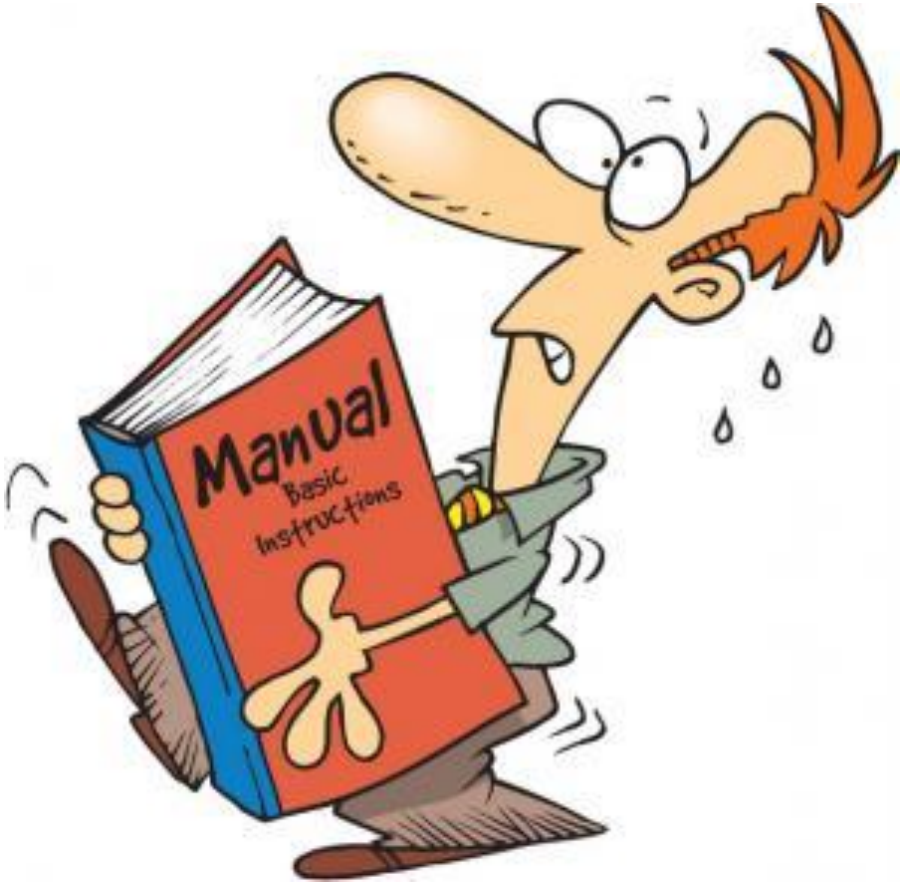
THE KEY LIMS CAPABILITIES YOU NEED TO OPTIMIZE LABORATORY OPERATIONS AND NELAP COMPLIANCE



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

NEMC

Accelerated Technology LABORATORIES INC.
LEADERS IN LIMS

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

NEMC

Accelerated Technology LABORATORIES INC.
LEADERS IN LIMS

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!"

NEMC
Accelerated Technology LABORATORIES INC.
LEADERS IN LIMS

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.

