobiphenyl (BZ 109)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',4-Tetrachlorobiphenyl (BZ 55)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',4'-Tetrachlorobiphenyl (BZ 56)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',5,5',6-Hexachlorobiphenyl (BZ 165)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',5,5'-Pentachlorobiphenyl (BZ 111)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011

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Issue Date: 7/1/2018

Expiration Date: 6/30/2019



Laboratory Scope of Accreditation

Page 41 of 48

Attachment to Certificate #: E87605-39, expiration date June 30, 2019. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E87605

EPA Lab Code: MN00064

(612) 607-1700

E87605

Pace Analytical Services, LLC - Minneapolis MN

1700 Elm Street, Suite 200

Minneapolis, MN 55414

Matrix: Biological Tissue

Analyte	Method/Tech	Category	Certification Type	Effective Date
2,3,3',5,6-Pentachlorobiphenyl (BZ 112)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',5-Tetrachlorobiphenyl (BZ 57)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',5'-Tetrachlorobiphenyl (BZ 58)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3',6+2,3,4,6+2,4,4',6-Tetrachlorobiphenyls (BZ EPA 1668 59+62+75)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,3'+2,4,4'-Trichlorobiphenyls (BZ 20+28)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3',4,4',5,5'-Hexachlorobiphenyl (BZ 167)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,4,4',5-Pentachlorobiphenyl (BZ 114)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3',4,4',5-Pentachlorobiphenyl (BZ 118)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3',4,4',5'-Pentachlorobiphenyl (BZ 123)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,4,4'-Tetrachlorobiphenyl (BZ 60)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3',4,4'-Tetrachlorobiphenyl (BZ 66)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3',4,5,5'-Pentachlorobiphenyl (BZ 120)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3',4,5',6-Pentachlorobiphenyl (BZ 121)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,4,5+2,3',4',5+2,4,4',5+2,3',4',5'-Tetrachlorobiphenyls (BZ 61+70+74+76)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,4',5-Tetrachlorobiphenyl (BZ 63)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3',4,5-Tetrachlorobiphenyl (BZ 67)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3',4,5'-Tetrachlorobiphenyl (BZ 68)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,4,6,7,8-Hxcdf	EPA 1613	Extractable Organics	NELAP	6/24/2011
2,3,4,6,7,8-Hxcdf	EPA 8290	Extractable Organics	NELAP	6/24/2011
2,3,4',6-Tetrachlorobiphenyl (BZ 64)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,4,7,8-Pecdf	EPA 1613	Extractable Organics	NELAP	6/24/2011
2,3,4,7,8-Pecdf	EPA 8290	Extractable Organics	NELAP	6/24/2011
2,3,4+2,3',4'-Trichlorobiphenyls (BZ 21+33)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,4'-Trichlorobiphenyl (BZ 22)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3',4-Trichlorobiphenyl (BZ 25)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3',5,5'-Tetrachlorobiphenyl (BZ 72)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3',5',6-Tetrachlorobiphenyl (BZ 73)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	4/30/2018
2,3',5+2,4,5-Trichlorobiphenyls (BZ 26+29)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,5-Trichlorobiphenyl (BZ 23)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3',5'-Trichlorobiphenyl (BZ 34)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,6-Trichlorobiphenyl (BZ 24)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3',6-Trichlorobiphenyl (BZ 27)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3,7,8-TCDD	EPA 1613	Extractable Organics	NELAP	6/24/2011
2,3,7,8-TCDD (Dioxin, 2,3,7,8-Tetrachlorodibenzo-p-dioxin)	EPA 8290	Extractable Organics	NELAP	6/24/2011
2,3,7,8-TCDF	EPA 1613	Extractable Organics	NELAP	6/24/2011

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Issue Date: 7/1/2018

Expiration Date: 6/30/2019



Laboratory Scope of Accreditation

Page 42 of 48

Attachment to Certificate #: E87605-39, expiration date June 30, 2019. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E87605

EPA Lab Code: MN00064

(612) 607-1700

E87605

Pace Analytical Services, LLC - Minneapolis MN

1700 Elm Street, Suite 200

Minneapolis, MN 55414

Matrix: Biological Tissue

Analyte	Method/Tech	Category	Certification Type	Effective Date
2,3,7,8-TCDF	EPA 8290	Extractable Organics	NELAP	6/24/2011
2,3-Dichlorobiphenyl (BZ 5)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,3'-Dichlorobiphenyl (BZ 6)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,4',5-Trichlorobiphenyl (BZ 31)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,4',6-Trichlorobiphenyl (BZ 32)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,4-Dichlorobiphenyl (BZ 7)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,4'-Dichlorobiphenyl (BZ 8)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	4/30/2018
2,5-Dichlorobiphenyl (BZ 9)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2,6-Dichlorobiphenyl (BZ 10)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
2-Chlorobiphenyl (BZ 1)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
3,3',4,4',5,5'-Hexachlorobiphenyl (BZ 169)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
3,3',4,4',5-Pentachlorobiphenyl (BZ 126)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
3,3',4,4'-Tetrachlorobiphenyl (BZ 77)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
3,3',4,5'-Pentachlorobiphenyl (BZ 127)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
3,3',4,5-Tetrachlorobiphenyl (BZ 78)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
3,3',4,5'-Tetrachlorobiphenyl (BZ 79)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
3,3',4-Trichlorobiphenyl (BZ 35)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
3,3',5,5'-Tetrachlorobiphenyl (BZ 80)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
3,3',5-Trichlorobiphenyl (BZ 36)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
3,3'-Dichlorobiphenyl (BZ 11)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
3,4,4',5-Tetrachlorobiphenyl (BZ 81)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
3,4,4'-Trichlorobiphenyl (BZ 37)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
3,4,5-Trichlorobiphenyl (BZ 38)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
3,4',5-Trichlorobiphenyl (BZ 39)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
3,4+3,4'-Dichlorobiphenyls (BZ 12+13)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
3,5-Dichlorobiphenyl (BZ 14)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
3-Chlorobiphenyl (BZ 2)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
4,4'-Dichlorobiphenyl (BZ 15)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
4-Chlorobiphenyl (BZ 3)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
Decachlorobiphenyl (BZ 209)	EPA 1668	Pesticides-Herbicides-PCB's	NELAP	6/24/2011
Total Heptachlorodibenzofuran	EPA 1613	Extractable Organics	NELAP	6/24/2011
Total Heptachlorodibenzofuran	EPA 8290	Extractable Organics	NELAP	6/24/2011
Total Heptachlorodibenzo-p-dioxin	EPA 1613	Extractable Organics	NELAP	6/24/2011
Total Heptachlorodibenzo-p-dioxin	EPA 8290	Extractable Organics	NELAP	6/24/2011
Total Hexachlorodibenzofuran	EPA 1613	Extractable Organics	NELAP	6/24/2011
Total Hexachlorodibenzofuran	EPA 8290	Extractable Organics	NELAP	6/24/2011

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Issue Date: 7/1/2018

Expiration Date: 6/30/2019



Laboratory Scope of Accreditation

Attachment to Certificate #: E87605-39, expiration date June 30, 2019. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E87605

EPA Lab Code: MN00064

(612) 607-1700

E87605

Pace Analytical Services, LLC - Minneapolis MN

1700 Elm Street, Suite 200

Minneapolis, MN 55414

Matrix: Biological Tissue

Analyte	Method/Tech	Category	Certification Type	Effective Date
Total Hexachlorodibenzo-p-dioxin	EPA 1613	Extractable Organics	NELAP	6/24/2011
Total Hexachlorodibenzo-p-dioxin	EPA 8290	Extractable Organics	NELAP	6/24/2011
Total Pentachlorodibenzofuran	EPA 1613	Extractable Organics	NELAP	6/24/2011
Total Pentachlorodibenzofuran	EPA 8290	Extractable Organics	NELAP	6/24/2011
Total Pentachlorodibenzo-p-dioxin	EPA 1613	Extractable Organics	NELAP	6/24/2011
Total Pentachlorodibenzo-p-dioxin	EPA 8290	Extractable Organics	NELAP	6/24/2011
Total Tetrachlorodibenzofuran	EPA 1613	Extractable Organics	NELAP	6/24/2011
Total Tetrachlorodibenzofuran	EPA 8290	Extractable Organics	NELAP	6/24/2011
Total Tetrachlorodibenzo-p-dioxin	EPA 1613	Extractable Organics	NELAP	6/24/2011
Total Tetrachlorodibenzo-p-dioxin	EPA 8290	Extractable Organics	NELAP	6/24/2011



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(612) 607-1700

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Pace Analytical Services, LLC - Minneapolis MN

1700 Elm Street, Suite 200

Minneapolis, MN 55414

Matrix: Air and Emissions

Analyte	Method/Tech	Category	Certification Type	Effective Date
1,1,1-Trichloroethane	EPA TO-14A	Volatile Organics	NELAP	6/24/2011
1,1,1-Trichloroethane	EPA TO-15	Volatile Organics	NELAP	6/24/2011
1,1,2,2-Tetrachloroethane	EPA TO-14A	Volatile Organics	NELAP	6/24/2011
1,1,2,2-Tetrachloroethane	EPA TO-15	Volatile Organics	NELAP	6/24/2011
1,1,2,2-Tetrachloroethane	EPA TO-17	Volatile Organics	NELAP	5/9/2014
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	EPA TO-14A	Volatile Organics	NELAP	6/24/2011
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	EPA TO-15	Volatile Organics	NELAP	6/24/2011
1,1,2-Trichloroethane	EPA TO-14A	Volatile Organics	NELAP	6/24/2011
1,1,2-Trichloroethane	EPA TO-15	Volatile Organics	NELAP	6/24/2011
1,1,2-Trichloroethane	EPA TO-17	Volatile Organics	NELAP	5/9/2014
1,1-Dichloroethane	EPA TO-14A	Volatile Organics	NELAP	6/24/2011
1,1-Dichloroethane	EPA TO-15	Volatile Organics	NELAP	6/24/2011
1,1-Dichloroethylene	EPA TO-14A	Volatile Organics	NELAP	6/24/2011
1,1-Dichloroethylene	EPA TO-15	Volatile Organics	NELAP	6/24/2011
1,1-Dichloroethylene	EPA TO-17	Volatile Organics	NELAP	5/9/2014
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	EPA TO-9A	Extractable Organics	NELAP	6/24/2011
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	EPA TO-9A	Extractable Organics	NELAP	6/24/2011
1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-hpcdf)	EPA TO-9A	Extractable Organics	NELAP	6/24/2011
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-hpcdd)	EPA TO-9A	Extractable Organics	NELAP	6/24/2011
1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-hpcdf)	EPA TO-9A	Volatile Organics	NELAP	6/24/2011
1,2,3,4,7,8-Hxcdd	EPA TO-9A	Extractable Organics	NELAP	6/24/2011
1,2,3,4,7,8-Hxcdf	EPA TO-9A	Extractable Organics	NELAP	6/24/2011
1,2,3,6,7,8-Hxcdd	EPA TO-9A	Extractable Organics	NELAP	6/24/2011
1,2,3,6,7,8-Hxcdf	EPA TO-9A	Extractable Organics	NELAP	6/24/2011
1,2,3,7,8,9-Hxcdd	EPA TO-9A	Extractable Organics	NELAP	6/24/2011
1,2,3,7,8,9-Hxcdf	EPA TO-9A	Extractable Organics	NELAP	6/24/2011
1,2,3,7,8-Pecdd	EPA TO-9A	Extractable Organics	NELAP	6/24/2011
1,2,3,7,8-Pecdf	EPA TO-9A	Extractable Organics	NELAP	6/24/2011
1,2,4-Trichlorobenzene	EPA TO-14A	Volatile Organics	NELAP	6/24/2011
1,2,4-Trichlorobenzene	EPA TO-15	Volatile Organics	NELAP	6/24/2011
1,2,4-Trimethylbenzene	EPA TO-14A	Volatile Organics	NELAP	6/24/2011
1,2,4-Trimethylbenzene	EPA TO-15	Volatile Organics	NELAP	6/24/2011
1,2,4-Trimethylbenzene	EPA TO-17	Volatile Organics	NELAP	5/9/2014
1,2,4-Trimethylbenzene	EPA TO-3	Volatile Organics	NELAP	6/24/2011

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Issue Date: 7/1/2018

Expiration Date: 6/30/2019



Laboratory Scope of Accreditation

Page 45 of 48

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E87605

Pace Analytical Services, LLC - Minneapolis MN

1700 Elm Street, Suite 200

Minneapolis, MN 55414

Matrix: Air and Emissions

Analyte	Method/Tech	Category	Certification Type	Effective Date
1,2-Dibromoethane (EDB, Ethylene dibromide)	EPA TO-14A	Volatile Organics	NELAP	6/24/2011
1,2-Dibromoethane (EDB, Ethylene dibromide)	EPA TO-15	Volatile Organics	NELAP	6/24/2011
1,2-Dichloro-1,1,2,2-tetrafluoroethane	EPA TO-14A	Volatile Organics	NELAP	6/24/2011
1,2-Dichloro-1,1,2,2-tetrafluoroethane	EPA TO-15	Volatile Organics	NELAP	6/24/2011
1,2-Dichlorobenzene	EPA TO-14A	Volatile Organics	NELAP	6/24/2011
1,2-Dichlorobenzene	EPA TO-15	Volatile Organics	NELAP	6/24/2011
1,2-Dichloroethane	EPA TO-14A	Volatile Organics	NELAP	6/24/2011
1,2-Dichloroethane	EPA TO-15	Volatile Organics	NELAP	6/24/2011
1,2-Dichloroethane	EPA TO-17	Volatile Organics	NELAP	5/9/2014
1,2-Dichloropropane	EPA TO-14A	Volatile Organics	NELAP	6/24/2011
1,2-Dichloropropane	EPA TO-15	Volatile Organics	NELAP	6/24/2011
1,3,5-Trimethylbenzene	EPA TO-15	Volatile Organics	NELAP	6/24/2011
1,3,5-Trimethylbenzene	EPA TO-17	Volatile Organics	NELAP	5/9/2014
1,3-Butadiene	EPA TO-15	Volatile Organics	NELAP	6/24/2011
1,3-Dichlorobenzene	EPA TO-14A	Volatile Organics	NELAP	6/24/2011
1,3-Dichlorobenzene	EPA TO-15	Volatile Organics	NELAP	6/24/2011
1,4-Dichlorobenzene	EPA TO-14A	Volatile Organics	NELAP	6/24/2011
1,4-Dichlorobenzene	EPA TO-15	Volatile Organics	NELAP	6/24/2011
1,4-Dioxane (1,4-Diethyleneoxide)	EPA TO-15	Volatile Organics	NELAP	4/30/2018
2,3,4,6,7,8-Hxcdf	EPA TO-9A	Extractable Organics	NELAP	6/24/2011
2,3,4,7,8-Pecdf	EPA TO-9A	Extractable Organics	NELAP	6/24/2011
2,3,7,8-TCDD (Dioxin, 2,3,7,8-Tetrachlorodibenzo-p-dioxin)	EPA TO-9A	Extractable Organics	NELAP	6/24/2011
2,3,7,8-TCDF	EPA TO-9A	Extractable Organics	NELAP	6/24/2011
2-Butanone (Methyl ethyl ketone, MEK)	EPA TO-15	Volatile Organics	NELAP	6/24/2011
2-Hexanone	EPA TO-15	Volatile Organics	NELAP	4/30/2018
Acetone	EPA TO-15	Volatile Organics	NELAP	4/30/2018
Benzene	EPA TO-14A	Volatile Organics	NELAP	6/24/2011
Benzene	EPA TO-15	Volatile Organics	NELAP	6/24/2011
Benzene	EPA TO-17	Volatile Organics	NELAP	5/9/2014
Benzene	EPA TO-3	Volatile Organics	NELAP	6/24/2011
Benzyl chloride	EPA TO-15	Volatile Organics	NELAP	6/24/2011
Bromodichloromethane	EPA TO-15	Volatile Organics	NELAP	4/30/2018
Bromoform	EPA TO-15	Volatile Organics	NELAP	6/24/2011
Carbon disulfide	EPA TO-15	Volatile Organics	NELAP	6/24/2011
Carbon tetrachloride	EPA TO-14A	Volatile Organics	NELAP	6/24/2011
Carbon tetrachloride	EPA TO-15	Volatile Organics	NELAP	6/24/2011

Clients and Customers are urged to verify the laboratory's current certification status with the Environmental Laboratory Certification Program.

Issue Date: 7/1/2018

Expiration Date: 6/30/2019



Laboratory Scope of Accreditation

Attachment to Certificate #: E87605-39, expiration date June 30, 2019. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E87605

EPA Lab Code: MN00064

(612) 607-1700

E87605

Pace Analytical Services, LLC - Minneapolis MN

1700 Elm Street, Suite 200

Minneapolis, MN 55414

Matrix: Air and Emissions

Analyte	Method/Tech	Category	Certification Type	Effective Date
Chlorobenzene	EPA TO-14A	Volatile Organics	NELAP	6/24/2011
Chlorobenzene	EPA TO-15	Volatile Organics	NELAP	6/24/2011
Chloroethane	EPA TO-14A	Volatile Organics	NELAP	6/24/2011
Chloroethane	EPA TO-15	Volatile Organics	NELAP	6/24/2011
Chloroform	EPA TO-14A	Volatile Organics	NELAP	6/24/2011
Chloroform	EPA TO-15	Volatile Organics	NELAP	6/24/2011
cis-1,2-Dichloroethylene	EPA TO-14A	Volatile Organics	NELAP	6/24/2011
cis-1,2-Dichloroethylene	EPA TO-15	Volatile Organics	NELAP	4/30/2018
cis-1,2-Dichloroethylene	EPA TO-17	Volatile Organics	NELAP	5/9/2014
cis-1,3-Dichloropropene	EPA TO-14A	Volatile Organics	NELAP	6/24/2011
cis-1,3-Dichloropropene	EPA TO-15	Volatile Organics	NELAP	6/24/2011
Cyclohexane	EPA TO-15	Volatile Organics	NELAP	4/30/2018
Dibromochloromethane	EPA TO-15	Volatile Organics	NELAP	4/30/2018
Dichlorodifluoromethane	EPA TO-14A	Volatile Organics	NELAP	6/24/2011
Dichlorodifluoromethane	EPA TO-15	Volatile Organics	NELAP	6/24/2011
Ethane	RSK-175	Volatile Organics	NELAP	6/24/2011
Ethylbenzene	EPA TO-14A	Volatile Organics	NELAP	6/24/2011
Ethylbenzene	EPA TO-15	Volatile Organics	NELAP	6/24/2011
Ethylbenzene	EPA TO-17	Volatile Organics	NELAP	5/9/2014
Ethylbenzene	EPA TO-3	Volatile Organics	NELAP	6/24/2011
Ethylene	RSK-175	Volatile Organics	NELAP	6/24/2011
Hexachlorobutadiene	EPA TO-14A	Volatile Organics	NELAP	6/24/2011
Hexachlorobutadiene	EPA TO-15	Volatile Organics	NELAP	6/24/2011
Isopropyl alcohol (2-Propanol)	EPA TO-15	Volatile Organics	NELAP	4/30/2018
Isopropylbenzene	EPA TO-15	Volatile Organics	NELAP	4/30/2018
Isopropylbenzene	EPA TO-17	Volatile Organics	NELAP	5/9/2014
m/p-Xylenes	EPA TO-14A	Volatile Organics	NELAP	4/30/2018
m+p-Xylenes	EPA TO-15	Volatile Organics	NELAP	4/30/2018
Methane	EPA TO-3	Volatile Organics	NELAP	4/30/2018
Methane	RSK-175	Volatile Organics	NELAP	6/24/2011
Methyl bromide (Bromomethane)	EPA TO-14A	Volatile Organics	NELAP	6/24/2011
Methyl bromide (Bromomethane)	EPA TO-15	Volatile Organics	NELAP	6/24/2011
Methyl chloride (Chloromethane)	EPA TO-14A	Volatile Organics	NELAP	6/24/2011
Methyl chloride (Chloromethane)	EPA TO-15	Volatile Organics	NELAP	6/24/2011
Methyl isobutyl ketone (Hexone)	EPA TO-15	Volatile Organics	NELAP	6/24/2011
Methyl methacrylate	EPA TO-15	Volatile Organics	NELAP	4/30/2018

Clients and Customers are urged to verify the laboratory's current certification status with the Environmental Laboratory Certification Program.

Issue Date: 7/1/2018

Expiration Date: 6/30/2019



Laboratory Scope of Accreditation

Page 47 of 48

Attachment to Certificate #: E87605-39, expiration date June 30, 2019. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E87605

EPA Lab Code: MN00064

(612) 607-1700

E87605

Pace Analytical Services, LLC - Minneapolis MN

1700 Elm Street, Suite 200

Minneapolis, MN 55414

Matrix: Air and Emissions

Analyte	Method/Tech	Category	Certification Type	Effective Date
Methyl tert-butyl ether (MTBE)	EPA TO-15	Volatile Organics	NELAP	6/24/2011
Methyl tert-butyl ether (MTBE)	EPA TO-3	Volatile Organics	NELAP	6/24/2011
Methylene chloride	EPA TO-14A	Volatile Organics	NELAP	6/24/2011
Methylene chloride	EPA TO-15	Volatile Organics	NELAP	6/24/2011
Naphthalene	EPA TO-15	Volatile Organics	NELAP	4/30/2018
Naphthalene	EPA TO-17	Extractable Organics	NELAP	5/9/2014
n-Heptane	EPA TO-15	Volatile Organics	NELAP	6/24/2011
n-Hexane	EPA TO-14A	Volatile Organics	NELAP	4/30/2018
n-Hexane	EPA TO-15	Volatile Organics	NELAP	6/24/2011
n-Hexane	EPA TO-3	Volatile Organics	NELAP	6/24/2011
o-Xylene	EPA TO-14A	Volatile Organics	NELAP	4/30/2018
Propane	RSK-175	Volatile Organics	NELAP	6/24/2011
Propylene (Propene)	EPA TO-15	Volatile Organics	NELAP	4/30/2018
Styrene	EPA TO-14A	Volatile Organics	NELAP	6/24/2011
Styrene	EPA TO-15	Volatile Organics	NELAP	6/24/2011
Styrene	EPA TO-17	Volatile Organics	NELAP	5/9/2014
Tetrachloroethylene (Perchloroethylene)	EPA TO-14A	Volatile Organics	NELAP	6/24/2011
Tetrachloroethylene (Perchloroethylene)	EPA TO-15	Volatile Organics	NELAP	6/24/2011
Tetrachloroethylene (Perchloroethylene)	EPA TO-17	Volatile Organics	NELAP	5/9/2014
Tetrahydrofuran (THF)	EPA TO-15	Volatile Organics	NELAP	4/30/2018
Toluene	EPA TO-14A	Volatile Organics	NELAP	6/24/2011
Toluene	EPA TO-15	Volatile Organics	NELAP	6/24/2011
Toluene	EPA TO-17	Volatile Organics	NELAP	5/9/2014
Toluene	EPA TO-3	Volatile Organics	NELAP	6/24/2011
trans-1,2-Dichloroethylene	EPA TO-14A	Volatile Organics	NELAP	6/24/2011
trans-1,2-Dichloroethylene	EPA TO-15	Volatile Organics	NELAP	6/24/2011
trans-1,2-Dichloroethylene	EPA TO-17	Volatile Organics	NELAP	5/9/2014
trans-1,3-Dichloropropene	EPA TO-14A	Volatile Organics	NELAP	6/24/2011
trans-1,3-Dichloropropene	EPA TO-15	Volatile Organics	NELAP	6/24/2011
Trichloroethene (Trichloroethylene)	EPA TO-14A	Volatile Organics	NELAP	6/24/2011
Trichloroethene (Trichloroethylene)	EPA TO-15	Volatile Organics	NELAP	6/24/2011
Trichloroethene (Trichloroethylene)	EPA TO-17	Volatile Organics	NELAP	5/9/2014
Trichlorofluoromethane	EPA TO-14A	Volatile Organics	NELAP	6/24/2011
Trichlorofluoromethane	EPA TO-15	Volatile Organics	NELAP	6/24/2011
Vinyl acetate	EPA TO-15	Volatile Organics	NELAP	6/24/2011
Vinyl bromide	EPA TO-15	Volatile Organics	NELAP	4/30/2018

Clients and Customers are urged to verify the laboratory's current certification status with the Environmental Laboratory Certification Program.

Issue Date: 7/1/2018

Expiration Date: 6/30/2019



Laboratory Scope of Accreditation

Page 48 of 48

Attachment to Certificate #: E87605-39, expiration date June 30, 2019. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E87605

EPA Lab Code: MN00064

(612) 607-1700

E87605

Pace Analytical Services, LLC - Minneapolis MN

1700 Elm Street, Suite 200

Minneapolis, MN 55414

Matrix: Air and Emissions

Analyte	Method/Tech	Category	Certification Type	Effective Date
Vinyl chloride	EPA TO-14A	Volatile Organics	NELAP	6/24/2011
Vinyl chloride	EPA TO-15	Volatile Organics	NELAP	6/24/2011
Vinyl chloride	EPA TO-17	Volatile Organics	NELAP	5/9/2014
Xylene (total)	EPA TO-14A	Volatile Organics	NELAP	6/24/2011
Xylene (total)	EPA TO-15	Volatile Organics	NELAP	6/24/2011
Xylene (total)	EPA TO-3	Volatile Organics	NELAP	6/24/2011



State of Florida
Department of Health, Bureau of Public Health Laboratories
This is to certify that



E87683

PACE ANALYTICAL SERVICES, LLC - PITTSBURGH PA
1638 ROSEYTOWN ROAD SUITES 2, 3 & 4
GREENSBURG, PA 15601

has complied with Florida Administrative Code 64E-1,
for the examination of environmental samples in the following categories

DRINKING WATER - RADIOCHEMISTRY, NON-POTABLE WATER - RADIOCHEMISTRY, SOLID AND CHEMICAL MATERIALS - RADIOCHEMISTRY

Continued certification is contingent upon successful on-going compliance with the NELAC Standards and FAC Rule 64E-1 regulations. Specific methods and analytes certified are cited on the Laboratory Scope of Accreditation for this laboratory and are on file at the Bureau of Public Health Laboratories, P. O. Box 210, Jacksonville, Florida 32231. Clients and customers are urged to verify with this agency the laboratory's certification status in Florida for particular methods and analytes.

Date Issued: July 01, 2018 Expiration Date: June 30, 2019



A blue ink signature of Patty A. Lewandowski.

Patty A. Lewandowski, MBA, MT(ASCP)
Chief Bureau of Public Health Laboratories
DH Form 1697, 7/04

NON-TRANSFERABLE E87683-28-07/01/2018
Supersedes all previously issued certificates



Laboratory Scope of Accreditation

Page 1 of 3

Attachment to Certificate #: E87683-28, expiration date June 30, 2019. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E87683

EPA Lab Code:

PA01457

(724) 850-5600

E87683

Pace Analytical Services, LLC - Pittsburgh PA

1638 Roseytown Road

Suites 2, 3 & 4

Greensburg, PA 15601

Matrix: Drinking Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Gamma emitters	EPA 901.1	Radiochemistry	NELAP	7/1/2008
Gross-alpha	EPA 900.0	Radiochemistry	NELAP	7/1/2008
Gross-alpha	SM 7110 C	Radiochemistry	NELAP	10/1/2008
Gross-beta	EPA 900.0	Radiochemistry	NELAP	7/1/2008
Radium-226	EPA 903.1	Radiochemistry	NELAP	7/1/2008
Radium-228	EPA 904.0	Radiochemistry	NELAP	7/1/2008
Radon	SM 7500 Rn B	Radiochemistry	NELAP	7/20/2012
Strontium-90	EPA 905.0	Radiochemistry	NELAP	7/1/2008
Total alpha radium	EPA 903.0	Radiochemistry	NELAP	7/1/2008
Tritium	EPA 906.0	Radiochemistry	NELAP	7/1/2008
Uranium	ASTM D5174-97	Radiochemistry	NELAP	7/1/2008



Laboratory Scope of Accreditation

Page 2 of 3

Attachment to Certificate #: E87683-28, expiration date June 30, 2019. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E87683

EPA Lab Code: PA01457

(724) 850-5600

E87683

Pace Analytical Services, LLC - Pittsburgh PA

1638 Roseytown Road

Suites 2, 3 & 4

Greensburg, PA 15601

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Gamma emitters	EPA 901.1	Radiochemistry	NELAP	10/1/2008
Gross-alpha	EPA 9310	Radiochemistry	NELAP	10/1/2008
Gross-alpha	SM 7110 C	Radiochemistry	NELAP	10/1/2008
Gross-beta	EPA 9310	Radiochemistry	NELAP	10/1/2008
Radium-226	EPA 903.1	Radiochemistry	NELAP	10/1/2008
Radium-228	EPA 904.0	Radiochemistry	NELAP	10/1/2008
Radium-228	EPA 9320	Radiochemistry	NELAP	10/1/2008
Strontium-90	EPA 905.0	Radiochemistry	NELAP	10/1/2008
Total alpha	EPA 900.0	Radiochemistry	NELAP	10/1/2008
Total alpha radium	EPA 903.0	Radiochemistry	NELAP	10/1/2008
Total beta	EPA 900.0	Radiochemistry	NELAP	10/1/2008
Total radium	EPA 9315	Radiochemistry	NELAP	10/1/2008
Tritium	EPA 906.0	Radiochemistry	NELAP	10/1/2008
Uranium	ASTM D5174-97	Radiochemistry	NELAP	4/30/2013



Laboratory Scope of Accreditation

Page 3 of 3

Attachment to Certificate #: E87683-28, expiration date June 30, 2019. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E87683

EPA Lab Code:

PA01457

(724) 850-5600

E87683

Pace Analytical Services, LLC - Pittsburgh PA

1638 Roseytown Road

Suites 2, 3 & 4

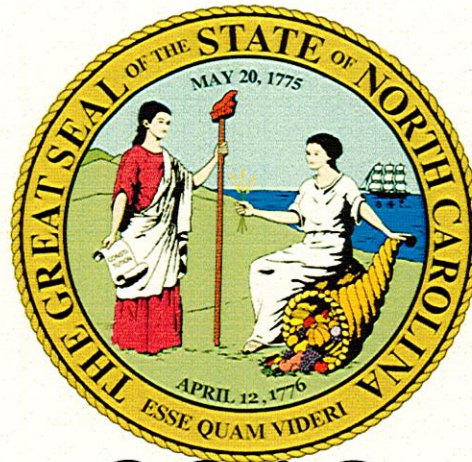
Greensburg, PA 15601

Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
Gross-alpha	EPA 9310	Radiochemistry	NELAP	10/1/2008
Gross-beta	EPA 9310	Radiochemistry	NELAP	10/1/2008
Radium-228	EPA 9320	Radiochemistry	NELAP	10/1/2008
Total radium	EPA 9315	Radiochemistry	NELAP	10/1/2008

DIVISION OF WATER RESOURCES LABORATORY CERTIFICATION BRANCH

In accordance with the provisions of N.C.G.S. 143-215.3 (a) (1), 143-215.3 (a)(10) and NCAC 2H.0800:



2018

Pace Analytical Services LLC - Huntersville NC

Is hereby certified to perform environmental analysis as listed on Attachment I and report monitoring data to DEQ for compliance with NPDES effluent, surface water, groundwater, and pretreatment regulations.

