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COMMONWEALTH of VIRGINIA

Department of General Services

Division of Consolidated Laboratory Services

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02/25/2019

Jason Freischlag
LJT & Associates, Inc.
34200 Fulton Street, Bldg. F160
NASA WFF
Wallops Island VA23337

VELAP ID: 460031

Dear Jason Freischlag:

Enclosed is a report of the environmental laboratory on-site assessment of LJT & Associates, Inc. conducted 02/05/2019 through 02/07/2019. The assessment was conducted in accordance with the provisions of 1VAC30-46 and The NELAC Institute (TNI) 2009 Standard.

This report addresses findings and recommendations noted during the on-site assessment process. All items identified as findings require a response in the form of a corrective action plan. Items noted as recommendations do not require a response from the laboratory.

The laboratory must submit a corrective action plan to the Virginia Environmental Laboratory Accreditation Program (VELAP) office by 03/27/2019. The corrective action plan must address each numbered finding from this On-site Assessment Report, and give a description of the laboratory's plan to provide a corrective action for each finding, including the time period required to complete the corrective action.

The lead assessor, Ila Meyer-Fritzsche, can be reached at (804) 648-4480 x306 or ila.meyer-fritzsche@dgs.virginia.gov should you have any further questions.

Sincerely yours,

Cathy Westerman
Manager, Laboratory Certification Program

Enclosures
cc: Marianne Simko

Laboratory Name and Address:
LJT & Associates, Inc.
34200 Fulton Street, Bldg. F160
NASA WFF
Wallops Island, VA 23337

VELAP ID: 460031

On-site Assessment Dates: 02/05/2019 to 02/07/2019

DCLS Participants:
Ila Meyer-Fritzsche

LJT & Associates, Inc. Participants:
Marianne Simko, Jason Freischlag, Mark Culver, Brian Cornwell, Marga Morris, T J Meyer, Thera Lombardi, R Owen Hooks, Michael Izzo

See accompanying Facility Capabilities Report for analytes and test methods assessed.

Summary:

The Virginia Environmental Laboratory Accreditation Program (VELAP) conducted a laboratory assessment per 1VAC30-46 to evaluate LJT & Associates, Inc. in Wallops Island, Virginia. The areas assessed included quality systems, sample receiving, and the parameters listed on the enclosed Facility Capabilities Report.

The on-site assessment conducted by VELAP includes only a subset of the analytical work conducted by the facility. Omission of any additional non-conformances in this report does not imply compliance as a result of such omissions. VELAP encourages you to evaluate your laboratory routinely against the quality assurance and quality control requirements of the 2009 TNI Standard to ensure continual compliance with all aspects of the Standard throughout all aspects of the laboratory's quality system. This practice will help ensure that quality data are consistently produced by your facility.

Findings
Findings described in this report require a response from the laboratory in the form of a Corrective Action to bring the laboratory into compliance with the cited regulation or standard. A Corrective Action is an action taken to eliminate the cause(s) of a nonconformance in order to prevent recurrence. If the observation made during the assessment indicates nonconformance with more than one aspect of the regulation or standard, the observation is expressed as "Issue 1", "Issue 2", etc. All "Issues" must be individually addressed in the Corrective Action Plan (CAP).

Recommendations
Recommendations may be included in this report because VELAP believes these ideas for improvement will strengthen the laboratory's quality system. The laboratory is encouraged to make improvements to its quality system consistent with the recommendations.

Laboratory Responsibility
The laboratory must respond to each finding in this On-Site Assessment Report in the form of a Corrective Action Plan (CAP) within 30 days of receipt of this report (1VAC30-46-220 L 2; 2009 TNI V2M3 6.12.4). The CAP should provide specific information on how the laboratory will correct and prevent recurrence of each finding and specify a deadline for the corrective action to take place (1VAC30-46-220 L 3 c; 2009 TNI V2M3 6.12.3). VELAP has provided Form 6984 as a tool for the laboratory's response. The form and an example of its use are located on the VELAP web page at www.dgs.virginia.gov/dcls. If the laboratory feels the finding is incorrect, then a response that shows the laboratory was in compliance with the requirement may be included with the CAP. If VELAP agrees that the laboratory has demonstrated compliance with the regulation, standard, or method, no corrective action will be required.

