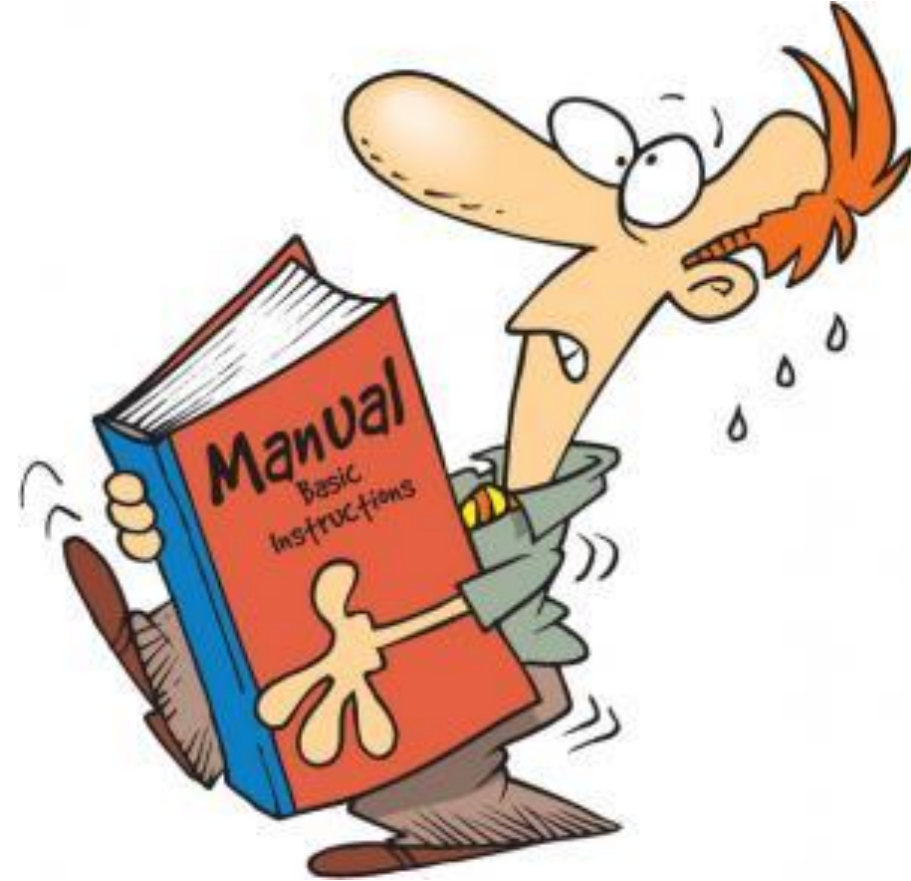


THE KEY LIMS CAPABILITIES YOU NEED **TO OPTIMIZE** LABORATORY OPERATIONS AND NELAP COMPLIANCE



Presented by:
Stephen Wesson, Director of Sales
Accelerated Technology Laboratories



Agenda

Quality Assurance Manual?

A Modern LIMS?

Outline of A Quality Assurance Manual

Sectional Review of Using LIMS as the backbone to your QAM

Laboratory Documents you can get directly from the LIMS

Review and Q & A

Laboratory Quality Assurance Manual?

- A living document stating the Laboratories Policies and Procedures designed to manage quality in accordance with the requirements established by a governing Agency or Agencies.

*"Say what you do! Do what you say!
And Document the heck out of it!"*

The Modern LIMS

- Today's LIMS provide laboratories with functionality that extends well beyond – **A Database for Sample Tracking, Data Entry and Reporting.**
- A modern **LIMS should** be the backbone of the Lab's QMS, **offering support for regulatory compliance like ISO 17025, NELAC** and related regulations.



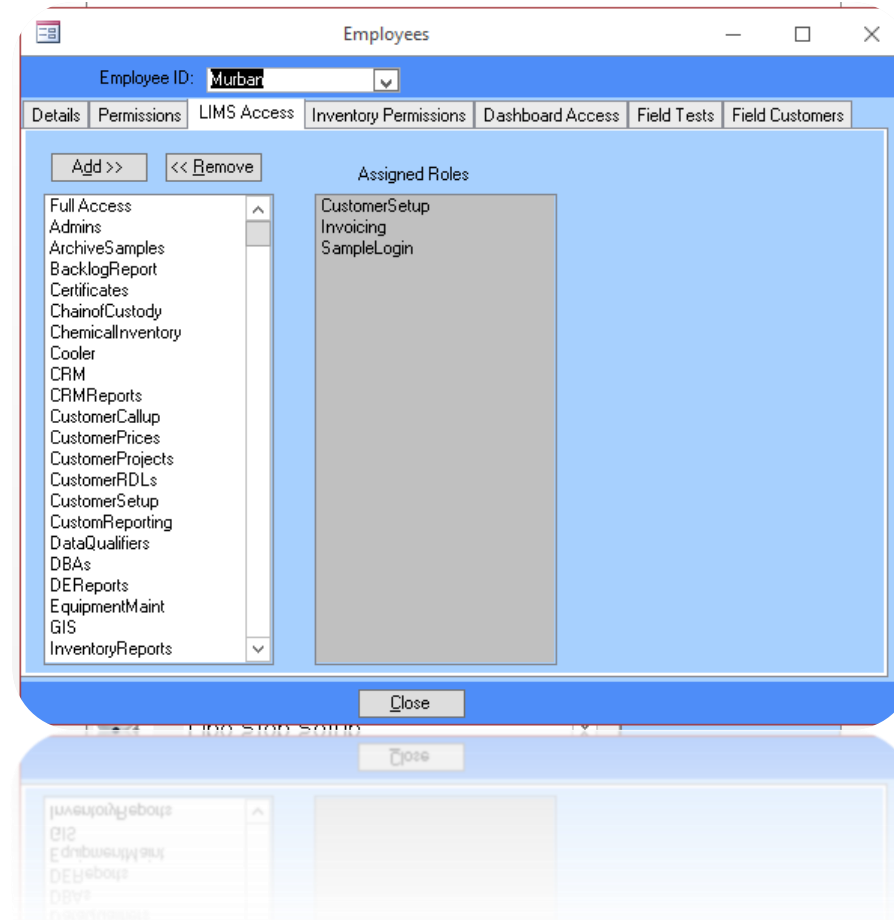
TNI Sections of a Quality Assurance Manual

- | | |
|---------------------------------------|--|
| 1) Title Page | 15) Preventive Action |
| 2) Table of contents | 16) Control of Records |
| 3) Introduction and Scope | 17) Audits |
| 4) Organization | 18) Management Review |
| 5) Management | 19) Data Integrity Investigations |
| 6) Document control | 20) Personnel |
| 7) Review of Requests | 21) Accommodations and
Environmental Conditions |
| 8) Subcontracting | 22) Methods and Method validation |
| 9) Purchasing | 23) Calibration Requirements |
| 10) Service to clients | 24) Measurement Traceability |
| 11) Complaints | 25) Collection of Samples |
| 12) Control of Non-conformance | 26) Handling Samples and Test Items |
| 13) Improvement | 27) Quality Assurance for Testing |
| 14) Corrective Actions | 28) Reporting and Results |

* TNI 2016 Quality Manual Template

4 – Organization & 20 - Personnel

Roles and Permissions



6 – Document Control

- Ensure that all documents are approved, reviewed, with current versions identified. **“Controlled Documents”**

Analysis Methods

Drag a column header here to group by that column.