By reference 15A NCAC 2H .0800 is made a part of this certificate.

This certificate does not guarantee validity of data generated, but indicates the methodology, equipment, quality control procedures, records, and proficiency of the laboratory have been examined and found to be acceptable.

This certificate shall be valid until **12/31/2018**

Certificate No. 12

A handwritten signature in green ink, appearing to read "Dana B. Satterwhite", is written over a horizontal line.

Dana B. Satterwhite

North Carolina Wastewater/Groundwater Laboratory Certification

Certified Parameters Listing

Lab Name: Pace Analytical Services LLC - Huntersville NC
Address: 9800 Kinney Avenue, Suite 100
Huntersville, NC 28078-

Certificate Number: 12
Effective Date: 1/1/2018
Expiration Date: 12/31/2018
Date of Last Amendment: 3/12/2018

The above named laboratory, having duly met the requirements of 15A NCAC 2H.0800, is hereby certified for the measurement of the parameters listed below.

CERTIFIED PARAMETERS

INORGANIC

BACTERIA - COLIFORM FECAL

SM 9222 D-2006 (MF) (Aqueous)

OIL & GREASE

EPA 1664 Rev. B (Aqueous)

SW-846 9071 B (Non-Aqueous)

TURBIDITY

SM 2130 B-2011 (Aqueous)

ORGANIC

SPLP ORGANICS

SW-846 1312 (Aqueous)

SW-846 1312 (Non-Aqueous)

TCLP ORGANICS

SW-846 1311 (Aqueous)

SW-846 1311 (Non-Aqueous)

1,2, DIBROMOETHANE (EDB)

EPA 504.1 (Includes DBCP & TCP) (Aqueous)

SW-846 8011 (Includes DBCP) (Aqueous)

BASE NEUTRAL/ACID, ORGANICS

EPA 625.1 (Aqueous)

SW-846 8270 D (Aqueous)

SW-846 8270 D (Non-Aqueous)

EXTRACTABLE PETROLEUM HYDROCARBONS

MADEP, May 2004, Rev. 1.1 (Aqueous)

MADEP, May 2004, Rev. 1.1 (Non-Aqueous)

PESTICIDES, ORGANOCHLORINE

EPA 608.3 (Aqueous)

SW-846 8081 B (Aqueous)

SW-846 8081 B (Non-Aqueous)

POLYCHLORINATED BIPHENYLS (PCBs)

EPA 608.3 (Aqueous)

SW-846 8082 A (Aqueous)

SW-846 8082 A (Non-Aqueous)

PURGEABLE, ORGANICS

EPA 624.1 (Aqueous)

SM 6200 B-2011 (Aqueous)

SW-846 8260 B (Aqueous)

SW-846 8260 B (Non-Aqueous)

TPH DIESEL RANGE, ORGANICS

SW-846 8015 C (Aqueous)

SW-846 8015 C (Non-Aqueous)

TPH GASOLINE RANGE, ORGANICS

SW-846 8015 C (Aqueous)

SW-846 8015 C (Non-Aqueous)

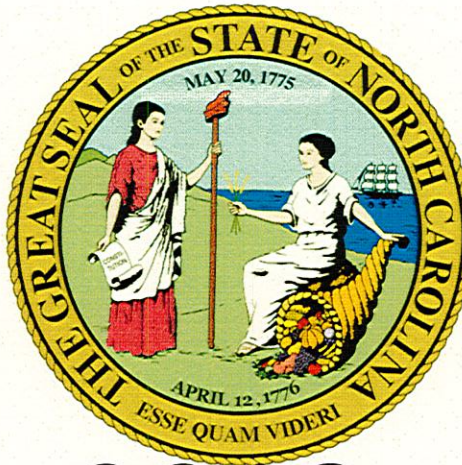
VOLATILE PETROLEUM HYDROCARBONS

MADEP, May 2004, Rev. 1.1 (Aqueous)

MADEP, May 2004, Rev. 1.1 (Non-Aqueous)

DIVISION OF WATER RESOURCES LABORATORY CERTIFICATION BRANCH

In accordance with the provisions of N.C.G.S. 143-215.3 (a) (1), 143-215.3 (a)(10) and NCAC 2H.0800:



2018

Pace Analytical Services LLC - Asheville NC

Is hereby certified to perform environmental analysis as listed on Attachment I and report monitoring data to DEQ for compliance with NPDES effluent, surface water, groundwater, and pretreatment regulations.

By reference 15A NCAC 2H .0800 is made a part of this certificate.

This certificate does not guarantee validity of data generated, but indicates the methodology, equipment, quality control procedures, records, and proficiency of the laboratory have been examined and found to be acceptable.

This certificate shall be valid until 12/31/2018

Certificate No. 40

A handwritten signature in green ink, appearing to read "Dana B. Satterwhite", is written over a horizontal line.

Dana B. Satterwhite

North Carolina Wastewater/Groundwater Laboratory Certification

Certified Parameters Listing

Lab Name: Pace Analytical Services LLC - Asheville NC
Address: 2225 Riverside Drive
Asheville, NC 28804-

Certificate Number: 40
Effective Date: 1/1/2018
Expiration Date: 12/31/2018
Date of Last Amendment: 7/31/2017

The above named laboratory, having duly met the requirements of 15A NCAC 2H.0800, is hereby certified for the measurement of the parameters listed below.

CERTIFIED PARAMETERS	
INORGANIC	SW-846 9056 A (Aqueous)
ALKALINITY	HARDNESS TOTAL
SM 2320 B-2011 (Aqueous)	SM 2340 B-2011 (Ca EPA 200.7, Rev. 4.4, 1994 + Mg EPA 200.7, Rev. 4.4, 1994) (Aqueous)
BACTERIA - COLIFORM FECAL	IGNITABILITY
SM 9222 D-1997 (MF) (Aqueous)	SW-846 1010 A (Pensky-Martens) (Aqueous)
IDEXX Colilert ®18 (MPN) (Aqueous)	INORGANIC PHENOLS
BOD	EPA 420.4, Rev. 1.0, 1993 (Aqueous)
SM 5210 B-2011 (Aqueous)	SW-846 9065 (Aqueous)
SM 5210 B-2011 (ASTM D 888-09 C) (LDO) (Aqueous)	NITROGEN, AMMONIA
BROMIDE	EPA 350.1, Rev. 2.0, 1993 (Aqueous)
EPA 300.0, Rev. 2.1, 1993 (Aqueous)	NITROGEN, NITRATE
SW-846 9056 A (Aqueous)	(NO3 + NO2 EPA 353.2, Rev. 2.0, 1993) - (NO2 EPA 353.2, Rev. 2.0, 1993) (Aqueous)
CBOD	(NO3 + NO2 SW-846 9056 A) - (NO2 SW-846 9056 A) (Aqueous)
SM 5210 B-2011 (Aqueous)	EPA 300.0, Rev. 2.1, 1993 (Aqueous)
SM 5210 B-2011 (ASTM D 888-09 C) (LDO) (Aqueous)	NITROGEN, NITRITE
CHLORIDE	EPA 353.2, Rev. 2.0, 1993 (Aqueous)
SM 4500 Cl ⁻ E-2011 (Aqueous)	EPA 300.0, Rev. 2.1, 1993 (Aqueous)
EPA 300.0, Rev. 2.1, 1993 (Aqueous)	SW-846 9056 A (Aqueous)
SW-846 9056 A (Aqueous)	NITROGEN, NO3 + NO2
CHLORINE, TOTAL RESIDUAL	EPA 353.2, Rev. 2.0, 1993 (Aqueous)
SM 4500 Cl G-2011 (Aqueous)	NITROGEN, TOTAL KJELDAHL
COD	EPA 351.2, Rev. 2.0, 1993 (Aqueous)
SM 5220 D-2011 (Aqueous)	ORGANIC CARBON, TOTAL
CONDUCTIVITY	SM 5310 B-2011 (Combustion) (Aqueous)
EPA 120.1, Rev. 1982 (Aqueous)	SW-846 9060 A (Combustion) (Aqueous)
SW-846 9050 A (Aqueous)	PAINT FILTER LIQUIDS
CYANIDE	SW-846 9095B
SM 4500 CN ⁻ E-2011 (Total) (Aqueous)	pH
Lachat 10-204-00-1-X, Rev. 2.2, 2005 (SW-846 9012B) (Total) (Aqueous)	SM 4500 H+B-2011 (Aqueous)
Lachat 10-204-00-1-X, Rev. 2.2, 2005 (SW-846 9012B) (Total) (Non-Aqueous)	SW-846 9040 C (Aqueous)
Lachat 10-204-00-1-X, Rev. 2.2, 2005 (Total) (Aqueous)	SW-846 9045 D (Non-Aqueous)
DISSOLVED OXYGEN	PHOSPHATE, ORTHO
SM 4500 O G-2011 (Aqueous)	SM 4500 P E-2011 (Aqueous)
FLUORIDE	EPA 365.1, Rev. 2.0, 1993 (Aqueous)
EPA 300.0, Rev. 2.1, 1993 (Aqueous)	EPA 300.0, Rev. 2.1, 1993 (Aqueous)

This certification requires maintenance of an acceptable quality assurance program, use of approved methodology, and satisfactory performance on evaluation samples. Laboratories are subject to civil penalties and/or decertification for infractions as set forth in 15A NCAC 2H.0807.

North Carolina Wastewater/Groundwater Laboratory Certification

Certified Parameters Listing

Lab Name: Pace Analytical Services LLC - Asheville NC
Address: 2225 Riverside Drive
Asheville, NC 28804-

Certificate Number: 40
Effective Date: 1/1/2018
Expiration Date: 12/31/2018
Date of Last Amendment: 7/31/2017

The above named laboratory, having duly met the requirements of 15A NCAC 2H.0800, is hereby certified for the measurement of the parameters listed below.

CERTIFIED PARAMETERS

SW-846 9056 A (Aqueous)
PHOSPHORUS, TOTAL
EPA 365.1, Rev. 2.0, 1993 (Aqueous)
RESIDUE, DISSOLVED 180 C
SM 2540 C-2011 (Aqueous)
RESIDUE, SETTLEABLE
SM 2540 F-2011 (Aqueous)
RESIDUE, SUSPENDED
SM 2540 D-2011 (Aqueous)
RESIDUE, TOTAL
SM 2540 B-2011 (Aqueous)
SILICA
EPA 200.7, Rev. 4.4, 1994 (Aqueous)
SW-846 6010 D (Aqueous)
SW-846 6010 D (Non-Aqueous)
SULFATE
EPA 300.0, Rev. 2.1, 1993 (Aqueous)
SW-846 9056 A (Aqueous)
SULFIDE
SM 4500 S²⁻ D-2011 (Aqueous)
TURBIDITY
EPA 180.1, Rev. 2.0, 1993 (Aqueous)
VECTOR ATTRACTION REDUCTION
Option 1: Reduction in Volatile Solids
Option 2: Anaerobic Batch Digestion
Option 3: Additional Digestion of Sludge
METAL
SPLP METALS
SW-846 1312 (Aqueous)
SW-846 1312 (Non-Aqueous)
TCLP METALS
SW-846 1311 (Aqueous)
SW-846 1311 (Non-Aqueous)
ALUMINUM
EPA 200.7, Rev. 4.4, 1994 (Aqueous)

SW-846 6010 D (Aqueous)
SW-846 6010 D (Non-Aqueous)
EPA 200.8, Rev. 5.4, 1994 (Aqueous)
SW-846 6020 B (Aqueous)
ANTIMONY
EPA 200.7, Rev. 4.4, 1994 (Aqueous)
SW-846 6010 D (Aqueous)
SW-846 6010 D (Non-Aqueous)
EPA 200.8, Rev. 5.4, 1994 (Aqueous)
SW-846 6020 B (Aqueous)
ARSENIC
EPA 200.7, Rev. 4.4, 1994 (Aqueous)
SW-846 6010 D (Aqueous)
SW-846 6010 D (Non-Aqueous)
EPA 200.8, Rev. 5.4, 1994 (Aqueous)
SW-846 6020 B (Aqueous)
BARIUM
EPA 200.7, Rev. 4.4, 1994 (Aqueous)
SW-846 6010 D (Aqueous)
SW-846 6010 D (Non-Aqueous)
EPA 200.8, Rev. 5.4, 1994 (Aqueous)
SW-846 6020 B (Aqueous)
BERYLLIUM
EPA 200.7, Rev. 4.4, 1994 (Aqueous)
SW-846 6010 D (Aqueous)
SW-846 6010 D (Non-Aqueous)
EPA 200.8, Rev. 5.4, 1994 (Aqueous)
SW-846 6020 B (Aqueous)
BORON
EPA 200.7, Rev. 4.4, 1994 (Aqueous)
SW-846 6010 D (Aqueous)
SW-846 6010 D (Non-Aqueous)
EPA 200.8, Rev. 5.4, 1994 (Aqueous)
SW-846 6020 B (Aqueous)
CADMIUM

North Carolina Wastewater/Groundwater Laboratory Certification

Certified Parameters Listing

Lab Name: Pace Analytical Services LLC - Asheville NC
Address: 2225 Riverside Drive
Asheville, NC 28804-

Certificate Number: 40
Effective Date: 1/1/2018
Expiration Date: 12/31/2018
Date of Last Amendment: 7/31/2017

The above named laboratory, having duly met the requirements of 15A NCAC 2H.0800, is hereby certified for the measurement of the parameters listed below.

CERTIFIED PARAMETERS

EPA 200.7, Rev. 4.4, 1994 (Aqueous)
SW-846 6010 D (Aqueous)
SW-846 6010 D (Non-Aqueous)
EPA 200.8, Rev. 5.4, 1994 (Aqueous)
SW-846 6020 B (Aqueous)

CALCIUM

EPA 200.7, Rev. 4.4, 1994 (Aqueous)
SW-846 6010 D (Aqueous)
SW-846 6010 D (Non-Aqueous)
EPA 200.8, Rev. 5.4, 1994 (Aqueous)
SW-846 6020 B (Aqueous)

CHROMIUM HEXAVALENT

SM 3500-Cr-B-2011 (Aqueous)
SW-846 7196 A (Aqueous)
SW-846 7196 A (Non-Aqueous)
EPA 218.7, Rev. 1.0, 2011 [NCAC .02L Variance] (Aqueous)

CHROMIUM TOTAL

EPA 200.7, Rev. 4.4, 1994 (Aqueous)
SW-846 6010 D (Aqueous)
SW-846 6010 D (Non-Aqueous)
EPA 200.8, Rev. 5.4, 1994 (Aqueous)
SW-846 6020 B (Aqueous)

COBALT

EPA 200.7, Rev. 4.4, 1994 (Aqueous)
SW-846 6010 D (Aqueous)
SW-846 6010 D (Non-Aqueous)
EPA 200.8, Rev. 5.4, 1994 (Aqueous)
SW-846 6020 B (Aqueous)

COPPER

EPA 200.7, Rev. 4.4, 1994 (Aqueous)
SW-846 6010 D (Aqueous)
SW-846 6010 D (Non-Aqueous)
EPA 200.8, Rev. 5.4, 1994 (Aqueous)
SW-846 6020 B (Aqueous)

IRON

EPA 200.7, Rev. 4.4, 1994 (Aqueous)
SW-846 6010 D (Aqueous)
SW-846 6010 D (Non-Aqueous)
EPA 200.8, Rev. 5.4, 1994 (Aqueous)
SW-846 6020 B (Aqueous)

LEAD

EPA 200.7, Rev. 4.4, 1994 (Aqueous)
SW-846 6010 D (Aqueous)
SW-846 6010 D (Non-Aqueous)
EPA 200.8, Rev. 5.4, 1994 (Aqueous)
SW-846 6020 B (Aqueous)

LITHIUM

SW-846 6020 B (Aqueous)

MAGNESIUM

EPA 200.7, Rev. 4.4, 1994 (Aqueous)
SW-846 6010 D (Aqueous)
SW-846 6010 D (Non-Aqueous)
EPA 200.8, Rev. 5.4, 1994 (Aqueous)
SW-846 6020 B (Aqueous)

MANGANESE

EPA 200.7, Rev. 4.4, 1994 (Aqueous)
SW-846 6010 D (Aqueous)
SW-846 6010 D (Non-Aqueous)
EPA 200.8, Rev. 5.4, 1994 (Aqueous)
SW-846 6020 B (Aqueous)

MERCURY

EPA 245.1, Rev. 3.0, 1994 (Aqueous)
SW-846 7470 A (Aqueous)
SW-846 7471 B (Non-Aqueous)
EPA 1631 E (Aqueous)

MOLYBDENUM

EPA 200.7, Rev. 4.4, 1994 (Aqueous)
SW-846 6010 D (Aqueous)
SW-846 6010 D (Non-Aqueous)
EPA 200.8, Rev. 5.4, 1994 (Aqueous)

North Carolina Wastewater/Groundwater Laboratory Certification

Certified Parameters Listing

Lab Name: Pace Analytical Services LLC - Asheville NC
 Address: 2225 Riverside Drive
 Asheville, NC 28804-

Certificate Number: 40
 Effective Date: 1/1/2018
 Expiration Date: 12/31/2018
 Date of Last Amendment: 7/31/2017

The above named laboratory, having duly met the requirements of 15A NCAC 2H.0800, is hereby certified for the measurement of the parameters listed below.

CERTIFIED PARAMETERS

SW-846 6020 B (Aqueous)	EPA 200.8, Rev. 5.4, 1994 (Aqueous)
NICKEL	SW-846 6020 B (Aqueous)
EPA 200.7, Rev. 4.4, 1994 (Aqueous)	THALLIUM
SW-846 6010 D (Aqueous)	EPA 200.7, Rev. 4.4, 1994 (Aqueous)
SW-846 6010 D (Non-Aqueous)	SW-846 6010 D (Aqueous)
EPA 200.8, Rev. 5.4, 1994 (Aqueous)	SW-846 6010 D (Non-Aqueous)
SW-846 6020 B (Aqueous)	EPA 200.8, Rev. 5.4, 1994 (Aqueous)
POTASSIUM	SW-846 6020 B (Aqueous)
EPA 200.7, Rev. 4.4, 1994 (Aqueous)	TIN
SW-846 6010 D (Aqueous)	EPA 200.7, Rev. 4.4, 1994 (Aqueous)
SW-846 6010 D (Non-Aqueous)	SW-846 6010 D (Aqueous)
EPA 200.8, Rev. 5.4, 1994 (Aqueous)	SW-846 6010 D (Non-Aqueous)
SW-846 6020 B (Aqueous)	EPA 200.8, Rev. 5.4, 1994 (Aqueous)
SELENIUM	SW-846 6020 B (Aqueous)
EPA 200.7, Rev. 4.4, 1994 (Aqueous)	TITANIUM
SW-846 6010 D (Aqueous)	EPA 200.7, Rev. 4.4, 1994 (Aqueous)
SW-846 6010 D (Non-Aqueous)	SW-846 6010 D (Aqueous)
EPA 200.8, Rev. 5.4, 1994 (Aqueous)	SW-846 6010 D (Non-Aqueous)
SW-846 6020 B (Aqueous)	EPA 200.8, Rev. 5.4, 1994 (Aqueous)
SILVER	SW-846 6020 B (Aqueous)
EPA 200.7, Rev. 4.4, 1994 (Aqueous)	VANADIUM
SW-846 6010 D (Aqueous)	EPA 200.7, Rev. 4.4, 1994 (Aqueous)
SW-846 6010 D (Non-Aqueous)	SW-846 6010 D (Aqueous)
EPA 200.8, Rev. 5.4, 1994 (Aqueous)	SW-846 6010 D (Non-Aqueous)
SW-846 6020 B (Aqueous)	EPA 200.8, Rev. 5.4, 1994 (Aqueous)
SODIUM	SW-846 6020 B (Aqueous)
EPA 200.7, Rev. 4.4, 1994 (Aqueous)	ZINC
SW-846 6010 D (Aqueous)	EPA 200.7, Rev. 4.4, 1994 (Aqueous)
SW-846 6010 D (Non-Aqueous)	SW-846 6010 D (Aqueous)
EPA 200.8, Rev. 5.4, 1994 (Aqueous)	SW-846 6010 D (Non-Aqueous)
SW-846 6020 B (Aqueous)	EPA 200.8, Rev. 5.4, 1994 (Aqueous)
STRONTIUM	SW-846 6020 B (Aqueous)
EPA 200.7, Rev. 4.4, 1994 (Aqueous)	
SW-846 6010 D (Aqueous)	
SW-846 6010 D (Non-Aqueous)	



Laboratory Scope of Accreditation

Page 1 of 9

Attachment to Certificate #: E871118-08, expiration date June 30, 2019. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E871118

EPA Lab Code: TX00074

(972) 727-1123

E871118

Pace Analytical Services, LLC-Dallas TX

400 W Bethany Dr, Suite 190

Allen, TX 75013

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
1,1,1,2-Tetrachloroethane	EPA 8260	Volatile Organics	NELAP	11/30/2015
1,1,1-Trichloroethane	EPA 624	Volatile Organics	NELAP	11/30/2015
1,1,1-Trichloroethane	EPA 8260	Volatile Organics	NELAP	11/30/2015
1,1,2,2-Tetrachloroethane	EPA 624	Volatile Organics	NELAP	11/30/2015
1,1,2,2-Tetrachloroethane	EPA 8260	Volatile Organics	NELAP	11/30/2015
1,1,2-Trichloroethane	EPA 624	Volatile Organics	NELAP	11/30/2015
1,1,2-Trichloroethane	EPA 8260	Volatile Organics	NELAP	11/30/2015
1,1-Dichloroethane	EPA 624	Volatile Organics	NELAP	11/30/2015
1,1-Dichloroethane	EPA 8260	Volatile Organics	NELAP	11/30/2015
1,1-Dichloroethylene	EPA 624	Volatile Organics	NELAP	11/30/2015
1,1-Dichloroethylene	EPA 8260	Volatile Organics	NELAP	11/30/2015
1,1-Dichloropropene	EPA 8260	Volatile Organics	NELAP	11/30/2015
1,2,3-Trichlorobenzene	EPA 8260	Volatile Organics	NELAP	11/30/2015
1,2,3-Trichloropropane	EPA 8260	Volatile Organics	NELAP	11/30/2015
1,2,4-Trichlorobenzene	EPA 8260	Volatile Organics	NELAP	11/30/2015
1,2,4-Trimethylbenzene	EPA 8260	Volatile Organics	NELAP	11/30/2015
1,2-Dibromo-3-chloropropane (DBCP)	EPA 8260	Volatile Organics	NELAP	11/30/2015
1,2-Dibromoethane (EDB, Ethylene dibromide)	EPA 8260	Volatile Organics	NELAP	11/30/2015
1,2-Dichlorobenzene	EPA 624	Volatile Organics	NELAP	11/30/2015
1,2-Dichlorobenzene	EPA 8260	Volatile Organics	NELAP	11/30/2015
1,2-Dichloroethane	EPA 624	Volatile Organics	NELAP	11/30/2015
1,2-Dichloroethane	EPA 8260	Volatile Organics	NELAP	11/30/2015
1,2-Dichloropropane	EPA 624	Volatile Organics	NELAP	11/30/2015
1,2-Dichloropropane	EPA 8260	Volatile Organics	NELAP	11/30/2015
1,3,5-Trimethylbenzene	EPA 8260	Volatile Organics	NELAP	11/30/2015
1,3-Dichlorobenzene	EPA 624	Volatile Organics	NELAP	11/30/2015
1,3-Dichlorobenzene	EPA 8260	Volatile Organics	NELAP	11/30/2015
1,3-Dichloropropane	EPA 8260	Volatile Organics	NELAP	11/30/2015
1,4-Dichlorobenzene	EPA 624	Volatile Organics	NELAP	11/30/2015
1,4-Dichlorobenzene	EPA 8260	Volatile Organics	NELAP	11/30/2015
1,4-Dioxane (1,4-Diethyleneoxide)	EPA 8260	Volatile Organics	NELAP	11/30/2015
2,2-Dichloropropane	EPA 8260	Volatile Organics	NELAP	11/30/2015
2,4,5-T	EPA 615	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
2,4,5-T	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	4/26/2018
2,4-D	EPA 615	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
2,4-D	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	4/26/2018

Clients and Customers are urged to verify the laboratory's current certification status with the Environmental Laboratory Certification Program.

Issue Date: 7/31/2018

Expiration Date: 6/30/2019



Laboratory Scope of Accreditation

Page 2 of 9

Attachment to Certificate #: E871118-08, expiration date June 30, 2019. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E871118

EPA Lab Code: TX00074

(972) 727-1123

E871118

Pace Analytical Services, LLC-Dallas TX

400 W Bethany Dr, Suite 190

Allen, TX 75013

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
2,4-DB	EPA 615	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
2,4-DB	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	4/26/2018
2-Butanone (Methyl ethyl ketone, MEK)	EPA 8260	Volatile Organics	NELAP	11/30/2015
2-Chloroethyl vinyl ether	EPA 624	Volatile Organics	NELAP	11/30/2015
2-Chloroethyl vinyl ether	EPA 8260	Volatile Organics	NELAP	11/30/2015
2-Chlorotoluene	EPA 8260	Volatile Organics	NELAP	11/30/2015
2-Hexanone	EPA 8260	Volatile Organics	NELAP	11/30/2015
4,4'-DDD	EPA 608	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
4,4'-DDD	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
4,4'-DDE	EPA 608	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
4,4'-DDE	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
4,4'-DDT	EPA 608	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
4,4'-DDT	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
4-Chlorotoluene	EPA 8260	Volatile Organics	NELAP	11/30/2015
4-Methyl-2-pentanone (MIBK)	EPA 8260	Volatile Organics	NELAP	11/30/2015
Acetone	EPA 8260	Volatile Organics	NELAP	11/30/2015
Acetonitrile	EPA 8260	Volatile Organics	NELAP	11/30/2015
Acrolein (Propenal)	EPA 8260	Volatile Organics	NELAP	11/30/2015
Acrylonitrile	EPA 8260	Volatile Organics	NELAP	11/30/2015
Aldrin	EPA 608	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
Aldrin	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
Allyl chloride (3-Chloropropene)	EPA 8260	Volatile Organics	NELAP	11/30/2015
alpha-BHC (alpha-Hexachlorocyclohexane)	EPA 608	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
alpha-BHC (alpha-Hexachlorocyclohexane)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
alpha-Chlordane	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
Aroclor-1016 (PCB-1016)	EPA 608	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
Aroclor-1016 (PCB-1016)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
Aroclor-1221 (PCB-1221)	EPA 608	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
Aroclor-1221 (PCB-1221)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
Aroclor-1232 (PCB-1232)	EPA 608	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
Aroclor-1232 (PCB-1232)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
Aroclor-1242 (PCB-1242)	EPA 608	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
Aroclor-1242 (PCB-1242)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
Aroclor-1248 (PCB-1248)	EPA 608	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
Aroclor-1248 (PCB-1248)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
Aroclor-1254 (PCB-1254)	EPA 608	Pesticides-Herbicides-PCB's	NELAP	11/30/2015

Clients and Customers are urged to verify the laboratory's current certification status with the Environmental Laboratory Certification Program.

Issue Date: 7/31/2018

Expiration Date: 6/30/2019



Laboratory Scope of Accreditation

Attachment to Certificate #: E871118-08, expiration date June 30, 2019. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E871118

EPA Lab Code: TX00074

(972) 727-1123

E871118

Pace Analytical Services, LLC-Dallas TX

400 W Bethany Dr, Suite 190

Allen, TX 75013

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Aroclor-1254 (PCB-1254)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
Aroclor-1260 (PCB-1260)	EPA 608	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
Aroclor-1260 (PCB-1260)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
Azinphos-methyl (Guthion)	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
Benzene	EPA 624	Volatile Organics	NELAP	11/30/2015
Benzene	EPA 8260	Volatile Organics	NELAP	11/30/2015
Benzyl chloride	EPA 8260	Volatile Organics	NELAP	11/30/2015
beta-BHC (beta-Hexachlorocyclohexane)	EPA 608	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
beta-BHC (beta-Hexachlorocyclohexane)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
Bolstar (Sulprofos)	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
Bromobenzene	EPA 8260	Volatile Organics	NELAP	11/30/2015
Bromochloromethane	EPA 8260	Volatile Organics	NELAP	11/30/2015
Bromodichloromethane	EPA 624	Volatile Organics	NELAP	11/30/2015
Bromodichloromethane	EPA 8260	Volatile Organics	NELAP	11/30/2015
Bromoform	EPA 624	Volatile Organics	NELAP	11/30/2015
Bromoform	EPA 8260	Volatile Organics	NELAP	11/30/2015
Carbon disulfide	EPA 8260	Volatile Organics	NELAP	11/30/2015
Carbon tetrachloride	EPA 624	Volatile Organics	NELAP	11/30/2015
Carbon tetrachloride	EPA 8260	Volatile Organics	NELAP	11/30/2015
Chlordane (tech.)	EPA 608	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
Chlordane (tech.)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
Chlorobenzene	EPA 624	Volatile Organics	NELAP	11/30/2015
Chlorobenzene	EPA 8260	Volatile Organics	NELAP	11/30/2015
Chloroethane	EPA 624	Volatile Organics	NELAP	11/30/2015
Chloroethane	EPA 8260	Volatile Organics	NELAP	11/30/2015
Chloroform	EPA 624	Volatile Organics	NELAP	11/30/2015
Chloroform	EPA 8260	Volatile Organics	NELAP	11/30/2015
Chloroprene	EPA 8260	Volatile Organics	NELAP	11/30/2015
Chlorpyrifos	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
cis-1,2-Dichloroethylene	EPA 8260	Volatile Organics	NELAP	11/30/2015
cis-1,3-Dichloropropene	EPA 624	Volatile Organics	NELAP	11/30/2015
cis-1,3-Dichloropropene	EPA 8260	Volatile Organics	NELAP	11/30/2015
Coumaphos	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
Dalapon	EPA 615	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
Dalapon	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	4/26/2018
delta-BHC	EPA 608	Pesticides-Herbicides-PCB's	NELAP	11/30/2015

Clients and Customers are urged to verify the laboratory's current certification status with the Environmental Laboratory Certification Program.