NEMC

Accelerated Technology LABORATORIES INC.
LEADERS IN LIMS

TNI Sections of a Quality Assurance Manual

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

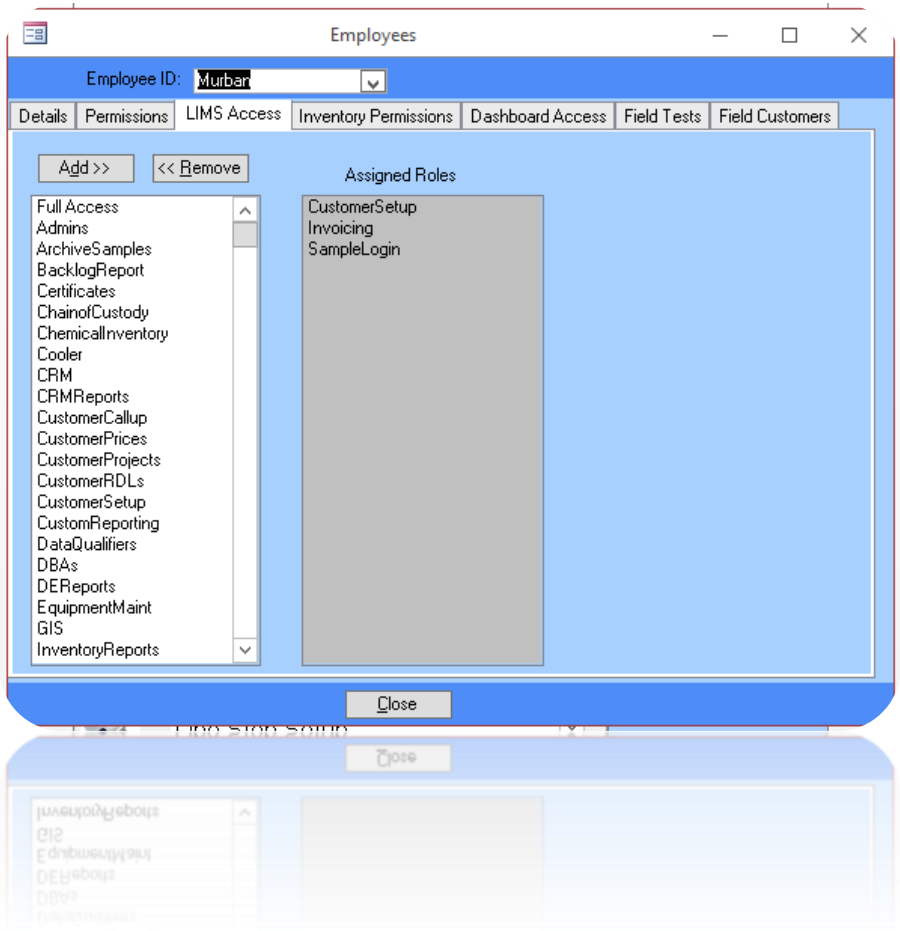
* TNI 2016 Quality Manual Template

NEMC

