FLORIDA DEPARTMENT OF Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Ron DeSantis
Governor

Jeanette Nuñez
Lt. Governor

Noah Valenstein
Secretary

VIA EMAIL
Read receipt requested

January 28, 2020

Katie Strothman
Sanders Laboratories, Inc.
10090 Bavaria Rd
Ft Myers, FL 33913
Email: katie@asanderslab.net

Re: Final Audit Report for Microbiology Lab Records and Systems Audit

Dear Ms. Strothman:

Thank you for responding to the preliminary audit report for the Microbiology Lab Records and Systems Audit of the Sanders Laboratories. The Florida Department of Environmental Protection (department or DEP) has reviewed your response and accepted the proposed corrective actions.

Attached is the final audit report detailing the audit procedure, audit findings, and the department's audit conclusions. This final audit report will also be posted on the department's website at http://www.dep.state.fl.us/labs/cgi-bin/reports/search.asp. As noted in the report, the department concludes that the laboratory procedures and laboratory documentation used by Sanders generally conform with Quality Control (QC) criteria required by the approved methods, NELAC 2003 standards, Chapter 62-160, Florida Administrative Code (F.A.C.), and/or requirements outlined in purchase orders B03E0F, B10758, and B3328A. There were no critical findings that involved the sample analysis in the laboratory. There was, however, one critical finding related to the high percentage of reports that had to be reissued due to errors in the transcription of bench data to LIMS, reports, and EDD files. Due to the nature of these errors, the auditors do not recommend any restrictions on use of the data evaluated in this audit for impaired waters determinations. However, data analyzed during the date range evaluated under this audit and data affected by the problems identified in the audit may be considered by DEP as estimated values for certain uses of the data. DEP will verify the implementation of corrective actions with future requests for QC documentation.

Under Chapter 120 of the Florida Statutes, Sanders Laboratories, and any other person whose substantial interests are affected by the department's agency action, may challenge the attached final audit report, including the corrective actions and the data usability analysis. The process to challenge any portion of this agency action is described below in the Notice of Rights section.

If you have any questions or concerns about this final audit report, please feel free to contact Nia Wellendorf at (850) 245-8190 or Kristen Sapp at (850) 245-8686.

Notice of Rights

This action is final and effective on the date mailed (via e-mail) unless a sufficient petition for an administrative hearing is timely filed under sections 120.569 and 120.57 of the Florida Statutes as provided below. If a sufficient petition for an administrative hearing is timely filed, this agency action becomes only proposed agency action, subject to the result of the administrative review process. Therefore, on the filing of a timely and sufficient petition, this action will not be final and effective until further order of the department. Because an administrative hearing may result in the reversal or substantial modification of this action, the petitioner is advised not to proceed until the deadlines noted below for filing a petition for an administrative hearing or request for an extension of time have expired.

Petition for Administrative Hearing

A person whose substantial interests are affected by the Department's action may petition for an administrative proceeding (hearing) under Sections 120.569 and 120.57, F.S. Pursuant to Rules 28-106.201 and 28-106.301, F.A.C., a petition for an administrative hearing must contain the following information:

(a) The name and address of each agency affected and each agency's file or identification number, if known;
(b) The name, address, any e-mail address, any facsimile number, and telephone number of the petitioner, if the petitioner is not represented by an attorney or a qualified representative; the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination;;
(c) A statement of when and how the petitioner received notice of the agency decision;
(d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate;
(e) A concise statement of the ultimate facts alleged, including the specific facts that the petitioner contends warrant reversal or modification of the agency's proposed action;
(f) A statement of the specific rules or statutes that the petitioner contends require reversal or modification of the agency's proposed action, including an explanation of how the alleged facts relate to the specific rules or statutes; and
(g) A statement of the relief sought by the petitioner, stating precisely the action that the petitioner wishes the agency to take with respect to the agency's proposed action.

The petition must be filed (received by the Clerk) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, or via electronic correspondence at Agency_Clerk@dep.state.fl.us. Also, a copy of the petition shall be mailed to Sanders at the address indicated above at the time of filing.