VELAP expects the laboratory to begin implementation of corrective actions to bring the laboratory into compliance immediately upon receipt of this report and to complete corrective actions within 90 days of the receipt of this report. The laboratory must provide justification for a request for an extension of this timeline.

VELAP may request to receive documentation of implemented corrective actions at the completion date specified in the laboratory's CAP (1VAC30-46-220 L 6; 2009 TNI V2M3 6.12.7; 1VAC30-46-100 B 6). This request, if made, will be

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communicated to the laboratory after review of the submitted corrective action plan. Note that a finding reflects an observation of noncompliance with a regulation, standard, or method made during a small sampling of time or data review. The laboratory is responsible for ensuring that the finding will be addressed globally throughout its quality system (i.e., all methods, all records, all training files, all SOPs, etc.) and not just in the instance(s) observed by the assessor. Implementing corrective actions globally improves the overall quality system of the laboratory and reduces likelihood of repeat or related findings at future on site assessments.

This report contains repeat findings from a previous on-site assessment. The laboratory's CAP must clearly indicate how the repeat findings will be addressed such that compliance to the regulation will be maintained. Repeat findings are indicative of a failure to maintain or implement corrective action.

Summary of Findings:

QUALITY SYSTEM

Checklist ID	2009 TNI	DOCUMENT CONTROL
1285	V1M2 4.3.2.2.b	The document control procedure(s) adopted shall ensure that documents are periodically reviewed and, where necessary, revised to ensure continuing suitability and compliance with applicable requirements. **Observation: Appendix 1 of the laboratory Quality Assurance Manual Rev. 9 effective 11/8/2018 states, "The LJT & Associates Inc. VELAP Quality Manual and its supporting documents are reviewed annually by management and staff to ensure that they reflect current laboratory practices, and are in agreement with current regulations." At the time of the assessment, the laboratory could not provide documentation demonstrating the annual review of the Quality Manual. The signature logs for the Quality Manual and documentation review provided at the time of the assessment were dated 04-07-2017 and 02-04-2019.**

Checklist ID	2009 TNI	SERVICE TO CLIENT
1317	V1M2 4.7.2	The laboratory shall seek feedback, both positive and negative, from its customers. **Observation: The laboratory did not demonstrate that it sought feedback, both positive and negative, from its customers.** **NOTE: Section 4.7.2 of V1M2 of the 2009 TNI Standard states, "The feedback shall be used and analyzed to improve the management system, testing and calibration activities and customer service."**

Checklist ID	2009 TNI	CORRECTIVE ACTION
1335	V1M2 4.11.4	The laboratory shall monitor the results [of implemented corrective actions] to ensure that the corrective actions taken have been effective. **Observation: At the time of the assessment, the laboratory's corrective action process for not acceptable proficiency test scores did not always document monitoring to ensure effectiveness of the implemented corrective action(s). For example, the laboratory's Corrective Action Form used for Oil and Grease by EPA 1664 A PT Study WP-245 dated 05/29/2018 did not include documentation that the corrective action was monitored for effectiveness.** **NOTE: The Corrective Action form also included "Proposed Implementation Dates" for June 2018 through July 2018 which contained no information under "Date Completed."**

Checklist ID	2009 TNI	CONTROL OF RECORDS
1350	V1M2 4.13.2.3	When mistakes occur in records, each mistake shall be crossed out, not erased, made illegible or deleted, and the correct value entered alongside.

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Observation: At the time of the assessment, corrections were not always made to records by crossing out the mistake and writing the correct value alongside. The assessor observed numerous corrections to microbiology records which were made by overwriting the incorrect information rather than striking through with a single line.