Accelerated Technology LABORATORIES INC.
LEADERS IN LIMS

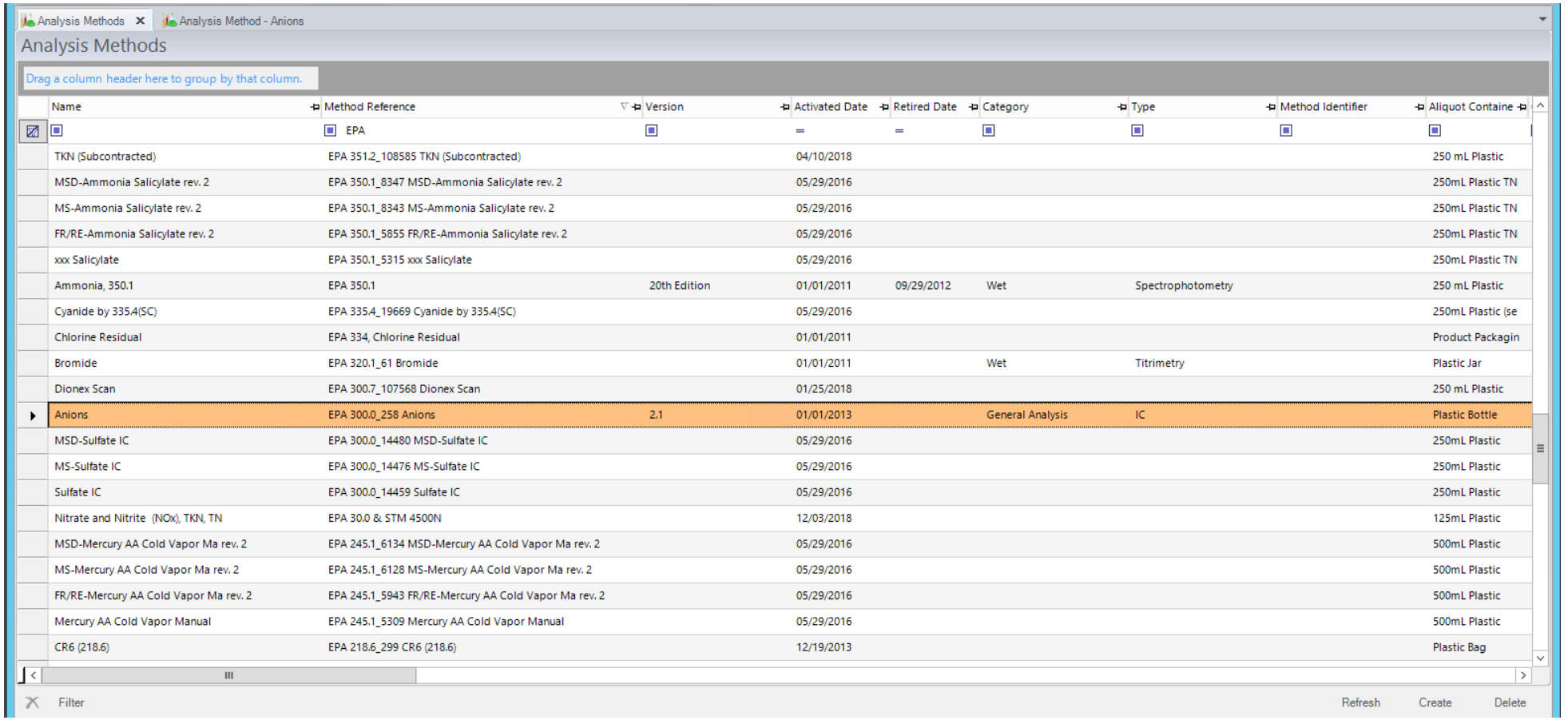
4 – Organization & 20 - Personnel

Roles and Permissions



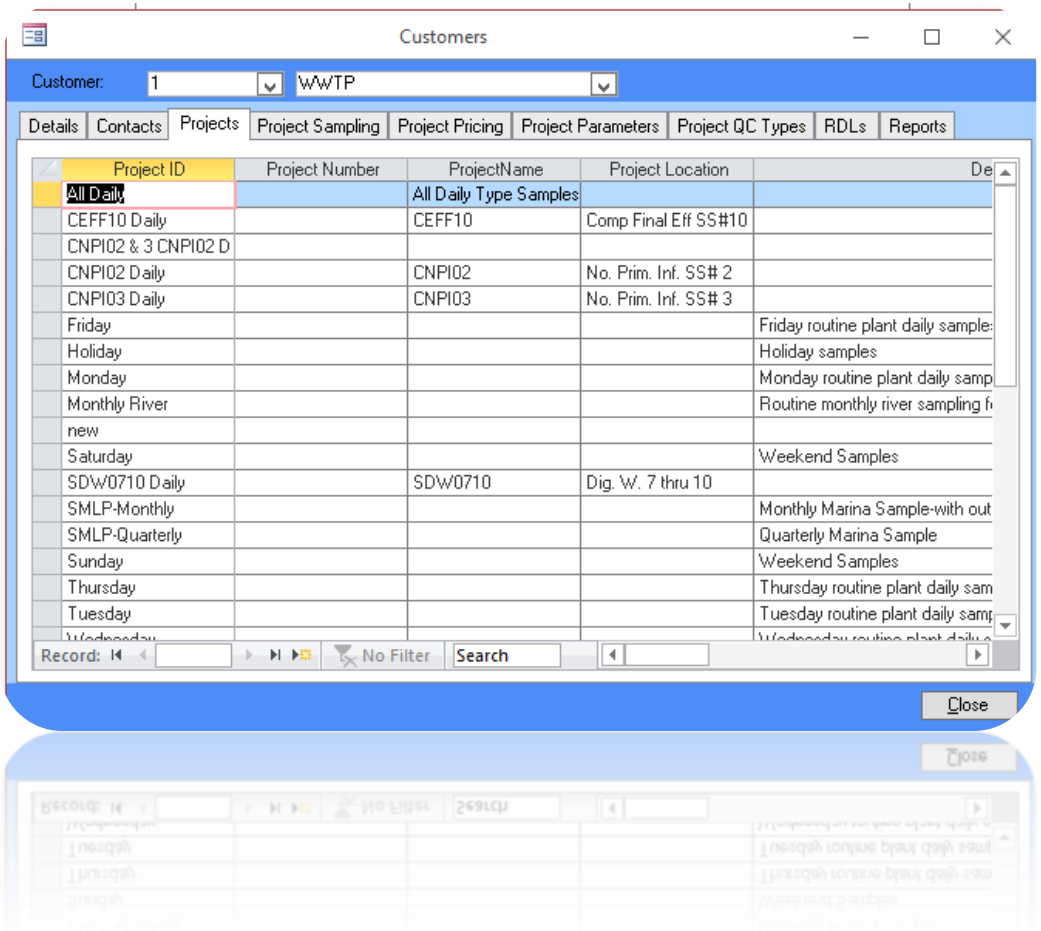
6 – Document Control