Time Period for Filing a Petition

In accordance with Rule 62-110.106(3), F.A.C., petitions for an administrative hearing by the applicant and persons entitled to written notice under Section 120.60(3), F.S., must be filed

within 21 days of receipt of this written notice. Petitions filed by any persons other than the applicant, and other than those entitled to written notice under Section 120.60(3), F.S., must be filed within 21 days of publication of the notice or within 21 days of receipt of the written notice, whichever occurs first. The failure to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57, F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention (in a proceeding initiated by another party) will be only at the discretion of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205, F.A.C.

Extension of Time

Under Rule 62-110.106(4), F.A.C., a person whose substantial interests are affected by the Department's action may also request an extension of time to file a petition for an administrative hearing. The Department may, for good cause shown, grant the request for an extension of time. Requests for extension of time must be filed with the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, or via electronic correspondence at Agency_Clerk@dep.state.fl.us, before the deadline for filing a petition for an administrative hearing. A timely request for extension of time shall toll the running of the time period for filing a petition until the request is acted upon.

Mediation

Mediation is not available in this proceeding.

This determination constitutes an order of the department. Subject to the provisions of paragraph 120.68(7)(a) of the Florida Statutes, which may require a remand for an administrative hearing, the applicant has the right to seek judicial review of the order under section 120.68 of the Florida Statutes, by the filing of a notice of appeal under rule 9.110 of the Florida Rules of Appellate Procedure with the Clerk of the Department in the Office of General Counsel, 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida, 32399-3000, or via electronic correspondence at Agency_Clerk@dep.state.fl.us; and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate district court of appeal. The notice of appeal must be filed within 30 days from the date when the final order is filed with the Clerk of the Department.

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

David Whiting, Deputy Director
Division of Environmental Assessment and Restoration
2600 Blair Stone Road
Tallahassee, FL 32399
Tel No.: (850) 245-8191

Attachments:
Final Audit Report

Copies furnished to:

Kenneth Hayman, DEP Office of General Counsel
Cheryl Swanson, DEP Biology Program
File

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this determination, including all copies, was e-mailed before the close of business on January 28, 2020, to the above listed persons.

FILING AND ACKNOWLEDGMENT

FILED, on this date, pursuant to 120.52(7)
Florida Statutes, with the designated Department Clerk,
receipt of which is hereby acknowledged.

Ashley Phillipo 1/28/2020
Clerk Date

Final Audit Report
Sanders Laboratories, Inc., South
(DOH #E85457)
Microbiology Lab Records & Quality System Audit
Conducted December 2018 and June 17, 2019

Division of Environmental Assessment and Restoration
Florida Department of Environmental Protection
January 28, 2020

Introduction

The Florida Department of Environmental Protection's (DEP or department) Aquatic Ecology and Quality Assurance Section (AEQAS) and Biology Program conducted an audit of Sanders Laboratories, Inc., South (Sanders) as part of a routine review of laboratories holding contracts or purchase orders with DEP for microbiological analyses. This audit consisted of two parts, an initial records-only audit and an in-person laboratory systems audit. DEP staff conducted the audit in accordance with Rules 62-160.650 and 62-160.670, Florida Administrative Code (F.A.C.), to verify that Sanders is complying with the Quality Assurance requirements of the purchase orders (PO) B03E0F, B10758, and B3328A, and correctly implementing approved analytical methods, including acceptable quality control, and maintaining adequate laboratory documentation.

This final audit report lists the procedural and documentary deficiencies as determined by the department auditors, responses from the audited party, and the department's response to the corrective actions proposed by the laboratory.

Audit Description

DEP staff requested analytical and quality control records for ten samples analyzed for fecal coliform, enterococci and *Escherichia coli* (*E. coli*) under contract during 2017 (Table 1). Records were requested on November 20, 2018 and received on December 11, 2018. A team of staff from AEQAS reviewed the records, which included custody chains, laboratory check-in logs, analytical runs, laboratory reports, and Quality Assurance (QA) and Quality Control (QC) documentation.