Issue Date: 7/31/2018

Expiration Date: 6/30/2019



Laboratory Scope of Accreditation

Page 4 of 9

Attachment to Certificate #: E871118-08, expiration date June 30, 2019. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E871118

EPA Lab Code: TX00074

(972) 727-1123

E871118

Pace Analytical Services, LLC-Dallas TX

400 W Bethany Dr, Suite 190

Allen, TX 75013

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
delta-BHC	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
Demeton-o	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
Demeton-s	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
Diazinon	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
Dibromochloromethane	EPA 624	Volatile Organics	NELAP	11/30/2015
Dibromochloromethane	EPA 8260	Volatile Organics	NELAP	11/30/2015
Dibromomethane	EPA 8260	Volatile Organics	NELAP	11/30/2015
Dicamba	EPA 615	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
Dicamba	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	4/26/2018
Dichlorodifluoromethane	EPA 8260	Volatile Organics	NELAP	11/30/2015
Dichloroprop (Dichlorprop)	EPA 615	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
Dichloroprop (Dichlorprop)	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	4/26/2018
Dichlorovos (DDVP, Dichlorvos)	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
Dieldrin	EPA 608	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
Dieldrin	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
Dimethoate	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	4/26/2018
Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	EPA 615	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	4/26/2018
Disulfoton	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
Endosulfan I	EPA 608	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
Endosulfan I	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
Endosulfan II	EPA 608	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
Endosulfan II	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
Endosulfan sulfate	EPA 608	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
Endosulfan sulfate	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
Endrin	EPA 608	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
Endrin	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
Endrin aldehyde	EPA 608	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
Endrin aldehyde	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
Endrin ketone	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
EPN	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
Ethoprop	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
Ethyl acetate	EPA 1666	Volatile Organics	NELAP	11/30/2015
Ethyl acetate	EPA 8260	Volatile Organics	NELAP	11/30/2015
Ethyl methacrylate	EPA 8260	Volatile Organics	NELAP	11/30/2015
Ethylbenzene	EPA 624	Volatile Organics	NELAP	11/30/2015

Clients and Customers are urged to verify the laboratory's current certification status with the Environmental Laboratory Certification Program.

Issue Date: 7/31/2018

Expiration Date: 6/30/2019



Laboratory Scope of Accreditation

Attachment to Certificate #: E871118-08, expiration date June 30, 2019. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E871118

EPA Lab Code: TX00074

(972) 727-1123

E871118

Pace Analytical Services, LLC-Dallas TX

400 W Bethany Dr, Suite 190

Allen, TX 75013

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Ethylbenzene	EPA 8260	Volatile Organics	NELAP	11/30/2015
Ethylene glycol	EPA 8015	Volatile Organics	NELAP	11/30/2015
Fensulfothion	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
Fenthion	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	EPA 608	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
gamma-Chlordane	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
Heptachlor	EPA 608	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
Heptachlor	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
Heptachlor epoxide	EPA 608	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
Heptachlor epoxide	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
Hexachlorobutadiene	EPA 8260	Volatile Organics	NELAP	11/30/2015
Hexachloroethane	EPA 8260	Volatile Organics	NELAP	11/30/2015
Iodomethane (Methyl iodide)	EPA 8260	Volatile Organics	NELAP	11/30/2015
Isobutyl alcohol (2-Methyl-1-propanol)	EPA 8260	Volatile Organics	NELAP	11/30/2015
Isopropyl acetate	EPA 1666	Volatile Organics	NELAP	11/30/2015
Isopropyl alcohol (2-Propanol)	EPA 8260	Volatile Organics	NELAP	11/30/2015
Isopropylbenzene	EPA 8260	Volatile Organics	NELAP	11/30/2015
m/p-Xylenes	EPA 8260	Volatile Organics	NELAP	7/31/2018
Malathion	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
MCPA	EPA 615	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
MCPA	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	4/26/2018
MCPP	EPA 615	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
MCPP	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	4/26/2018
Merphos	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
Methacrylonitrile	EPA 8260	Volatile Organics	NELAP	11/30/2015
Methoxychlor	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
Methyl bromide (Bromomethane)	EPA 624	Volatile Organics	NELAP	11/30/2015
Methyl bromide (Bromomethane)	EPA 8260	Volatile Organics	NELAP	11/30/2015
Methyl chloride (Chloromethane)	EPA 624	Volatile Organics	NELAP	11/30/2015
Methyl chloride (Chloromethane)	EPA 8260	Volatile Organics	NELAP	11/30/2015
Methyl methacrylate	EPA 8260	Volatile Organics	NELAP	11/30/2015
Methyl parathion (Parathion, methyl)	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
Methyl tert-butyl ether (MTBE)	EPA 8260	Volatile Organics	NELAP	11/30/2015
Methylene chloride	EPA 624	Volatile Organics	NELAP	11/30/2015

Clients and Customers are urged to verify the laboratory's current certification status with the Environmental Laboratory Certification Program.

Issue Date: 7/31/2018

Expiration Date: 6/30/2019



Laboratory Scope of Accreditation

Page 6 of 9

Attachment to Certificate #: E871118-08, expiration date June 30, 2019. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E871118

EPA Lab Code: TX00074

(972) 727-1123

E871118

Pace Analytical Services, LLC-Dallas TX

400 W Bethany Dr, Suite 190

Allen, TX 75013

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Methylene chloride	EPA 8260	Volatile Organics	NELAP	11/30/2015
Mevinphos	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
Mirex	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
Naled	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
n-Amyl acetate	EPA 1666	Volatile Organics	NELAP	11/30/2015
Naphthalene	EPA 8260	Volatile Organics	NELAP	11/30/2015
n-Butylbenzene	EPA 8260	Volatile Organics	NELAP	11/30/2015
n-Propylbenzene	EPA 8260	Volatile Organics	NELAP	11/30/2015
o-Xylene	EPA 8260	Volatile Organics	NELAP	11/30/2015
Parathion, ethyl	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
Pentachloroethane	EPA 8260	Volatile Organics	NELAP	11/30/2015
Pentachlorophenol	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	4/26/2018
Phorate	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
p-Isopropyltoluene	EPA 8260	Volatile Organics	NELAP	11/30/2015
Propionitrile (Ethyl cyanide)	EPA 8260	Volatile Organics	NELAP	11/30/2015
Ronnel	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
sec-Butylbenzene	EPA 8260	Volatile Organics	NELAP	11/30/2015
Silvex (2,4,5-TP)	EPA 615	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
Silvex (2,4,5-TP)	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	4/26/2018
Stirofos	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
Styrene	EPA 8260	Volatile Organics	NELAP	11/30/2015
Sulfotepp	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	4/26/2018
tert-Butylbenzene	EPA 8260	Volatile Organics	NELAP	11/30/2015
Tetrachloroethylene (Perchloroethylene)	EPA 624	Volatile Organics	NELAP	11/30/2015
Tetrachloroethylene (Perchloroethylene)	EPA 8260	Volatile Organics	NELAP	11/30/2015
Tokuthion (Prothiophos)	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	4/26/2018
Toluene	EPA 624	Volatile Organics	NELAP	11/30/2015
Toluene	EPA 8260	Volatile Organics	NELAP	11/30/2015
Toxaphene (Chlorinated camphene)	EPA 608	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
Toxaphene (Chlorinated camphene)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	11/30/2015
trans-1,2-Dichloroethylene	EPA 624	Volatile Organics	NELAP	11/30/2015
trans-1,2-Dichloroethylene	EPA 8260	Volatile Organics	NELAP	11/30/2015
trans-1,3-Dichloropropene	EPA 624	Volatile Organics	NELAP	11/30/2015
trans-1,3-Dichloropropene	EPA 8260	Volatile Organics	NELAP	11/30/2015
trans-1,4-Dichloro-2-butene	EPA 8260	Volatile Organics	NELAP	11/30/2015
Trichloroethene (Trichloroethylene)	EPA 624	Volatile Organics	NELAP	11/30/2015

Clients and Customers are urged to verify the laboratory's current certification status with the Environmental Laboratory Certification Program.

Issue Date: 7/31/2018

Expiration Date: 6/30/2019



Laboratory Scope of Accreditation

Page 7 of 9

Attachment to Certificate #: E871118-08, expiration date June 30, 2019. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E871118

EPA Lab Code: TX00074

(972) 727-1123

E871118

Pace Analytical Services, LLC-Dallas TX

400 W Bethany Dr, Suite 190

Allen, TX 75013

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Trichloroethene (Trichloroethylene)	EPA 8260	Volatile Organics	NELAP	11/30/2015
Trichlorofluoromethane	EPA 624	Volatile Organics	NELAP	11/30/2015
Trichlorofluoromethane	EPA 8260	Volatile Organics	NELAP	11/30/2015
Trichloronate	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	4/26/2018
Vinyl acetate	EPA 8260	Volatile Organics	NELAP	11/30/2015
Vinyl chloride	EPA 624	Volatile Organics	NELAP	11/30/2015
Vinyl chloride	EPA 8260	Volatile Organics	NELAP	11/30/2015
Xylene (total)	EPA 624	Volatile Organics	NELAP	11/30/2015
Xylene (total)	EPA 8260	Volatile Organics	NELAP	11/30/2015



Laboratory Scope of Accreditation

Page 8 of 9

Attachment to Certificate #: E871118-08, expiration date June 30, 2019. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E871118

EPA Lab Code: TX00074

(972) 727-1123

E871118

Pace Analytical Services, LLC-Dallas TX

400 W Bethany Dr, Suite 190

Allen, TX 75013

Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
2,4,5-T	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	8/17/2016
2,4-D	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	8/17/2016
2,4-DB	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	8/17/2016
Azinphos-methyl (Guthion)	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	4/26/2018
Bolstar (Sulprofos)	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	4/26/2018
Chlorpyrifos	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	4/26/2018
Coumaphos	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	4/26/2018
Dalapon	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	8/17/2016
Demeton-o	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	4/26/2018
Demeton-s	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	4/26/2018
Diazinon	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	4/26/2018
Dicamba	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	8/17/2016
Dichloroprop (Dichlorprop)	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	8/17/2016
Dichlorovos (DDVP, Dichlorvos)	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	4/26/2018
Dimethoate	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	4/26/2018
Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	8/17/2016
Disulfoton	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	4/26/2018
EPN	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	4/26/2018
Ethoprop	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	4/26/2018
Fensulfothion	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	4/26/2018
Fenthion	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	4/26/2018
Malathion	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	4/26/2018
MCPA	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	8/17/2016
MCPP	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	8/17/2016
Merphos	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	4/26/2018
Methyl parathion (Parathion, methyl)	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	4/26/2018
Mevinphos	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	4/26/2018
Parathion, ethyl	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	4/26/2018
Pentachlorophenol	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	4/26/2018
Phorate	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	4/26/2018
Ronnel	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	4/26/2018
Silvex (2,4,5-TP)	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	8/17/2016
Stirofos	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	4/26/2018
Sulfotepp	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	4/26/2018
Synthetic Precipitation Leaching Procedure	EPA 1312	General Chemistry	NELAP	4/26/2018
Tokuthion (Prothiophos)	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	4/26/2018

Clients and Customers are urged to verify the laboratory's current certification status with the Environmental Laboratory Certification Program.

Issue Date: 7/31/2018

Expiration Date: 6/30/2019



Laboratory Scope of Accreditation

Page 9 of 9

Attachment to Certificate #: E871118-08, expiration date June 30, 2019. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E871118

EPA Lab Code: TX00074

(972) 727-1123

E871118

Pace Analytical Services, LLC-Dallas TX

400 W Bethany Dr, Suite 190

Allen, TX 75013

Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
Toxicity Characteristic Leaching Procedure	EPA 1311	General Chemistry	NELAP	4/26/2018
Trichloronate	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	4/26/2018

EMSL FDOH CERTIFICATION FOR ASBESTOS



State of Florida
Department of Health, Bureau of Public Health Laboratories
This is to certify that



E86795

EMSL ANALYTICAL, INC. - FL
SKYLAKE EXECUTIVE INDUSTRIAL PARK 19501 N.E. 10TH AVE., BAY
A
NORTH MIAMI BEACH, FL 33179

has complied with Florida Administrative Code 64E-1,
for the examination of environmental samples in the following categories

DRINKING WATER - PRIMARY INORGANIC CONTAMINANTS

Continued certification is contingent upon successful on-going compliance with the NELAC Standards and FAC Rule 64E-1 regulations. Specific methods and analytes certified are cited on the Laboratory Scope of Accreditation for this laboratory and are on file at the Bureau of Public Health Laboratories, P. O. Box 210, Jacksonville, Florida 32231. Clients and customers are urged to verify with this agency the laboratory's certification status in Florida for particular methods and analytes.

Date Issued: July 01, 2018 Expiration Date: June 30, 2019



Patty A. Lewandowski, MBA, MT(ASCP)
Chief Bureau of Public Health Laboratories
DH Form 1697, 7/04

NON-TRANSFERABLE E86795-16-07/01/2018
Supersedes all previously issued certificates

Rick Scott
Governor



Celeste Philip, MD, MPH
State Surgeon General

Laboratory Scope of Accreditation

Page 1 of 1

Attachment to Certificate #: E86795-16, expiration date June 30, 2019. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E86795

EPA Lab Code: FL01064

(305) 650-0577

E86795

EMSL Analytical, Inc. - FL

Skylake Executive Industrial Park

19501 N.E. 10th Ave., Bay A

North Miami Beach, FL 33179

Matrix: Drinking Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Asbestos	EPA 100.2	Primary Inorganic Contaminants	NELAP	4/11/2002

Clients and Customers are urged to verify the laboratory's current certification status with the Environmental Laboratory Certification Program.

Issue Date: 7/1/2018

Expiration Date: 6/30/2019

TAB 5

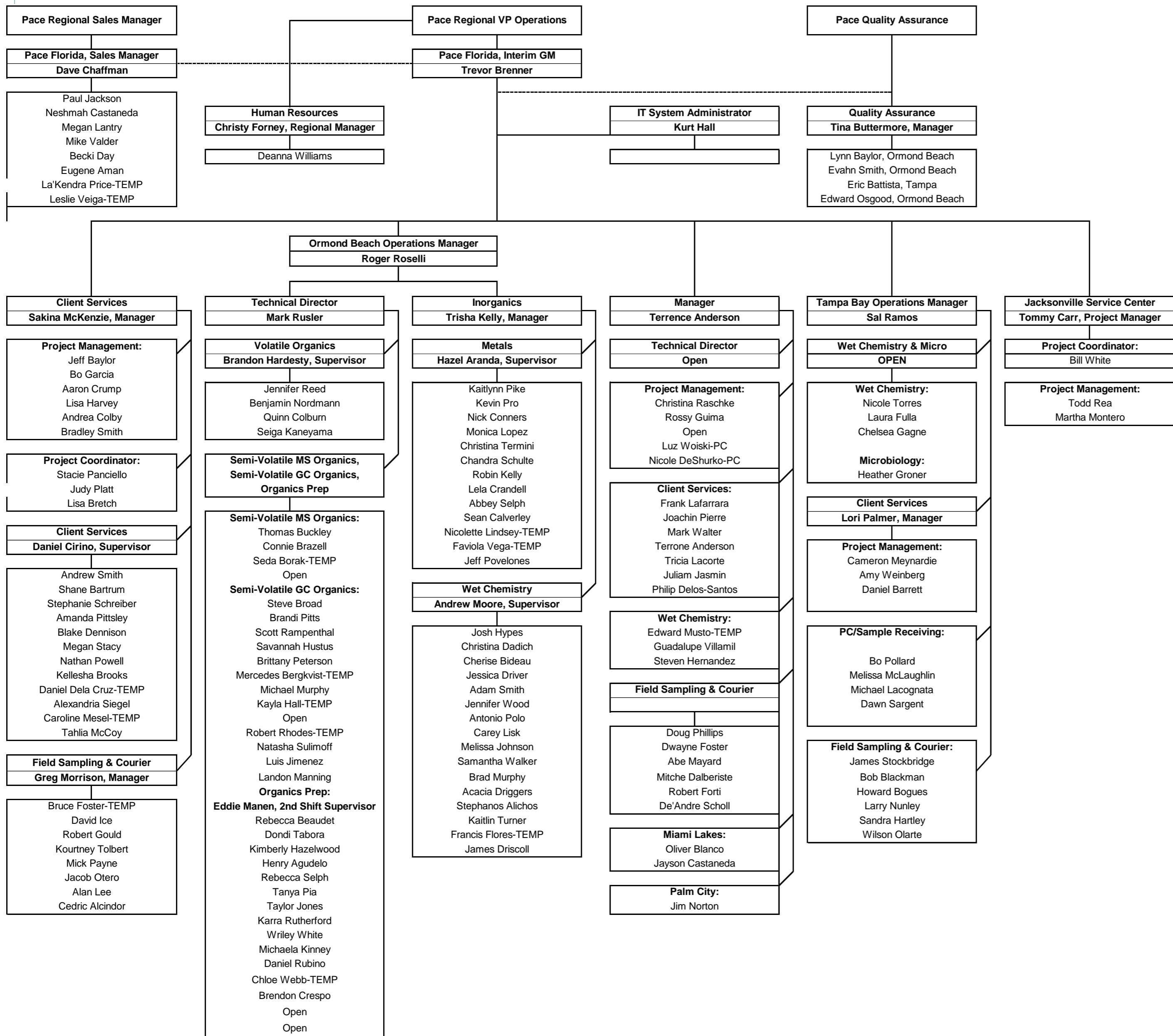
Organizational Chart

Key Personnel Resumes



Pace Florida - Organizational Chart

July 5, 2018





Pace Analytical Services, LLC.
8 East Tower Circle
Ormond Beach, FL 32174
Phone: 386.672.5668
Fax: 386.673.4001

TREVOR BRENNER
INTERIM GENERAL MANAGER, FLORIDA

EDUCATION

B.S., Chemical Engineering (Florida Institute of Technology, 1995)

EXPERIENCE

Mr. Brenner has been a lab manager in the environmental industry since 2002. Mr. Brenner is responsible for the direction and coordination of the daily activities for 155 staff scientists, administrative personnel and service technicians at the company's Florida operations. He is responsible for maintaining project management oversight and direction in conjunction with corporate directives and goals, and he provides guidance and direction to the laboratory's Quality Assurance staff in conjunction with corporate goals, EPA guidelines, NELAC guidelines, and various other state and federal guidelines.

Mr. Brenner is also the Director of Process Improvement and 3P at Pace Analytical. His Responsibilities include leading the 3P (Performance, Process, Productivity) program for continuous improvement and best practices, leading the environmental division of Pace's Lean program, leading the supply consignment program and leading supply standardization (bottles and consumables).

Mr. Brenner has over 20 years of environmental analytical laboratory experience including as field sampling technician, metals/inorganic analyst, metals department manager, laboratory manager, director of client services, operations manager, laboratory manager, and general manager. Mr. Brenner's direct experience at the bench includes analysis of soil, water, and drinking water by ICP, ICP/MS, GFAA, CVAA and Flame AA for analyses; analysis of soil, water, and drinking water by SPE for Oil and Grease and manual and automated colorimetric methods for various wet chemistry parameters; and analysis of water and drinking water by bacteriological methods

Mr. Brenner has been able to assist a wide variety of clients through the laboratory analytical processes and their related regulatory, quality control and financial issues, often identifying alternative approaches that ensure project data quality and turnaround times are met and that expenses are minimized.



Pace Analytical Services, LLC.
8 East Tower Circle
Ormond Beach, FL 32174
Phone: 386.672.5668
Fax: 386.673.4001

TINA BUTTERMORE
SENIOR QUALITY MANAGER, FLORIDA

EDUCATION

M.S. in Pharmacy (University of Florida, 2005)

B.S. in Biochemistry and BS in Microbiology and Cell Science (University of Florida, 2003)

EXPERIENCE

Ms. Buttermore has the responsibility to ensure that the Quality Systems in place at Pace Analytical-Florida are fully implemented and followed in order for the laboratory to achieve established standards of quality. This includes maintaining regulatory compliance, data validation, laboratory analytical protocols, quality assurance documentation and conformance to quality criteria. He serves as a liaison between Pace Analytical-Florida and state/federal regulatory agencies on quality control issues. Ms. Buttermore provides technical support to laboratory operations and clients regarding methodology and project QA/QC requirements and is responsible for performing internal performance audits as well as systems audits on a regular basis.

Ms. Buttermore has eight years experience in the environmental industry in both the analytical and regulatory sectors. She joined Pace Analytical in 2011 as the Technical and Operations Manager for the South Florida operations. As Technical Director and Operations Manager for the South Florida facility of Pace Analytical Services, Ms Buttermore had direct management responsibility for over 20 employees covering client services, analytical services and field services. She has previously held the positions of Quality Assurance Director, Technical Director, and various section management and analyst positions within the laboratory specializing in metals analyses (including ICP-AES, ICP-MS, cold vapor AA) and microbiology and wet chemistry techniques. She has also performed the role of Compliance and Enforcement Officer for both the Florida Department of Environmental Protection and the Florida Department of Health.



Pace Analytical Services, LLC.

*8 East Tower Circle
Ormond Beach, FL 32174*

Phone: 386.672.5668

Fax: 386.673.4001

**EDWARD OSGOOD
QUALITY ASSURANCE MANAGER**

EDUCATION

B.S. Chemistry (Rollins College, 2006)

RELEVANT EXPERIENCE

Mr. Osgood started as a Quality Assurance Manager in 2017 and has the responsibility to ensure that the Quality Systems in the Ormond Beach laboratory of Pace Analytical Services, LLC. are fully implemented and followed in order for the laboratory to achieve established standards of quality. He provides guidance and direction to the laboratory in conjunction with corporate goals and guidelines set by the EPA, NELAC, and various other state and federal agencies. This includes maintaining regulatory compliance, data validation, laboratory analytical protocols, quality assurance documentation and conformance to quality criteria. He aids the Senior Quality Assurance Manager as a liaison between Pace Analytical-Florida and state/federal regulatory agencies on quality control issues. Mr. Osgood also provides technical support to laboratory operations and clients regarding methodology and project QA/QC requirements and is responsible for performing internal performance audits as well as systems audits on a regular basis.

Mr. Osgood has been in the environmental industry since 2006 when he started working for ELAB, Inc. as part of the semivolatiles department. He joined Pace Analytical in 2008 and continued his work in the same department. In this role, Mr. Osgood was responsible for the evaluation and processing of client samples as well as instrumental troubleshooting and routine maintenance. As needed his responsibilities also included the development and establishment of in-house testing parameters for new methodology and instrument technology. Instrumental experience includes GC with ECD, FID, and NPD variances though he is predominantly proficient in GC-MS experience with testing in SW-846 methodology as well as drinking water and UCMR3 testing methods. He has also served as both the Safety and Hazardous Waste Officer within the laboratory ensuring compliance with all company, state, and federal regulations.



Pace Analytical Services, LLC.

8 East Tower Circle
Ormond Beach, FL 32174

Phone: 386.672.5668

Fax: 386.673.4001

LYNN BAYLOR
QA DEPARTMENT

EDUCATION

B.S., Biology (Stetson University, 1994)

REGISTRATIONS

FSEA (Florida Society of Environmental Analyst)

EXPERIENCE

Ms. Baylor joined ELAB in 1994 as a laboratory analyst and worked until 2005. Ms. Baylor took time away from ELAB to teach Middle and High School sciences. She then rejoined ELAB in 2007 working in the QA Department. She has many years of service working within different departments at ELAB which has given her a solid background to aid her in monitoring the laboratory data quality. Some of her duties are as follows: Support the Quality Manager and Sales staff by providing administrative and clerical support services; sort and maintain files for quality assurance reports, certification materials, and quality records; provide back-up support in technical and administrative Quality Assurance and Safety functions related to laboratory operations as directed by the Quality Manager; and participate in a variety of meetings and work groups to integrate activities, communicate issues, obtain approvals, resolve problems and maintain specified level of knowledge pertaining to new developments, requirements, and policies.

Prior to assuming the position in the QA Department, Ms. Baylor was a bench analyst in several labs including General Chemistry, Microbiology, Semi-Volatiles, and Extractions.

She specialized in HPLC for eight years. Her Semi-Volatiles experience includes Methods 531.1, 547, 549.1, 549.2, FL-PRO, DRO, 504.1, 8011, 507, 8141, 508.1, 608, 8081, 8082, 515.1, 8151, and 610/8310. Ms. Baylor also performed many of the above listed extractions on both aqueous and solid samples. She was also in charge of the ordering for Semi-Volatiles and Extractions for five years.

Prior to this, Ms. Baylor worked as an analyst in the Microbiology and General Chemistry departments for three years. While in the General Chemistry department, she utilized gravimetric, potentiometric, titrimetric, and colormetric approved methodologies to test samples of varied matrices including drinking water, ground water, surface water, waste water, solids, and sludges. She used a wide variety of instrumentation including manual and automated colorimetric analyzers, Ion Chromatograph, IR Chromatograph, and digestion/distillation apparatus. For the toxicity section, she assisted in organism breeding, quality control, freshwater and saltwater bioassays using EPA certified methods for both Acute and Chronic tests, and statistical evaluation of toxicity tests performed for client's NPDES permits. Ms. Baylor was responsible for media preparation; quality control; detection and enumeration of densities of Fecal and Total Coliforms, *Fecal Streptococcus*, *Enterococcus*, and heterotrophic bacteria in Microbiology.



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8 East Tower Circle
Ormond Beach, FL 32174
Phone: 386.672.5668
Fax: 386.673.4001

SAKINA McKENZIE
CLIENT SERVICES MANAGER

EDUCATION

B.S. Marine Biology (University of Southern Mississippi)

EXPERIENCE

Ms. McKenzie has been an employee of Pace since August 2007. Ms. McKenzie has been a project manager for the laboratory since 2008 specializing in managing clients' projects for solid waste facility, wastewater, drinking water, and surface water compliance monitoring programs in numerous states. In the capacity as Project Manager, Ms. McKenzie provides her clients as the one point of contact for all their production and technical needs. Her background at the laboratory gives her the expertise to help clients with their site-specific work plans, applicable methodologies, turnaround time requirements, and project data quality objectives. She serves as a liaison between the client and the laboratory operations. Ms. McKenzie's clients are diverse, including cities, counties, utilities, laboratories, and environmental consultants.

Prior to assuming the position of Project Manager, Ms. McKenzie worked in the Wet Chemistry Laboratory. She has performed a wide range of analyses including full EPA 100-400 services and Standard Methods procedures.



Pace Analytical Services, LLC.

8 East Tower Circle
Ormond Beach, FL 32174

Phone: 386.672.5668

Fax: 386.673.4001

JEFF BAYLOR
SENIOR PROJECT MANAGER

EDUCATION

B.S., Biology (Pennsylvania State University, 1996)

REGISTRATIONS

American Chemical Society

EXPERIENCE

Mr. Baylor has been a project manager for the laboratory since 2001 specializing in landfills, NPDES, drinking water, solid waste, and other State programs. His many years of service with the laboratory have given him a background that allows him to help clients with their site- specific work plans, applicable methodologies, turnaround time requirements, and project data quality objectives. In the capacity as Project Manager, Mr. Baylor provides his clients as the one point of contact for all their production and technical needs. He serves as a liaison between the client and the laboratory operations and currently serves a diverse group of clients, including many cities, counties, utilities, and consultants.

Prior to assuming the position of Project Manager, Mr. Baylor was the Supervisor of the laboratory's Biology Laboratory. He oversaw all areas of the department including the Microbiology and Toxicity sections. For the Microbiology section, he was in charge of the following: media preparation; quality control; detection and enumeration of densities of Fecal and total Coliforms, *Fecal Streptococcus*, *Enterococcus*, and heterotrophic bacteria. In 2002, he led the effort for ELAB to become EPA certified for testing for *Aeromonas* bacteria in drinking water under the Unregulated Contaminant Monitoring Rule (UCMR) program. For the toxicity section, he was responsible for organism breeding, quality control, freshwater and saltwater bioassays using EPA certified methods for both Acute and Chronic tests, and statistical evaluation of toxicity tests performed for client's NPDES permits.

Prior to this, Mr. Baylor supervised the Inorganic Department for several years after working as an analyst in the Metals and General Chemistry departments for six years. While in the General Chemistry department, he utilized gravimetric, potentiometric, titrimetric, and colorimetric approved methodologies to test samples of varied matrices including drinking water, ground water, surface water, waste water, solids, and sludges. He used a wide variety of instrumentation including manual and automated colorimetric analyzers, Ion Chromatograph, IR Chromatograph, and digestion/distillation apparatus. In the Metals department, he was responsible for all aspects of testing including digestion, analytical, and quality control. He is proficient with the instrumentation used for the quantification of metallic elements such as flame and graphite furnace AA and cold vapor analysis of mercury.