Name	Method Reference	Version	Activated Date	Retired Date	Category	Type	Method Identifier	Aliquot Containe
TKN (Subcontracted)	EPA 351.2_108585 TKN (Subcontracted)		04/10/2018					250 mL Plastic
MSD-Ammonia Salicylate rev. 2	EPA 350.1_8347 MSD-Ammonia Salicylate rev. 2		05/29/2016					250mL Plastic TN
MS-Ammonia Salicylate rev. 2	EPA 350.1_8343 MS-Ammonia Salicylate rev. 2		05/29/2016					250mL Plastic TN
FR/RE-Ammonia Salicylate rev. 2	EPA 350.1_5855 FR/RE-Ammonia Salicylate rev. 2		05/29/2016					250mL Plastic TN
xxx Salicylate	EPA 350.1_5315 xxx Salicylate		05/29/2016					250mL Plastic TN
Ammonia, 350.1	EPA 350.1	20th Edition	01/01/2011	09/29/2012	Wet	Spectrophotometry		250 mL Plastic
Cyanide by 335.4(SC)	EPA 335.4_19669 Cyanide by 335.4(SC)		05/29/2016					250mL Plastic (se
Chlorine Residual	EPA 334, Chlorine Residual		01/01/2011					Product Packagin
Bromide	EPA 320.1_61 Bromide		01/01/2011		Wet	Titrimetry		Plastic Jar
Dionex Scan	EPA 300.7_107568 Dionex Scan		01/25/2018					250 mL Plastic
▶ Anions	EPA 300.0_258 Anions	2.1	01/01/2013		General Analysis	IC		Plastic Bottle
MSD-Sulfate IC	EPA 300.0_14480 MSD-Sulfate IC		05/29/2016					250mL Plastic
MS-Sulfate IC	EPA 300.0_14476 MS-Sulfate IC		05/29/2016					250mL Plastic
Sulfate IC	EPA 300.0_14459 Sulfate IC		05/29/2016					250mL Plastic
Nitrate and Nitrite (NO _x), TKN, TN	EPA 30.0 & STM 4500N		12/03/2018					125mL Plastic
MSD-Mercury AA Cold Vapor Ma rev. 2	EPA 245.1_6134 MSD-Mercury AA Cold Vapor Ma rev. 2		05/29/2016					500mL Plastic
MS-Mercury AA Cold Vapor Ma rev. 2	EPA 245.1_6128 MS-Mercury AA Cold Vapor Ma rev. 2		05/29/2016					500mL Plastic
FR/RE-Mercury AA Cold Vapor Ma rev. 2	EPA 245.1_5943 FR/RE-Mercury AA Cold Vapor Ma rev. 2		05/29/2016					500mL Plastic
Mercury AA Cold Vapor Manual	EPA 245.1_5309 Mercury AA Cold Vapor Manual		05/29/2016					500mL Plastic
CR6 (218.6)	EPA 218.6_299 CR6 (218.6)		12/19/2013					Plastic Bag

Filter Refresh Create Delete

7 - Review of Requests, Tenders & Contracts

Customers

Customer: 1 WWTWP

Details Contacts Projects Project Sampling Project Pricing Project Parameters Project QC Types RDLs Reports

Project ID	Project Number	ProjectName	Project Location	De
All Daily		All Daily Type Samples		
CEFF10 Daily		CEFF10	Comp Final Eff SS#10	
CNPI02 & 3 CNPI02 D				
CNPI02 Daily		CNPI02	No. Prim. Inf. SS# 2	
CNPI03 Daily		CNPI03	No. Prim. Inf. SS# 3	
Friday				Friday routine plant daily sample
Holiday				Holiday samples
Monday				Monday routine plant daily samp
Monthly River				Routine monthly river sampling f
new				
Saturday				Weekend Samples
SDW0710 Daily		SDW0710	Dig. W. 7 thru 10	
SMLP-Monthly				Monthly Marina Sample-with out
SMLP-Quarterly				Quarterly Marina Sample
Sunday				Weekend Samples
Thursday				Thursday routine plant daily sam
Tuesday				Tuesday routine plant daily sam
Wednesday				Wednesday routine plant daily

Record: No Filter Search

Close

Ensure that requirements of requests, tenders and contracts are **adequately defined, documented and understood.**

8 - Subcontracting of Tests

Customers | Sales | Invoices (Last 30 Days) | Return Authorizations | Credit Memos | Purchase Orders (Last 30/Created) | Ordered Products (Last 30/Created) | Purchase Requisitions (Last 30 Days) | Inventory Items (Available) | Product Management | Rental Orders | Rental Returns | Administration

Work Order - W-211104-01 | Sample - W-211104-01-01 (York River State Park (11/4/2021)) | Container - W-211104-01-01-3 | Aliquot - W-211104-01-01-3-1 | Products (Active) | Product - Nessler's Reagent

General | Composite | Description/Comment | Containers | Conditions | Planned Analyses | Guaranteed Limits | Product Specifications | CAPAs | Files | Aliquots | Aliquot Preparations | Results | Results w/Limits

Drag a column header here to group by that column.

Aliquot #	Aliquot Date	Analysis Method	Container Type	Original Amount	Promised Due Date	Subcontracted	Subcontracted Vendor Service	Subcontracted Date
W-211104-01-01-1-1	11/04/2021	TSS, deferred	250 mL Plastic	20.00000		<input type="checkbox"/>		
W-211104-01-01-1-2	11/04/2021	Ammonium Nitrogen	250 mL Plastic	40.00000		<input type="checkbox"/>		
W-211104-01-01-2-1	11/04/2021	Coliform; E.coli Colisure P/	100mL Plastic Whi	25.00000		<input type="checkbox"/>		
W-211104-01-01-3-1	11/04/2021	BOD 5-Day	500mL Plastic BO	50.00000		<input checked="" type="checkbox"/>	Eaton Analytical : BOD 5-Day	11/4/2021 10:14
W-211104-01-01-4-1	11/04/2021	BTEX	VOA	40.00000		<input type="checkbox"/>		
W-211104-01-01-5-1	11/04/2021	Conductivity - Field	Plastic Bottle	25.00000		<input type="checkbox"/>		
W-211104-01-01-5-2	11/04/2021	pH Field	Plastic Bottle	25.00000		<input type="checkbox"/>		
W-211104-01-01-5-3	11/04/2021	Turbidity	Plastic Bottle	25.00000		<input type="checkbox"/>		

Filter

8 - Subcontracting of Tests

Customers

Quotes (Last 30 Days)
 Work Orders (Last 30 Days)
 Delivery Orders (Last 30 Days)

Invoices (Last 30 Days)
 Return Authorizations
 Credit Memos

Purchase Orders (Last 30/Created)
 Ordered Products (Last 30/Created)
 Purchase Requisitions (Last 30 Days)

Inventory Items (Available)
 Products (Active)
 Production Batches
 Management

Rental Orders
 Rental Returns

Administration

Vendors | Vendor - Eaton Analytical | Vendor Service - Eaton Analytical : BO... | Work Orders (Last 30 Days) | Aliquots (Last 30 Days) | Work Order - W-211104-01 | Sample - W

Vendor - Eaton Analytical

Name: Account Number:

Description:

Phone: Email:

Fax: Web:

Active

Vendor Products | Vendor Services | Vendor Facilities | Addresses | Contacts | Purchase Orders | Vendor Service Accreditations | Limits | CAPAs | User Defined | Files

Drag a column header here to group by that column.

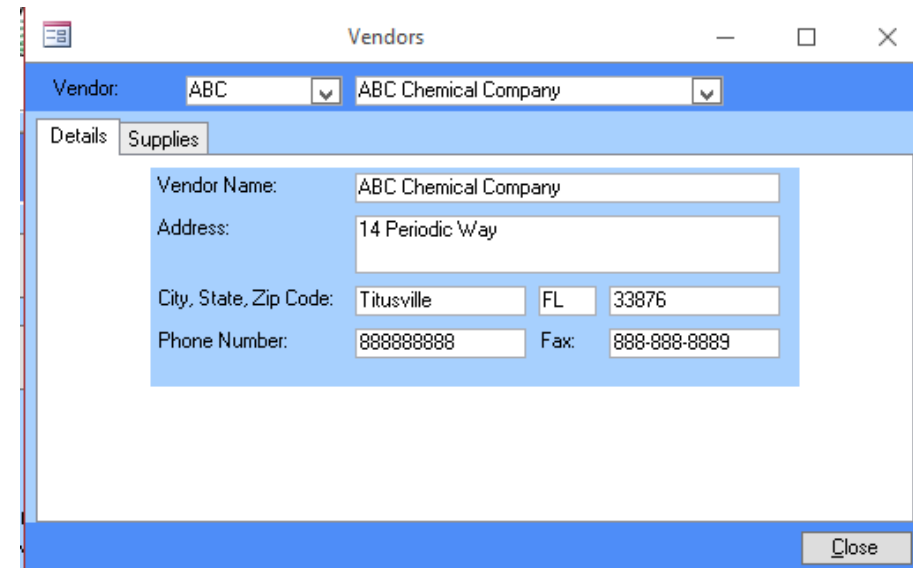
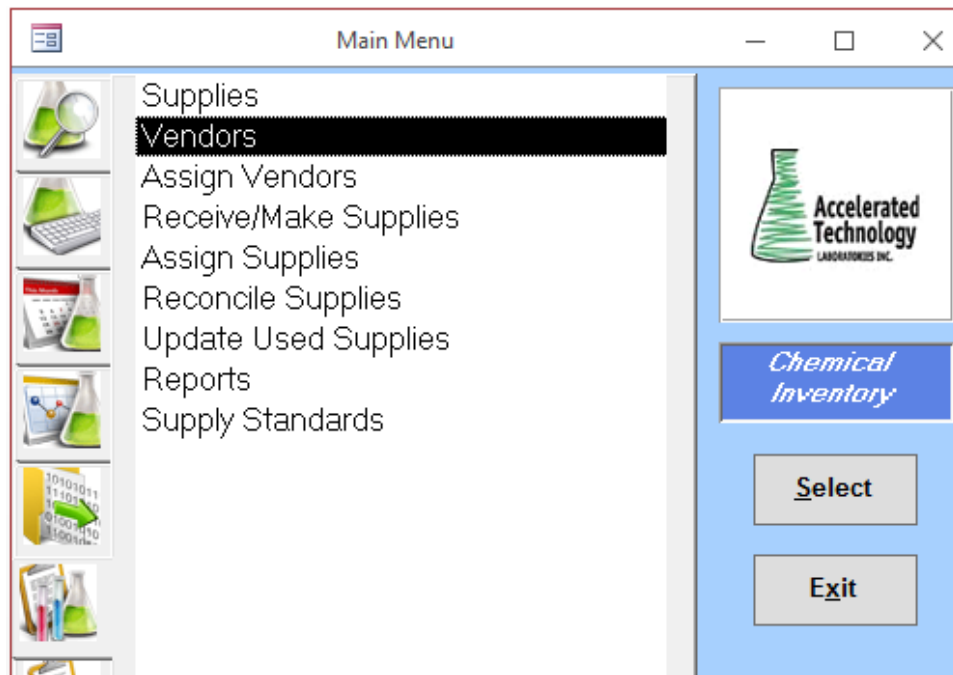
	Service	Service Code	Price	Description
<input checked="" type="checkbox"/>		<input type="checkbox"/>	=	<input type="checkbox"/>
	Metals Analysis, EPA 200.8	ICP-01	9.87	
	Carbonaceous Biochemical	CBOD-01	15.95	
	TKN (Subcontracted)	TKN(rcid)	6.95	
<input type="checkbox"/>	BOD 5-Day	BOD5	45.00	