AEQAS staff Kristen Sapp and Jennifer Claypool, along with Edwin Gonzalez-Soto from Biology, followed up on June 17, 2019, with an in-person systems audit of the Sanders Laboratory facilities and procedures pertaining to the microbiological analyses purchased by DEP. DEP staff requested analytical and quality control records for an additional nine samples analyzed for fecal coliform, enterococci, and *E. coli* in 2018 and 2019 (Table 2). Katie Strothman, Laboratory Director for Sanders, and Nathaly Santana, the microbiologist for Sanders, were present during the audit. The systems audit included verification of laboratory procedures through review of laboratory analytical and QC records for the microbiological tests, the laboratory Quality Manual and Standard Operating Procedures (SOPs), interviews with laboratory staff, and direct observation. The requirements of POs B03E0F, B10758, and B3328A, the 2003 National Environmental Laboratory Accreditation Conference (NELAC) standards, Chapter 62-160, F.A.C., and the relevant methods (Tables 1 and 2) provided the criteria for the audit and all findings.

Preliminary Audit Report and Implementation of Corrective Actions

A preliminary audit report of findings and deficiencies, along with the department's required or recommended corrective actions, was sent to Katie Strothman of Sanders Laboratories, Inc. on September 12, 2019. Ms. Strothman responded on October 28, 2019 with proposed corrective

actions for the noted deficiencies. The AEQAS auditors reviewed and accepted the proposed corrective actions and provided some additional responses. Tables 3 and 4 contain all findings, recommended or required corrective actions, the laboratory's response, and AEQAS final comments. Two responses to the preliminary report required further clarification from the laboratory, and those were received on January 2, 2020 following a brief teleconference to discuss the lab's responses. All corrective actions are acceptable and have been implemented.

Audit Conclusions

Based on the findings for the records audit and in-person systems audit, DEP has determined that Sanders has met most QC criteria required by the approved methods, NELAC 2003 and TNI 2016 standards, and/or DEP contract requirements. There were no critical findings that involved the sample analysis in the laboratory. There was, however, one critical finding related to the high percentage of reports that had to be reissued due to errors in the transcription of bench data to LIMS, reports, and EDD files (see Table 4, Finding 2). These errors were typically minor (e.g., misspelled field IDs) but some (e.g., missing Q qualifiers) could impact use of data by some users. There is no way to know what additional errors were made but not detected. DEP auditors identified other QC deficiencies, as outlined in the findings tables.

The laboratory's implementation of corrective actions described in this report will lead to an improved quality system. DEP made additional suggestions for improvements in lab procedures for findings 3 and 11 in Table 3, as noted. DEP will verify the implementation of corrective actions with future requests for QC documentation. Due to the data handling finding that was deemed critical by DEP auditors, data analyzed during the date range evaluated under this audit and data affected by the problems identified in the audit may be considered by DEP as estimated values for certain uses of the data. Auditors do not recommend any restrictions on use of the data evaluated in this audit for impaired waters determinations, based on the specific nature of the reporting errors.

NOTE: The audit evaluated the indicated data for the use(s) described in this report. The usability of the audited data for other purposes or the usability of data produced by the audited organization for other analytes or other date ranges must be determined separately according to applicable requirements in rule 62-160.670, F.A.C.

Table 1. List of audited samples for the records audit of Sanders, conducted by DEP, December 2018.

Laboratory ID	Collection Date	Analyte	Method
1710382-003	10/11/2017	*Enterococci*	Enterolert
1707646-003	7/20/2017	*Enterococci*	Enterolert

1711599-001	11/20/2017	*E. coli*	SM 9223B/Colilert
1708238-005	8/7/2017	*E. coli*	SM 9223B/Colilert
1709534-001	9/26/2017	*E. coli*	SM 9223B/Colilert
1710677-001	10/18/2017	*E. coli*	SM 9223B/Colilert
1711165-029	11/6/2017	Fecal coliform	SM 9222D
1708237-006	8/7/2017	Fecal coliform	SM 9222D
1707224-034	7/10/2017	Fecal coliform	SM 9222D
1709049-015	9/5/2017	Fecal coliform	SM 9222D

Table 2. List of audited samples for the records requested for the in-person audit June 17, 2019.