NOTE 1: V1M2 4.13.3.g.ii states, "Corrections due to reasons other than transcription errors shall specify the reason for the correction."

NOTE 2: THIS FINDING WAS ALSO CITED UNDER CHECKLIST ID NUMBER 1350 IN THE REPORT FOR THE 02/28/2017 – 03/02/2017 ON-SITE ASSESSMENT. THE CORRECTIVE ACTION PROVIDED TO VELAP IN RESPONSE TO THE PRIOR ASSESSMENT WAS NOT IMPLEMENTED OR WAS NOT MAINTAINED.

1353 V1M2 4.13.3.a and f

The laboratory shall establish a record keeping system that allows the history of the sample and associated data to be readily understood through the documentation. The record keeping system shall produce unequivocal, accurate records that document all laboratory activities such as laboratory facilities, equipment, analytical methods, and related laboratory activities, such as sample receipt, sample preparation, or data verification, and inter-laboratory transfers of samples and/or extracts.

All information necessary for the historical reconstruction of data shall be maintained by the laboratory. [Refer to V1M2 4.13.3.f in its entirety.]

Observation: At the time of the assessment, the balance daily verification data were not traceable to the serial numbers or other unique identifiers of the calibration weights used.

Checklist ID 2009 TNI **METHODS AND METHOD VALIDATION**

1430 V1M2 5.4.1

Deviation from test methods shall occur only if the deviation has been documented, technically justified, authorized, and accepted by the customer.

Observation: THE FOLLOWING DEVIATIONS FROM THE REFERENCE METHODS AND/OR LABORATORY'S STANDARD OPERATING PROCEDURES (SOPs) WERE OBSERVED:

Flashpoint by EPA 1010 in Non-Potable Water:

ISSUE 1: Section 13.1 of ASTM D93.08 states, "Observe and record the ambient barometric pressure (see Note 4) at the time of the test." At the time of the assessment, the analyst interview indicated that the laboratory's practice was to document the barometric pressure on an annual basis and not with each flashpoint measurement.

Carbonaceous BOD (CBOD) by SM 5210 B-2011 in Non-Potable Water:

ISSUE 2: Section 6.b of SM 5210 B-2011 states, "The glucose-glutamic acid check is the primary basis for establishing accuracy and precision of the BOD test and is the principal measure of seed quality and set-up procedure. Together with each batch of samples, check seed effectiveness and analytical technique by using procedures in 5210B.5 to make BOD measurements on an equal weight mixture of glucose and glutamic acid as follows: Add sufficient amounts of standard glucose-glutamic acid solution (5210B.3h) to give 3.0 mg glucose/L and 3.0 mg glutamic acid/L in each of three test bottles (20 mL GGA solution/L seeded dilution water, or 6.0 mL/300-mL bottle)...Add nitrification inhibitor if seed is obtained from a source that is nitrifying." At the time of the assessment the laboratory did not have documentation for the analysis of glucose-glutamic acid (GGA) check standards for samples analyzed for Carbonaceous BOD (CBOD). For example, the laboratory did not have documentation of GGA samples performed with sample #19-0178 analyzed from 01-31-2019 through 02-05-2019 for CBOD.

Residue-Nonfilterable (TSS) by SM 2540 D-2011 in Non-Potable Water:

ISSUE 3: Section 3.a of SM 2540 D-2011 states, "Repeat the cycle of drying or igniting, cooling,

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DCLS

Virginia DCLS Laboratory Certification

Report Date: 2/25/2019

Laboratory Name: LJT & Associates, Inc.
EPA Laboratory ID: VA01354
DCLS Laboratory ID: 460031