Filter
Refresh
Create

Showing 5 item(s)

9 – Purchasing Services & Supplies

Approval of Suppliers and a documented procedure for tracking supplies and quality records.



Supply	Description	Warning Amount	Units
1000 ppm Hg	1000 ppm Hg	5	mL
36N Sulfuric Acid	36N Sulfuric Acid (Perseve)	500	each
Acetone	Acetone	5	L
BOD Bottles	BOD Bottles, Disposble	117	each
Cadmium Columns	Cadmium Columns	3	each
Filters	Filters for TSS	5	each

Record: 1 of 6 | No Filter | Search

11 – Customer Complaints

The laboratory shall have a documented process to receive, evaluate and make decisions on complaints.

The screenshot shows a web application window titled "Customer Relations". At the top, there are two dropdown menus for "Customer ID:". Below this is a navigation bar with tabs for "Complaints", "Complaint History", "Summary", and "Contacts". The "Complaints" tab is active.

The main content area displays a complaint record for "ComplaintID: CC021114001". The record includes the following fields:

- Type: Methodology question
- Severity: Mild
- Created: 2/11/2014 3:21:00 PM
- by: DBA
- Status: Closed
- Details of complaint: (Empty text area)
- Samples: A table with columns for "Sample Number" and "C". The first row contains an asterisk (*) in the "Sample Number" column and a dropdown menu in the "C" column.
- Buttons: New, Event, Close Complaint, Reopen, Create Order
- Users: User 1: Where doe this show up?, User 2: (Empty), User 3: (Empty), User 4: (Empty)
- Additional fields: Closed: (Empty), by: (Empty)

At the bottom right of the window, there are "Close" and "Close" buttons.

12 – Control of Non-conforming Work

Ensure that **nonconforming test** and calibration results are adequately followed up, and that corrections are initiated.

The screenshot shows the 'Result Entry' software interface. At the top, there are radio buttons for 'Display' options: 'All Results (view only)', 'Results to Enter' (selected), 'Results to Validate', and 'Results to Approve'. There are also buttons for 'Show Result Calculations', 'Show Limit Calculations', and 'Show Client Sample Info'.

The main data table has the following columns: Order ID, Sample ID, Test, Parameter, Result, Units, C, +, Sample Type, Site, Rep. Limit, Qual., and Ret. Time. The row for 'Alkalinity' with a result of '75' is highlighted in red, indicating a non-conforming result.

An overlaid dialog box titled 'Sample Master v10.0' contains a warning icon and the text: "The Result is above the Range Limit of 50 mg/L." with an 'OK' button.

Order ID	Sample ID	Test	Parameter	Result	Units	C	+	Sample Type	Site	Rep. Limit	Qual.	Ret. Time
19020401	19020401-01	Alkalinity	Alkalinity	15	mg/L	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Grab	Lot A	10		
19020401	19020401-01	BOD	BOD	25	mg/L	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Grab	Lot A	2		
19020401	19020401-01	NO2+NO3	Nitrate-Nitrite as	10	mg/L	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Grab	Lot A	0.06		
19020401	19020401-01	pH	pH, (Hydrogen I	7.8	SU	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Grab	Lot A			
19020401	19020401-01	TOC	Total Organic C		mg/L	<input type="checkbox"/>	<input type="checkbox"/>	Grab	Lot A	0.17		
19020401	19020401-02	Alkalinity	Alkalinity	75	mg/L	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Composite	Site #12B78	10		
19020401	19020401-02	NO2+NO3	Nitrate-Nitrite as		mg/L	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Composite	Site #12B78	0.06		
19020401	19020401-02	pH	pH, (Hydrogen I									
19020401	19020401-02	TKN	Kjeldahl Nitrogen									
19020401	19020401-02	TSS	Filter Wt	1.700								
19020401	19020401-02	TSS	Volume	100								
19020401	19020401-02	TSS	1st Dry Filter WT									
19020401	19020401-02	TSS	2nd Dry Filter W'									
19020401	19020401-02	TSS	TSS (Residue N Calc									
19020401	19020401-04	BOD	BOD									
19020401	19020401-04	Chloride	Chloride									

Data Qualifiers

View Results

Display

All Results (view only)
 Results to Enter
 Results to Validate
 Results to Approve

Show Result Calculations

Show Limit Calculations

Show Client Sample Info

Sample Results	Sample Surrogates	Blank Results	Blank Surrogates	Spike Results	Spike Surrogates	Standard Results									
Order ID	Sample ID	Test	Parameter	Result	Units	C	+	Qual.	Sample Type	Site	Rep. L				
12012002	12012002-27	DP	Ortho-phosphate	6.1722	mg/L	<input type="checkbox"/>	<input type="checkbox"/>	J2, Q		Secondary Efflu	0.01				
12012002	12012002-27	TP	Phosphorus, Tot	12.7121	mg/L	<input type="checkbox"/>	<input type="checkbox"/>	J2, Q		Secondary Efflu	0.04				
12012002	12012002-27	TSS	Residue Non-Fill	1.096	mg/L	<input type="checkbox"/>	<input type="checkbox"/>	J2, K, T, Q							
12012002	12012002-28	Ammonia	Ammonia as N	7.0661	mg/L	<input type="checkbox"/>	<input type="checkbox"/>	J2, Q	B						
12012002	12012002-29	Ammonia	Ammonia as N	0.0461	mg/L	<input type="checkbox"/>	<input type="checkbox"/>	J2, K, T, U, Q							
12012002	12012002-30	Ammonia	Ammonia as N	7.9702	mg/L	<input type="checkbox"/>	<input type="checkbox"/>	J2, Q	I						
12012002	12012002-31	Ammonia	Ammonia as N	5.3051	mg/L	<input type="checkbox"/>	<input type="checkbox"/>	J2, Q							
12012002	12012002-32	Ammonia	Ammonia as N	1.8077	mg/L	<input type="checkbox"/>	<input type="checkbox"/>	J2, Q	J1						
12012002	12012002-33	Ammonia	Ammonia as N	4.9645	mg/L	<input type="checkbox"/>	<input type="checkbox"/>	J2, Q							
12012002	12012002-34	Ammonia	Ammonia as N	0.9141	mg/L	<input type="checkbox"/>	<input type="checkbox"/>	J2, Q	J2						
12012002	12012002-34	DO	Dissolved Oxyge	10.9638	mg/L	<input type="checkbox"/>	<input type="checkbox"/>	J2, Q							
12012002	12012002-34	NO2	Nitrite-N	3.3255	mg/L	<input type="checkbox"/>	<input type="checkbox"/>	Q							
12012002	12012002-34	NO2+NO3	Nitrate-Nitrite as	13.8571	mg/L	<input type="checkbox"/>	<input type="checkbox"/>	J2, J3, Q	J3						
12012002	12012002-34	NO3	Nitrate-N	0.7335	mg/L	<input type="checkbox"/>	<input type="checkbox"/>	J2, Q							
12012002	12012002-34	pH	pH, (Hydrogen I	7.9	SU	<input type="checkbox"/>	<input type="checkbox"/>	J2	J4						
12012002	12012002-34	Temperature	Temperature	15.4	°C	<input type="checkbox"/>	<input type="checkbox"/>	J2, Q							
12012002	12012002-34	TP	Phosphorus, Tot	8.5294	mg/L	<input type="checkbox"/>	<input type="checkbox"/>	J2, Q	K						
12012002	12012002-35	Ammonia	Ammonia as N	0.7654	mg/L	<input type="checkbox"/>	<input type="checkbox"/>	J2, Q							
12012002	12012002-35	DO	Dissolved Oxyge	0.8358	mg/L	<input type="checkbox"/>	<input type="checkbox"/>	J2, Q							
12012002	12012002-35	NO2	Nitrite-N	2.4618	mg/L	<input type="checkbox"/>	<input type="checkbox"/>	Q	L						