Laboratory ID	Collection Date	Analyte	Method
1811140-020	11/05/2018	*Enterococci*	Enterolert
1802463-003	2/15/2018	*Enterococci*	Enterolert
1904050-036	4/1/2019	*Enterococci*	Enterolert
1802324-001	2/12/2018	*E. coli*	SM 9223B/Colilert
1903343-001	3/11/2019	*E. coli*	SM 9223B/Colilert
1810679-002	10/17/2018	*E. coli*	SM 9223B/Colilert
1801038-031	1/2/2018	Fecal coliform	SM 9222D
1808180-030	8/6/2018	Fecal coliform	SM 9222D
1805203-036	5/7/2018	Fecal coliform	SM 9222D

Table 3. Audit findings for the combined lab records audits of Sanders laboratory, conducted by DEP December 2018 and June 17, 2019.

Finding	Analyte	Requirement Reference	Samples affected	Finding	Required or Recommended corrective action	Laboratory Response	Corrective Action date	AEQAS response
1	All	Guidance Document page 1; NELAC 5.4.12.1.5, 5.4.12.2.1 and 5.4.12.2.5.3; SM9020B	All	The times associated with critical steps in the methods require interpretation to reconstruct. The convention for recording these times is unclear to outside observers and prone to errors. Each run has a single "analysis time" that is recorded on the benchsheet in the same row as each sample ID. This time is when sample pouring begins, according to the lab. The actual times that samples are placed in the incubator are noted in a different section of the bench sheet than where the samples are listed. Times sometimes overlap on the same sample, leading to guessing as to when the sample was actually placed in the incubator. Outside parties are required to infer the details when reviewing records, instead of having a readily understood and unequivocal record that would be interpreted the same no matter who reviewed it, and without explanation from the lab.	**Required**: Edit bench sheets to clearly display all information needed to independently reconstruct analyses. Each sample ID should have a clearly identified time in and out of incubator.	Benches will have column added for incubation time	11/7/2019	Acceptable
2	Fecal coliform	NELAC 5.4.12.2, 5.5.4.7; SM9020B	All	The bench sheets are not locked for editing and different analysts add columns to the end or use existing columns for other purposes. An example is 1709049-015, where the client name column was used to record what looks like dilutions and colony counts. Another sample (1801038-031) had a column named “Dilution” that had several numbers separated by commas and colons that appeared to be a list of different dilution volumes and associated colony counts. For this sample the numbers were (100: 0, 10: 0, 2: 5). This system is not an unequivocal record and is subject to	**Required:** Clearly and unequivocally record sample dilutions and colony counts for each sample ID. Each piece of information should be labelled separately, and benchsheet templates should be locked so that the structure cannot be changed by an analyst. Do not enter	3 Columns will be added for raw colony DF counts.	Will be finalized 12/1/2019	Acceptable

				interpretation and prone to transcription and reporting errors.	data in columns with an incorrect heading.			
3	Fecal coliform	Guidance Document pages 4 and 5. NELAC 5.5.4.7.1; SM9020B	1711165-029	There were no colony counts within the acceptable range for the audited sample. Result is not reported with a B qualifier.	**Required**: Amend the report to include the appropriate qualifier. Ensure procedures are in place to review results for quality control.	This report was revised and sent to client on 12/21/2017 at 16:44 as well as prior to this audit and directly to auditor on 2/27/2019 at 10:52. I will attach.	Completed 12/21/2017	Acceptable. Amended reports need to be clearly labeled, explaining the change and reasoning behind it, and must reference the earlier versions. The date on amended reports must be current (not the same as original report)
4	Fecal coliform	SM9020B; NELAC 5.4.12.2.5.2 h); 5.4.12.1.5 f); 5.4.12.2.3	1711165-029	The date out of the incubator recorded on the benchsheet is not correct and makes the sample appear to be analyzed out of hold time. The time was reported correctly, but no corrections were made to the bench sheet.	**Required**: Review associated records to ensure correct dates are recorded in the permanent records. Errors that have been corrected need to be permanently recorded on the original record and be initialed and dated.	Benches cannot be altered once uploaded at all. Note is on comment section of the run screen.	Completed comments on analytical on date of audit 6/17/2019	Acceptable
5	Fecal coliform	NELAC 5.4.12.1.2 and 5.4.12.1.5.e)	1709049-015	Handwriting is illegible for the tenths decimal place on one of the temperature readings while the audited sample is incubated.	**Required:** Ensure all records are legible.	Staff will be informed to write neater	11/1/2019	Acceptable