During his tenure, Mr. Baylor help set up the Toxicity Characteristic Leaching Procedure methods now used by the laboratory for testing materials for clients under the RCRA program. He also supervised and conducted the setup and incubation of samples for Simulated Distribution Systems (SDS) and Biodegradable Organic Carbon (BDOC) analysis, which is related to the Information Collection Rule program.



Pace Analytical Services, LLC.
8 East Tower Circle
Ormond Beach, FL 32174
Phone: 386.672.5668
Fax: 386.673.4001

MARTHA MONTERO
PROJECT MANAGER

EDUCATION

Pasante in Chemistry (UNAM, 1982)

REGISTRATIONS

Florida Society of Environmental Analysts
Florida Association of Environmental Professionals

EXPERIENCE

Ms. Montero has been involved in the laboratory services industry for over 17 years and has held numerous responsible positions in the environmental laboratory including Analyst, Organics Supervisor, QA Officer, Inorganics Supervisor, Operations Manager, Project Manager and Client Services Manager.

Her daily responsibilities at Pace include managing the relationships with key clients including other laboratories around the State and U.S., many of Florida's major governmental agencies such as the South Florida and the St. John's River Water Management Districts, and one of the largest water utilities in the Western Hemisphere. Ms. Montero is proficient at employing specialty software packages such as ADAPT and some of those required for analytical projects associated with the Department of Defense and the US Army Corps of Engineers. She has extensive experience working with regulatory agencies including the Florida Department of Health, the Florida Department of Environmental Protection, the Puerto Rico Department of Health, the Puerto Rico Environmental Quality Board and other major clients in the Puerto Rico market. Ms. Montero is also very knowledgeable about the compliance standards governed under the National Environmental Laboratory Accreditation Program and the US EPA. Her familiarity with the regulatory standards of the Safe Drinking Water Act, the Clean Water Act, the Clean Air Act, RCRA, CERCLA and SW 846 enable her to provide helpful guidance to the many clients she supports in her role at Pace, Florida.



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Ormond Beach, FL 32174*

Phone: 386.672.5668

Fax: 386.673.4001

**VINCENT (BO) GARCIA
PROJECT MANAGER**

EDUCATION

B.S., Biology, (Florida State University, 1983)

EXPERIENCE

In the capacity as a Project Manager, Mr. Garcia serves as the primary liaison between Pace's clients and the resources available to them through the laboratory. With an experience level of over 14-years in environmental analysis and laboratory management, Mr. Garcia handles all aspects of each client's analytical requirements, including pre-project planning, which includes analytical methodology and cost evaluation; sample kit coordination; project login and subsequent client technical requirement disbursement to the analytical staff; final report evaluation, which includes a quality control check and a final assessment of whether client regulatory and technical objectives have been met; project invoicing at client agreed-upon rates; and regulatory agency interaction on behalf of each client, if needed.

Mr. Garcia's previous responsibilities have included the management of three groups of chemists in the Semi-Volatile Organic Laboratory: (1) the mass spectrometry team (SV-MS); (2) the gas chromatography team (SV-GC); and, (3) the high performance liquid chromatography team (SV-LC). Mr. Garcia has over ten years of experience in organic analyses and laboratory management. His daily assignments include project scheduling, technical supervision, instrument troubleshooting, project coordination and quality control activities. Under his direction, the laboratory is performing analyses for a heavy workload of samples for literally all phases of environmental and drinking water monitoring programs. Mr. Garcia directs the sample preparation activities using modern sample extraction and preparation techniques, including liquid-liquid extraction, robotic gel permeation chromatography, sample clean-up workstation, sonication extraction, gas steam and sub-ambient vacuum sample concentration and solid phase extractions. His teams have developed efficient methods to deal with difficult sample matrices to meet clients' requirements. Mr. Garcia has also managed the Volatiles Organic Laboratory, which employs mainly the purge-trap technology for analyzing low parts per billion (ppb) levels of aromatic and chlorinated hydrocarbons in solid and water matrices.

Mr. Garcia's has over fifteen years of dedicated laboratory experience, which have all been here at the Ormond Beach laboratory. His experience includes three years in the micro-biology and bioassay department, where he initiated and maintained the breeding program of several of the lab's test organisms. His work in the overall laboratory operations qualify him to provide a high level of technical support to all of Pace's clients. He also serves as the internal point of contact for all other Pace network laboratories for samples that are sent to the Ormond facility for analysis.



Pace Analytical Services, LLC.
8 East Tower Circle
Ormond Beach, FL 32174
Phone: 386.672.5668
Fax: 386.673.4001

TODD REA
PROJECT MANAGER

EDUCATION

M.B.A., Master of Business Administration (University of North Florida, 2013)
B.S., Chemistry, Minor Medical Sciences (University of West Alabama, 2008)

REGISTRATONS

Florida Association of Environmental Professionals

EXPERIENCE

Mr. Rea joined Pace Analytical Services in 2014. He is currently serving as Project Manager. He is responsible for the preparation of reports/technical papers and the management of projects. Mr. Rea has previously served as Semi-Volatile Department Supervisor, Semi-Volatile Analyst, Microbiology Analyst, Extraction Technician, and Client Services Technician in environmental laboratories.

His job duties include:

- Working with Sales/Marketing personnel in developing new business
- Developing customer relationships and resolving customer satisfaction issues
- Communicating with laboratory operations staff and CSM regarding customer requests and project requirements
- Representing Pace Analytical at customer meetings
- Managing specific customer accounts including cities, counties, utilities, laboratories, and environmental consultants
- Promoting cooperation and teamwork among staff
- Following Pace policies and Standard Operating Procedures (SOPs)



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8 East Tower Circle
Ormond Beach, FL 32174
Phone: 386.672.5668
Fax: 386.673.4001

LISA HARVEY
PROJECT MANAGER

EDUCATION

B.S., Chemistry (Grand Valley State University, 1989)

EXPERIENCE

Ms. Harvey joined Pace Analytical Services in 2017. She is currently serving as Project Manager. She is responsible for the preparation of reports/technical papers and the management of projects. She is responsible for initiating analytical needs with the customer, coordination of samples once received by the laboratory, and reviewing the login information and the final analytical report for completeness.

Her job duties include:

- Taking bottle orders and coordinating shipment of appropriate sampling containers to the customer for sampling;
- Working with the laboratory sample receiving staff to assure sample volumes are received with appropriate preservatives and volume is adequate for analytical testing;
- Communicating with laboratory personnel regarding non-routine projects, analytical or project updates, and project priorities;
- Providing the final analytical report, any quality control data where applicable, and discussion of any issues found with the customer's samples and/or analysis.
- Available to the customer for any analytical, sampling, or shipping questions or future project needs.



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Ormond Beach, FL 32174
Phone: 386.672.5668
Fax: 386.673.4001

AARON CRUMP
PROJECT MANAGER

EDUCATION

B.S., Chemistry w/Biology minor (University of Tennessee, 2013)

EXPERIENCE

Mr. Crump joined Pace Analytical Services in 2013. He is currently serving as Project Manager. He is responsible for the preparation of reports/technical papers and the management of projects. He is responsible for initiating analytical needs with the customer, coordination of samples once received by the laboratory, and reviewing the login information and the final analytical report for completeness. His job duties include:

- Taking bottle orders and coordinating shipment of appropriate sampling containers to the customer for sampling;
- Working with the laboratory sample receiving staff to assure sample volumes are received with appropriate preservatives and volume is adequate for analytical testing;
- Communicating with laboratory personnel regarding non-routine projects, analytical or project updates, and project priorities;
- Providing the final analytical report, any quality control data where applicable, and discussion of any issues found with the customer's samples and/or analysis.
- Available to the customer for any analytical, sampling, or shipping questions or future project needs.



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Phone: 386.672.5668
Fax: 386.673.4001

TRISHA L. KELLY
INORGANICS LABORATORY MANAGER

EDUCATION

B.S. Biology (Radford University, 2003)

EXPERIENCE

Ms. Kelly is responsible for the direction and coordination of the daily activities of the Inorganics Department. This department includes Metals, Wet Chemistry, and Microbiology sections. His technical background helps him minimize instrumental down times in his area, thus allowing for a consistent and continuous performance of analyses. In order to be able to maintain short turnaround times, she is responsible of maintaining communication with project management and her department's analysts, making sure of the efficient scheduling of the workload. She is also responsible for ensuring that the department's activities are validated in accordance with the directives of the QA office, as well as within EPA guidelines, NELAC guidelines, and various other state and federal guidelines.

Since the beginning of her career, Ms. Kelly has advanced quickly in the laboratories she has worked, thanks to her talent, eagerness to learn new methods, and troubleshooting abilities. Her analytical and technical knowledge has made her a source of information for her peers. Her ambitious nature has made her very willing to accept new and specialized projects which may require planning and organization.

Ms. Kelly's 13 years of environmental analytical laboratory experience includes work as an analyst in Wet Chemistry and Microbiology. She is knowledgeable and proficient in a number of analytical protocols, including wet chemistry analyses of COD, BOD, TOC, IC (major anions), LACHAT(NO_x, NO₃, NO₂, OP, NH₃, TKN, TP, PHENOL), pH, Turbidity, Color, Odor, MBAS, Residual Chlorine, Chlorine Dioxide, Sulfide, Alkalinity, Conductivity, Salinity and Flash Point. Microbiology methods include: Standard Plate Count/ Heterotrophic Plate Count(SPC/HPC), Total Coliforms by MMO and membrane filtration, Fecal Coliforms by Most Probable Number(MPN) and membrane filtration.



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Ormond Beach, FL 32174
Phone: 386.672.5668
Fax: 386.673.4001

ANDREW MOORE
WET CHEMISTRY SUPERVISOR

EDUCATION

BS Chemistry/Biochemistry (University of Central Florida, 2014)

EXPERIENCE

Mr. Moore joined Pace Analytical Services in 2015. He is currently serving as the Wet Chemistry Supervisor. He is responsible for supervision of the Wet Chemistry Department. His job duties include:

- Preparation and Analysis of Samples
- LIMS data Entry
- Preparing Samples, Analyzing Results, and Data Review/Approval
- Managing the day to day operations of the Wet Chemistry Department



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Fax: 386.673.4001

**BRIAN MARK RUSLER
ORGANICS MANAGER**

EDUCATION

BS Chemistry (University of Central Florida, 1989)

REGISTRATONS

American Chemical Society

ACS divisional Affiliations in Environmental Chemistry, Organic Chemistry and Chemistry and Law.

Central Florida Officials Association

FHSAA – Florida High School Athletic Association

EXPERIENCE

Mr. Rusler joined Pace Analytical Services in 2017. He is currently serving as the Organics Manager. He is responsible for maintaining close supervision of daily work activities and data production for Semi-Volatiles and Volatiles Departments. His job duties include

- Responsible for ensuring analytical data quality objectives are met
- Expand the analytical capabilities of the laboratory
- Added new methods, micro extraction and SPE
- Maintenance of all analytical instruments used in the laboratory
- Troubleshoot instrument / method problems and resolution
- Maintain close contact with project managers and sales team



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Ormond Beach, FL 32174
Phone: 386.672.5668
Fax: 386.673.4001

STEVEN MICHAEL BROAD
SEMIVOLATILES LABORATORY SUPERVISOR

EDUCATION

Geology Studies (Florida Atlantic University)

EXPERIENCE

Mr. Steven Broad joined Pace Analytical Services 2011. He is currently serving as Semivolatiles supervisor. He is responsible for the day to day operations of the Semivolatiles instrument lab and his duties include:

- Management of the Semivolatiles staff
- Validation of analytical data
- Balancing the budget/expenses
- Method Development

Prior to joining Pace, Mr. Broad worked at other environmental laboratories as:

- Extraction Technician
- Analyst
- Management of the Extractions laboratory
- Management of the Semivolatiles instrument group
- Handling of the waste stream for the entire building
- Head of the safety committee



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8 East Tower Circle
Ormond Beach, FL 32174
Phone: 386.672.5668
Fax: 386.673.4001

BRANDON HARDESTY
VOLATILES LABORATORY SUPERVISOR

EDUCATION

B.S. Political Science, Minor: Criminal Justice (University of North Florida, 2006)

EXPERIENCE

Mr. Hardesty joined Pace Analytical Services 2010. He is currently serving as Volatiles supervisor. He is responsible for the day to day operations of the Volatiles instrument lab and his duties include:

- Management of the Volatiles staff
- Validation of analytical data
- Balancing the budget/expenses
- Method Development



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8 East Tower Circle
Ormond Beach, FL 32174
Phone: 386.672.5668
Fax: 386.673.4001

SAL RAMOS
OPERATIONS MANAGER, TAMPA AND POMPANO BEACH

EDUCATION

Lyons Institute, Clark, New Jersey, Graduate, Medical Lab Technician Certificate, 09/1987 to 05/1988
Jersey City State College, Jersey City, New Jersey, Biology major, 1986

EXPERIENCE

Mr. Ramos has 27 years of experience in the environmental industry. He joined Pace in the Oldsmar location in 2017 as Operations Manager. His main role is to serve as support to all facets of the laboratory to include data generation, couriers, bottle kit prep, project management and the sample custody department. Mr. Ramos ensures the laboratory is meeting customers' turnaround time and their project specifications, including reporting limits and QA/AC requirements. His responsibilities include:

- Oversee all laboratory operations
- Maintaining operation costs within budget
- Conduct all staff meetings on a monthly basis to discuss lab operations
- Relay operation status general manager
- Run status reports using Horizon LIMs system (EpicPro) for lab and ensuring lab meets turn around times while meeting all quality control requirements
- Run status reports for PMs (project managers) to ensure reports meet clients' TATs
- Ensure all QA (quality assurance) and safety protocols are met with daily discussions with Pace quality managers
- Daily discussions with Pace sample receiving, bottle kit/couriers and field sampling teams to ensure that clients' needs are being met
- Ensure company vehicles' are operating properly and safely
- Approve payroll and vacation time while maintaining functional operational needs
- Supervise project managers

Prior to working at Pace Analytical he worked as an Operations Manager, Inorganics Manager, Organic Chemist, Metals Manager, Metals Analyst, Wet Chemistry Analyst and Laboratory Technician over his career from 1991 to present. During that time, Mr. Ramos also served 6 years as Health and Safety Coordinator and maintained OSHA, HAZWOPER, Waste Management and DOT certifications.



Pace Analytical Services, LLC.
8 East Tower Circle
Ormond Beach, FL 32174
Phone: 386.672.5668
Fax: 386.673.4001

TERRENCE ANDERSON
CLIENT SERVICES MANAGER, POMPANO BEACH

EDUCATION

BS Environmental Studies (Florida International University)

AS Environmental/Agricultural (Science College of Agriculture Science & Education)

EXPERIENCE

Mr. Anderson joined Pace through an acquisition in 2011. As Client Services Manager his main role is to serve as liaison between laboratory personnel and clients to ensure effective project management, ensuring the laboratory is meeting customers' turnaround time and their project specifications, including reporting limits and QA/QC requirements. His responsibilities include:

- Prepare and sign environmental laboratory reports for industrial and commercial customers
- Coordinate environmental sampling, provide technical support to customers
- Supervise project managers
- Assign project managers for new customers
- Prepare special EDD reports including ADaPT
- Point of contact between clients and laboratory
- Perform technical review of projects for clients
- Address customers concerns

Prior to working at Pace Analytical he worked as a senior project manager at KSA environmental laboratory, and supervised the field staff and sample custody departments. From 2004-2007 Mr. Anderson worked as a pollution control inspector for Miami Dade County Department of Environmental Resources Management (DERM). At the County I inspected permitted facilities to ensure they are operating within their permit requirements, review permit applications, identify sources of environmental pollution, analyze and interpret annual emission reports, conduct site inspections and initiate enforcement actions where there are permit violations.



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8 East Tower Circle
Ormond Beach, FL 32174

Phone: 386.672.5668
Fax: 386.673.4001

CHRISTINA RASCHKE
PROJECT MANAGER

EDUCATION

Master of Physical Therapy (Nova Southeastern University, Fort Lauderdale, FL)
B.S. in Biology (Nova Southeastern University, Fort Lauderdale, FL)

EXPERIENCE

Christina Raschke has joined Pace Analytical Services, Inc. with the acquisition of XENCO Laboratories in July 2011. Ms. Raschke was a Project Manager for XENCO Laboratories and Genapure Analytical Services from 2008 until the merger with Pace Analytical. Ms. Raschke has been in the Environmental Laboratory field since April of 2006 and brings 2 years of hands-on experience including supervisory position in the laboratory and 3 years of Client Services/Project Manager experience with her. Ms. Raschke's responsibilities include:

- Responsible for the coordination and tracking of tasks, schedules, and deliverables for projects related to environmental analysis, compliance, permitting, remediation, etc.
- Generate & review reports, invoices & deliverables prepared by team before submitting to client
- Responsible for preparation and submittal of specified reporting formats, such as EDDs, ADaPT, Drinking Water Forms, etc.
- Effectively enforce project standards
- Minimize risks on projects
- Ensure project documents are complete, current, and stored appropriately
- Manage day-to-day client interaction
- Develop lasting relationships with client personnel that foster client ties



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8 East Tower Circle
Ormond Beach, FL 32174
Phone: 386.672.5668
Fax: 386.673.4001

ROSSY GUIMA
PROJECT MANAGER

EDUCATION

Associate in Science Major: Business Administration (Broward College)

Associate degree in Pre Medical (Federico Villareal University, School of Medicine, Lima, Peru)

EXPERIENCE

Mrs. Guima joined Pace Analytical Services, Inc. with the acquisition of Xenco laboratories in July 2011. Mrs. Guima was a Project Manager for XENCO Laboratories until the merger with Pace Analytical. Mrs. Guima has been in the Environmental Laboratory field since April of 2007 and brings 4 years of Client Services/Project Manager experience with her. As Project Manager her main role is to serve as liaison between laboratory personnel and client to ensure effective project management, ensuring the laboratory is meeting customers turn around time and their project specifications, including reporting limits and QA/AC requirements.

- Responsible for the coordination and tracking of tasks, schedules, and deliverables for projects related to environmental analysis, compliance, permitting, remediation, etc.
- Generate & review reports, invoices & deliverables prepared by team before submitting to client
- Responsible for preparation and submittal of specified reporting formats, such as EDDs, ADaPT, Drinking Water Forms, etc.
- Ensure reports are complete, current, and properly stored
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8 East Tower Circle
Ormond Beach, FL 32174
Phone: 386.672.5668
Fax: 386.673.4001

ERIC J. BATTISTA
QUALITY MANAGER – TAMPA LABORATORY

EDUCATION

B.S. Chemistry- Clemson University (1997)

RELEVANT EXPERIENCE

Mr. Battista has over 10 years experience as a laboratory analyst, several years as a Project Manager, as well as over 3 years as a Quality Manager. He has working knowledge and established proficiency in a number of analytical procedures, with a primary emphasis in wet chemistry methodology. His experience includes a wide variety of gravimetric, colorimetric, and ion chromatography methods drafted by EPA and Standard Methods, using Discrete Auto Analyzers, Ion Chromatography, and FIA systems. In addition to his wet chemistry experience, he has worked extensively with HPLC-UV, HPLC-FLUOR, and GC-FID systems for a variety of EPA and FLDEP methods. As a Project Manager, he served as the primary liaison between customers and operations through the daily coordination of activities including overseeing sample logins, maintaining customer records, and assuring that final reports are sent to the customers. As a Quality Manager, he has the responsibility and authority for ensuring that the management system related to quality is implemented and followed at all times for the Florida laboratories. His responsibilities include, but are not limited to, document management and distribution, training file maintenance, internal/external on-site assessments, and laboratory data review.

Mr. Battista has worked within a number of areas in the environmental industry, including: Radiochemistry, Wet Chemistry, Metals, and Semi-volatile Organics. His client exposure spans many different types of projects, including groundwater monitoring, site assessments, site remediation, and drinking water monitoring under AFCEE, CLP, RCRA, and CWA/NPDES.



Pace Analytical Services, LLC.
8 East Tower Circle
Ormond Beach, FL 32174
Phone: 386.672.5668
Fax: 386.673.4001

MICHAEL F. VALDER
SENIOR PROJECT MANAGER – TAMPA LABORATORY

EDUCATION

B.S. Chemistry- University of South Florida (1986)

RELEVANT EXPERIENCE

Mr. Valder manages client projects including landfills, NPDES, drinking water, solid waste, and other FDEP regulatory compliance driven programs. His many years of service with the laboratory have given him a background that allows him to help clients with their site-specific work plans, applicable methodologies, turnaround time requirements, and project data quality objectives. In the capacity as Project Manager, Mr. Valder provides his clients as the one point of contact for all their production and technical needs. He serves as a liaison between the client and the laboratory operations and currently serves a diverse group of clients, including many cities, counties, utilities, and consultants.

Mr. Valder has over 11 years experience as a laboratory analyst as well as over 10 years as a Project Manager. He is knowledgeable and proficient in a number of analytical protocols, including: a wide variety of gravimetric, potentiometric, titrimetric, Auto Analyzer, Ion Chromatography and colorimetric classical wet chemistry procedures employing EPA, ASTM, Standard Methods, FDEP methodologies; TCLP extractions (volatile and nonvolatile); metals analyses employing flame and graphite furnace AA, ICP, cold vapor AA instrumentation; and organics analyses employing GC, and GC/MS instrumentation. As a project manager he assists a wide variety of clients through the laboratory analytical processes and their related regulatory, quality control and financial issues, often identifying alternative approaches that ensure project data quality and turnaround times are met and that expenses are minimized.

Mr. Valder has worked with clients on many different types of projects, including: site investigations, assessments and recommendations under TSCA, RCRA, RCRA/UST and CERCLA for both public and private sector clients; site evaluations and monitoring under CWA/NPDES for POTW and industry sector clients; large water system evaluations under SWIM and CWA for regulatory agencies and other public sector clients; drinking water monitoring under SDWA for both public and private sector clients; and many property transfer investigations for a wide variety of private sector clients.



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8 East Tower Circle
Ormond Beach, FL 32174
Phone: 386.672.5668
Fax: 386.673.4001

LORI A. PALMER
SENIOR PROJECT MANAGER – TAMPA LABORATORY

EDUCATION

B.S. Management Information Systems / Music – University of Tampa (1985)

RELEVANT EXPERIENCE

Mrs. Palmer has almost 30 years' experience in technical client support in the environmental laboratory industry as well as the high tech industry with IBM and utility industry software management. Mrs. Palmer was a founder and the owner of SunLabs, a small minority-owned environmental laboratory recognized for its outstanding client service for over 17 years. Since acquiring SunLabs in October 2014, Pace Analytical has relied on Mrs. Palmer to enhance the customer relationships with clients in the Tampa Bay and Central Florida area.

As a laboratory project manager Mrs. Palmer has worked with a wide variety of clients in both the public and private sector. She has supported projects including site investigations and assessments under RCRA, RCRA/UST and CERCLA for both public and private sector clients; site evaluations and monitoring under CWA/NPDES for POTW and industry sector clients; drinking water monitoring under SDWA for both public and private sector clients; and many property transfer investigations for a wide variety of private sector clients. Mrs. Palmer is recognized in the industry for her unique client-centric focus and responsiveness to the needs of each of her individual clients.



Pace Analytical Services, LLC.
8 East Tower Circle
Ormond Beach, FL 32174
Phone: 386.672.5668
Fax: 386.673.4001

CAMERON MEYNARDIE
PROJECT MANAGER – TAMPA LABORATORY

EDUCATION

(University of South Florida 2000-2002)

EXPERIENCE

Mr. Meynardie joined Pace Analytical Services in 2014. He is currently serving as a Project Manager. He is responsible for serving as the primary liaison between customers and operations through daily coordination of activities including overseeing sample logins, maintaining customer records, and assuring that final reports are sent to the customers. His job duties include:

- Responsible for the coordination and tracking of tasks, schedules, and deliverables for projects related to environmental analysis, compliance, permitting, remediation, etc.
- Generate & review reports, invoices & deliverables prepared by team before submitting to client
- Responsible for preparation and submittal of specified reporting formats, such as EDDs, ADaPT, Drinking Water Forms, etc.
- Ensure reports are complete, current, and properly stored
- Serve as point of contact between clients and laboratory
- Address customers concerns
- Effectively enforce project standards
- Minimize risks on projects
- Manage day-to-day client interaction



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8 East Tower Circle
Ormond Beach, FL 32174
Phone: 386.672.5668
Fax: 386.673.4001

JAMES STOCKBRIDGE
SENIOR ENVIRONMENTAL SAMPLING SERVICES TECHNICIAN

EDUCATION

40 Hour HAZWOPER Training
Florida DEP Field Sampling SOP DEP-SOP-001/01 Training
Pace Analytical UCMR 3 Training
High School Diploma

EXPERIENCE

Mr. Stockbridge joined Pace Analytical in 2007. He is responsible for coordinating field sampling of:

- UCMR 3 for Public Water Systems in accordance with SOP F=FL-C-023 rev.02
- Water Treatment Plant Compliance Monitoring
- Municipal Solid Waste Facility Compliance Monitoring
- Wastewater Treatment Plant Compliance Monitoring
- Wastewater Industrial Pretreatment Compliance Monitoring

These responsibilities require Mr. Stockbridge to perform the following tasks:

- Calibration of field equipment for field measurements
- Repair of sampling equipment
- Scheduling of sampling events for existing clients and new clients
- Coordinating the sampling schedule with Project Managers needs and requirements
- Ordering of sampling equipment through specific vendors and client services
- Proper techniques for sampling and field measurements of Groundwater, Wastewater, Soils/Sediments, Surface Water, Composite Samples
- Cryptosporidium/Giardia sampling



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Fax: 386.673.4001

WILLIAN DOUGLAS PHILLIPS
LEAD FIELD SERVICES TECHNICIAN

EDUCATION

OSHA 40 hour training including:

- Haz Mat
- Bloodborne Pathogens Training
- Emergency Response Training
- Health & Safety Training for Hazardous Waste Site Investigation
- Annual OSHA 8 Hour Hazwoper Supervisor / Management Refresher

Treco Center Training for Ground Water / Waste Water Sampling

Pace Analytical UCMR 3 Training

High School Diploma

EXPERIENCE

Mr. Phillips joined Pace Analytical in 2011. He is responsible for field sampling of:

- UCMR 3 for Public Water Systems in accordance with SOP F=FL-C-023 rev.02
- Water Treatment Plant Compliance Monitoring
- Municipal Solid Waste Facility Compliance Monitoring
- Wastewater Treatment Plant Compliance Monitoring
- Wastewater Industrial Pretreatment Compliance Monitoring

These responsibilities require Mr. Stockbridge to perform the following tasks:

- Calibration of field equipment for field measurements
- Repair of sampling equipment
- Scheduling of sampling events for existing clients and new clients
- Coordinating the sampling schedule with Project Managers needs and requirements
- Ordering of sampling equipment through specific vendors and client services
- Proper techniques for sampling and field measurements of Groundwater, Wastewater, Soils/Sediments, Surface Water, Composite Samples
- Cryptosporidium/Giardia sampling

TAB 6

Project Experience/References

References for Ongoing and Past Contracts

Organization Name: Hillsborough County
Address: 9460 E. Columbus Drive
Address: Tampa, FL 33619
Contact: Ms. Sandra Fernandez-McCoin
Telephone: 813-272-5977
Email: fernandezsa@hillsboroughcounty.org
Years of Service: 7

Organization Name: Miami-Dade Water and Sewer Division
Address: 950 SW 232 St.
Address: Miami, FL 33190
Contact: Clive Powell
Telephone: 786-268-5512
Email: cpowe@miamidade.gov
Years of Service: 8

Palm Beach County Solid Waste
Address: Stuart, FL 34995-9000
Contact: Thomas Sirna
Telephone: 561-358-0957
Email: tsirna@swa.org
Years of Service: 8

Organization Name: Miami-Dade County Solid Waste
Address: 2525 NW 62nd Street
Address: Miami, FL 33147
Contact: German Hernandez
Telephone: 305-514-6673
Email: germanh@miamidade.gov
Years of Service: 8

Organization Name: Sarasota County
Address: 1301 Cattleman Road, Room 218, Bldg. A
Address: Sarasota, FL 34232
Contact: Mr. Cesar Rodriguez
Environmental Specialist II
Telephone: 941-378-6142
Fax: (941) 861-6665
Email: CRODRIGU@co.sarasota.fl.us
Years of Service: 8

Organization Name: Volusia County Solid Waste
Address: 1990 Tomoka Farms Road
Address: Daytona Beach, FL 32114
Contact: Ms. Jennifer Stirk

Environmental Specialist III
Telephone: 386-947-2952
Fax: 386-947-2955
Email: jstirk@co.volusia.fl.us
Years of Service: 12

City of Ormond Beach WWTP
Mr. Sam Butler
P.O. Box 277
Ormond Beach, FL 32175
(386)676-3592
butler@ormondbeach.org
Years of Service: 12

Organization Name: Levy County
Address: P.O. Box 778
Address: Bronson, FL 32621
Contact: Mr. Andrew Carswell
Telephone: 352-486-2872
Fax: 352-486-2033
Email: milseng@bellsouth.net
Years of Service: 6

Organization Name: Lake County
Address: 315 West Main Street
Address: Tavares, FL 32278
Contact: Ms. Cathie Catasus
Telephone: 352 343-9758
Fax: 352-742-2781
Email: ccatasus@co.lake.fl.us
Years of Service: 8

Organization Name: City of Hollywood
Address: PO Box 229045
Address: Hollywood, FL 33022
Contact: Cassandra Myers
Telephone: 954-921-3415
Email: kmyers@hollywoodfl.org
Years of Service: 8

Organization Name: Delaware Office of Drinking Water
Address: 43 South DuPont Highway
Address: Dover, DE 19901
Contact: Mr. Kevin Cottman
Telephone: 302-741-8582
Email: Kevin.Cottman@state.de.us
Years of Service: 5

Organization Name: Brevard County
Address: 3630 N. Courtenay Parkway
Address: Merritt Island, FL 32753-8103
Contact: Mr. David Dezman
Telephone: 321-455-1339
Fax: 321-455-1331
Email: david.dezman@brevardcounty.us
Years of Service: 10

Organization Name: Brevard County Solid Waste
Address: 2725 Judge Fran Jameson Way, Bldg. A
Address: Melbourne, FL 32940
Contact: Ms. Debbie Lugar
Telephone: 321-633-2042
Email: deborah.lugar@brevardcounty.us
Years of Service: 10

Organization Name: Suwannee River Water Management District
Address: 9225 CR 49
Address: Live Oak, FL 32060
Contact: Mr. Robbie McKinney
Telephone: 386.362.1001
Fax: 321-455-1331
Email: RLM@srwmd.org
Years of Service: 5

Organization Name: Pinellas County Utilities Lab
Address: 1620 Ridge Road, Bldg. B
Address: Largo, FL 33778
Contact: Ms. Terri Grimes
Telephone: 727-582-2322
Fax: 727-588-4834
Email: tgrimes@pinellascounty.org
Years of Service: 6

TAB 7

ITB Document



CITY OF COOPER CITY, FLORIDA

Invitation to Bid

Laboratory Testing Services – Utilities Department ITB 2018-11-UTL

For information contact the Purchasing Division:

Kerri Anne Fisher - Purchasing Agent
Claudia Portocarrero - Purchasing Assistant
Tel: 954-434-4300 ext. #297
Purchasing@CooperCityFL.org

Release Date: Thursday, August 16, 2018
Due Date: Wednesday, September 12, 2018

**CITY OF COOPER CITY
NOTICE TO BIDDERS**

NOTICE IS HEREBY GIVEN that the City of Cooper City, Florida, will be accepting sealed bids until 3:00PM (EST) on Wednesday, September 12, 2018 from qualified vendors that are able to provide laboratory testing services for Cooper City's Utilities Department.