Record: 107
No Filter
Search

Close
C: Result is Commented
Audit

Data Qualifier	Translation
B	Blank contamination; Analyte detected above the method reporting limit (RePLimit) in an associated blank
I	The reported value is between the laboratory method detection limit (DetectionLimit) and the laboratory practical quantitation limit (PQL)
J1	Reported value is estimated; Surrogate recoveries limits were exceeded (Not between LCL and UCL for Surrogates)
J2	Reported value is estimated; No known QC criteria for this component.
J3	Reported value is estimated; The value failed to meet QC criteria for either precision or accuracy. (Result Not between LCL and UCL for Spikes, Duplicates and Standards)
J4	Reported value is estimated; The sample matrix interfered with the analysis (Percent Recovery Not between LCL and UCL for Spikes)
K	Off-scale low. Actual value is known to be less than the value given (below RePLimit)
L	Off-scale high. Actual value is known to be greater than value given (above RangeLimit), corrected for Prep
N	Non-target analyte; Tentatively identified compound (using mass spectroscopy). (TIC value is True)
Q	Sample held beyond the accepted holding time (AnalysisDueDate)
R	Rejected data; Not suitable for the projects intended use.
T	Value reported is less than the reporting detection limit (below RDL RePLimit)
U	Compound was analyzed for but not detected (below Detection Limit, corrected for Prep, or null)
V	Analyte was detected in both the sample and the associated method blank. (Blank result > Detection Limit or Blank result > 0)
Z	Too Numerous to count (Result = TNTC)

Accelerated Technology
LEADERS IN LIMS LABORATORIES INC.

13/14/15 – Improvement, Corrective & Preventative Actions

Corrective Actions - (CAPA)

- a) React to nonconformity (*Investigate Incident*)
- b) Evaluate the need for action (*Root Cause*)
- c) Implement action (*Action Plan*)
- d) Review the effectiveness (*resolution*)
- e) Make changes to management system



CAPA creation, evaluation, Action and Resolution

Corrective along with preventive actions can easily be managed, and automated alerts can be sent out to key individuals to ensure effective and timely management of any open issues.

CAPAs CAPA - CAPA-141030-01 x

CAPA - CAPA-141030-01

CAPA # <input type="text" value="CAPA-141030-01"/>	Name <input type="text" value="Failing QC"/>
<input checked="" type="checkbox"/> Corrective Action <input type="checkbox"/> Preventative Action	
Description	
Date Created <input type="text" value="10/30/2014"/>	Created By <input type="text" value="Carter, Rob"/>
Due Date <input type="text" value="11/28/2014"/> ▼	Owner <input type="text" value="Felix, Todd"/>
State <input type="text" value="Resolved"/>	Resolution Status <input type="text" value="1635 days"/>

Assignment	Root Cause Action Plan Resolution Files
Customer	<input type="text"/>
Contact	<input type="text"/>
Assigned Employee	<input type="text"/>
Analysis Batch	<input type="text" value="AB-141015-02 (Coliform & E.coli)"/>
Vendor	<input type="text"/>
Ordered Product	<input type="text"/>
Work Order	<input type="text"/>
Sample	<input type="text" value="WO-141014-01-05 (2014-10-14-E)"/>

CAPA Calendar

CAPAs

Month | Week | Work Week | Day

	Sunday	Monday	Tuesday	Wednesday	Thursday
Apr 28	29	30	May 1	2	
Apr 28 - May 4					
5	6	7	8	9	
May 5 - May 11					
12	13	14	15	16	
May 12 - May 18					
19	20	21	22	23	<ul style="list-style-type: none"> 2:26pm Wrong QC analyzed ↻ 2:26pm Failing QC ↻ 2:26pm Sample Result ↻
May 19 - May 25					
26	27	28	29	30	<ul style="list-style-type: none"> 2:26pm Wrong QC analyzed ↻ 2:26pm Failing QC ↻ 2:26pm Sample Result ↻
May 26 - Jun 1					

16 - Control of Records

- Records allow for the **historical reconstruction of laboratory activities** related to sample-handling and analysis and may include:

Sample information
Sample Receipt conditions
Storage information
Internal Chain of Custody
Sample Prep. Information
Raw data
Hard copy data
Dates/times for all steps
Instrument ID
Instrument calibration
Analysts

Analyst training records
Standard traceability
Inventory traceability
Temperature Records
QC records
Method Specifications
Client specifications
Proficiency results
Records of DOCs
SOPS used
Review sign offs

Audit Trails
Audit records
CAPA Records
Data Calculations
Final results
Final reports

16 - Control of Records – Legal Chain of Custody

CHAIN OF CUSTODY RECORD

CLIENT NAME / ADDRESS: McGrains College Drive West End NC 27376		Total # of sample containers 1	Samplers Initials _____	All Samples Refrigerated?: Y ___ N ___ Comment(s):
		Permit Number U SA	I certify that these samples are representative of the normal daily flow from this facility, and that we are in normal operation at this time.	
I/we certify that the samples below have not been out of our custody until relinquished		SIGNATURE OF COMPANY REPRESENTATIVE: _____ Date: _____ Time: _____		

Set Date	End Date	Sample ID - Site ID	Sample Type	Matrix	Method	Container Type	Preservative	Sample	Blanks
8/6/2021	8/6/2021	21080602-01 - Field #123		Waste Water	EPA.200.8 - ICP-MS Total	1/2 Gallon Plastic (acid preserved)	HNO3 to pH < 2		
1:23 PM	1/1/1900								

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:	Trip #

Chain of Custody Record and Analysis Request Form

	Accelerated Technology Laboratories, Inc. 496 Holly Grove School Rd. West End, NC 27376	Customer: Lake Lure Work Order # _____ Requester: _____ Project: Weekly - Weekly Monitoring	Phone: _____ Fax: _____ Email: _____
--	---	--	--

Collection Information							
LIMS Sample #	Sample #	Date	Time	Collector	Analysis Methods	Container	Received
W-211028-02-01	Sample Effluent (009) (10/28/2021)				zzoher name pH Temperature - Field Alkalinity Ammonia, 350.1 ICP Metals Anions	W-211028-02-01-1 W-211028-02-01-1 W-211028-02-01-1 W-211028-02-01-1 W-211028-02-01-1 W-211028-02-01-1	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
W-211028-02-02	Sample Influent (008) (10/28/2021)				zzoher name pH Temperature - Field Alkalinity Ammonia, 350.1 ICP Metals Anions	W-211028-02-02-1 W-211028-02-02-1 W-211028-02-02-1 W-211028-02-02-1 W-211028-02-02-1 W-211028-02-02-1	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

Customer to sign & date below

Relinquished By: _____	Date/Time: _____	Accepted By: _____	Date/Time: _____	Total Samples: 2 Priority Normal 10.00 day Date Results Requested
Relinquished By: _____	Date/Time: _____	Accepted By: _____	Date/Time: _____	
Relinquished By: _____	Date/Time: _____	Accepted By: _____	Date/Time: _____	
Relinquished By: _____	Date/Time: _____	Accepted By: _____	Date/Time: _____	
Seal Locked By: _____	Date/Time: _____	Seal Lock Opened By: _____	Date/Time: _____	

20 - Personnel (Employee Training Records)

- A. SOP Review
- B. Work with trained Analyst
- C. Demonstration of Capability
- D. Perform PE Sample



Training - Demonstration of Capability

Title: Demonstration of Capability Code: DOC

Training Category: DOC

Description: Used to provide evidence of the analysts capability.