6	Fecal coliform	Guidance Document page 5	1709049 -015	The batch containing this sample had 22 samples between blanks.	**Required:** Run a filter blank every ten samples.	Staff will be notified that blanks have to be ran at proper interval even if they have enough for run whole it is every 10- only one tech for only one run was shown to have this issue and she is no longer with us. Meaning 3 blanks for 20 samples it still not ok if not every 10 samples.	11/1/2019	Acceptable
7	Fecal coliform	SM9020B; NELAC 5.4.12.2.5.3; 5.5.4.7.1;5.4.12.1.5	1707224 -034	For confirmed phase, the Excel bench sheet is missing a time for incubation start time. Auditors cannot tell if 24-hour incubation requirement was met due to missing time.	**Required**: Record all relevant information associated with QC samples and results. Ensure procedures are in place to review results for quality control.	Date will be separated from time on bench to easier spot missing information	11/07/2019	Acceptable
8	Enterococci	Guidance document page 2; Enterolert procedural notes	1707646 -003, 1710382 -003, 1802469 -003	Marine samples are not always diluted as required by the method. Sample 1707646-003 was not diluted and did not have a qualifier, samples 1710382-003 and 1802463-003 were not diluted and were qualified with a J. All three of these samples were marked "S" for salt on the chain of custody, but no code explanations were given. The lab created a Corrective Action Report for this item on 4/9/18 stating they would clearly identify matrix. Samples analyzed after this date were not reviewed by auditors, however, the lab stated if the matrix is unknown the sample is run undiluted. The lab stated they do not check the conductivity.	**Required:** Matrix must be known prior to analysis because of the potential for interference. Develop a procedure to ensure that matrix is identified prior to analysis.	That is sampler responsibility. We could not check conductivity with current sample volume provided and if we did it would be an additional fee to client. The client must dictate matrix and train their staff appropriately. As there is no way for lab to know where client collected sample and what matrix it is. Particularly since this client uses number schemes to identify locations. Talking to current PM (Kara Sprague) for this lab	Completed 6/21/2019	Acceptable

						contract she stated they would like any sample not clearly identified by their staff to be ran at 1/10 henceforth we have implemented that and it was added to quote 376.		
9	Enterococci, *E. coli*	Guidance document page 6; NELAC D.3.8 b)3)iii) and D.3.8 b)7); SM 9020	All	Mixing vessels are marked with a permanent marker for 100mLs. There are no records for the volume check on these bottles and the corresponding marks. Dilutions are done with a plastic graduated cylinder (the lab states it is Class A). The SOPs for these tests do not have instructions for verifying the volume of the mixing vessels.	**Required:** Verify the volume of mixing vessels with a glass Class A graduated cylinder and record verifications to retain with analysis records. Provide certification that the plastic graduated cylinders are Class A. Add instructions for verifying the volume of the mixing vessels to the relevant SOPs.	Class A certificate for our certified PMP Class A cylinder is attached. SOP is attached and has been in effect since 7/11/13	11/1/2019	Acceptable. Add to SOP for this specific method and keep documentation.
10	Enterococci, *E. Coli*	Guidance document page 5, 6; NELAC 5.4.4	All	Method blanks are run at the beginning of an analytical batch instead of at the end as instructed in the DEP contract requirements.	**Required:** Instruct analyst to run blanks at the end of the sequence.	Current DEP contract that was provided to us does not state blanks to be at end. Please provide new guidance sheet with new requirements. Staff will be trained to run at close run	11/1/2019	Acceptable. DEP staff provided the lab with the updated Guidance Document for micro contract labs.
11	*E. coli*	NELAC 5.5.4.7.1; SM9020B	1708238 -005	The reported result 579 is incorrect. The correct result from the MPN table for the well counts recorded on the Excel bench sheet is 547.5 (reported result is from next column on the table).	**Required:** Ensure adequate QC procedures are in place to catch mistakes and correct them before reporting data.	Only 10% calculations need to be verified and it was not one picked for review so it was missed. I will again speak to staff but human error does	11/1/2019	Acceptable. We acknowledge error does occur but using the