**LABORATORY TESTING SERVICES – UTILITIES DEPARTMENT
ITB 2018-11-UTL**

The detailed Invitation to Bid (ITB) shall be obtained online at www.DemandStar.com.

Bids must be received in the City Clerk's Office no later than 3:00PM (EST), Wednesday, September 12, 2018. The outside of the envelope or box containing one (1) identified, unbound original, two (2) copies and one (1) electronic copy (CD or flash drive) of your bid must be clearly marked **"ITB 2018-11-UTL, LABORATORY TESTING SERVICES – UTILITIES DEPARTMENT"**.

Questions and requests for information relative to this ITB should be directed to the Purchasing Division. Please email questions to Purchasing@CooperCityFL.org.

The City Commission of the City of Cooper City reserves the right, for any reason, to reject any and all bids/bids and to make awards in the best interest of the City.

A Cone of Silence is hereby imposed prohibiting communication regarding this Invitation to Bid between a potential vendor, service provider, bidder, lobbyist, or; consultant and the City Commissioners, City's professional staff including, but not limited to, the City Manager and his staff, any member of the City's selection or evaluation committee. For further information about the Cone of Silence, please contact the City's Attorney.

CITY OF COOPER CITY
Kathryn Sims, City Clerk

Please publish one (1) time on:

Thursday, August 16, 2018

Please send invoice and proof of publication to:

Jenna Montoya, Assistant City Clerk
City of Cooper City
PO Box 290910
Cooper City, FL 33329-0910
JMontoya@CooperCityFL.org

SECTION I – INTRODUCTION AND INFORMATION

1.1 PURPOSE

The City of Cooper City (the “City”) will receive sealed bids on the date and time specified below for the performance laboratory testing services for the City of Cooper City’s Utility Department, as listed and specified herein and on the Bid Form which is and does become a part of this Bid.

1.2 DUE DATE & SUBMITTALS

1.2.1 All bids are due no later than 3:00PM (EST), Wednesday, September 12, 2018, or any time prior thereto, at the Office of the City Clerk located at 9090 SW 50th Place, Cooper City, FL 33328. Bids shall be opened and publicly read in the Commission Chambers, on the date and at the time specified. All bids received after that time will not be accepted and shall be returned to the Bidder.

1.2.2 Original copy of Bid Form as well as any other pertinent documents must be returned in order for the bid to be considered for award. All bids are subject to the conditions specified herein and on the attached General Conditions, Technical Specifications and Bid Form.

1.2.3 The completed, signed bid must be submitted in a SEALED ENVELOPE clearly marked with the Bid Title. Bids mistakenly opened by City staff, due to failure of the Bidder to correctly identify the package, will be rejected. Telegraphic, facsimile and email bids will not be accepted.

1.2.4 Bids received after the closing time and date, for any reason whatsoever, will not be considered. Any disputes regarding timely receipt of proposals shall be decided in the favor of the City.

1.2.5 The City encourages early submittal of bids. Late bids will be rejected.

1.3 PRE-BID MEETING – NONE

1.4 ELIGIBILITY AND COMPETENCY OF BIDDERS

To be eligible for award of a contract in response to this solicitation, the Bidder must demonstrate that they, or the principals assigned to the project, have successfully completed services, as specified in the Scope of Services/Technical Specifications section of this solicitation, are normally and routinely engaged in performing such services and are properly and legally licensed to perform such work.

1.5 CONTRACT TERM

1.5.1 The contract shall be for an initial period of three (3) years commencing on the date of issuance of a Notice to Proceed. The contract may be extended for two (2) additional one (1) year terms under the same terms and conditions, if mutually agreed upon by both parties.

1.5.2 Prior to extending any contract, and in exercising its discretion in its extension rights, the City shall review the Contractor’s past performance, record of complaints, and compliance with the contract terms.

1.5.3 The form and legal sufficiency of the Contract shall be subject to the approval of the City Attorney.

1.6 SUPPLY/DELIVERY LOCATION

After award, if samples are to be picked up by the vendor, or if document hard copies are to be delivered under this contract, the location will be the Cooper City Utilities Complex, 11791 SW 49th Street, Cooper City, FL 33330. Pickup and deliveries should be pre-scheduled by calling 954-434-5519.

1.7 PRICE

It is requested that bidders quote a fixed price that will be guaranteed to the City for a period of ninety (90) days, commencing on the date of the Bid opening, in order to allow ample time for award of a potentially resulting contract by the City Commission. If the

Bidder is awarded a contract under this bid solicitation, the prices quoted by the Bidder on the Bid Form shall remain fixed and firm during the term of the contract; provided however, that the Bidder may offer incentive discounts from the fixed price to the City at any time during the contractual term

1.8 PRICES SHALL BE FIXED WITH ADJUSTMENTS ALLOWED

Bidder's prices shall remain fixed and firm for the initial contract term which is thirty-six (36) months from the time of contract commencement. After the initial contract term, bidder shall have the option to request price adjustments. Any request for price adjustments must be issued at least sixty (60) days prior to the contract anniversary date. The City will consider a price adjustment based on the most current Consumer Price Index for All Urban Consumers (CPI-U), Miami-Fort Lauderdale report as published by the U.S. Department of Labor, Bureau of Labor Statistics. It is the bidder's responsibility to request any pricing adjustment under this provision. If no price increase has been requested, the City will assume that the bidder has agreed to continue under the same price allowed in the current term. Any adjustment request received after the commencement of a new annual period may not be considered.

1.9 METHOD OF AWARD

1.9.1 The contract will be awarded to the *lowest* responsive, responsible Bidder whose Bid, conforming to the Solicitation, is most advantageous to the City. The *lowest* responsive, responsible Bidder(s) will be determined in conjunction with the methods described below. Tie Bids will be decided as described in the General Conditions.

1.9.2 Bidder must bid on all items listed on Bid Form to qualify for award of the contract.

1.9.3 The City reserves the right to reject all bids or any portion of any bid the City deems necessary for the best interest of the City, to accept any item or group of items unless qualified by the Bidder, to acquire additional quantities at prices quoted on the Bid Form unless additional quantities are not acceptable, in which case the Bid Form must be noted "BID IS FOR SPECIFIED QUANTITY ONLY." All awards made as a result of this bid shall conform to applicable Florida Statutes and the City Code.

1.9.4 Bid prices should be submitted with the understanding that the City is not authorized to pay service charges, which may be imposed due to the late payment of an invoice, which has become delinquent.

1.9.5 The City shall award a contract to a Bidder through action taken by the City Commission of the City of Cooper City (the "City Commission") at a duly authorized meeting.

1.9.6 The General Terms and Conditions, the Special Conditions, the Technical Specifications, the Bidder's Proposal, the Contract referenced and the task orders are collectively an integral part of the contract between the City and the successful Bidder.

1.9.7 While the City Commission may determine to award a contract to a Bidder(s) under this Solicitation, said award may be conditional on the subsequent submission of other documents as specified in the Bid Form of this solicitation. The Bidder shall be in default of the contractual obligations if any of these documents are not submitted in a timely manner and in the form(s) required by the City. If the Bidder is in default, the City, through the Purchasing Agent, will void its acceptance of the Bidder's offer and may determine to accept the offer from the second lowest responsive, responsible Bidder or re-solicit Bids. The City may, at its sole option, seek monetary restitution from the Bidder as a result of damages or excess costs sustained and/or may prohibit the Bidder from submitting future Bids for a period of one year.

1.9.8 The City reserves the right to automatically extend the contract for a maximum period not to exceed one hundred and eighty (180) calendar days, in order to provide City departments with continual service and supplies while a new contract is being solicited, evaluated and/or awarded. If this right is exercised, the City shall notify the Bidder, in writing, of its intent to extend the contract for a definitive period of time prior to the effective date of the extension. By affixing its authorized signature to this Bid Form, the Bidder hereby acknowledges and agrees to this right of the City.

1.10 INVOICES/PAYMENT

Invoices documenting completed work shall be submitted at the completion of each request for work and must contain detailed information including the location and amount of work performed. Contractor shall submit an exact listing of completed work with submission of invoice for payment.

Every effort will be made by the City to remit payment within 30 days of the invoice date, after satisfactory inspection by the using department. BIDDERS WILL NOT BE PERMITTED TO PICK UP CHECKS FROM THE CITY. ALL CHECKS WILL BE MAILED TO THE VENDOR'S REMIT TO ADDRESS ON FILE.

Invoices shall be emailed to Accounting@CooperCityFL.org, or sent via US Mail to City of Cooper City, P.O. Box 290910, Cooper City, FL 33329-0910. All invoices must reference the applicable task order and/or Bid number.

1.11 INFORMATION OR CLARIFICATION

For information concerning procedures for responding to this solicitation, contact the Purchasing Division via telephone at (954) 434-4300 x #297 or email Purchasing@CooperCityFL.org. Such contact shall be for clarification purposes only. Material changes, if any, to the Scope of Services or bidding procedures will only be transmitted by written addendum.

All questions must be submitted in writing. Questions of a material nature must be received prior to the cut-off date specified in the Bid Schedule. No part of your bid can be submitted via fax or e-mail.

[END OF SECTION]

SECTION II – SOLICITATION SCHEDULE

Item	Date
Release Bid	Thursday, August 16, 2018
Last Date for Receipt of Questions of a Material Nature	Wednesday, September 5, 2018
BIDS DUE (Prior to 3:00PM EST)	3:00PM EST Wednesday, September 12, 2018
Recommendation of Award issued to City Commission	Tuesday, September 25, 2018
Anticipated Award of Contract by City Commission	Tuesday, October 9, 2018

[END OF SECTION]

SECTION III - GENERAL CONDITIONS

These instructions are standard for all contracts for commodities or services issued through the City of Cooper City Finance Department - Purchasing Division. The City may delete, supersede, or modify any of these standard instructions for a particular contract by indicating such change in the Special Conditions, Technical Specifications, Instructions, Bid Pages, Addenda, and Legal Advertisement.

3.0 SPECIAL CONDITIONS

Any and all Special Conditions that may vary from these General Conditions shall have precedence.

3.1 BID TABULATIONS

Bidders desiring a copy of the bid tabulation may obtain one online at www.DemandStar.com.

3.2 NO BID

If not submitting a bid, please respond by returning a statement indicating your reason. Repeated failure to respond without sufficient justification shall be cause for removal of a supplier's name from the bid mailing list. NOTE: In order to qualify as a respondent, a Bidder shall submit a "no bid" and same shall be received no later than the stated bid opening date and hour.

3.3 BILLING INSTRUCTIONS

Invoices, unless otherwise indicated, shall show any applicable purchase order number, task order, and respective Bid number and shall be submitted to the Accounts Payable division of Finance located at P.O. Box 290910, Cooper City, FL 33329-0910, with the requesting Department labeled on the mailing envelope. Invoices may be emailed to Accounting@CooperCityFL.org.

3.4 TAXES

The City is exempt from Federal Excise and State taxes. The applicable tax exemption number shall be printed on the task order, Purchase Order, or other authorizing City Document.

3.5 EQUIVALENTS

If Bidder offers makes of equipment or brands of supplies other than those specified in the Invitation to Bid, he shall so indicate on his bid. Specific article(s) of equipment/supplies shall conform in quality, design and construction with all published claims of the manufacturer.

Brand Names: Catalog numbers, manufacturers' and brand names, when listed, are informational guides as to a standard of acceptable product quality level only and should not be construed as an endorsement or a product limitation of recognized and legitimate manufacturers. Bidders shall formally substantiate and verify that product(s) offered conform with or exceed the minimum quality standards listed in the specifications.

Bidder shall indicate on the Bid Form the manufacturer's name and number if bidding other than the specified brands, and shall indicate ANY deviation from the specifications as listed. OTHER THAN SPECIFIED ITEMS OFFERED REQUIRES COMPLETE DESCRIPTIVE TECHNICAL LITERATURE MARKED TO INDICATE DETAIL(S) CONFORMANCE WITH SPECIFICATIONS AND SHALL BE INCLUDED WITH THE BID. NO BIDS WILL BE CONSIDERED WITHOUT THIS DATA.

Lacking any written indication of intent to quote an alternate brand or model number, the bid shall be considered as a bid in complete compliance with the specifications as listed on the attached form.

3.6 MISTAKES

Bidders are expected to examine the specifications, delivery schedules, bid prices and extensions and all instructions pertaining to supplies and services. Failure to do so shall be at the Bidder's risk. In the case of a discrepancy in computing the total amount of the bid, the UNIT PRICE quoted shall govern.

3.7 CONDITIONS AND PACKAGING

It is understood and agreed that any item offered or shipped as a result of this bid shall be latest and most current production model at the time of this bid. All containers shall be suitable for storage or shipment, and all prices shall include standard commercial packaging.

3.8 QUALITY

All materials used for the manufacture or construction of any supplies, materials or equipment covered by this bid shall be new. The items bid shall be new, the latest model, of the best quality, and highest grade workmanship.

3.9 CANCELLATION

In the event that any of the provisions of this bid are violated by the contractor, the Purchasing Agent shall give written notice to the contractor stating the deficiencies and unless deficiencies are corrected within ten (10) days, recommendation will be made to the City Commission for immediate cancellation. The City Commission reserves the right to terminate any contract resulting from this invitation at any time and for any reason, upon giving thirty (30) days prior written notice to the other party and may provide for additional rights and remedies pursuant to Section 3.38/3.39. The City Commission may delegate this authority to the City Manager.

3.10 PROTESTS, APPEALS AND DISPUTES

Protests shall be submitted in writing to the Purchasing Agent no later than five (5) working days prior to scheduled award by the City. Should the matter not be resolved to the satisfaction of the Bidder, the appeal shall be heard by the City Commission. The Purchasing Agent shall act as the City's representative, in the issuance and administration of all contracts, and shall issue and receive all documents, notices, and all correspondence relating to the bidding process. All costs accruing from a Bid or award challenge shall be assumed by the challenger. The decision of the City Commission shall be final and conclusive. The City Commission's decision shall be binding on all parties concerned, subject to review only on the grounds that it constitutes arbitrary action, in a court of competent jurisdiction in Broward County in accordance with laws of the State of Florida.

3.11 PRICES SHALL BE FIXED AND FIRM FOR TERM OF CONTRACT

If the Bidder is awarded a contract under this bid solicitation, the prices quoted by the Bidder on the Bid Form shall remain fixed and firm during the term of the contract; provided however, that the Bidder may offer incentive discounts from the fixed price to the City at any time during the contractual term. Price adjustments may be allowed on multi-year term contracts (See Section 1.7 for details).

3.12 COMPLETE PROJECT REQUIRED

Contractor shall complete the work outlined in the Scope of Work as well as any future task orders. Completed work shall meet all specifications identified therein. Failure to list any item or classes under the Scope of Work shall not relieve the contractor from furnishing, installing or performing such work where required by any part of these specifications, or necessary for the satisfactory completion of the project

3.13 PRICES QUOTED

Bidder shall deduct trade discounts and quote firm net prices. Give both unit price and extended total, when requested. Prices shall be stated in units of quantity specified in the bidding specifications. In case of discrepancy in computing the amount of the bid, the UNIT PRICE quoted will govern. All prices shall be F.O.B. / C.I.F. destination, freight prepaid (unless otherwise stated in special conditions). Award, if made, shall be in accordance with terms and conditions stated herein. Each item shall be bid separately and no attempt is to be made to tie any item or items in with any other item or items. Cash or quantity discounts offered shall not be a consideration in determination of award of bid(s).

3.14 UNDERWRITERS' LABORATORIES (the "UL")

Unless otherwise stipulated in the bid, all manufactured items and fabricated assemblies shall be UL listed or re-examination listing where such has been established by UL for the item(s) offered and furnished.

3.15 NON-CONFORMANCE TO CONTRACT CONDITIONS

Items may be tested for compliance with specifications. Items delivered, not conforming to specifications, may be rejected and returned at vendor's expense. These items and items not delivered as per delivery date in bid and/or Purchase order or Task Order may be purchased on the open market with any increase in cost charged to the Bidder. Any violation of these stipulations may also result in:

- a. Vendor's name being removed from the vendor list;
- b. All City Departments being advised not to do business with vendor.

3.16 DISPUTES

In case of any doubt or difference of opinion as to the items to be furnished hereunder, the decision of the City shall be final and binding on both parties.

3.17 LEGAL REQUIREMENTS

Federal, state, county and city laws, ordinances, rules and regulations that in any manner affect the items covered herein apply. Lack of knowledge by the Bidder shall in no way be a cause for relief from responsibility.

3.18 PATENTS AND ROYALTIES

The Bidder, without exception, shall indemnify and hold harmless the City of Cooper City, Florida and its employees from liability of any nature or kind, including cost and expenses for, or on account of, any copyrighted, patented, or unpatented invention, process, or article manufactured or used in the performance of the contract, including its use by the City of Cooper City, Florida. If the Bidder uses any design, device or materials covered by letters, patent, or copyright, it is mutually understood and agreed, without exception, that the bid prices shall include all royalties or costs arising from the use of such design, device, or materials in any way involved in the work.

3.19 OSHA

The Bidder warrants that the product supplied to the City shall conform in all respects to the standards set forth in the Occupational Safety and Health Act of 1970, as amended, and the failure to comply with this condition shall be considered as a breach of contract. Any fines levied because of inadequacies to comply with these requirements shall be borne solely by the Bidder responsible for same.

3.20 ANTI-DISCRIMINATION

The Bidder certifies that he/she is in compliance with the non-discrimination clause contained in Florida State Statute Section 202, Executive Order 11246, as amended by Executive Order 11375 and applicable laws relative to equal employment opportunity for all persons without regard to race, color, religion, sex or national origin.

3.21 DEFAULT

In the event of default on a contract, the Contractor shall pay all attorneys' fees and court costs incurred by City in collecting any liquidated damages. The City further reserves the right to retain any bonds issued with the Bid.

3.22 SUBSTITUTIONS

The City SHALL NOT accept substitute shipments of any kind. Bidder(s) is expected to furnish the brand quoted in their bid once awarded. Any substitute shipments shall be returned at the Bidder's expense.

3.23 BIDDER'S FACILITIES

The City reserves the right to conduct site visits to Contractor's business location(s) at any time with prior notice and/or may request that Contractor participate in live presentations. The selection of a Contractor may be based wholly or in part upon the results of site visits or live presentations.

3.24 DISCLAIMER

The City may, in its sole and absolute discretion, accept or reject, in whole or in part, for any reason whatsoever any or all Bids; re-advertise this Bid; postpone or cancel at any time this Bid process; or, waive any formalities of or irregularities in the bidding process. Bids that are not submitted on time and/or do not conform to the City's requirements shall not be considered. After all bids are analyzed, organizations submitting bids that appear, solely in the opinion of the City, to be the most competitive, shall be submitted to the City Commission, and the final selection will be made shortly thereafter with a timetable set solely by the City. The selection by the City shall be based on the bid, which is, in the sole opinion of the City Commission, in the best interest of the City. The issuance of this bid constitutes only an invitation to make presentations to the City. The City reserves the right to determine, at its sole discretion, whether any aspect of the bid satisfies the criteria established in this Bid. In all cases the City shall have no liability to any contractor for any costs or expense, incurred in connection with this bid or otherwise.

3.25 EVIDENCE

The submission of a Bid shall be prima facie evidence that the Contractor is familiar with and agrees to comply with the contents of this Bid.

3.26 DEMONSTRATION OF COMPETENCY

3.26.1 Pre-award inspection of the Bidder's facility may be made prior to the award of contract. Bids shall only be considered from firms, which are regularly engaged in the business of providing the goods and/or services as described in this Bid. Bidders shall be able to demonstrate a good record of performance for a reasonable period of time, and have sufficient financial support, equipment and organization to insure that they can satisfactorily execute the services if awarded a contract under the terms and conditions herein stated. The terms "equipment and organization" as used herein shall be construed to mean a fully equipped and well-established company in line with the best business practices in the industry and as determined by the City.

3.26.2 The City shall consider any available evidence regarding the financial and technical qualifications and abilities of a Bidder as well as past performance (experience) with the City and any and all other evidence the City deems pertinent in making the award in the best interest of the City.

3.26.3 The City may require Bidders to show proof that they have been designated as authorized representatives of a manufacturer or supplier, which is the actual source of supply. In these instances, the City may also require material information from the source of supply regarding the quality, packaging, and characteristics of the products to be supplied to the City through the designated representative. Any conflicts between this material information provided by the source of supply and the information contained in the Bidder's Bid may render the Bid non-responsive.

3.26.4 The City may, during the term of the Contract between the City and the Contractor is in force, review the Contractor's record of performance to insure that the Bidder is continuing to provide sufficient financial support, equipment and organization as prescribed in this Solicitation. Irrespective of the Contractor's performance on contracts awarded to it by the City, the City may place said contracts on probationary status and implement termination procedures if the City determines that the Contractor no longer possesses the financial support, equipment and organization which would have been necessary during the term of the Contract in order to comply with this demonstration of competency section.

3.27 ASSIGNMENT

The contractor shall not assign, transfer, convey, sublet or otherwise dispose of the contract, including any or all of its right, title or interest therein, or his or its power to execute such contract to any person, company or corporation without prior written consent of the City.

3.28 INDEMNIFICATION

The successful Bidder shall indemnify and hold harmless the City, its officers, agents, and employees, from and against any and all liabilities, damages, losses and costs, including but not limited to reasonable attorney's fees, to the extent caused by the negligence, recklessness, or intentional wrongful misconduct of the Bidder and persons employed or utilized by the Bidder in the performance of the Contract.

3.29 NON-EXCLUSIVE

The City retains the right to procure services from other providers.

3.30 SUNSHINE LAW

As a political subdivision, the City is subject to the Florida Sunshine Act and Public Records Law. By submitting a Bid, Bidder acknowledges that the materials submitted with the Bid and the results of the City evaluation are open to public inspection upon proper request. Contractor should take special note of this as it relates to proprietary information that might be included in its Bid.

3.31 FORCE MAJEURE

The performance of any act by the City or Contractor hereunder may be delayed or suspended at any time where either party is hindered in or prevented from performance by acts of God, the elements, war, rebellion, strikes, lockouts or any cause beyond the reasonable control of such party. However, the City shall have the right to provide substitute service from third parties or City forces and in such event the City shall withhold payment due Contractor for such period of time. If the condition of force majeure exceeds a period of 14 days the City may, at its option and discretion, cancel or renegotiate the Agreement resulting from the Bid.

3.32 COLLUSION

By offering a submission pursuant to this Invitation to Bid, the Bidder certifies the Bidder has not divulged, discussed, or compared his Bid with other Bidders and has not colluded with any other Bidder or parties to this Bid whatsoever. The Bidder certifies, and in the case of a joint bid, each party thereto certifies, as to his own organization, that in connection with this Bid:

3.32.1 Any prices and/or cost data submitted have been arrived at independently, without consultation, communication or agreement for the purpose of restricting competition, as to any matter relating to such prices and/or cost data, with any other Bidder or with any competitor.

3.32.2 Any prices and/or cost data quoted for this Bid have not knowingly been disclosed by the Bidder and will not knowingly be disclosed by the Bidder prior to the scheduled opening, directly or indirectly to any other Bidder or to any competitor.

3.32.3 No attempt has been made or will be made by the Bidder to induce any other person or firm to submit or not to submit a Bid for the purpose of restricting competition.

3.32.4 The only person or persons interested in this Bid, principal or principals is/are named therein and that no person other than therein mentioned has any interest in this bid or in the contract to be entered into.

3.32.5 No person or agency has been employed or retained to solicit or secure the award of the bid upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee except for bona fide employees maintained by the Bidder.

3.33 CONE OF SILENCE

- A. Definitions: "Cone of Silence," as used herein, means a prohibition on any communication regarding this Invitation to Bid/Invitation to Bid between:
- i. a potential vendor, service provider, Bidder, lobbyist, or consultant, and;
 - ii. the City Commissioners, City's professional staff including, but not limited to, the City Manager and his staff, any member of the City's selection or evaluation committee.
- B. Restriction; Notice: A Cone of Silence shall be imposed upon each solicitation after its advertisement. At the time of imposition of the Cone of Silence, the City Manager or his designee shall provide for public notice of the Cone of Silence by posting a notice at City Hall. Additional notice thereof shall be provided to the affected departments, and to each City Commissioner. The City may include a statement disclosing the requirements of this section in any public solicitation for goods or services.
- C. Termination of Cone of Silence: The Cone of Silence shall terminate at the beginning of the City Commission meeting (whether regular or special meeting) at which the City Manager makes a written recommendation to the City Commission for the award of the Contract. However, if the City Commission refers back to the City Manager or staff for further information, the Cone of Silence shall be re-imposed until such time as the Manager makes a subsequent written recommendation.

Exceptions to Applicability: The provisions of this section shall not apply to:

- i. Oral communications at pre-solicitation meetings;
- ii. Oral presentations before selection or evaluation committees;
- iii. Public presentations made to the City Commissioners during any duly noticed public meeting; Communications in writing at any time with any City employee, unless specifically prohibited by the applicable solicitation

- documents; in which case the Bidder shall file a copy of any written communication with the City Clerk. The City Clerk shall make copies available to any person upon request;
- iv. Communications regarding a particular solicitation between potential vendor, service provider, Bidder, lobbyist or consultant and the City's Purchasing Division or City employee designated responsible for administering the procurement process for such solicitation, provided the communication is limited strictly to matters of process or procedure already contained in the corresponding solicitation document.

D. Penalties: Violation of this section by a particular Bidder shall render any award to said Bidder potentially void by the City Commission or City Manager. Any person who violates a provision of this section may be prohibited from serving on a City selection or evaluation committee. In addition to any other penalty provided herein, violation of any provision of this section by a City employee may subject said employee to disciplinary action.

E. Clarification: Please contact the City Attorney for any questions concerning "Cone of Silence" compliance.

3.34 ELIGIBILITY

All agents, employees and subcontractors of the Bidder retained to perform services pursuant to this bid shall comply with all laws of the United States concerning work eligibility.

3.35 TIE BIDS/PREFERENCE

Whenever two or more Bids which are equal with respect to price, quality and service are received by the City for the procurement of commodities or contractual services, a Bid received from a business that certifies that it has implemented a drug-free workplace program shall be given preference in the award process. Established procedures for processing tie Bids will be followed if none of the tied vendors have a drug-free workplace program. In order to have a drug-free workplace program, a business shall:

3.35.1 Publish a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the workplace and specifying the action that will be taken against employees for violations of such prohibition.

3.35.2 Inform employees about the dangers of drug abuse in the workplace, the business' policy of maintaining a drug-free workplace, any available drug counseling, rehabilitation, and employee assistance programs, and the penalties that may be imposed upon employees for drug abuse violations.

3.35.3 Give each employee engaged in providing the commodities or contractual services that are under Bid a copy of the statement specified in subsection (1).

3.35.4 In the statement specified in subsection (1), notify the employees that, as a condition of working on the commodities or contractual services that are under Bid, the employee will abide by the terms of the statement and will notify the employer of any conviction of, or plea of guilty or nolo-contender to, any violation of Chapter 893 or of any controlled substance law of the United States or any state, for a violation occurring in the workplace no later than five (5) days after such conviction.

3.35.5 Impose a sanction on, or require the satisfactory participation in a drug abuse assistance or rehabilitation program, if such program is available in the employee's community, by any employee who is so convicted.

3.35.6 Make a good faith effort to continue to maintain a drug-free workplace through implementation of this section.

3.36 SPOT MARKET PRICING: N/A

3.37 PROPERTY

Property owned by the City is the responsibility of the City. Such property furnished to a Contractor for repair, modification, study, etc., shall remain the property of the City. Damages to such property occurring while in the possession of the Contractor shall be the responsibility of the Contractor. Damages occurring to such property while in route to the City shall be the responsibility of the Contractor. In the event that such property is destroyed or declared a total loss, the Contractor shall be responsible for replacement value of the property at the current market value, less depreciation of the property if any.

3.38 TERMINATION FOR DEFAULT

If Contractor defaults in its performance under the Contract and does not cure the default within 30 days after written notice of default, the City Manager may terminate the Contract, in whole or in part, upon written notice without penalty to the City. In such event the Contractor shall be liable for damages including the excess cost of procuring similar supplies or services: provided that if, (1) it is determined for any reason that the Contractor was not in default or (2) the Contractor's failure to perform is without his or his subcontractor's control, fault or negligence, the termination will be deemed to be a termination for convenience of the City under Section 3.39.