Trainer	Employee	Course	Started Date	Completed Date	Percentage Complete	Score	Status	Certified Date	Expiration Date
Gibbs, Leroy Jethro	Sciuto, Abby Marilyn	Demonstration of Capabilit	06/12/2018	06/12/2018	100	98	Completed	06/12/2018	06/12/2019
Gibbs, Leroy Jethro	David, Ziva	Demonstration of Capabilit	06/12/2018	06/12/2018	100	100	Completed	06/12/2018	06/12/2019
Gibbs, Leroy Jethro	Sciuto, Abby Marilyn	Demonstration of Capabilit	06/12/2017	06/12/2017	100	99	Completed	06/12/2017	06/12/2018
Gibbs, Leroy Jethro	Sciuto, Abby Marilyn	Demonstration of Capabilit	10/19/2016	10/21/2016	100	100	Completed	10/21/2016	10/21/2017
Gibbs, Leroy Jethro	Sciuto, Abby Marilyn	Demonstration of Capabilit	09/19/2015	10/26/2015	100	99	Completed	10/26/2015	10/26/2016

23 – Calibration Requirements

- The laboratory has procedures for the use, maintenance, handling and storage of equipment and they are readily available to laboratory personnel.
- There is a lot of ground to cover here:

Laboratory Equipment Lists
Laboratory Instrument Lists
Support Equipment Calibration
Support Equipment Maintenance
Calibration Acceptance Criteria
Routine Maintenance Schedules

Routine Maintenance Records
Vendor Maintenance Records
Instrument Calibrations
Temperature Monitoring

23 – Calibration Requirements

The laboratory has procedures for the use, maintenance, handling and storage of equipment and they are readily available to laboratory personnel



Instrument - 12-305

Name: Agilent 1200 Instrument Type: LC/MS
 Asset #: 12-305 Facility: Main Lab
 Description: The Agilent 1200 Series High-Throughput LC/UV/MS system is based on the new Agilent 1200 Series Rapid Resolution LC System providing highest analysis speed and shortest cycle times without compromising robustness and data quality. The sample capacity extension, a small footprint pick-and-place robot, turns the Agilent 1200 Series LC/UV/MS system into an open solution, for high-throughput and multi-user laboratories looking for high capacity and walk-up capabilities. Further, the scalable, modular and open architecture allows for easy integration with existing systems.
 Run Capacity: Prep Duration: Analysis Duration: Results Are Corrected For Dilution
 Export Path: State: Available

Analysis Methods Preparation Methods QC Control Limits Runs/Batches Limits Calibration **Maintenance** User Defined Documents Resources Results QC Results

Maintenance History

Drag a column header here to group by that column.

Maintenance Date	Maintenance Type	Maintenance Contractor	Expiration Date	Notes
04/17/2017	Annual Service	Main Lab	04/17/2018	
04/18/2016	Annual Service	Robert Instruments		
10/31/2015	Routine	Robert Instruments		Cooling fan was bad. Replaced with a new one.

Showing 3 item(s)

Logged in as TITANWATLUSER on TITANW:8000 - SessionId: 22114

23 – Calibration Requirements

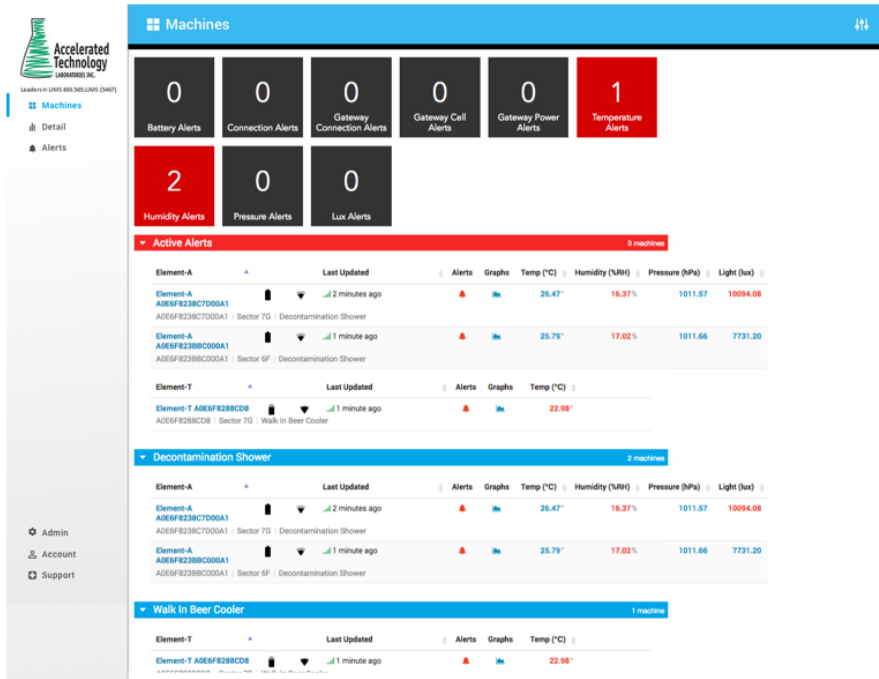
Calibrations Expiring within 1 Month

Report Date: Thursday, November 4, 2021

Expiration Date	Calibration Description	Instrument	Cert. Agency	Matrix	Test	Method
11/22/2020	Annual Service	ICP	In House	Waste Water	EC_7 metals	EPA 200.7
11/22/2020	Annual Service	ICP	In House	Waste Water	ICP-OES Dissolved	EPA 200.7
9/3/2020	Annual Service	ICP	In House	Waste Water	ICP-OES Total	EPA 200.7
9/3/2020	Annual Service	ICP	In House	Waste Water	Mg (sol)	EPA 200.7
11/22/2020	Annual Service	ICP	In House	Waste Water	Potassium	EPA 200.7
11/22/2020	Annual Service	ICP	In House	Waste Water	Reno Total Metals	EPA 200.7
11/22/2020	Annual Service	ICP	In House	Waste Water	Sodium	EPA 200.7
11/22/2020	Annual Service	ICP	In House	WW Sludge	ICP-OES Total	EPA 200.7
9/3/2020	Annual Service	ICP-MS	In House	Ground Water	ICP-MS Dissolved	EPA 200.8
9/3/2020	Annual Service	ICP-MS	In House	Ground Water	ICP-MS Total	EPA 200.8
11/22/2020	Annual Service	ICP-MS	In House	Waste Water	Antimony	EPA 200.8
11/22/2020	Annual Service	ICP-MS	In House	Waste Water	Arsenic	EPA 200.8
11/22/2020	Annual Service	ICP-MS	In House	Waste Water	Barium	EPA 200.8
11/22/2020	Annual Service	ICP-MS	In House	Waste Water	Beryllium	EPA 200.8
11/22/2020	Annual Service	ICP-MS	In House	Waste Water	Cadmium	EPA 200.8
11/22/2020	Annual Service	ICP-MS	In House	Waste Water	Chromium	EPA 200.8
11/22/2020	Annual Service	ICP-MS	In House	Waste Water	Cobalt	EPA 200.8

23 – Calibration Requirements

Monitor Plus – Remote Temperature Monitoring



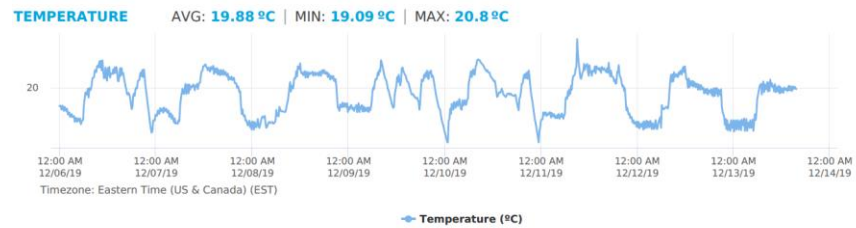
Monitor:

- Fridges
- Freezers
- Incubators
- Humidity chambers

Summary Report "Weekly Monitoring report" for Element-A 0081F90ECF8200A1

MACHINE DETAILS
 Serial Number: 0081F90ECF8200A1
 Location: Steve's Demo Unit
 Description: Steve's Element A
 Installation date:

EQUIPMENT DETAILS
 Category: Unknown
 Manufacturer:
 Model:
 Service Entered Date:



Replacement of mundane tasks – Temperature Monitoring daily recording of incubators, fridges and freezers

24 – Measurement Traceability

Traceability - Batches

Test: NO2+NO3 QC Batch ID: QC2111001

Sample Supplies Batch Supplies QC Sample Supplies Instruments

Supply	Ref #	Lot No.	Container Label	Amount
1-10mL Pipet Tips	006	ABADSFSA		
Borate Buffer	016	1321651651		
* LabReferenceNumber	ContainerLabel	LotNumber	VendorID	
016		1321651651	Sigma-A	