					Recommended: Use the electronic MPN generator provided free by manufacturer.	occur on occasion. The idea is the quality system, training, audits, guides and procedures reduce these impacts. Not sure I could give adequate response to fix other than to go over with staff to be more careful. I have taken at least 6 courses in regards to reducing human error and have yet to find any company or training to be successful in 0% error. Though I have implemented lots things such as multi person data verification for analytical runs, LEAN work flow guides, incremental training and goals, observational auditing etc. All in section 27 Quality Manual		electronic MPN generator would have prevented this one. It is up to the lab to determine what level of risk they want to accept.
12	*E. coli*	SM9020B, Colilert Quality Control Procedures 1. B.	All	IDEXX trays were not analyzed with a second positive control (*K. Pneumoniae*) prior to 2019. Lab stated this was a DOH finding and corrected on 9/14/18.	**Required:** Provide a copy of the corrective action report.	This was provided to onsite auditors before the visit and also shown onsite as well as latest lots shown as complete. Email date to auditor: 2/28/2019 at 14:20	Completed 9/14/2018	Acceptable

Table 4. Audit findings for the Systems audit of Sanders laboratory, conducted by DEP, June 17, 2019

Finding #	Analyte	Requirement reference	Finding	Required or Recommended corrective action	Laboratory Response	Corrective Action date	AEQAS response
1	All	SM9020B	An auditor observed the analyst placing samples into the incubator and recording the temperature on the bench sheet from the temperature log. Therefore, the temperature recorded as "temperature in" could be from several hours before the samples were placed in the incubator. This finding was also listed on an assessment report, dated 10/18/16, obtained from DOH.	**Required**: If "temperature in" is recorded on the bench sheet, record the temperature of the incubator as it reads just prior to placing the samples in it, not from the instrument temperature check log.	Incubation temp should be at time placed in as SOP states. Analyst has been corrected.	Date of audit 6/17/2019	Acceptable
2	All	NELAC 5.5.4.7.1; SM9020B	The lab director enters all data not captured in LIMS from the bench sheets by hand. There is no procedure in place to QC the data entry. A brief review of records since June 2018 showed that DEP requested corrections to 30% of the reports or EDD files received from Sanders.	**Required**: Establish a procedure for QC that includes a secondary check of data entry, preferably done by a person other than the one entering data.	I have 206 reports for DEP with 36 revisions-which is 17% needing corrections for miscellaneous reasons including sometimes illegibility of site names on COC causing typos, lack of B's or using Z when J were needed per contract etc. Solely transcription errors on EDD based errors effected 9 total reports. That is 4 % error rate. We only have 3 person staff as small lab and in small labs it is allowable for one person to perform review, QA and generate reports. Prior to 2018 I used to type this entire format by hand now it is just incubation time and times and dates out. All data verification is performed per our procedure in quality manual section 27. Will retrain validators on section 27 and also lab director will hold EDD after putting in data and wait to send to client until a second recheck by director can be performed. Meaning it will be checked twice before sending out with some time in between reviews.	1/2/2020	Acceptable

References

APHA-AWWA-WEF. 2015. Standard Methods for the Examination of Water and Wastewater, Part 9000, Microbiological Examination, Section 9020, Quality Assurance.

APHA-AWWA-WEF. 2016. Standard Methods for the Examination of Water and Wastewater, Part 9000, Microbiological Examination, Section 9223, Membrane Filter Technique for Members of The Coliform Group.

APHA-AWWA-WEF. 2016. Standard Methods for the Examination of Water and Wastewater, Part 9000, Microbiological Examination, Section 9222, Enzyme Substrate Coliform Test

Florida Department of Environmental Protection (DEP). Request for Proposals Contractual Services, Microbiological Overflow Services, Solicitation Number 2017004C, Agency Release Date July 29th, 2016.

Florida Department of Environmental Protection (DEP). Guidance for Microbiological Data Reported to DEP (attached to purchase order), Version 060117.

IDEXX. 2018. Enterolert Test Kit, 06-02150-14.

IDEXX. 2017. Colilert-18 Test Kit, 06-02027-24.

National Environmental Laboratory Accreditation Conference (NELAC). 2003 NELAC Standard, EPA/600/R-04/003, Volume 1, Module 5, Quality Systems, Approved June 5th, 2003.

The NELAC Institute. 2016 TNI Standard, EL-V1-ISO-2016-Rev2.0, Volume 1, Module 5, Quality Systems for Microbiological Testing, Approved August 1, 2016.