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



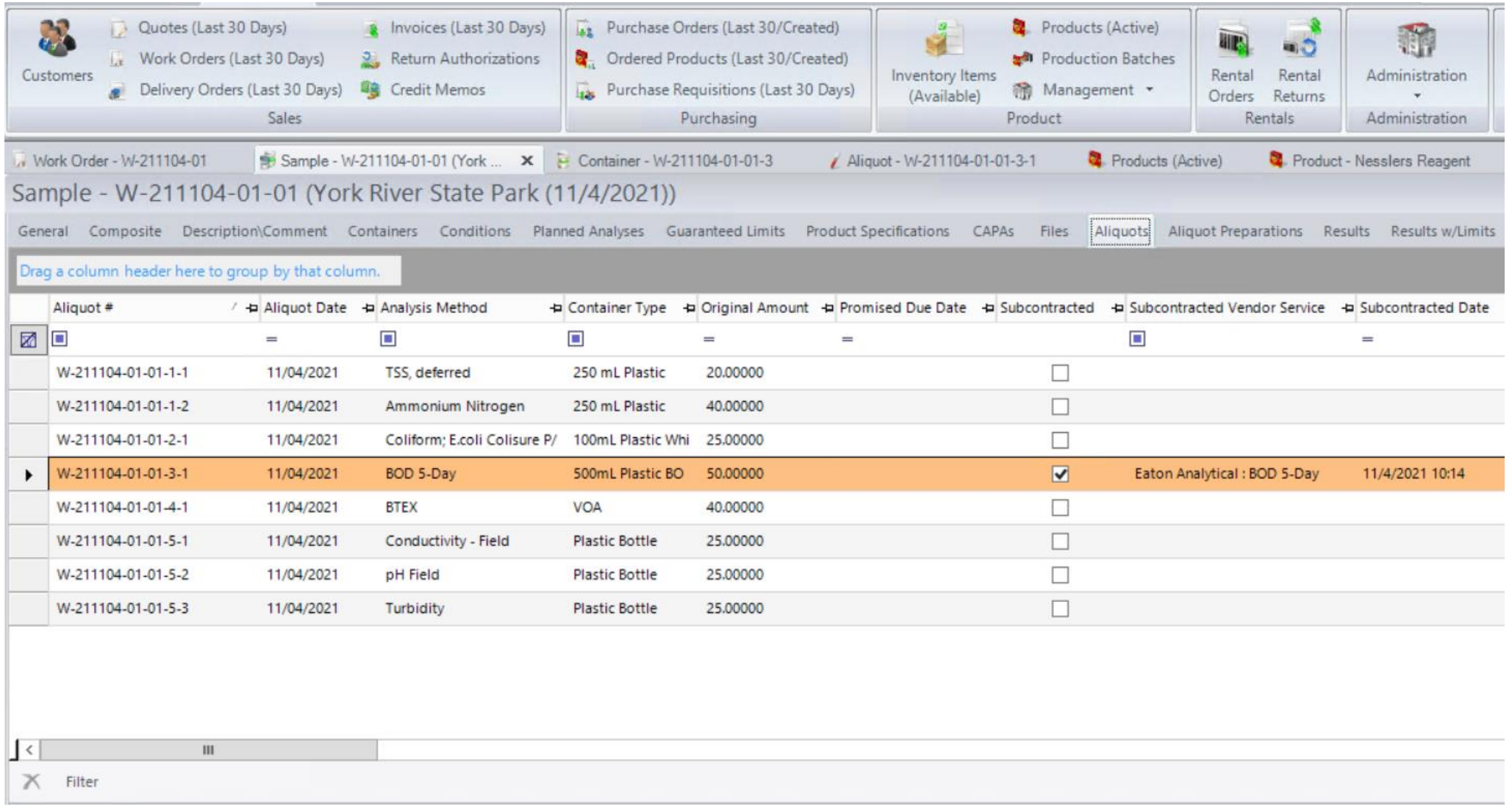
Name	Method Reference	Version	Activated Date	Retired Date	Category	Type	Method Identifier	Aliquot Containe
	EPA		=	=				
TKN (Subcontracted)	EPA 351.2_108585 TKN (Subcontracted)		04/10/2018					250 mL Plastic
MSD-Ammonia Salicylate rev. 2	EPA 350.1_8347 MSD-Ammonia Salicylate rev. 2		05/29/2016					250mL 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 (NOx), 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