Record: 2 of 2

Items To Update: Supplies Instruments Apply to Marked Samples View

QC Batch

New Query Add Samples QC Batch ID: QC2111001 New... Mark 20 Samples

Sample ID	Matrix	Test	QC Batch ID	Product	Sample Date
21080502-02	Drinking Water	NO2+NO3	QC2108005	Site #12B78	8/10/2021
21080502-04	Drinking Water	NO2+NO3	QC2108005	Primary 1	8/10/2021
21080502-01	Drinking Water	NO2+NO3	QC2108005	Lot A	8/12/2021

Record: 1 of 3

QC Type	Order ID	Sample ID
Duplicate	21080502	21080502-01
MS	21080502	21080502-01

Instrument: Lachat-N

Initial Calib. STD:

Calib. Check STD:

Internal STD:

Surrogate STD:

LCS/LCSD STD:

MS/MSD STD:

StandardName	Supply	Conc.	Unit

Record: No Filter

24 – Measurement Traceability

Traceability History

Order ID:

QC Batch ID:

Supply:

Sample ID:

QC Type:

Ref #:

Test:

Instrument:

Date:

Disposed Supplies are highlighted in red.

Sample Supplies
QC Supplies
Instruments

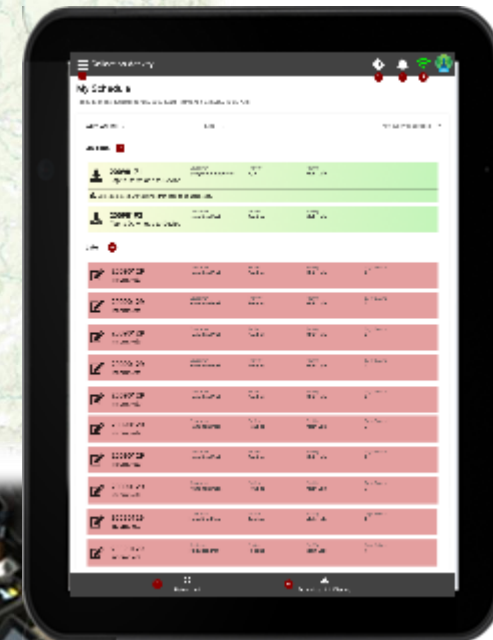
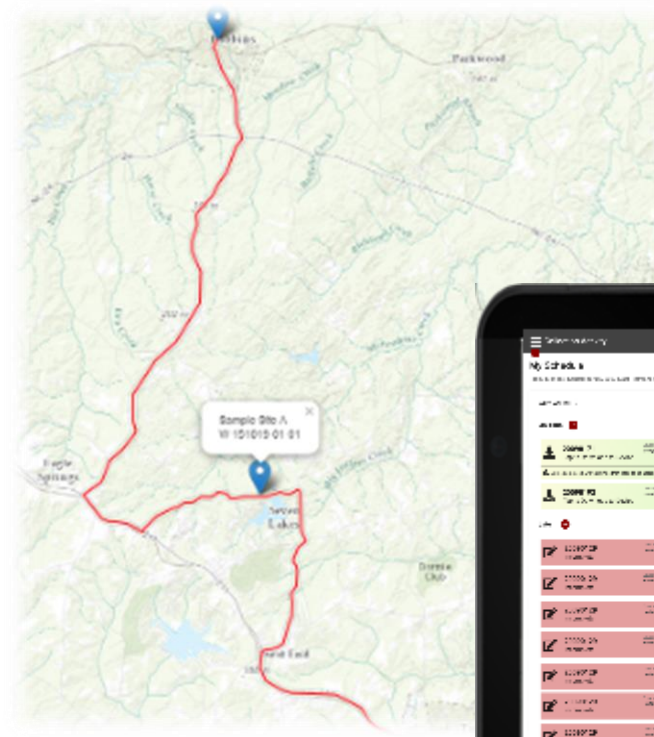
Order ID	Sample ID	Test	Supply	Lab Ref #	Container L
21031902	21031902-04	NO2+NO3	1-10mL Pipet Tips	006	
21032201	21032201-01	NO2+NO3	1-10mL Pipet Tips	006	
21032201	21032201-02	NO2+NO3	1-10mL Pipet Tips	006	
21032201	21032201-04	NO2+NO3	1-10mL Pipet Tips	006	
21041901	21041901-01	NO2+NO3	1-10mL Pipet Tips	006	
21041901	21041901-02	NO2+NO3	1-10mL Pipet Tips	006	
21041901	21041901-04	NO2+NO3	1-10mL Pipet Tips	006	
21042002	21042002-01	NO2+NO3	1-10mL Pipet Tips	006	
21042101	21042101-01	NO2+NO3	1-10mL Pipet Tips	006	
21042901	21042901-01	NO2+NO3	1-10mL Pipet Tips	006	
21071301	21071301-01	NO2+NO3	1-10mL Pipet Tips	006	
21071301	21071301-02	NO2+NO3	1-10mL Pipet Tips	006	

Record: 1 of 12 Unfiltered Search

25 – Collection of Samples

Retain Records including:

- Reference to sampling methods
- Date, time and conditions of sampling
- Person collecting the samples
- Location information/site identification
- Field Results
- **Eliminate transcription errors**
- Comments



26 – Handling Samples and Test Items

Lab shall have Procedures to track:

- Transportation
- Chain of Custody
- Receipt – Sample Acceptance
- Preservation Checks
- Subsampling
- Storage
- Retention
- Disposal
- Comments

The screenshot displays the SAMPLE MASTER software interface. On the left is a navigation menu with categories like Sample Tracking, Data Entry, and Sample Scheduling. The main window shows 'Sample Tracking Module > Sample Login' with 'Order Information' for Order ID 17112801. Below this is a 'Sample Disposal' section with options for 'Return Samples' or 'Dispose After' (45 Days). On the right, a 'Sample Login > Sample Conditions' window is open, showing a table of questions and answers for the same order ID.

Question	Answer
Were samples submitted in an ice chest?	Yes
Are samples submitted with a Chain of Custody form?	Yes
Is the Chain of Custody form completed properly?	Yes
Are the number of samples the same as stated on the chain of custody?	Yes
Were all containers intact when received?	Yes
Was the Temperature check within acceptable limits?	Yes
Were all samples within the holding time for the requested test(s)?	Yes
Are all samples in proper bottle types with appropriate preservation for the requested tests?	Yes
Are all samples for volatile organic analyses free of headspace?	Yes

26 – Handling Samples and Test Items

Login Report

Customer Name: McGrains **Order ID:** 21101901
Purchase Order: **Order Date:** 10/19/2021
Project ID:
Comment:

Sample #: 21101901-01 **Customer Sample #:** **Site:**
Rec'd: **Collector:** **Date Collected:** 10/19/21 8:56 AM
Quantity: 1 **Matrix:** Air **Date Received:** 10/19/21 8:56 AM
Comment:

Test	Test Group	Method	Due Date	Priority
Asb PCM Air - 7400		NIOSH7400	11/2/2021	

Sample #: 21101901-02 **Customer Sample #:** **Site:**
Rec'd: **Collector:** **Date Collected:** 10/19/21 8:56 AM
Quantity: 1 **Matrix:** Soil **Date Received:** 10/19/21 8:56 AM
Comment:

Test	Test Group	Method	Due Date	Priority
Asb PLM Soil - CARB 435		CARB 435 - Asbestos In Aggregate	11/2/2021	
Asb PLM Soil - EPA Region		EPA Region 1 PLM Screening - Qual	11/2/2021	
Asb PLM Soil - Visual Est		EPA 600/R-93/116	11/2/2021	
Asb TEM Soil - CARB 435		CARB 435 - Asbestos In Aggregate	11/2/2021	
Asb TEM Soil - Sieve		Sieve - TEM Confm	11/2/2021	

Customer Name: McGrains **Order ID:** 21101901
Purchase Order: **Order Date:** 10/19/2021
Project ID:
Comment:

SAMPLE CONDITION RECORD

Were samples submitted in an ice chest?	Yes
Are samples submitted with a Chain of Custody form?	Yes
Is the Chain of Custody form completed properly?	Yes
Are the number of samples the same as stated on the chain of custody?	Yes
Were all containers intact when received?	Yes
Was the Temperature check within acceptable limits?	Yes
Were all samples within the holding time for the requested test(s)?	Yes
Are all samples in proper bottle types with appropriate preservation for the requested tests?	Yes
Are all samples for volatile organic analyses free of headspace?	N/A