Selected Fields of Certification

Primary Certifier	Method	Analyte	TNI Method Code
DRINKING WATER			
BACTERIOLOGY			
VA	SM 9223 COLILERT MPN	ESCHERICHIA COLI	20211614
VA	SM 9223 COLILERT MPN	TOTAL COLIFORMS	20211614
VA	SM 9223 COLILERT P/A	ESCHERICHIA COLI	20212413
VA	SM 9223 COLILERT P/A	TOTAL COLIFORMS	20212413
NON-POTABLE WATER			
BACTERIOLOGY			
VA	COLILERT MPN	ESCHERICHIA COLI	60002644
VA	COLILERT-18 MPN	FECAL COLIFORMS	60002666
VA	ENTEROLERT®	ENTEROCOCCI	60030208
INORGANIC CHEMISTRY			
VA	SM 2320 B-2011	ALKALINITY AS CACO3	20045618
VA	SM 2340 C-2011 (AS HACH 8226)	TOTAL HARDNESS AS CACO3	20047614
VA	SM 4500-NH3 D-2011	AMMONIA AS N	20109415
VA	SM 4500-NH3 D-2011	KJELDAHL NITROGEN - TOTAL (TKN)	20109415
VA	SM 4500-NO3⁻ D-2011	NITRATE AS N	20114118
OXYGEN DEMAND			
VA	HACH 8000	CHEMICAL OXYGEN DEMAND (COD)	60003001
VA	SM 5210 B-2011	BIOCHEMICAL OXYGEN DEMAND (BOD)	20135266
VA	SM 5210 B-2011	CARBONACEOUS BOD (CBOD)	20135266
PHYSICAL			
VA	EPA 1010	FLASHPOINT	10116606
VA	EPA 160.4	RESIDUE-VOLATILE	10010409
VA	EPA 1664 A	OIL AND GREASE (AS N-HEXANE EXTRACTABLE MATERIAL (HEM))	10127807

Information contained in this application and the documents submitted with it are not considered trade secrets (confidential business information) and may be released without review by the Division of Consolidated Laboratory Services of the Department of General Services under Virginia's Freedom of Information Act (§2.2-3700 et seq.of the Code of Virginia).

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DCLS

Report Date: 2/25/2019

Virginia DCLS
Laboratory Certification

Laboratory Name: LJT & Associates, Inc.
EPA Laboratory ID: VA01354
DCLS Laboratory ID: 460031

Selected Fields of Certification

Primary Certifier	Method	Analyte	TNI Method Code
NON-POTABLE WATER			
VA	SM 2540 D-2011	RESIDUE-NONFILTERABLE (TSS)	20051212

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Richmond, Virginia

Onsite Assessment Corrective Action Plan (CAP) Form

LABORATORY NAME: _____ VELAP ID: _____ Site Visit Date(s): _____

Checklist ID / Issue #	Lab's Corrective Action Plan – *include sufficient detail to communicate the plan has addressed the non-conformity observed in a manner to prevent recurrence**	Expected Completion Date	Documentation to be submitted to DCLS [IF REQUESTED] to demonstrate implementation**	VELAP USE ONLY			
				Plan Approval [Yes/No]	Documen-tation requested? [Yes/No]	Description of Docs Received recorded in PROD? [Yes/No]	Doc Accepted [Date]

* Include description of updates to Quality Manual, SOPs, bench sheets, training records, etc. as relevant to demonstrate full implementation Of corrective action. Typical corrective actions require updates to POLICY/PROCEDURE + PRACTICE, accompanied by STAFF TRAINING, for full implementation. **** IF VELAP REQUESTS SUBMISSION OF DOCUMENTATION AFTER REVIEW OF THE SUBMITTED PLAN, PLEASE LABEL ALL DOCUMENTS SUBMITTED TO CORRESPOND WITH THE CHECKLIST ID / ISSUE #. Please do not submit documentation unless requested. Documentation not submitted will be reviewed at the next on-site assessment. See the Corrective Action section of the VELAP web page (www.dgs.virginia.gov/dcls) for additional information and CAP examples.**

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