3.39 TERMINATION FOR CONVENIENCE

The City Manager may terminate the Contract, in whole or in part, upon 30-days prior written notice, when it is in the best interest of the City. If the Contract is for supplies, products, equipment or software, and is terminated for convenience by the City, the Contractor will be compensated in accordance with an agreed upon adjustment of cost. To the extent that the Contract is for services and so terminated, the City shall be liable only for payment in accordance with the payment provisions of the Contract for those services rendered prior to termination.

3.40 CONFIDENTIALITY

As a political subdivision, the City is subject to the Florida Sunshine Act and Public Records Law. If this Contract contains a confidentiality provision, it shall have no application when disclosure is required by Florida law or upon court order.

3.41 GOVERNING LAW AND VENUE

The validity and effect of this Contract shall be governed by the laws of the State of Florida. The parties agree that any action, mediation or arbitration arising out of this Contract shall take place in Broward County, Florida.

3.42 NO PARTNERSHIP OR JOINT VENTURE

Nothing contained in this Bid or the resulting Contract will be deemed or construed to create a partnership or joint venture between the City and Contractor, or to create any other similar relationship between the parties.

3.43 AUDITS

The City shall have access to all books, records, and documents of the Contractor which directly relate to the work to be performed for the purpose of inspection and auditing upon reasonable written notice during normal business hours at the office of the Contractor or at some location mutually agreed upon by the City and the Contractor.

3.44 PUBLIC RECORDS:

- A. Contractor agrees to keep and maintain public records in Contractor's possession or control in connection with Contractor's performance under this Agreement. Contractor additionally agrees to comply specifically with the provisions of Section 119.0701, Florida Statutes. Contractor shall ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed, except as authorized by law, for the duration of the Agreement, and following completion of the Agreement until the records are transferred to the City.
- B. Upon request from the City custodian of public records, Contractor shall provide the City with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided by Chapter 119, Florida Statutes, or as otherwise provided by law.
- C. Unless otherwise provided by law, any and all records, including but not limited to reports, surveys, and other data and documents provided or created in connection with this Agreement are and shall remain the property of the City.
- D. Upon completion of this Agreement or in the event of termination by either party, any and all public records relating to the Agreement in the possession of the Contractor shall be delivered by the Contractor to the City Manager, at no cost to the City, within seven (7) days. All such records stored electronically by Contractor shall be delivered to the City in a format that is compatible with the City's information technology systems. Once the public records have been delivered upon completion or termination of this Agreement, the Contractor shall destroy any and all duplicate public records that are exempt or confidential and exempt from public records disclosure requirements.
- E. Any compensation due to Contractor shall be withheld until all records are received as provided herein.

- F. Contractor's failure or refusal to comply with the provisions of this section shall result in the immediate termination of this Agreement by the City.
- G. In accordance with Section 119.0701(1)(a), Florida Statutes, **IF THE CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT, CONTACT CUSTODIAN OF PUBLIC RECORDS:**

KATHRYN SIMS, CITY CLERK
CITY OF COOPER CITY
9090 SW 50 PLACE
COOPER CITY, FL 33328
954-434-4300 x #291
KSIMS@COOPERCITYFL.ORG

[END OF SECTION]

SECTION IV – SPECIAL CONDITIONS

4.1 GENERAL CONDITIONS

The General Conditions shown above (Section III) are modified as follows.

4.2 TIME OF COMPLETION – **NOT APPLICABLE**

Time is a very important factor in the performance of this work. Upon issuance of each task order by the using agency, the work performed under this Contract shall be commenced upon and complete within thirty (30) calendar days. Failure to achieve timely and substantial and/or final completion shall be regarded as a breach of this Contract and subject to appropriate remedies including but not limited to liability for liquidated damages.

4.3 INSURANCE

Where Contractors are required to enter or go onto the City of Cooper City property (including any property which is owned or leased by the City or upon which the City has a license, easement or right-of-way) to deliver materials or perform work or services as a result of an award, the successful Contractor shall assume the full duty, obligation and expense of obtaining all necessary licenses, permits and insurance and assure all work complies with all applicable Broward County and City of Cooper City building requirements and the Florida Building Code. The Contractor shall be liable for any damages or loss to the City occasioned by negligence of the Contractor or any person the Contractor has designated in the completion of the contract as a result of his or her bid.

Contractors shall furnish insurance certificates indicating satisfactory insurance coverage at its sole cost and expense, maintain in full force and effect during the term of the agreement, policies of insurance of the type and in the minimum amounts stated below. Such policy close(s) shall be issued by an insurer of recognized responsibility and rated no less than "A" by the A.M. Best Company or similar insurance rating firm. Such policy close(s) shall contain appropriate cross liability clauses, be primary without right of contribution, and shall provide that the City shall be given 30 days' advance written notice in the event of cancellation, termination or modification which materially restricts the coverage thereof.

Prior to the execution of this agreement, Contractor shall provide the City with a certificate of insurance and a copy of the policy endorsement naming the City of Cooper City its employees, directors, officers, agents, independent contractors, successors and assigns, and other authorized representatives as additional insured to the extent of the contractual obligation assumed by the Bidder.

4.3.1 Comprehensive General Liability Insurance - \$1,000,000 combined single limit of insurance per occurrence and \$2,000,000 in the general aggregate for Bodily Injury and Property Damage and \$3,000,000 general aggregate for Products/Completed Operations, Comprehensive General Liability insurance shall include endorsements for property damage; personal injury; contractual liability; completed operations; products liability and independent contractor's coverage.

Bidder must provide a copy of the Declaration of Coverage Page containing the policy forms and any exclusions of General Liability.

4.3.2 Workers' Compensation Insurance - Contractor shall provide coverage for its employees with statutory workers' compensation limits, and no less than \$1,000,000.00 for Employers' Liability. Said coverage shall include a waiver of subrogation in favor of the City and its agents, employees and officials.

Proof of Workers Compensation Insurance or Exemption shall be provided, as described in Attachment

4.3.3 Comprehensive Automobile Liability Insurance - Contractor shall provide coverage for all owned, non-owned and hired vehicles with limits of not less than \$1,000,000.00, per occurrence, Combined Single Limits (CSL) or its equivalent.

4.3.4 Professional Liability (Errors & Omissions) - Contractor shall provide coverage for all claims arising out of the services performed with limits not less than \$1,000,000.00 per claim. The aggregate limit shall either apply separately to this contract or shall be at least twice the required per claim limit. The Bidder shall either require of its Subcontractors to procure and to maintain Subcontractor's Comprehensive General Insurance and Automobile Liability Insurance of the type and in the same amounts specified above or insure the activities of its Subcontractors in the Bidder's own policies.

4.3.5 Builder's Risk Insurance - NOT REQUIRED FOR THIS BID - The coverage shall be "All Risk" coverage for 100 percent of the completed value, covering the City, as a named insured, with a deductible of not more than Five Thousand Dollars (\$5,000.00) per claim and the Contractor specifically agrees to pay all deductibles. The Policy must provide that the Builder's Risk coverage will continue to apply until final acceptance of the Project by City.

The Contractor must submit, prior to commencement of any work, a Certificate of Insurance showing the City of Cooper City as additional insured for the insurance required in sections 4.3.1 and 4.3.3 above.

The Contractor shall either require its Subcontractors to procure and to maintain Subcontractor's Comprehensive General Insurance and Automobile Liability Insurance of the type and in the same amounts specified above or insure the activities of its Subcontractors in the Contractor's own policies.

4.4 PERMITS, FEES AND NOTICES

4.4.1 The City shall pay all CITY OF COOPER CITY'S PERMIT FEES required to complete the project; however, the Successful Bidder shall secure and be responsible for obtaining any and all permits and licenses necessary for the proper execution and completion of the work. The Successful Bidder shall use their best efforts to obtain all necessary permits as soon as possible after the date of Contract award. Any delays in obtaining permits must be brought to the attention of the Purchasing Agent and using department without delay.

4.4.2 The Successful bidder shall give all notices and comply with all laws, ordinances, rules, regulations and lawful orders of any public authority bearing on the performance of the work. The CITY shall not be responsible for monitoring the Successful Bidder's compliance with any laws or regulations.

4.4.3 The Successful bidder shall secure, complete and file with the Clerk of Courts of Broward County, a Certified Notice of Commencement required per chapter 96-838, Laws of Florida. This notice must be on file with the City of Cooper City Building Department, and be displayed on the job site prior to the first inspection.

4.5 BONDS

4.5.1 PERFORMANCE/PAYMENT BOND (NOT REQUIRED FOR THIS BID)

In accordance with Florida Statute 255.05 (1), within 15 days of the issuance of the Notice of Award, the Contractor shall provide a Payment and Performance Bond (Attachment L & M), in an amount equal to one-hundred percent (100%) of the Bidder's maximum Bid price. The bond must be written by a surety company authorized to do business in the State of Florida and shall comply with State Statute 287.0935.

Three methods of bonds are acceptable:

- 1) A Surety Bond written by a surety company authorized to do business in the State of Florida. Surety bonds shall comply with Section 287.0935; Florida Statutes;
- 2) An Irrevocable Letter of Credit (ILC) issued by a bank located in Broward County. The ILC shall be in the total amount of the contract and shall clearly state that it cannot be revoked until express written approval has been given by the City. The City, to draw on same, must give written notice to the bank, with a copy to the successful Bidder.
- 3) A Cashier's Check made payable to the City of Cooper City. Cashier's Check will be deposited into an escrow account for the term of the project and refunded to Contractor only upon satisfactory completion of each task order.

4.5.2 BID BOND (NOT REQUIRED FOR THIS BID)

Bids **MUST** be accompanied by a Bid security made payable to the City in an amount equal to five percent (5%) of the Bidder's maximum Bid price and in the form of a certified check, bank money order, or a Bid Bond (Attachment O) issued by an authorized surety.

The Bid security of the Successful Bidder will be retained until such Bidder has executed the Contract Documents, furnished the required contract security (Public Construction Bond) and met the other conditions of the Notice of Award, whereupon the Bid Security will be returned. If the Successful Bidder fails to execute and deliver the Contract Documents and furnish the required security within 15 days of the issuance of the Notice of Award, the City may consider Bidder to be in default, annul the Notice of

Award, and the Bid security of that Bidder shall be forfeited. Such forfeiture shall be City's exclusive remedy if Bidder defaults. The Bid security of Bidders whom the Owner believes to have a reasonable chance of receiving the award may be retained by Owner until the earlier of seven days after the Effective date of the Agreement or 61 days after the Bid opening, whereupon the Bid security furnished by such Bidders will be returned.

The Bid security of Bidders whom the City believes do not have a reasonable chance of receiving the award will be returned within 21 days after the Bid opening.

4.6 VARIANCES

While the City allows Contractors to take variances to the solicitation terms, conditions, and specifications, the number and extent of variances taken shall be considered in determining bid responsiveness and in allocating bid evaluation points.

4.7 INDEPENDENT CONTRACTOR

The Contractor is an independent contractor under this Agreement. Personal services provided by the Contractor shall be by employees of the Contractor and subject to supervision by the Contractor, and not as officers, employees, or agents of the City. Personal policies, tax responsibilities, social security, health insurance, employee benefits, purchasing policies and other similar administrative procedures applicable to services rendered under this Contract shall be those of the Contractor.

4.8 SELLING, TRANSFERRING OR ASSIGNING CONTRACT

No contract awarded under these terms, conditions and specifications shall be sold, transferred or assigned without the written approval of the City Attorney, or City Attorney's designee.

4.9 SUBSTITUTION OF PERSONNEL

It is the intention of the City that the Contractor's personnel proposed for the contract shall be available for the entire contract term. In the event the Contractor wishes to substitute personnel, he shall propose personnel of equal or higher qualifications and all replacement personnel are subject to City approval. In the event substitute personnel are not satisfactory to the City and the matter cannot be resolved to the satisfaction of the City, the City reserves the right to cancel the Contract for cause.

4.10 DAMAGE TO PUBLIC OR PRIVATE PROPERTY

Extreme care shall be taken to safeguard all existing facilities, site amenities, irrigation systems, vehicles, etc. on or around the job site. Damage to public and/or private property shall be the responsibility of the Contractor and shall be repaired and/or replaced at no additional cost to the City.

4.11 CONTRACTORS' COSTS

The City shall not be liable for any costs incurred by bidders in responding to this solicitation.

4.12 INVOICES/PAYMENT

Invoices documenting completed work shall be submitted at the completion of each request for work and must contain detailed information including the location and amount of work performed. Contractor shall submit an exact listing of completed work with submission of invoice for payment.

Every effort will be made by the City to remit payment within 30 days of the invoice date, after satisfactory inspection by the using department. BIDDERS WILL NOT BE PERMITTED TO PICK UP CHECKS FROM THE CITY. ALL CHECKS WILL BE MAILED TO THE VENDOR'S REMIT TO ADDRESS ON FILE.

Invoices shall be emailed to Accounting@CooperCityFL.org, or sent via US Mail to City of Cooper City, P.O. Box 290910, Cooper City, FL 33329-0910. All invoices must reference the applicable task order and/or Bid number. All invoices must reference the applicable task order and/or Bid number.

When task orders are issued, the City shall accept original invoices no more frequently than once per month. Each invoice shall fully detail the hourly costs and all related costs and shall specify the status of the particular task or project as of the date of the invoice as regards the accepted schedule for that task or project. The City will endeavor to make payment on a correct invoice within thirty (30) days after receipt of an invoice acceptable to the City. If, at any time during the contract, the City shall not approve or accept the Contractor's work product, and agreement cannot be reached between the City and the Contractor to resolve the problem to the

City's satisfaction, the City shall negotiate with the Contractor on a payment for the work completed and usable to the City. This negotiated payment shall be based on the overall task or project breakdown, relative to the projected number of hours for each task element, and the percentage of work completed.

4.13 DELETION OR MODIFICATION OF SERVICES

The City reserves the right to delete any portion of this Contract at any time without cause, and if such right is exercised by the City, the total fee shall be reduced in the same ratio as the estimated cost of the work deleted bears to the estimated cost of the work originally planned. If work has already been accomplished on the portion of the Contract to be deleted, the Contractor shall be paid for the deleted portion on the basis of the estimated percentage of completion of such portion. If the Contractor and the City agree on modifications or revisions to the task elements, after the City has approved work to begin on a particular task or project, and a budget has been established for that task or project, the Contractor shall submit a revised budget to the City for approval prior to proceeding with the work.

4.14 REQUESTS FOR MODIFICATION

The City reserves the right to request that the Bidder modify his bid to more fully meet the needs of the City.

4.15 BID ACKNOWLEDGMENT

By submitting a bid, the bidder certifies that he has fully read and understands the bid method and has full knowledge of the scope, nature, and quality of work to be performed.

4.16 REQUESTS FOR ADDITIONAL INFORMATION BY CITY

The bidder shall furnish such additional information as the City may reasonably require. This includes information, which indicates financial resources as well as ability to provide the product(s) and/or services. The City reserves the right to make investigations of the qualifications of the bidder as it deems appropriate, including but not limited to, a background investigation conducted by the Broward Sheriff's Office.

4.17 ACCEPTANCE/REJECTION/MODIFICATION TO BIDS

The City reserves the right to negotiate modifications to bids that it deems acceptable, reject any and all bids, and to waive minor irregularities in the bids.

4.18 ALTERNATE BIDS

An alternate bid is viewed by the City as a bid describing an approach to accomplishing the requirements of the Request for Bid which differs from the approach set forth in the solicitation.

An alternate bid may also be a second bid submitted by the same bidder which differs in some degree from its basic or prime bid.

Alternate bids may be in the area of technical approach, or other provisions or requirements of the solicitation.

The City shall, during the initial evaluation process, consider all alternate bids submitted.

4.19 ADDENDUM OR AMENDMENT TO REQUEST FOR BID

If it becomes necessary to revise or amend any part of this Request for Bid, the City's Purchasing Agent shall furnish the revision by written Addendum and will place it on the City's website.

4.20 PROPRIETARY INFORMATION

In accordance with Chapter 119 of the Florida Statutes (Public Records Law) and except as may be provided by other applicable State and Federal Law, all bidders should be aware that Invitation to Bid and the responses are in the public domain. However, the bidders are required to *identify specifically* any information contained in their bids which they consider confidential and/or proprietary and which they believe to be exempt from disclosure, citing specifically the applicable exempting law.

All bids received from bidders in response to this Request for Bid will become the property of the City and will not be returned to the bidders. In the event of contract award, all documentation produced as part of the contract shall become the exclusive property of the City.

4.21 RECORDS RETENTION

The Contractor awarded this contract shall maintain adequate records to justify all charges, expenses, and costs incurred in estimating and performing the work for at least three (3) years after completion of the contract resulting from this solicitation. All records, documents and information collected and/or maintained by others in the course of the administration of the agreement shall be transferred to electronic data storage media and copies given to the City to retain for its use. This information shall be made accessible at the awardees place of business to the City, including the Comptroller's Office and/or its designees, for purposes of inspection, reproduction and audit without restriction.

4.22 CONTRACT DOCUMENT

The entire contents of this Invitation to Bid, along with the Bidder's Bid and any subsequent task orders or change orders, are collectively an integral part of the contract between the City and the Contractor.

4.23 PERFORMANCE STANDARDS

If it is determined that the Contractor did not perform the work and/or does not comply with the specifications after inspection has been made by the City's Designee, one of the following actions will be taken, if Contractor has not corrected the deficiencies within 24 hours of notification by City's designee:

- i. The Contractor's invoice will be deducted by the amount bid for the deficient location, **OR**;
- ii. the Contractor will be billed, or have deducted, the total cost of labor, materials and equipment required for the City or another Contractor to perform the work due.

4.24 LIQUIDATED DAMAGES – NOT APPLICABLE

Liquidated damages of \$100 per day will be deducted from the contract sum for the unit cost of service for each calendar day elapsing beyond the specified time for completion for each scheduled service visit without prior approval for an extension from the City's Designee.

[END OF SECTION]

SECTION V - SCOPE OF WORK / TECHNICAL SPECIFICATIONS

5.1 SCOPE OF WORK

The City of Cooper City – Utility Department is seeking a certified testing laboratory to provide analysis of raw and treated drinking water, raw and treated wastewater, industrial pretreatment wastewater, wastewater treatment bio solids (sludge), deep injection well injective, groundwater, surface water, reuse water, and other samples collected and delivered by City personnel and/or collected by personnel employed by the laboratory. The laboratory shall collect samples as requested by the City. Sample collection sites could be anywhere within the water and wastewater service area of the City. Laboratories shall provide all labor, expertise, licenses, certifications, facilities, materials, equipment, tools, vehicles and insurance to complete the work.

5.2 METHODS

Awarded bidder shall analyze samples according to project, permit, regulatory agency or City specified requirements using EPA (Environmental Protection Agency) approved methods for the specific parameter being analyzed. Awarded bidder shall ensure analysis of samples within prescribed EPA, Florida Department of Health (DOH), Florida Department of Environmental Protection (FDEP), or method holding time limits.

5.3 DELIVERY LOCATION

The awarded bidder shall either (1) maintain a delivery location within 10 miles of the Cooper City Utilities Department (11791 SW 49 Street, Cooper City, FL 33330), or (2) awarded bidder will pick up the samples collected by City personnel at the Cooper City Utilities Department on the same day but no later than the following business day, or in accordance with the method holding time limits.

5.4 VENDOR DELIVERABLES

5.4.1 SAMPLING PRODUCTS/EQUIPMENT/MATERIALS

Awarded bidder will supply pre-labeled sample bottles and bags as well as bottles and bags with blank labels, as needed, at no additional cost to the City. Awarded bidder will also supply chain of custody forms at no additional cost to the City. Awarded bidder will also supply reagents as indicated in Pricing Sheet Form.

5.4.2 LABORATORY ANALYSIS REPORTS

Awarded bidder will supply a detailed report meeting The NELAC Institute (TNI) requirements for each parameter result with units in electronic format including (if applicable); quality control results, data qualifiers with descriptions, method detection limits, practical quantitation limits, method description, dilutions, sample preparer, preparation date, preparation time, sample analyst, analysis date, analysis time, collector, collection date, collection time, sample location, reporter, reporting date, and unique identification for each sample along with the sample chain-of-custody. Awarded bidder will transmit the detailed reports to the City within maximum three to five (3 to 5) calendar days from the date of sample receipt for total coliform, fecal coliform, and E. coli; and maximum seven to ten (7 to 10) business days from the date of sample receipt for all other parameters. If a test requires more time for analysis the awarded bidder shall inform City personnel at the time of sample receipt. All reports are to be submitted directly to the City, unless otherwise directed by City personnel. Each sample report must include appropriate and acceptable Quality Control (QC) data (at least level II as defined by FDEP) as well as adequate Chain of Custody (COC) records at no additional cost to the City. The City also requires data in an editable electronic deliverable format (EDD) and may request other customized data deliverables. These deliverables must be formatted in such manner as to satisfy compatibility with the reporting requirements of the relevant regulatory agencies, or any other specified format provided by the City. All subcontracted samples shall be analyzed in a lab certified by NELAP in the State of Florida with a specific EPA/State laboratory certification ID. For Drinking water samples, results may be required on FDEP drinking water forms at no additional cost to the City.

5.5 QUALITY ASSURANCE

Awarded bidder shall provide annual updates of Quality Assurance/Quality Control (QA/QC) program and NELAP certification documents and, upon discovery of any unusual or suspect sample results, must notify City personnel by e-mail or phone call. Awarded bidder shall notify the City of the need to resample due to sample handling, analysis errors or any other sampling issues as soon as practical allowing for timely resampling to fulfill regulatory requirements and no later than 48 hours after learning of the issue.

5.6 NOTIFICATION OF ACTIONABLE RESULTS

Awarded bidder shall notify City personnel as soon as Awarded bidder notices that a Total Coliform sample will result in failure (prior to completion of the analysis). Awarded bidder shall notify City personnel within 12 hours when a sample result indicates violation of the Safe Water Drinking Act, the Clean Water Act, FDEP Drinking water rules or other applicable permits and or consent decrees. Examples include but are not limited to: acute or Maximum Contaminant Limit (MCL) violation of Total Coliform rule or Action Limit (AL) violation of Lead and Copper rule or Regulatory Detection Limit (RDL) or MCL exceedance for drinking water samples. City personnel will indicate special permit or other requirements as they arise.

5.7 ADDITIONAL RESPONSIBILITIES

5.7.1 Awarded bidder shall maintain proper custody of all samples submitted for no less than 30 days or as specified by City lab personnel for specific samples or projects.

5.7.2 Awarded bidder shall remain NELAP certified for all analytic/methods and matrices requested and must notify City’s laboratory services within 15 days of loss of any certification that would compromise analytical compliance

5.7.3 Awarded bidder will assume all costs for re-sampling and analysis of samples either mishandled or analyzed incorrectly by Awarded bidder and or their subcontractors.

5.7.4 If needed, the City may request priority processing of samples for a premium charge. Premium charges shall be paid as follows, plus any additional cost for Afterhours/Holidays/Emergency calls charges:

<u>Turnaround Time</u>	<u>Premiums</u>
24 hours	100% above unit cost
48 hours	50% above unit cost
72 hours	25% above unit cost

5.8 EXAMINATION OF RELATED DATA AND SITE

The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Section, that without exception the Bid is premised upon performing and furnishing the Work required by the Bidding Documents and applying any and all specific means, methods, techniques, sequences, and procedures of construction that may be shown or indicated or expressly required by the Bidding Documents, that Bidder had given City written notice of all conflicts, errors, ambiguities, and discrepancies that Bidder has discovered in the Bidding Documents and the written resolutions thereof by City are acceptable to Bidder, and that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work.

[END OF SECTION]

Attachment A
(Page 1 of 12)

City of Cooper City, Florida

Bid Form

Laboratory Testing Services – Utilities Department

ITB 2018-11-UTL

Bids Due: Wednesday, September 12, 2018

For information contact the Purchasing Division:

Kerri Anne Fisher - Purchasing Agent
Claudia Portocarrero - Purchasing Assistant
Tel: 954-434-4300 ext. #297
Purchasing@CooperCityFL.org

Date Release: Thursday, August 16, 2018

Submitted by: Pace Analytical Services, LLC
(Company name)

Attachment A
(Page 2 of 12)

Project: LABORATORY TESTING SERVICES – UTILITIES DEPARTMENT

Contract Identification: ITB 2018-11-UTL

Bids submitted to: Office of the City Clerk
City of Cooper City
9090 SW 50th Place
Cooper City, Florida, 33328

1. The undersigned BIDDER proposes and agrees, if this Bid is accepted, to enter into an agreement with City in the form included in the contract documents to perform and furnish all work as specified or indicated in the contract documents for the contract price and within the contract time indicated in this bid and in accordance with the other terms and conditions of the contract documents.
2. Bidder accepts all of the terms and conditions of the advertisement of Invitation to Bid and Instruction to Bidders including, without limitation, those dealing with the Bid requirements. This Bid will remain in full force for 90 days from the date of the bid opening. Bidder will sign and submit an agreement with the Bonds and other documents required by the Bidding Requirements within fifteen days after the City's notice of award.
3. In submitting this Bid, Bidder represents, as more fully set forth in the Agreement that:
 - a. Bidder has examined copies of all plans, and bidding documents, contract specifications and instruction to bidders.
 - b. Bidder has familiarized itself with the nature and extent of the Contract Documents, work site, locality, local conditions and the laws and regulations that in any manner may affect the cost, progress, performance or furnishing of the work.
 - c. Bidder has studied carefully all reports and drawings of the project and the physical conditions of the project site areas and accepts the extent of the technical data contained in such reports and drawings upon which Bidder is entitled to rely.
 - d. Bidder has correlated the results of his studies and reviews, observations, investigations, explorations, tests, and studies with the terms and conditions of the contract documents.
 - e. Bidder has given City written notice of all conflicts, errors or discrepancies that is has discovered in these documents and the written resolution thereof by City is acceptable to Bidder.
 - f. This Bid is genuine and not made in the interest of or on behalf of any undisclosed person, firm or corporate and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation; Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false Bid, and Bidder has not sought by collusion to obtain for itself any advantage over any other Bidder or the City.
4. Bid Copies
ONE (1) ORIGINAL, TWO (2) COPIES and ONE (1) ELECTRONIC COPY (Flash Drive or CD) of the Bid should be submitted to the City of Cooper City, City Hall, 9090 SW 50th Place, Cooper City, Florida 33328, to the attention of the Office of the City Clerk. If by US mail, Bids shall be submitted to PO Box 290910, Cooper City, Florida 33329-0910.
5. Addenda, Additional Information-Contact with City Staff
Any addenda or answers to written questions supplied by the City to participating Bidders become part of this Invitation to Bid and the resulting contract. The Bid Form shall be signed by an authorized company representative dated and returned with the proposal Bid.

No negotiations, decisions or actions shall be initiated or executed by the Bidder as result of any discussions with any City employee. Only those communications which are in writing from the City may be considered as a duly authorized expression. Also, only communications from bidder that are signed and in writing will be recognized by the City as duly authorized expressions on behalf of the bidder.

Attachment A

(Page 3 of 12)

Specific questions related to the Scope of Services requested shall be directed in writing to the City of Cooper City Purchasing Division. Questions must be emailed to Purchasing@CooperCityFL.org, who may respond in kind with copies to all Bidders.

The deadline for submission of questions is 5:00PM, Wednesday, September 5, 2018.

The successful bidder shall be required to execute a City contract covering the scope of services to be provided and setting forth the duties, rights and responsibilities of the parties. This contract must be executed by the successful bidder prior to recommendation of award and presentation to the City Commission. IN MOST CASES THE AWARDED BID WILL SERVE AS THE CONTRACT.