27 – Quality Assurance for Testing

Data Review

All Results (View Only)

Results to Enter

Results to Validate

Results to Approve

Show Results Calculations

Show Limit Calculations

Show Client Sample Info

Sample Results		Sample Surrogates		Blank Results		Blank Surrogates		Spike Results		Spike Surrogates		Standard Results			
Order ID	Sample ID	Test	Parameter	Result	Units	C	S	Entered By	Entered Date	Validated By	Validated Date	Approved By	Approved Date	Permission	Instrument
12012002	12012002-18	NO2+NO3	Nitrate-Nitrite as N	12.0871	mg/L	<input type="checkbox"/>	<input type="checkbox"/>	CWhitecotton	01/20/2012 15:03	CHindbaugh	01/20/2012 15:03	CHindbaugh	01/21/2012 12:39	Approve	Lachat-N
12012002	12012002-19	NO2+NO3	Nitrate-Nitrite as N	9.113	mg/L	<input type="checkbox"/>	<input type="checkbox"/>	CHindbaugh	01/20/2012 15:03	CHindbaugh	01/20/2012 15:03	CHindbaugh	01/21/2012 12:39	Approve	Lachat-N
12012002	12012002-20	NO2+NO3	Nitrate-Nitrite as N	10.1946	mg/L	<input type="checkbox"/>	<input type="checkbox"/>	CWhitecotton	01/20/2012 15:07	CHindbaugh	01/20/2012 15:07	CHindbaugh	01/21/2012 12:43	Approve	Lachat-N
12012002	12012002-22	NO2+NO3	Nitrate-Nitrite as N	13.5127	mg/L	<input type="checkbox"/>	<input type="checkbox"/>	CHindbaugh	01/20/2012 15:03	CHindbaugh	01/20/2012 15:03	CHindbaugh	01/21/2012 12:39	Approve	Lachat-N
12012002	12012002-24	NO2+NO3	Nitrate-Nitrite as N	6.8	mg/L	<input type="checkbox"/>	<input type="checkbox"/>	VGleason	01/20/2012 15:06	CHindbaugh	01/20/2012 15:06	CHindbaugh	01/21/2012 12:42	Approve	Lachat-N
12012002	12012002-26	NO2+NO3	Nitrate-Nitrite as N	7.43	mg/L	<input type="checkbox"/>	<input type="checkbox"/>	CWhitecotton	01/20/2012 15:07	CHindbaugh	01/20/2012 15:07	CHindbaugh	01/21/2012 12:43	Approve	Lachat-N
12012002	12012002-27	NO2+NO3	Nitrate-Nitrite as N	8.18	mg/L	<input type="checkbox"/>	<input type="checkbox"/>	Mdillon	01/20/2012 15:07	CHindbaugh	01/20/2012 15:07	CHindbaugh	01/21/2012 12:43	Approve	Lachat-N
12012002	12012002-34	NO2+NO3	Nitrate-Nitrite as N	13.8571	mg/L	<input type="checkbox"/>	<input type="checkbox"/>	CWhitecotton	01/20/2012 15:07	CHindbaugh	01/20/2012 15:07	CHindbaugh	01/21/2012 12:43	Approve	Lachat-N
12012002	12012002-35	NO2+NO3	Nitrate-Nitrite as N	13.2424	mg/L	<input type="checkbox"/>	<input type="checkbox"/>	Mdillon	01/20/2012 15:07	CHindbaugh	01/20/2012 15:07	CHindbaugh	01/21/2012 12:43	Approve	Lachat-N
12012003	12012003-01	NO2+NO3	Nitrate-Nitrite as N	8.6781	mg/L	<input type="checkbox"/>	<input type="checkbox"/>	CWhitecotton	01/20/2012 15:21	CHindbaugh	01/20/2012 15:21	CHindbaugh	01/21/2012 12:57	Approve	Lachat-N
12012003	12012003-02	NO2+NO3	Nitrate-Nitrite as N	10.962	mg/L	<input type="checkbox"/>	<input type="checkbox"/>	Mdillon	01/20/2012 15:21	CHindbaugh	01/20/2012 15:21	CHindbaugh	01/21/2012 12:57	Approve	Lachat-N
12012402	12012402-01	NO2+NO3	Nitrate-Nitrite as N	10.4016	mg/kg	<input type="checkbox"/>	<input type="checkbox"/>	CHindbaugh	01/24/2012 15:31	CHindbaugh	01/24/2012 15:31	CHindbaugh	01/25/2012 13:07	Approve	Lachat-N

27 – Quality Assurance for Testing

Control Charts

Control Charts
— □ ×

Matrix: **Drinking Water**

Test: **NO2+NO3**

Method: **All Methods**

Parameter: **Nitrate-Nitrite as N**

Instrument: **Lachat-N**

Mark Last: Samples

Percent Recovery

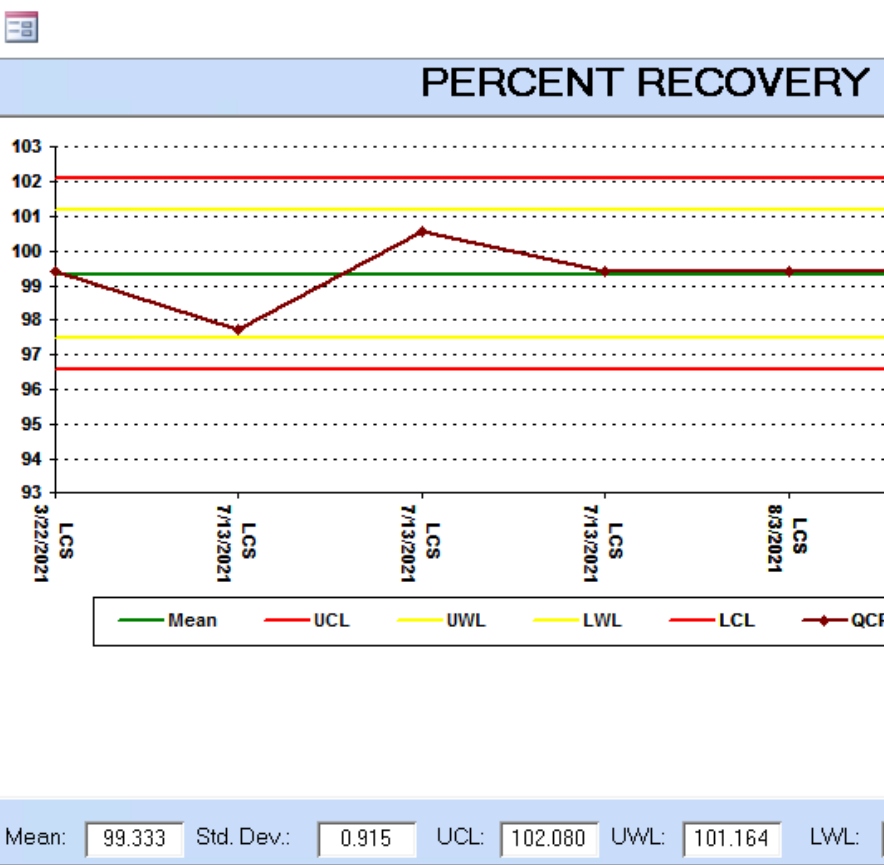
Mean: **99.3333** Std. Dev.: **0.9155**

UCL: **102.0798** UWL: **101.1643**

LWL: **97.5024** LCL: **96.5869**

Analysis Date	Analyst	QC Batch ID	QC Type	%Rec	<input type="checkbox"/>	<input type="checkbox"/>
3/22/2021	DBA	QC2103003	LCS	99.42857	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
7/13/2021	DBA	QC2107001	LCS	99.42857	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
7/13/2021	DBA	QC2107002	LCS	100.57143	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
7/13/2021	DSloan	QC2107003	LCS	97.71429	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
8/3/2021	DBA	QC2108004	LCS	99.42857	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
8/5/2021	DBA	QC2108005	LCS	99.42857	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

C: Include In Limits Calculation +: Include in Chart/Data



27 – Quality Assurance for Testing

MDL Calculator

MDL Calculator

Standard:

Blank:

Optional

Date Range:

Matrix:

Test:

Method:

Parameter:

Instrument:

Units:

Grouping: By Matrix By Method

MDL Results

Calculate MDL Mark 50 Results

Matrix	Test	Method	Param	NumericRest	Units	AnalysisDate	Instrument	QCType	QCBatchID	
Drinking Water	NO2+NO3	EPA 353.2	Nitrate-Nitrite as	1.19	mg/L	8/5/2021 7:27:38 PM	Lachat-N	CCV	QC2108005	<input checked="" type="checkbox"/>
Drinking Water	NO2+NO3	EPA 353.2	Nitrate-Nitrite as	1.21	mg/L	8/5/2021 7:27:38 PM	Lachat-N	CCV	QC2108005	<input checked="" type="checkbox"/>
Drinking Water	NO2+NO3	EPA 353.2	Nitrate-Nitrite as	1.19	mg/L	8/3/2021 1:55:26 PM	Lachat-N	CCV	QC2108004	<input checked="" type="checkbox"/>
Drinking Water	NO2+NO3	EPA 353.2	Nitrate-Nitrite as	1.19	mg/L	8/3/2021 1:55:26 PM	Lachat-N	CCV	QC2108004	<input checked="" type="checkbox"/>
Drinking Water	NO2+NO3	EPA 353.2	Nitrate-Nitrite as	1.19	mg/L	7/13/2021 3:50:03 PM	Lachat-N	CCV	QC2107002	<input checked="" type="checkbox"/>
Drinking Water	NO2+NO3	EPA 353.2	Nitrate-Nitrite as	1.19	mg/L	7/13/2021 3:50:03 PM	Lachat-N	CCV	QC2107002	<input checked="" type="checkbox"/>
Drinking Water	NO2+NO3	EPA 353.2	Nitrate-Nitrite as	1.211	mg/L	7/13/2021 3:50:03 PM	Lachat-N	CCV	QC2107002	<input checked="" type="checkbox"/>
Drinking Water	NO2+NO3	EPA 353.2	Nitrate-Nitrite as	1.19	mg/L	7/13/2021 2:48:54 PM	Lachat-N	CCV	QC2107001	<input checked="" type="checkbox"/>
Drinking Water	NO2+NO3	EPA 353.2	Nitrate-Nitrite as	1.19	mg/L	7/13/2021 2:48:54 PM	Lachat-N	CCV	QC2107001	<input checked="" type="checkbox"/>
Drinking Water	NO2+NO3	EPA 353.2	Nitrate-Nitrite as	1.19	mg/L	7/7/2020 10:55:43 AM	Lachat-N	CCV	QC2007001	<input checked="" type="checkbox"/>
Drinking Water	NO2+NO3	EPA 353.2	Nitrate-Nitrite as	1.2	mg/L	7/7/2020 10:55:43 AM	Lachat-N	CCV	QC2007001	<input checked="" type="checkbox"/>
Drinking Water	NO2+NO3	EPA 353.2	Nitrate-Nitrite as	0.02	mg/L	8/5/2021 7:27:10 PM	Lachat-N	Method Blank	QC2108005	<input type="checkbox"/>
Drinking Water	NO2+NO3	EPA 353.2	Nitrate-Nitrite as	0	mg/L	8/3/2021 1:55:17 PM	Lachat-N	Method Blank	QC2108004	<input type="checkbox"/>
Drinking Water	NO2+NO3	EPA 353.2	Nitrate-Nitrite as	0	mg/L	7/13/2021 2:48:54 PM	Lachat-N	Method Blank	QC2107001	<input type="checkbox"/>

Record: 1 of 19

MDL Calculate

Update Marked

Matrix	Test	Method	Param	MDL	Units	MDLs	MDLb	
Drinking Water	NO2+NO3	EPA 353.2	Nitrate-Nitrite as	0.02	mg/L	0.02		<input type="checkbox"/>


Record: 1 of 1

28 – Reporting and Results

Reports should include:

- Title
- Names and Address
- Identification of method
- Date, time of activities
- Results with appropriate units of measure
- Specifications where appropriate
- Deviations & Exclusions (Qualifiers)
- Identification of Authorizing person

EDDs – Electronic Data Deliverables



Main Lab
496 Holly Grove School Rd. West End, NC 27376

Analytical Results Report

Client: Jordan Lake
Attn: Brothers, Misty Lynne (Vice President, Operations)
Address: 496 Holly Grove School Rd
West End, NC 27376

Work Order Number: W-190923-01
Project: Intal Evaluation

Field Sample ID	Laboratory Sample ID	Matrix	Collection Date/Time	Receive Date/Time
Curtis Park	W-190923-01-01	Water	09/20/2019 0000	09/23/2019 1222
Gateway Park	W-190923-01-02	Water	09/20/2019 0000	09/23/2019 1222

Sample Number	Field Sample ID	Work Order Number
W-190923-01-01	Curtis Park	W-190923-01

Parameter	Analytical Method	Result	Qualifier	Units	Dilution	Analysis Batch	Analysis Date	Analyst
Ammonia	Ammonia (NH3)	4500-NH3	2.34	ppm	1.0000	AB-190923-03	09/20/2019 1220	Chandler, Scott

Sample Number	Field Sample ID	Work Order Number
W-190923-01-02	Gateway Park	W-190923-01

Parameter	Analytical Method	Result	Qualifier	Units	Dilution	Analysis Batch	Analysis Date	Analyst
Ammonia	Ammonia (NH3)	4500-NH3	Not Detected	µg/L	1.0000	AB-190923-03	09/20/2019 1220	Chandler, Scott

The results listed in this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This laboratory report is confidential and intended for the sole use of XYZ Laboratory and its client. This report shall not be reproduced, except in full, without written permission from XYZ Laboratories. The Chain of Custody is included and is an integral part of this report. The entire report was reviewed and approved for release.

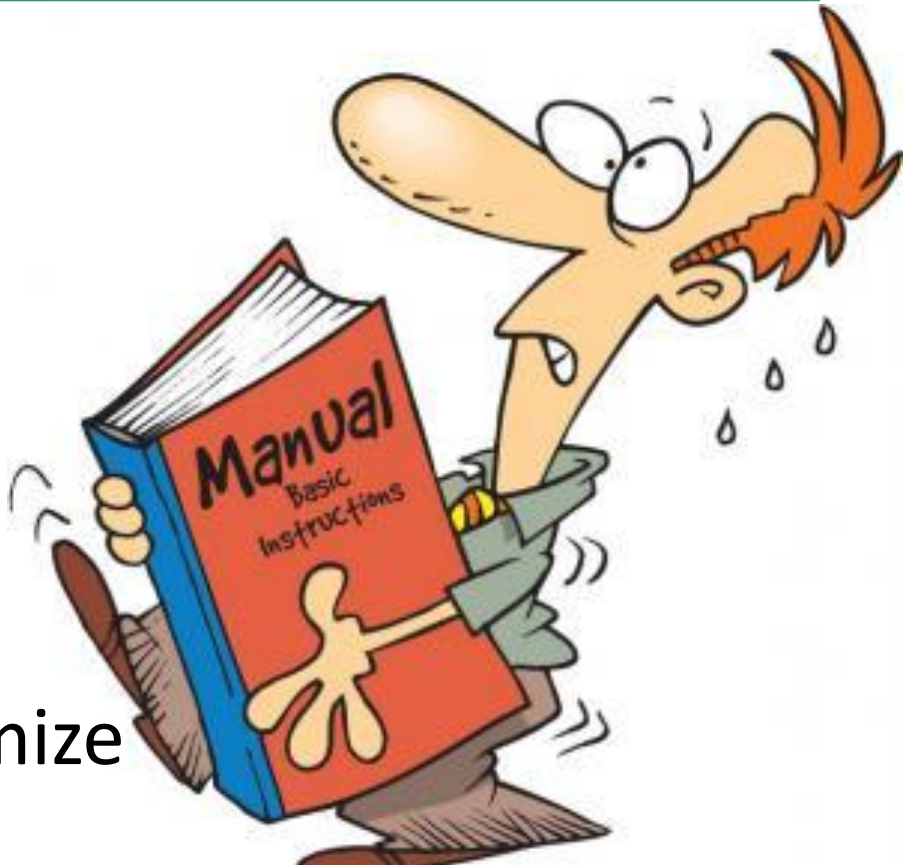
NELAC Certification #: _____

The results listed in this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This laboratory report is confidential and intended for the sole use of XYZ Laboratory and its client. This report shall not be reproduced, except in full, without written permission from XYZ Laboratories. The Chain of Custody is included and is an integral part of this report. The entire report was reviewed and approved for release.

NELAC Certification #: _____

Approved

USING LIMS TO OPTIMIZE THE LABORATORY OPERATIONS AND NELAP COMPLIANCE



So, which is easier a LIMS to Optimize your laboratory or all of those Logbooks, Spreadsheets, worksheets, and hand written records that you currently have?



THANK YOU!



Stephen Wesson, Director of Sales
Accelerated Technology Laboratories

- Email: swesson@atlab.com
- Stop by Booth # 7