6. Summary of Documents to be submitted with Bid

<u> X </u>	Bid Form
<u> X </u>	Reference Form
<u> X </u>	Public Entity Crimes (PEC) Form
<u> X </u>	ADA Affidavit
<u> X </u>	Business Entity Affidavit
<u> X </u>	Bidder's Foreign (Non-Florida) Corporate Statement (If applicable)
<u> X </u>	W-9, Request for Taxpayer Identification Number
<u> X </u>	Proof of Workers Compensation Insurance or Exemption
<u> X </u>	Proof of Liability Insurance
<u> X </u>	Ownership Disclosure Affidavit
<u> X </u>	Drug-Free Workplace Certificate
<u> X </u>	Employee Background Verification Affidavit

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(Page 4 of 12)

Vendor/ Bidder Contact Information

Name of Company: Pace Analytical Services, LLC

Address: 3610 Park Central Blvd. Pompano Beach, FL 33064

Primary Contact: Neshmah Castaneda

Title: Senior Account Executive

Tel: 954-582-4300 Mobile: 561-322-8627

Email Address (Required): Neshmah.Castaneda@pacelabs.com

Alternate Contact: David Chaffman

Title: Sales Manager

Tel: 386-672-5668 Mobile: 772-349-7965

Email Address (Required): David.Chaffman@pacelabs.com

Company's Website: www.pacelabs.com

Remit to Address (if different from above):

Pace Analytical Services, LLC

P.O. Box 684056 Chicago, IL 60695-4056

Remit to Contact: Claudia Kuniholm

Attachment A

(Page 5 of 12)

PRICING SHEET
Laboratory Testing Services – Utilities Department

POTABLE WATER SYSTEM ANALYSES				
Project Name & Parameter	Annual Estimated Quantity	Unit of Measurement (UOM)	Price per UOM	Extended Price
Potable Water System Analyses - Primary Inorganics (FAC 62-550 Table 1)				
Antimony	1	Each	\$ 5.50	\$ 5.50
Arsenic	1	Each	\$ 5.50	\$ 5.50
Asbestos	1	Each	\$ 105.00	\$ 105.00
Barium	1	Each	\$ 5.50	\$ 5.50
Beryllium	1	Each	\$ 5.50	\$ 5.50
Cadmium	1	Each	\$ 5.50	\$ 5.50
Chromium	1	Each	\$ 5.50	\$ 5.50
Cyanide (as free Cyanide)	1	Each	\$ 17.00	\$ 17.00
Fluoride	1	Each	\$ 8.00	\$ 8.00
Lead	1	Each	\$ 5.50	\$ 5.50
Mercury	1	Each	\$ 13.00	\$ 13.00
Nickel	1	Each	\$ 5.50	\$ 5.50
Nitrate	1	Each	\$ 8.00	\$ 8.00
Nitrite	1	Each	\$ 8.00	\$ 8.00
Total Nitrate and Nitrite	1	Each	\$ 11.00	\$ 11.00
Selenium	1	Each	\$ 5.50	\$ 5.50
Sodium	1	Each	\$ 5.50	\$ 5.50
Thallium	1	Each	\$ 5.50	\$ 5.50
Potable Water System Analyses - Primary Inorganics (FAC 62-550 Table 1) Subtotal				\$ 230.50
Potable Water System Analyses - Disinfectant Residuals				
Chlorine	1	Each	\$ 5.00	\$ 5.00
Potable Water System Analyses - Disinfection Byproducts				
TTHM	16	Each	\$ 24.00	\$ 384.00
HAA5	16	Each	\$ 44.00	\$ 704.00
Potable Water System Analyses - Disinfection Byproducts Subtotal				\$ 1,088.00

Attachment A

(Page 6 of 12)

PRICING SHEET
Laboratory Testing Services – Utilities Department

Potable Water System Analyses - VOC's (FAC 62-550 Table 4)				
Project Name & Parameter	Annual Estimated Quantity	Unit of Measurement (UOM)	Price per UOM	Extended Price
VOC's Annual	1	Each	\$ 39.00	\$ 39.00
1,1-Dichloroethylene (75-35-4)			Included	
1,1,1-Trichloroethane (71-55-6)			Included	
1,1,2-Trichloroethane (79-00-5)			Included	
1,2-Dichloroethane (107-06-2)			Included	
1,2-Dichloropropane (78-87-5)			Included	
1,2,4-Trichlorobenzene (120-82-1)			Included	
Benzene (71-43-2)			Included	
Carbon tetrachloride (56-23-5)			Included	
cis-1,2-Dichloroethylene (156-59-2)			Included	
Dichloromethane (75-09-2)			Included	
Ethylbenzene (100-41-4)			Included	
Monochlorobenzene (108-90-7)			Included	
o-Dichlorobenzene (95-50-1)			Included	
para-Dichlorobenzene (106-46-7)			Included	
Styrene (100-42-5)			Included	
Tetrachloroethylene (127-18-4)			Included	
Toluene (108-88-3)			Included	
trans-1,2-Dichloroethylene (156-60-5)			Included	
Trichloroethylene (79-01-6)			Included	
Vinyl chloride (75-01-4)			Included	
Xylenes (total) (1330-20-7)			Included	

Attachment A
 (Page 7 of 12)

PRICING SHEET
Laboratory Testing Services – Utilities Department

Potable Water System Analyses - SOC's (FAC 62-550 Table 5)				
Project Name & Parameter	Annual Estimated Quantity	Unit of Measurement (UOM)	Price per UOM	Extended Price
SOC's Annual	1	Each	\$ 750.00	\$ 750.00
2,3,7,8-TCDD (Dioxin) (1746-01-6)		Included		
2,4-D (94-75-7)		Included		
2,4,5-TP (Silvex) (93-72-1)		Included		
Alachlor (15972-60-8)		Included		
Atrazine (1912-24-9)		Included		
Benzo(a)pyrene (50-32-8)		Included		
Carbofuran (1563-66-2)		Included		
Chlordane (57-74-9)		Included		
Dalapon (75-99-0)		Included		
Di(2-ethylhexyl)adipate (103-23-1)		Included		
Di(2-ethylhexyl)phthalate (117-81-7)		Included		
Dibromochloropropane (DBCP) (96-12-8)		Included		
Dinoseb (88-85-7)		Included		
Diquat (85-00-7)		Included		
Endothall (145-73-3)		Included		
Endrin (72-20-8)		Included		
Ethylene dibromide (EDB) (106-93-4)		Included		
Glyphosate (1071-83-6)		Included		
Heptachlor (76-44-8)		Included		
Heptachlor epoxide (1024-57-3)		Included		
Hexachlorobenzene (118-74-1)		Included		
Hexachlorocyclopentadiene (77-47-4)		Included		
Lindane (58-89-9)		Included		
Methoxychlor (72-43-5)		Included		
Oxamyl (vydate) (23135-22-0)		Included		
Pentachlorophenol (87-86-5)		Included		
Picloram (1918-02-1)		Included		
Polychlorinated biphenyls (PCBs)		Included		
Simazine (122-34-9)		Included		
Toxaphene (8001-35-2)		Included		

Attachment A

(Page 8 of 12)

PRICING SHEET
Laboratory Testing Services – Utilities Department

Potable Water System Analyses - Microbiological				
Project Name & Parameter	Annual Estimated Quantity	Unit of Measurement (UOM)	Price per UOM	Extended Price
Total Coliform	540	Each	\$ 11.00	\$ 5,490.00
Fecal Coliform	6	Each	\$ 11.00	\$ 66.00
Potable Water System Analyses – Microbiological Subtotal				\$ 6,006.00
Potable Water System Analyses - Radionuclides				
Radionuclides Annual	1	Each	\$ 220.00	\$ 220.00
Combined radium226 and radium228	Included			
Gross alpha particle activity including radium226 but excluding radon and uranium	Included			
Uranium	Included			
Potable Water System Analyses - Lead and Copper				
Lead	40	Each	\$ 5.50	\$ 220.00
Copper	40	Each	\$ 5.50	\$ 220.00
Alkalinity	2	Each	\$ 10.00	\$ 20.00
Orthophosphate	2	Each	\$ 10.00	\$ 20.00
Potable Water System Analyses - Lead and Copper Subtotal				\$ 480.00
Potable Water System Analyses - Secondary Drinking Water Contaminants (FAC 62-550 Table 6)				
Aluminum	1	Each	\$ 5.50	\$ 5.50
Chloride	1	Each	\$ 8.00	\$ 8.00
Copper	1	Each	\$ 5.50	\$ 5.50
Fluoride	24	Each	\$ 8.00	\$ 192.00
Iron	1	Each	\$ 5.50	\$ 5.50
Manganese	1	Each	\$ 5.50	\$ 5.50
Silver	1	Each	\$ 5.50	\$ 5.50
Sulfate	1	Each	\$ 8.00	\$ 8.00
Zinc	1	Each	\$ 5.50	\$ 5.50
Color	1	Each	\$ 11.00	\$ 11.00
pH	1	Each	\$ 5.00	\$ 5.00
Total Dissolved Solids	1	Each	\$ 11.00	\$ 11.00
Foaming Agents	1	Each	\$ 28.00	\$ 28.00
Potable Water System Analyses - Secondary Drinking Water Contaminants (FAC 62-550 Table 6) Subtotal				\$ 296.00

Attachment A
 (Page 9 of 12)

PRICING SHEET
Laboratory Testing Services – Utilities Department

Potable Water System Analyses - Physical Characteristics				
Project Name & Parameter	Annual Estimated Quantity	Unit of Measurement (UOM)	Price per UOM	Extended Price
Turbidity	1	Each	\$ 8.00	\$ 8.00
Temperature	1	Each	\$ 1.00	\$ 1.00
Conductivity	1	Each	\$ 8.00	\$ 8.00
Color	1	Each	\$ 11.00	\$ 11.00
TDS	1	Each	\$ 11.00	\$ 11.00
Hardness	1	Each	\$ 11.00	\$ 11.00
UCMR	1	Each	\$ 2,100.00	\$ 2,100.00
Composite/Grab Sampling Charges	24	Each	\$ 39.00	\$ 936.00
Potable Water System Analyses - Physical Characteristics Subtotal				\$ 3,086.00
Potable Water System Analyses Total				\$ 12,200.50
WASTEWATER COLLECTION/TREATMENT SYSTEM ANALYSES				
Project Name & Parameter	Annual Estimated Quantity	Unit of Measurement (UOM)	Price per UOM	Extended Price
Wastewater Collection/Treatment System Analyses - Influent, Effluent & Reuse				
BOD5	52	Each	\$ 12.00	\$ 624.00
CBOD5	104	Each	\$ 12.00	\$ 1,248.00
Total Suspended Solids	104	Each	\$ 9.00	\$ 936.00
Fecal Coliform	120	Each	\$ 11.00	\$ 1,320.00
pH	104	Each	\$ 5.00	\$ 520.00
Total Nitrogen	52	Each	\$ 19.00	\$ 988.00
Total Phosphorus	52	Each	\$ 14.00	\$ 728.00
Nitrate	52	Each	\$ 8.00	\$ 416.00
Nitrite	52	Each	\$ 8.00	\$ 416.00
% CBOD Efficiency	52	Each	\$ 1.00	\$ 52.00
%TSS Efficiency	52	Each	\$ 1.00	\$ 52.00
Ammonia	52	Each	\$ 13.00	\$ 676.00
Ortho-Phosphates	52	Each	\$ 10.00	\$ 520.00
Total Solids	104	Each	\$ 9.00	\$ 936.00
Total Kjeldahl Nitrogen (TKN)	52	Each	\$ 13.00	\$ 676.00
Wastewater Collection/Treatment System Analyses - Influent, Effluent & Reuse Subtotal				\$ 10, 108.00

Attachment A

(Page 10 of 12)

PRICING SHEET
Laboratory Testing Services – Utilities Department

Wastewater Collection/Treatment System Analyses - Biosolids				
Project Name & Parameter	Annual Estimated Quantity	Unit of Measurement (UOM)	Price per UOM	Extended Price
Nitrogen	6	Each	\$ 19.00	\$ 114.00
Phosphorus	6	Each	\$ 14.00	\$ 84.00
Potassium	6	Each	\$ 5.50	\$ 33.00
Arsenic Dry Weight	6	Each	\$ 5.50	\$ 33.00
Cadmium Dry Weight	6	Each	\$ 5.50	\$ 33.00
Copper, Tot, Dry Wt. (as Cu)	6	Each	\$ 5.50	\$ 33.00
Lead	6	Each	\$ 5.50	\$ 33.00
Mercury, Dry Weight	6	Each	\$ 13.00	\$ 78.00
Molybdenum, Dry Weight	6	Each	\$ 5.50	\$ 33.00
Nickel, Dry Weight	6	Each	\$ 5.50	\$ 33.00
Selenium Dry Weight	6	Each	\$ 5.50	\$ 33.00
Zinc Dry Weight	6	Each	\$ 5.50	\$ 33.00
pH	6	Each	\$ 5.00	\$ 30.00
Coliform, Fecal	28	Each	\$ 45.00	\$ 1,260.00
Volatile Organic Compounds	6	Each	\$ 48.00	\$ 288.00
% Volatiles	52	Each	\$ 14.00	\$ 728.00
% Total Solids	58	Each	\$ 9.00	\$ 522.00
Specific Oxygen Uptake Rate (SOUR)	4	Each	\$ 9.00	\$ 36.00
Wastewater Collection/Treatment System Analyses – Biosolids Subtotal				\$ 3,437.00
Wastewater Collection/Treatment System Analyses - In-House Laboratory Certification				
DMR-QA	1	Each	\$ 25.00	\$ 25.00
Wastewater Collection/Treatment System Analyses Total				\$ 13,570.00

Attachment A
 (Page 11 of 12)

PRICING SHEET
Laboratory Testing Services – Utilities Department

DEEP INJECTION WELL/MONITOR WELL ANALYSES				
Project Name & Parameter	Annual Estimated Quantity	Unit of Measurement (UOM)	Price per UOM	Extended Price
pH	36	Each	\$ 5.00	\$ 180.00
Specific Conductance	36	Each	\$ 8.00	\$ 288.00
Ammonia	36	Each	\$ 13.00	\$ 468.00
Calcium Hardness as CaCO3	36	Each	\$ 9.00	\$ 324.00
Total Hardness as CaCO3	36	Each	\$ 9.00	\$ 324.00
Chloride	36	Each	\$ 8.00	\$ 288.00
Magnesium Hardness as CaCO3	36	Each	\$ 9.00	\$ 324.00
Nitrate + Nitrite as N	36	Each	\$ 11.00	\$ 396.00
Total Kjeldahl Nitrogen (TKN)	36	Each	\$ 13.00	\$ 468.00
Sulfate	36	Each	\$ 8.00	\$ 288.00
Total Dissolved Solids (TDS)	36	Each	\$ 11.00	\$ 396.00
Gross Alpha	12	Each	\$ 50.00	\$ 600.00
Radium 226	12	Each	\$ 75.00	\$ 900.00
Radium 228	12	Each	\$ 75.00	\$ 900.00
Temperature	36	Each	\$ 1.00	\$ 36.00
Composit/Grab Sampling	36	Each	\$ 39.00	\$ 1,404.00
Deep Injection Well/Monitor Well Analyses Total				\$ 7,584.00
GROUND/SURFACE WATER ANALYSES				
Project Name & Parameter	Annual Estimated Quantity	Unit of Measurement (UOM)	Price per UOM	Extended Price
EPA Method 8270	4	Each	\$ 135.00	\$ 540.00
Monitor Well Sampling Charges	16	Each	\$ 39.00	\$ 624.00
Ground/Surface Water Analyses Total				\$ 1,164.00

Attachment A
(Page 12 of 12)

PRICING SHEET
Laboratory Testing Services – Utilities Department

REAGENTS & SUPPLIES				
Project Name & Parameter	Annual Estimated Quantity	Unit of Measurement (UOM)	Price per UOM	Extended Price
Buffer pH 4.0	20	Quart	\$ 8.00	\$160.00
Buffer pH 7.0	20	Quart	\$ 10.00	\$ 200.00
Buffer pH 10.0	20	Quart	\$ 15.00	\$300.00
Calcium Hardness Buffer	6	Pint	\$ 35.00	\$ 210.00
Total Hardness Buffer	6	Pint	\$ 20.00	\$1200.00
Calcium Hardness Indicator (8 oz powder)	6	Each	\$ 40.00	\$ 240.00
Total Hardness Indicator (8 oz powder)	6	Each	\$ 120.00	\$ 720.00
Sulfuric Acid	8	Quart	\$ 15.00	\$120.00
Methyl Purple Indicator	6	Pint	\$ 35.00	\$ 210.00
Phenolphthalein Indicator	6	Pint	\$ 50.00	\$ 300.00
EDTA	8	1/2 Gallon	\$ 350.00	\$ 2,800.00
Fluoride Standard (1ppm)	12	Quart	\$ 50.00	\$600.00
Tisab	12	Gallon	\$ 130.00	\$ 1,560.00
Conductivity Solution (1412)	6	Quart	\$ 50.00	\$ 1,280.00
Color Standard	8	Pint	\$ 160.00	\$1,280.00
Reagents & Supplies Totals				\$ 9,120.00
Grand Total				\$ 43,638.50
Additional Service				
Item	Price per Call			
Afterhours/Holidays/Emergency Calls	\$ Price varies based on scope of service			

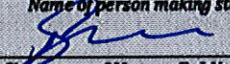
Submitted by:
Neshmah Castaneda
(Print)

Authorized Signature:

(Sign) Trevor Brenner- Interim General Manager

Company Name:
Pace Analytical Services, LLC

Date: September 11th, 2018

STATE:	FLORIDA
COUNTY:	<u>Broward</u>
Sworn to (or affirmed) and subscribed before me this <u>11</u> day of <u>September</u> , 20 <u>18</u> , by: <u>Trevor Brenner</u>	
Name of person making statement	
	
Signature of Notary Public - State of Florida	
<u>Rossy Guima</u>	
Name of Notary Typed, Printed, or Stamped	
Personally Known <input checked="" type="checkbox"/>	OR Produced Identification <input type="checkbox"/>
Type of Identification Produced _____	

Attachment B

REFERENCES

All references shall be from entities/companies regularly engaged in the business of providing the goods and/or services as described in this solicitation.

1. ENTITY/COMPANY NAME: City of Lake Worth
ADDRESS: 301 College St. Lake Worth, Florida 33460
CONTACT NAME: Timothy M. Sloan
CONTACT'S TITTLE: Water Plant Manager
TELEPHONE: 561-586-1636
E-MAIL (REQUIRED): TSloan@LakeWorth.org
CONTRACT PERIOD: FROM: 2010 TO: current

2. ENTITY/COMPANY NAME: Palm Beach Water Utilities
ADDRESS: 13026 Jog Rd. Bldg. K Delray Beach, Fl. 33446
CONTACT NAME: Stephanie Weder
CONTACT'S TITTLE: Laboratory Manager
TELEPHONE: 561-638-5053
E-MAIL (REQUIRED): SWeder@pbcwater.com
CONTRACT PERIOD: FROM: 2011 TO: current

3. ENTITY/COMPANY NAME: Miami Dade Water & Sewer
ADDRESS: 8950 SW 232 Street, Miami, Florida 33190
CONTACT NAME: Rolando Camilo
CONTACT'S TITTLE: Chemist 3
TELEPHONE: 786-268-5631
E-MAIL (REQUIRED): rolando.camilo@miamidade.gov
CONTRACT PERIOD: FROM: 2008 TO: current

This page shall be completed IN FULL and submitted with your bid.

ATTACHMENT C
(Page 1 of 2)

**SWORN STATEMENT PURSUANT TO SECTION 287.133 (3) (a),
FLORIDA STATUTES, ON PUBLIC ENTITY CRIMES**

THIS FORM MUST BE SIGNED AND SWORN TO IN THE PRESENCE OF A
NOTARY PUBLIC OR OTHER OFFICIAL AUTHORIZED TO ADMINISTER OATHS.

1. This sworn statement is submitted to the CITY OF COOPER CITY, FLORIDA

by: Trevor Brenner / Interim General Manager

for: Pace Analytical Services, LLC (print individual's name and title)
(print name of entity submitting sworn statement)

whose business address is: 3610 Park Central Blvd. N, Pompano Beach, FL 33064

and (if applicable) its Federal Employer Identification Number (FEIN) is: 41-1821617.

(If the entity has no FEIN, include the Social Security Number of the individual signing this sworn statement: _____ - _____).

2. I understand that a "public entity crime" as defined in Paragraph 287.133(1)(g), Florida Statutes, means a violation of any state or federal law by a person with respect to and directly related to the transaction of business with any public entity or with an agency or political subdivision of any other state or of the United States, including but not limited to, any bid or contract for goods or services to be provided to any public entity or an agency or political subdivision of any other state or of the United States and involving antitrust, fraud, theft, bribery, collusion, racketeering, conspiracy, or material misrepresentations.

3. I understand that "convicted" or "conviction" as defined in Paragraph 287.133(1)(b), Florida Statutes, means a finding of guilt or a conviction of a public entity crime, with or without an adjudication of guilt, in any federal or state trial court of record relating to charges brought by indictment or information after July 1, 1989, as a result of a jury verdict, non-jury trial, or entry of a plea of guilty or nolo contendere.

4. I understand that an "affiliate" as defined in Paragraph 287.133(1)(a), Florida Statutes, means:

- a) A predecessor or successor of a person convicted of a public entity crime; or
- b) An entity under the control of any natural person who is active in the management of the entity and who has been convicted of a public entity crime. The term "affiliate" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in the management of an affiliate. The ownership by one person of shares constituting a controlling interest in another person, or a pooling of equipment or income among persons when not for fair market value under an arm's length agreement, shall be a prima facie case that one person controls another person. A person who knowingly enters into a joint venture with a person who has been convicted of a public entity crime in Florida during the preceding 36 months shall be considered an affiliate.

5. I understand that a "person" as defined in Paragraph 287.133(1)(e), Florida Statutes, means any natural person or entity organized under the laws of any state or of the United States with the legal power to enter into a binding contract and which bids or applies to bid on contracts for the provision of goods or services let by a public entity, or which otherwise transacts or applies to transact business with a public entity. The term "person" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in management of an entity.

ATTACHMENT C

(Page 2 of 2)

6. Based on information and belief, the statement that I have marked below is true in relation to the entity submitting this sworn statement. (Indicate which statement applies).


X Neither the entity submitting this sworn statement, nor any officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, nor any affiliate of the entity, has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

____ This entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

____ The entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989. However, there has been a subsequent proceeding before a Hearing Officer of the State of Florida, Division of Administrative Hearings and the Final Order entered by the Hearing Officer determined that it was not in the public interest to place the entity submitting this sworn statement on the convicted vendor list. (attach a copy of the final order).

I UNDERSTAND THAT THE SUBMISSION OF THIS FORM TO THE CONTRACTING OFFICER FOR THE PUBLIC ENTITY IDENTIFIED IN PARAGRAPH 1 ABOVE IS FOR THAT PUBLIC ENTITY ONLY AND THAT THIS FORM IS VALID THROUGH DECEMBER 31 OF THE CALENDAR YEAR IN WHICH IT IS FILED. I ALSO UNDERSTAND THAT I AM REQUIRED TO INFORM THE PUBLIC ENTITY PRIOR TO ENTERING INTO A CONTRACT IN EXCESS OF THE THRESHOLD AMOUNT PROVIDED IN SECTION 287.017, FLORIDA STATUTES FOR CATEGORY TWO OF ANY CHANGE IN THE INFORMATION CONTAINED IN THIS FORM.

T.K.B.
Signature

STATE:	FLORIDA
COUNTY:	Broward
Sworn to (or affirmed) and subscribed before me this <u>6</u> day of <u>September</u> 20 <u>18</u> , by: <u>Trevor Brewer</u>	
Name of person making statement	
	<u>Rosy Guima</u>
Signature of Notary Public - State of Florida	
Name of Notary Typed, Printed, or Stamped	
Personally Known <u>✓</u>	OR Produced Identification _____
Type of Identification Produced _____	

ATTACHMENT D

**AMERICANS WITH DISABILITIES ACT (ADA)
DISABILITY NONDISCRIMINATION STATEMENT**

THIS FORM MUST BE SIGNED AND SWORN TO IN THE PRESENCE OF A NOTARY PUBLIC OR OTHER OFFICIAL
AUTHORIZED TO ADMINISTER OATHS.

This sworn statement is submitted to the CITY OF COOPER CITY, FLORIDA

by: Trevor Brenner / Interim General Manager

(print individual's name and title)

for: Pace Analytical Services, LLC

(print name of entity submitting sworn statement)

whose business address is: 3610 Park Central Blvd. N, Pompano Beach, FL 33064

and (if applicable) its Federal Employer Identification Number (FEIN) is: 41-1821617

(If the entity has no FEIN, include the Social Security Number of the individual signing this sworn statement: _____ - _____ - _____.)

I, being duly first sworn state:

That the above named firm, corporation or organization is in compliance with and agreed to continue to comply with, and assure that any subcontractor, or third party contractor under this project complies with all applicable requirements of the laws listed below including, but not limited to, those provisions pertaining to employment, provision of programs and services, transportation, communications, access to facilities, renovations, and new construction.

The American with Disabilities Act of 1990 (ADA), Pub. L. 101-336, 104 Stat 327, 42 USC 1210112213 and 47 USC Sections 225 and 661 including Title I, Employment; Title II, Public Services; Title III, Public Accommodations and Services Operated by Private entities; Title IV, Telecommunications; and Title V, Miscellaneous Provisions.


The Florida Americans with Disabilities Accessibility Implementation Act of 1993, Section 553.501-553.513, Florida Statutes:

The Rehabilitation Act of 1973, 229 USC Section 794;

The Federal Transit Act, as amended 49 USC Section 1612;

The Fair Housing Act as amended 42 USC Section 3601-3631.


Signature

STATE: <u>FLORIDA</u>	
COUNTY: <u>Broward</u>	
Sworn to (or affirmed) and subscribed before me this <u>6</u> day of <u>September</u> , 20 <u>18</u> , by: <u>Trevor Brenner</u>	
ROSSY GUIMA	Name of person making statement
MY COMMISSION # GG 065282	
EXPIRES: April 15, 2021	
 (NOTARY SEAL)	Signature of Notary Public - State of Florida
	<u>Rossy Guima</u>
	Name of Notary Typed, Printed, or Stamped
Personally Known <input checked="" type="checkbox"/>	OR Produced Identification <input type="checkbox"/>
Type of Identification Produced _____	

ATTACHMENT E

BUSINESS ENTITY AFFIDAVIT

I, Trevor Brenner, being first duly sworn state:

The full legal name and business address of the person(s) or entity proposing to contract or transact business with the City of Cooper City ("City") are (Post Office addresses are not acceptable), as follows:


41-1821617
Federal Employer Identification Number (FEIN) (If none, Social Security Number)

Pace Analytical Services, LLC
Name of Entity, Individual, Partners or Corporation

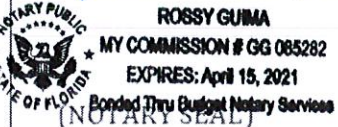
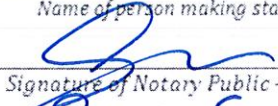
Doing Business As (If same as above, leave blank)

3610 Park Central Blvd. N Pompano Beach, FL 33064
Street Address Suite City State

Minnesota, October 16th, 1995
State and Date of Incorporation:


Signature of Affiant
Trevor Brenner
Print Name

9/6/2018
Date

STATE:	<u>FLORIDA</u>
COUNTY:	<u>Broward</u>
Sworn to (or affirmed) and subscribed before me this <u>6</u> day of <u>September</u> , 20 <u>18</u> , by: <u>Trevor Brenner</u> <small>Name of person making statement</small>	
	<u></u> <small>Signature of Notary Public - State of Florida</small>
	<u>Rossy Guima</u> <small>Name of Notary Typed, Printed, or Stamped</small>
	Personally Known <input checked="" type="checkbox"/> <u>OR</u> Produced Identification <input type="checkbox"/>
Type of Identification Produced _____	

Attachment F

FOREIGN (NON-FLORIDA) CORPORATION MUST COMPLETE THIS FORM
DEPARTMENT OF STATE CORPORATE CHARTER NO. _____

If your corporation is exempt from the requirements of Section 607.1501, Florida Statutes, **YOU MUST CHECK BELOW** the reason(s) for the exemption. Please contact the Department of State, Division of Corporations at (850) 245-6051 for assistance with corporate registration or exemptions. 607.1501 Authority of foreign corporation to transact business required.

- (1) A foreign corporation may not transact business in this state until it obtains a certificate of authority form the Department of State.
- (2) The following activities, among others, do not constitute transacting business within the meaning of subsection one (1):
- _____ (a) Maintaining, defending, or settling any proceedings.
 - _____ (b) Holding meetings of the board of directors or shareholders or carrying on other activities concerning internal corporate affairs.
 - _____ (c) Maintaining bank accounts.
 - _____ (d) Maintaining officers of agencies for the transfer, exchange, and registration of the corporation's own securities or maintaining trustees or depositories with respect to those securities.
 - _____ (e) Selling through independent contractors.
 - _____ (f) Soliciting or obtaining orders, whether by mail or through employees, agents or otherwise, if the orders
 - _____ (g) Creating or acquiring indebtedness, mortgages, and security interests in real or personal property.
 - _____ (h) Securing or collecting debts or enforcing mortgages and security interests in property securing the debts.
 - _____ (i) Transacting business in interstate commerce.
 - _____ (j) Conducting an isolated transaction that is completed within 30 days and that is not one in the course of repeated transactions of a like nature.
 - _____ (k) Owning and controlling a subsidiary corporation incorporated in or transacting business within this state or voting the stock of any corporation which it has lawfully acquired.
 - _____ (l) Owning a limited partnership interest in a limited partnership that is doing business within this state, unless such limited partner manages or controls the partnership or exercises the powers and duties of a general partner.
 - _____ (m) Owning, without more, real or personal property.

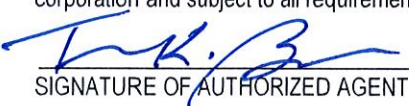
The list of activities of subsection (2) is not exhaustive.

- (3) This section has no application to the question of whether any foreign corporation is subject to service of process and suit in this state under any law of this state.

Please check one of the following if your firm in NOT a corporation:

- (I) _____ Partnership, Joint Venture, Estate or Trust
(II) _____ Sole Proprieties of Self Employed

NOTE: This sheet **MUST** be enclosed with your bid if you claim an exemption or have checked I or II above, your firm will be considered a corporation and subject to all requirements listed herein.


SIGNATURE OF AUTHORIZED AGENT OF PROPOSER

Pace Analytical Services, LLC
BIDDER'S LEGAL NAME

Attachment G

Form W-9 (Rev. December 2014) Department of the Treasury Internal Revenue Service	Request for Taxpayer Identification Number and Certification	Give Form to the requester. Do not send to the IRS.
---	---	---

1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.
Pace Analytical Services, LLC

2 Business name/disregarded entity name, if different from above

3 Check appropriate box for federal tax classification; check only **one** of the following seven boxes:
☐ Individual/sole proprietor or single-member LLC
☒ C Corporation
☐ S Corporation
☐ Partnership
☐ Trust/estate
☐ Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=partnership):
Note. For a single-member LLC that is disregarded, do not check LLC; check the appropriate box in the line above for the tax classification of the single-member owner.
☐ Other (see instructions)

4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):
Exempt payee code (if any)
Exemption from FATCA reporting code (if any)
(Applies to accounts maintained outside the U.S.)

5 Address (number, street, and apt. or suite no.)
1800 Elm Street SE

6 City, state, and ZIP code
Minneapolis, MN 55414

7 List account number(s) here (optional)

Requester's name and address (optional)
www

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the Part I instructions on page 3. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN* on page 3.

Social security number
- - - - -
or
Employer identification number
4 1 - 1 8 2 1 6 1 7

Note. If the account is in more than one name, see the instructions for line 1 and the chart on page 4 for guidelines on whose number to enter.

Part II Certification

Under penalties of perjury, I certify that:

- The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
- I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
- I am a U.S. citizen or other U.S. person (defined below); and
- The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions on page 3.

Sign Here Signature of U.S. person Click Here to Sign Date **9/6/2018**

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. Information about developments affecting Form W-9 (such as legislation enacted after we release it) is at www.irs.gov/fw9.

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following:

- Form 1099-INT (interest earned or paid)
- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)

- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See *What is backup withholding?* on page 2.

By signing the filled-out form, you:

- Certify that the TIN you are giving is correct (or you are waiting for a number to be issued),
- Certify that you are not subject to backup withholding, or
- Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income, and
- Certify that FATCA code(s) entered on this form (if any) indicating that you are exempt from the FATCA reporting, is correct. See *What is FATCA reporting?* on page 2 for further information.

Attachment H

**REQUEST FOR PROOF OF
WORKERS COMPENSATION INSURANCE OR EXEMPTION**

Dear Provider of Services or Goods:

In order to provide services or goods to City of Cooper City, we require that you provide us either proof of workers compensation coverage or proof of exemption.

Workers compensation insurance is required of all employers in Florida that employ 4 or more part or full time employees. In the event that you are an employer in the construction industry, you are required to have workers compensation insurance if you employ one or more workers. Corporate officers and sole proprietors are included when calculating the number of employees. Note: Corporate officers may claim exemption from workers compensation coverage on themselves only, by filing *Form DWC 250, Notice of Election to Be Exempt*. This form can be found at <http://fldfs.com/WC/forms.html>.

If you meet the above criteria to be exempt, you MUST provide us with one of the following:

- If your business is a sole proprietorship or unincorporated business: provide us a Verification of Automatic Exempt Certificate. This verification is a letter that is issued by the State of Florida Department of Financial Services. To receive a letter from the State, complete the following directions: 1) Call the National Council of Compensation Insurance 1-800-622-4123, Option 5, and ask them for the class code for your type of business. 2) Once you have received this code, call the Department of Financial Services at 1-850-413-1601 and provide them your business name, class code, mailing address, and contact phone number. They will send you the Verification of Automatic Exempt Certificate. 3) Provide us a copy of the Verification of Automatic Exempt Certificate.
- If your business is a corporation (including a professional association or limited liability company), and you are not required to have workers compensation insurance as per the requirements as outlined above, you must complete the attached Workers Compensation Exemption Affidavit, have it notarized, and return the original to us.

If you are an employer that meets the requirements of workers compensation and needs to obtain coverage, contact your current business insurance agent, or you may use the following resources to locate an agent: www.faja.com, www.piafl.org/wc-info.pdf, or call (850) 893-8245.

Please be reminded that the furnishing of this information to City of Cooper City is a non-negotiable requirement to perform services for us. Failure to provide this timely may result in either termination of your services or delay of payment for services. Your workers compensation Certificate of Coverage, Workers Compensation Exemption Affidavit, or Verification of Automatic Exempt Certificate must be delivered or mailed to the Purchasing Division located at City Hall, 9090 SW 50 Place, Cooper City, Florida 33328, or emailed to Purchasing@CooperCityFL.org.

ATTACHMENT I


OWNERSHIP DISCLOSURE AFFIDAVIT

1. If the contact or business transaction is with a corporation, the full legal name and business address shall be provided for each officer and director and each stockholder who holds directly or indirectly five percent (5%) or more of the corporation's stock. If the contract or business transaction is with a trust, the full legal name and address shall be provided for each trustee and each beneficiary. All such names and addresses are (Post Office addresses are not acceptable), as follows:

<u>Full Legal Name</u>	<u>Address</u>	<u>Ownership</u>
Aurora Capital Equity V, LP	10877 Wilshire Blvd, Suite 2100, Los Angeles, CA 90024	at approx. 90 %
Steve Vanderboom	1800 SE Elm Street Minneapolis, MN 5541	at approx. 10 %
		%

2. The full legal names and business address of any other individual (other than subcontractors, materialmen, suppliers, laborers, or lenders) who have, or will have, any interest (legal, equitable, beneficial or otherwise) in the contract or business transaction with the City are (Post Office addresses are not acceptable), as follows:


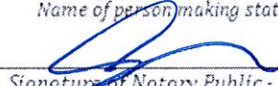
N/A



Signature of Affiant
Trevor Brenner

Print Name
9/6/2018

Date

STATE:	FLORIDA
COUNTY:	<u>Broward</u>
Sworn to (or affirmed) and subscribed before me this <u>6</u> day of <u>September</u> 20 <u>18</u> by: <u>Trevor Brenner</u> <small>Name of person making statement</small>	
	 <small>Signature of Notary Public - State of Florida</small>
	<u>Rossy Guima</u> <small>Name of Notary Typed, Printed, or Stamped</small>
Personally Known <input checked="" type="checkbox"/> OR Produced Identification <input type="checkbox"/>	
Type of Identification Produced _____	

ATTACHMENT J


DRUG FREE WORKPLACE CERTIFICATE

I, the undersigned, in accordance with Florida Statute 287.087, hereby certify that, (**print or type name of firm**)
Pace Analytical Services, LLC

- Publishes a written statement notifying that the unlawful manufacture, distribution, dispensing, possession or use of a controlled substance is prohibited in the workplace named above, and specifying actions that will be taken against violations of such prohibition.
- Informs employees about the dangers of drug abuse in the work place, the firm's policy of maintaining a drug free working environment, and available drug counseling, rehabilitation, and employee assistance programs, and the penalties that may be imposed upon employees for drug use violations.
- Gives each employee engaged in providing commodities or contractual services that are under bid or proposal, a copy of the statement specified above.
- Notifies the employees that as a condition of working on the commodities or contractual services that are under bid or proposal, the employee will abide by the terms of the statement and will notify the employer of any conviction of, pleas of guilty or nolo contendere to, any violation of Chapter 1893, or of any controlled substance law of the State of Florida or the United States, for a violation occurring in the work place, no later than five (5) days after such conviction, and requires employees to sign copies of such written (*) statement to acknowledge their receipt.
- Imposes a sanction on, or requires the satisfactory participation in, a drug abuse assistance or rehabilitation program, if such is available in the employee's community, by any employee who is so convicted.
- Makes a good faith effort to continue to maintain a drug free work place through the implementation of the drug free workplace program.

"As a person authorized to sign this statement, I certify that the above named business, firm or corporation complies fully with the requirements set forth herein".

Trevor Brenner
Signature of Affiant
Trevor Brenner
Print Name
9/6/2018
Date


STATE:	FLORIDA
COUNTY:	Broward
Sworn to (or affirmed) and subscribed before me this <u>6</u> day of <u>September</u> , 20 <u>18</u> , by: <u>Trevor Brenner</u> Name of person making statement	
 ROSSY GUIMA MY COMMISSION # GG 065282 EXPIRES: April 15, 2021 Bonded Thru Budget Notary Services (NOTARY SEAL)	
<u>Rosy Guima</u> Signature of Notary Public - State of Florida	
Name of Notary Typed, Printed, or Stamped	
Personally Known <input checked="" type="checkbox"/>	OR Produced Identification <input type="checkbox"/>
Type of Identification Produced _____	

ATTACHMENT K

EMPLOYEE BACKGROUND VERIFICATION AFFIDAVIT

I, Trevor Brenner of Pace Analytical Services, LLC, attest that all personnel used in
(Print Name) (Company Name)
the performance of this work have had a criminal background check with a passing grade and have
been drug tested with a passing grade and are legally documented to work in the United States.

Trevor Brenner
Signature of Affiant
Trevor Brenner
Print Name
9/6/2018
Date

STATE:	FLORIDA
COUNTY:	Broward
Sworn to (or affirmed) and subscribed before me this <u>6</u> day of <u>September</u> , 20 <u>18</u> , by: <u>Trevor Brenner</u> <small>Name of person making statement</small>	
	ROSSY GUIMA MY COMMISSION # GG 085282 EXPIRES: April 15, 2021 Bonded Thru Budgetary Services
	<u>Rosy Guima</u> <small>Signature of Notary Public, State of Florida</small>
	<u>Rosy Guima</u> <small>Name of Notary Typed, Printed, or Stamped</small>
Personally Known <input checked="" type="checkbox"/> OR Produced Identification <input type="checkbox"/>	
Type of Identification Produced _____	

Evidence of DMR-QA Participation

Permittee Name:

Permit Number:

EPA Lab Code: FL01264

Chemistry/Microbiology Analyte Checklist

WP Study 276

Analyte Test / Method	Test Required	Laboratory's Graded Result		Analyte determined by state-certified lab
		Acceptable	Not Acceptable (Corrective Action Required)	
Minerals				
Alkalinity as CaCO₃				
SM 2320 B-2011	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chloride				
EPA 300.0	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 9056A	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Conductivity at 25°C				
SM 2510 B-2011	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fluoride				
EPA 300.0	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 9056A	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Potassium				
EPA 200.7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 6010D	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sodium				
EPA 200.7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 6010D	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sulfate				
EPA 300.0	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 9056A	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Dissolved Solids at 180°C				
SM 2540 C-2011	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Solids at 105°C				
SM 2540 B-2011	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hardness				
Total Suspended Solids				
SM 2540 D-2011	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Calcium				
EPA 200.7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 6010D	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Magnesium				
EPA 200.7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 6010D	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Calcium Hardness as CaCO₃				
EPA 200.7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 6010D	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SM 2340 B-2011	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Hardness as CaCO₃				
EPA 200.7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 6010D	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SM 2340 B-2011	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
pH				
pH				
EPA 9040C	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Permittee Name:

Permit Number:

EPA Lab Code: FL01264

Chemistry/Microbiology Analyte Checklist

WP Study 276

Analyte Test / Method	Test Required	Laboratory's Graded Result		Analyte determined by state-certified lab
		Acceptable	Not Acceptable (Corrective Action Required)	
SM 4500-H+ B-2011	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Settleable Solids				
Settleable Solids				
Solids Concentrate				
Total Suspended Solids				
Total Dissolved Solids at 180°C				
Total Solids at 105°C				
Solids				
Total Suspended Solids				
Total Dissolved Solids at 180°C				
Total Solids at 105°C				
Simple Nutrients				
Ammonia as N				
EPA 350.1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nitrate + Nitrite as N				
EPA 300.0	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 353.2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nitrate as N				
EPA 300.0	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 353.2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 9056A	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ortho-Phosphate as P				
EPA 300.0	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 365.1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 9056A	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Complex Nutrients				
Total Kjeldahl Nitrogen				
EPA 351.2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total phosphorus as P				
EPA 365.3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 365.4	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nitrite				
Nitrite as N				
EPA 300.0	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 353.2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 9056A	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Demand				
BOD				
SM 5210 B-2011	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CBOD				
SM 5210 B-2011	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COD				
EPA 410.4	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TOC				
SM5310B	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Oil & Grease Concentrate				
n-Hexane Extractable Material(O&G) (Grav)				

Chemistry/Microbiology Analyte Checklist

WP Study 276

Analyte Test / Method	Test Required	Laboratory's Graded Result		Analyte determined by state-certified lab
		Acceptable	Not Acceptable (Corrective Action Required)	
Oil & Grease				
n-Hexane Extractable Material(O&G) (Grav)				
n-Hexane Extractable Material(O&G) (IR)				
Trace Metals				
Aluminum				
EPA 200.7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 200.8	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 6010D	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 6020B	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Antimony				
EPA 200.7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 200.8	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 6010D	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 6020B	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Arsenic				
EPA 200.7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 200.8	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 6010D	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 6020B	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Barium				
EPA 200.7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 200.8	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 6010D	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 6020B	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Beryllium				
EPA 200.7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 200.8	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 6010D	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 6020B	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Boron				
EPA 200.7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 6010D	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cadmium				
EPA 200.7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 200.8	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 6010D	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 6020B	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chromium				
EPA 200.7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 200.8	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 6010D	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 6020B	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cobalt				
EPA 200.7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 200.8	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 6010D	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 6020B	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Chemistry/Microbiology Analyte Checklist

WP Study 276

Analyte Test / Method	Test Required	Laboratory's Graded Result		Analyte determined by state-certified lab
		Acceptable	Not Acceptable (Corrective Action Required)	
Copper				
EPA 200.7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 200.8	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 6010D	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 6020B	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Iron				
EPA 200.7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 6010D	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lead				
EPA 200.7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 200.8	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 6010D	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 6020B	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Manganese				
EPA 200.7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 200.8	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 6010D	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 6020B	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Molybdenum				
EPA 200.7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 200.8	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 6010D	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 6020B	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nickel				
EPA 200.7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 200.8	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 6010D	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 6020B	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Selenium				
EPA 200.7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 200.8	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 6010D	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 6020B	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Silver				
EPA 200.7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 200.8	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 6010D	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 6020B	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Strontium				
EPA 200.7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 200.8	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 6010D	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 6020B	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Thallium				
EPA 200.8	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 6020B	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 6010D	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vanadium				
EPA 200.7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Permittee Name:

Permit Number:

EPA Lab Code: FL01264

Chemistry/Microbiology Analyte Checklist

WP Study 276

Analyte Test / Method	Test Required	Laboratory's Graded Result		Analyte determined by state-certified lab
		Acceptable	Not Acceptable (Corrective Action Required)	
EPA 200.8	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 6010D	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 6020B	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Zinc				
EPA 200.7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 200.8	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 6010D	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 6020B	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mercury				
Mercury				
EPA 245.1	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
EPA 7470A	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Low-Level Mercury				
Low Level Mercury				
Hexavalent Chromium				
Hexavalent Chromium				
EPA 218.6	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Turbidity				
Turbidity				
EPA 180.1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Cyanide				
Cyanide, total				
EPA 335.4	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 9012B	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Amenable Cyanide	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Phenolics (4-AAP)				
Phenolics, total				
EPA 420.4	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EPA 9066	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Residual Chlorine				
Total Residual Chlorine				
Low-Level Total Residual Chlorine				
Low Level Total Residual Chlorine				
WasteWatR™ Coliform MicrobE™				
Total Coliforms (MF)				
SM9222B M endo	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fecal Coliforms (MF)				
SM 9222 D (m-FC)-2006	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
E.coli (MF)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Coliforms (MPN)				
SM9223 COLt18QT-2004	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fecal Coliforms (MPN)				
SM9223 COLt18QT-2004	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
E.coli (MPN)				
SM9223 COLt18QT-2004	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
WasteWatR™ Coliform MicrobE™ - SM 9221				
Total Coliforms (MPN)				
Fecal Coliforms (MPN)				

Chemistry/Microbiology Analyte Checklist

WP Study 276

Analyte Test / Method	Test Required	Laboratory's Graded Result		Analyte determined by state-certified lab
		Acceptable	Not Acceptable (Corrective Action Required)	
E.coli (MPN)				

Print Name

Signature/Title

Date

Use a separate checklist for EACH lab used

Analyte Number	Organisms / Conditions	End Points	Test Req	Laboratory's Graded Result		Analyte determined by state-certified lab
				Acceptable	Not Acceptable (Corrective Action Required)	

Print Name

Signature/Title

Date

Use a separate checklist for EACH lab used

TAB 8

HAZWOPER Certification Field
Technician

Evidence of 40HR HAZWOPER Certification
(Field Technician)

Pace Analytical, offers third party 8 HR Refresher HAZWOPER Training

Certificate of Completion

for
8-Hour OSHA Hazwoper Refresher Course 2017
in accordance with 29CFR1910.120

James Stockbridge

9296

Name


ID #

for

Pace Analytical Services-FL Lab.

by

TLC Consultants, Inc.
5500 NW 5th Ave
Boca Raton, Florida 33487
(561) 212-8873


Gary D. Nash, CET/CIT

November 03, 2017
Date

8H110317.01

TAB 9

Certificate of Insurance

TAB 10

Addendum



Addendum #1 – Questions & Answers

(Issued Friday, September 07, 2018)

ITB 2018-11-UTL, Laboratory Testing Services

This addendum is issued to make the following change(s)/correction(s)/clarification(s) to:

Question 1: On page 29 of pricing, in the Secondary Contaminants section, the Fluoride is listed as 24 samples however all other analysis are listed as one sample. How often is this submitted?

Answer 1: We are required to collect two Fluoride samples a month from the distribution system.

Question 2: On page 30 of pricing, in Potable Water System Analysis - Physical Characteristics, there is one sample however the quantity of the composite/grab sampling charges is listed at 24. Is the sample being collected every hour for 24 hours?

Answer 2: This is just a request for a price in case we would like the lab to collect the samples.

Question 3: Page 44, Employee Background Verification Affidavit, does this pertain to only the personnel that would be onsite at the City of Cooper City such as the field team and couriers and would be upon reward of bid and not prior to?

ATTACHMENT K

EMPLOYEE BACKGROUND VERIFICATION AFFIDAVIT

I, _____ of _____, attest that all personnel used in
(Print Name) (Company Name)

the performance of this work have had a criminal background check with a passing grade and have been drug tested with a passing grade and are legally documented to work in the United States.

Answer 3:

Question 4: Page 44, Employee Background Verification Affidavit, does this form need to be included for the bid to be accepted and awarded?

Answer 4: Yes, please see page 24, item 6.

Question 5: For the analysis of Chlorine listed under Disinfectant residuals, this is a field test and has a holding time of 15 minutes. Will this be accepted to be reported out of hold if you would like it analyzed in the laboratory?

Answer 5: No, it will not be accepted to be reported out of hold, only if it's done in the field.

Question 6: Under Reagents and Supplies - Can you please provide the usage information, or description of application, for the Calcium Hardness Buffer and Total Hardness Buffer.


Answer 6: Calcium Hardness Buffer is used to test Calcium Hardness. Total Hardness Buffer is used to test Total Hardness.

All bids are due on Wednesday, September 12, 2018 at 3:00PM EST.

Acknowledgment of Addendum #1

*Bidders hereby acknowledges that he/she has received and understands the information contained in this Addendum. Bidders further acknowledges that this page **MUST** be signed and returned with its Bid, along with any revised Bid Forms, if applicable.*

Acknowledged by:



Print Name:

Neshmah Castaneda

Company:

Pace Analytical Services, LLC

Date:

09/07/2018

Vendor Compliance Check List



Vendor: Advanced Environmental Laboratories FEIN: 59-3274470	Does Vendor appear on the following:	
	YES	NO
Florida Convicted Vendor List	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Florida Suspended Contractors	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Scrutinized Companies	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Broward County Debarred List	<input type="checkbox"/>	<input checked="" type="checkbox"/>
State of Florida Corporations (Sun Biz)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
E-Verify	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Verified by: Purchasing	Date: Thursday, September 15, 2022	

Vendor Compliance Check List

[Florida Department of Management Services](#) > [Business Operations](#) > [State Purchasing](#) > [State Agency Resources](#) > [Vendor Registration and Vendor Lists](#) > Convicted Vendor List

Convicted Vendor List

The Department of Management Services maintains a "list of the names and addresses of those who have been disqualified from the public contracting and purchasing process" under [section 287.133, Florida Statutes](#).

There are currently no vendors on this list.

Suspended Vendor List

The Department of Management Services maintains a list of vendors that have been removed from the Vendor List "for failing to fulfill any of its duties specified in a contract with the State," in accordance with [section 287.1351, Florida Statutes](#).

Vendor Name/Address	Agency of Origin	Effective Date	Notice of Default
Building Maintenance of America, LLC d/b/a Florida Building Maintenance 333 North Falkenburg Road #A117 Tampa, FL 33619	DMS	07/02/14	Notice of Default - Building Maintenance of America, LLC d/b/a Florida Building Maintenance (📎 575.81 KB)
Club Tex, Inc. 2025 Broadway, Suite #15G New York, NY 10023	DOC	01/24/19	Notice of Default - Club Tex, Inc. (📎 111.75 KB)
Correctional Consultants, LLC P.O. Box 515 Chattahoochee, FL 32324	DOC	12/10/19	Notice of Default - Correctional Consultants, LLC (📎 85.95 KB)
iColor Printing and Mailing, Inc. 22873 Lockness Avenue Torrance, CA 90501	DEP	02/20/12	Notice of Default - iColor Printing and Mailing, Inc. (📎 320.17 KB)
Visual Image Design Firm, LLC 6845 Narcoossee Road, Suite 59 Orlando, FL 32822	DOH	06/25/15	Notice of Default - Visual Image Design Firm, LLC (📎 1.78 MB)

Updated 12/10/19

Vendor Compliance Check List

Sinopec Group Overseas Development 2012 Ltd	Sudan & Iran	China	March 7, 2018	Yes
Sinopec Kantons Holdings Ltd	Sudan & Iran	Bermuda	September 19, 2007	Yes
Sinopec Oilfield Equipment Corporation	Sudan & Iran	China	April 14, 2009	Yes
Sinopec Oilfield Service Corp	Sudan & Iran	China	March 25, 2008	Yes

August 23, 2022
Page 5

Prohibited Investments (Scrutinized Companies)	Scrutinized Country	Country of Incorporation	Initial Appearance on Scrutinized List	Full Divestment
Sinopec Shanghai Petrochemical	Sudan & Iran	China	September 19, 2007	Yes
Societe Metallurgique D'imiter	Sudan	Morocco	November 9, 2010	Yes
Territorial Generating Company No 1	Iran	Russia	June 4, 2019	Yes
# of Prohibited Investments	79	-	-	

Vendor Compliance Check List

Table 9: Scrutinized Companies that Boycott Israel

New companies on the list are shaded and in bold.

Scrutinized Company that Boycott Israel	Country of Incorporation	Date of Initial Scrutinized Classification
Betsah Invest SA	Luxembourg	August 2, 2016
Betsah SA	Luxembourg	August 2, 2016
Cactus SA	Luxembourg	August 2, 2016
Co-operative Group Limited	United Kingdom	September 26, 2017
Guloguz Dis Deposu Ticaret Ve Pazarlama Ltd	Turkey	August 2, 2016
Unilever PLC (Ben & Jerry's parent company)	United Kingdom	July 29, 2021
Hindustan Unilever Ltd	India	July 29, 2021
PT Unilever Indonesia Tbk	Indonesia	July 29, 2021
Unilever Bangladesh Ltd	Bangladesh	July 29, 2021
Unilever Capital Corp (Unilever PLC bond issuance)	United States	July 29, 2021
Unilever Caribbean Ltd	Trinidad and Tobago	July 29, 2021
Unilever Consumer Care Ltd	Bangladesh	July 29, 2021

Vendor Compliance Check List

Broward County Debarred Supplier List as of January 25, 2021

Listed below are suppliers [vendors] debarred by the Director of Purchasing for Broward County Board of County Commissioners, in accordance with Broward County Procurement Code, Section 21.119 and 21.120. The notice of debarment date is listed next to each supplier. In accordance with Section 21.121, after the debarment period, a debarred person [supplier] may only be reinstated upon submission of an application to the Director of Purchasing. If approved by the Director of Purchasing, the supplier will be removed from the debarment list for Broward County.

[Federal Debarred Supplier List](#)

[State of Florida Debarred Supplier Lists](#)

[State of Florida List of Scrutinized Companies doing business with Iran and Sudan](#)

The links below provide information regarding the debarred Supplier (e.g. Principal Owners & Debarment letter); the Sunbiz.org page also allows access to the Suppliers' company reports (click on "View Image in PDF format). This information is only available for Suppliers debarred from 2011 to current.

Below is a listing of all Broward County Debarred Suppliers and their debarment notice date.

A & C Contractors, Inc.	02/24/92	Fieldcrest International	10/23/91	Reddick Property Svcs/Broward Cty	02/21/95
A.J. McMasters	07/03/91	Florida Fire Apparatus Corp.	04/07/87	Reeves Equipment & Supply	06/29/04
A-1 Pied Piper Pest Control	10/25/99	FVL Contracting Co.	07/01/89	Richard Jones & Associates	05/12/95
Ace Lock and Security Supply	05/23/05	Gator Express	10/01/94	Roman Waterproofing	09/30/97
Action Trophies & Awards	05/26/92	George W. Murray Contractors	12/08/99	Rust Wizard Inc.	03/24/17
Agra-Cycle Corporation	11/06/01	Glo & Go Inc.	04/01/93	S H Marketing, Inc.	08/17/20
All County Plumbing Contractors, Inc.	07/08/20	Global Transmissions	09/10/92	S.T. Wicole Const. Corp.	05/06/91
All County Plumbing, Inc.	08/17/20	Globe Electric Company, Inc.	12/10/03	Saber Sales, Inc.	11/08/88
Alpha Construction Svcs & Consulting Svcs.	08/11/20	Graphic Productions Co.	02/27/90	Saints-Enterprises II, LLC	12/15/20
Ammunition Reloaders	05/22/92	HDC Advertising, Inc.	05/06/03	Samantha L. List, P.A.	08/11/20
Ann Lipkowitz, Broker	08/21/92	Hegla Construction, Inc.	08/20/92	Screen Graphics	09/01/92
Atech Fire & Security, Inc.	10/10/03	Henze Services, Inc.	08/19/93	Semes Enterprises	01/03/92
Atlas Pen & Pencil Co.	12/26/90	H-Way Corporation	10/25/99	Shamus Corporation	06/29/04
Ben Kough & Associates	01/10/96	Infinite Distributors LLC	09/30/20	Sheerson Construction, Inc.	05/17/00
Bob's Towing	06/09/04	Intercoastal Marketing, LLC	12/15/20	Shiv Lingam Kirtan Mandali Inc.	08/06/20
BRC Construction Company, Inc.	12/14/05	J M List Services, LLC	08/11/20	SLL Consulting LLC	08/11/20
Broward Plumbing Specialists, Inc.	08/17/20	JIM List Services, LLC	08/11/20	Southeast Underground Utilities Corp.	12/12/17
Caribbean Air Surveys, Inc.	03/01/91	JM List, Incorporated	08/11/20	Southgate Const. & Realty	11/07/90
Central Florida Nurseries	08/16/91	John Rogers Corporation Company, Inc.	11/13/90	Spectrum Signal Co., Inc.	03/04/91
Central Press	04/17/95	Joyce Office ProductsKDG	01/05/94	Spirit Services Company, Inc.	12/13/00
Chemtel Supplies, Inc.	11/21/05	Land & Sea Construction	03/18/96	St. Andrew Industries, Inc.	06/16/95
Progressive Transportation Services, Inc.	01/15/92	Lawn Wizard USA, Inc.	09/29/15	Statewide Transportation & Recovery Services	11/02/00
(d/b/a Coach USA Transit Services)		Lawn Wizard USA, LLC	03/24/17	Termark Security Systems	06/03/99
Coastal Carting Ltd.	03/16/96	Mancini Builders	01/04/94	The Parts Connection	06/30/92
Coastal Industries USA, LLC	03/24/17	Marquee Enterprises, Inc.	06/08/07	Toilet Taxi Corp.	07/07/15
(d/b/a Rust Wizard)		Marsten/THG Modular Leasing	12/13/95	Total Connection	04/30/92
Coastal Utilities, Inc.	03/05/99	Major Computer, Inc.	10/28/91	Toussaint Landscaping	11/04/92
Compass Corp.	06/29/04	Med Sure Associates	05/05/97	Transglobal Marketing	12/28/92
Control Press	06/29/04	Moody Maintenance Products	04/06/06	Tropical Growers USA, Inc.	03/24/17
Cordes Door Co., Inc.	09/01/96	Nighthawk International Corp.	10/25/96	Truck City Body Corp.	12/01/96
Cox & Palmer Const. Corp.	03/14/89	OJS Systems, Inc.	12/22/14	Urban Organization, Inc.	03/05/99
Custom Design To A Tee	05/15/96	Omega Group, Inc.	10/30/97	Vees Supply, LLC	08/17/20
Degen's Lawn & Garden Inc.	11/04/11	Precision Detailing dba J M List Services	08/11/20	Venturi Supplies, Inc.	08/17/20
Digital Comm Inc.	05/16/11	Protective Service Int'l	03/01/91	VIMAC USA, Inc.	05/31/17
Dixie Lock & Supply Inc.	02/17/92	Public Safety Systems	03/04/91	Viravar, LLC	08/17/20
Eastern Elevator Service, Inc.	02/13/19	Puskadi Ltd.	11/07/90	Weiser Security Services	12/09/93
Federal Fence Co., Inc.	11/12/90	Quality Loan Service	03/07/91	Wildcat Wrecking Corp.	09/10/92

Employer	Doing Business As	Account Status	Date Enrolled	Date Terminated	Workforce Size	Number of Hiring Sites	Hiring Site Locations (by state)
Advanced Environmental Laboratories		Open	05/12/2021		100 to 499	1	FL
Advanced Environmental Laboratories, Inc.		Open	05/17/2017		100 to 499	7	FL

Vendor Compliance
Check List

2022 FLORIDA PROFIT CORPORATION ANNUAL REPORT

DOCUMENT# P94000072353

Entity Name: ADVANCED ENVIRONMENTAL LABORATORIES, INC.

Current Principal Place of Business:

6681 SOUTHPOINT PKWY
JACKSONVILLE, FL 32216

Current Mailing Address:

6681 SOUTHPOINT PKWY
JACKSONVILLE, FL 32216 US

FEI Number: 59-3274470

Certificate of Status Desired: No

Name and Address of Current Registered Agent:

GED, CHARLES M
6681 SOUTHPOINT PKWY
JACKSONVILLE, FL 32216 US

The above named entity submits this statement for the purpose of changing its registered office or registered agent, or both, in the State of Florida.

SIGNATURE:

Electronic Signature of Registered Agent

Date

Officer/Director Detail :

Title P
Name GED, CHARLES M
Address 6681 SOUTHPOINT PARKWAY
City-State-Zip: JACKSONVILLE FL 32216

Title VP
Name GED, JENNIFER L
Address 6681 SOUTHPOINT PARKWAY
City-State-Zip: JACKSONVILLE FL 32216

I hereby certify that the information indicated on this report or supplemental report is true and accurate and that my electronic signature shall have the same legal effect as if made under oath; that I am an officer or director of the corporation or the receiver or trustee empowered to execute this report as required by Chapter 607, Florida Statutes; and that my name appears above, or on an attachment with all other like empowered.

SIGNATURE: CHARLES GED

PRESIDENT

04/27/2022