7 - Review of Requests, Tenders & Contracts

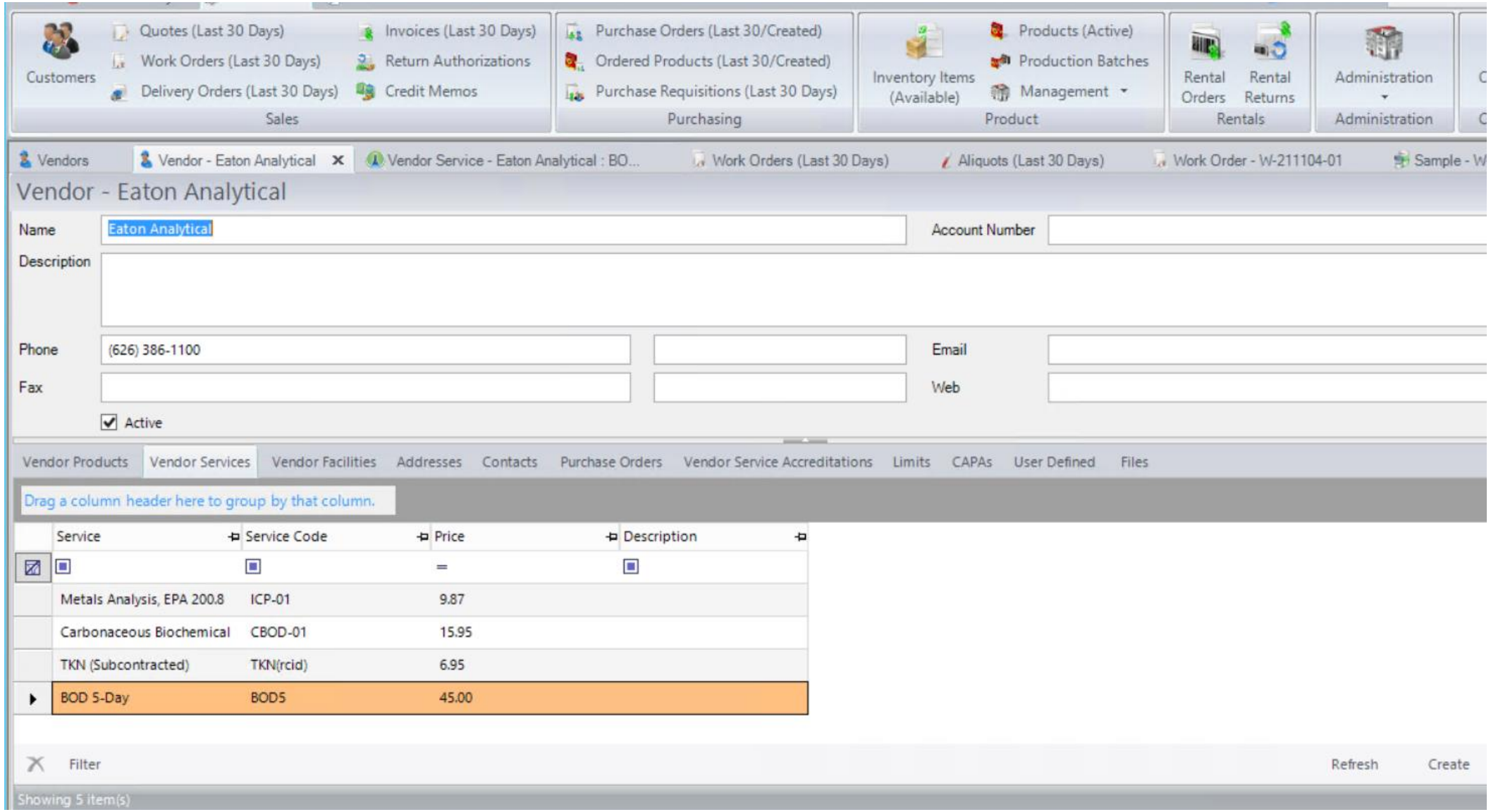


Ensure that requirements of requests, tenders and contracts are **adequately defined, documented and understood.**

8 - Subcontracting of Tests

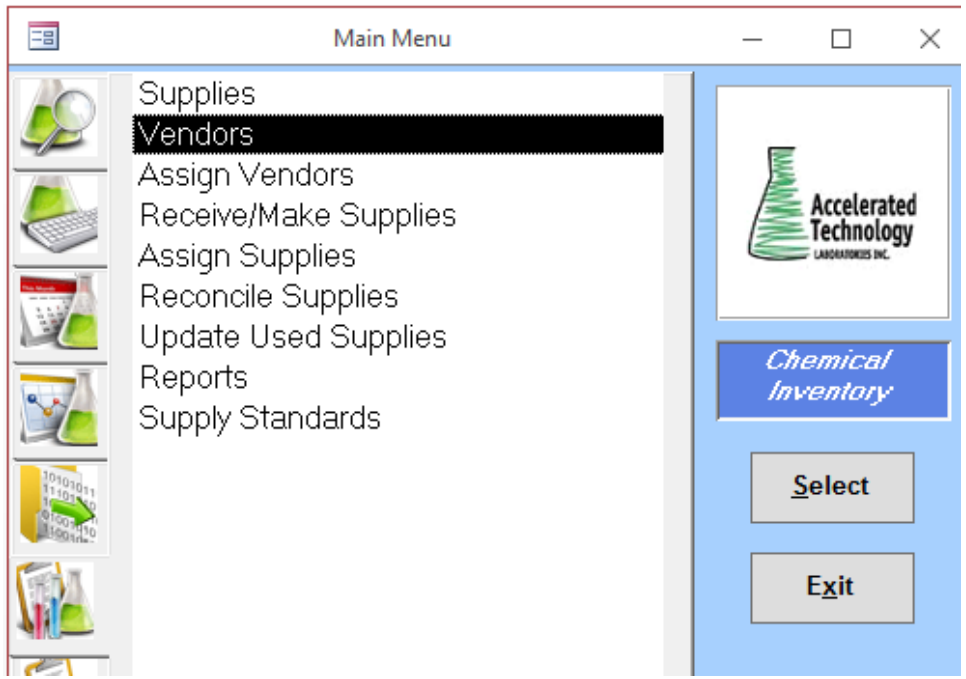


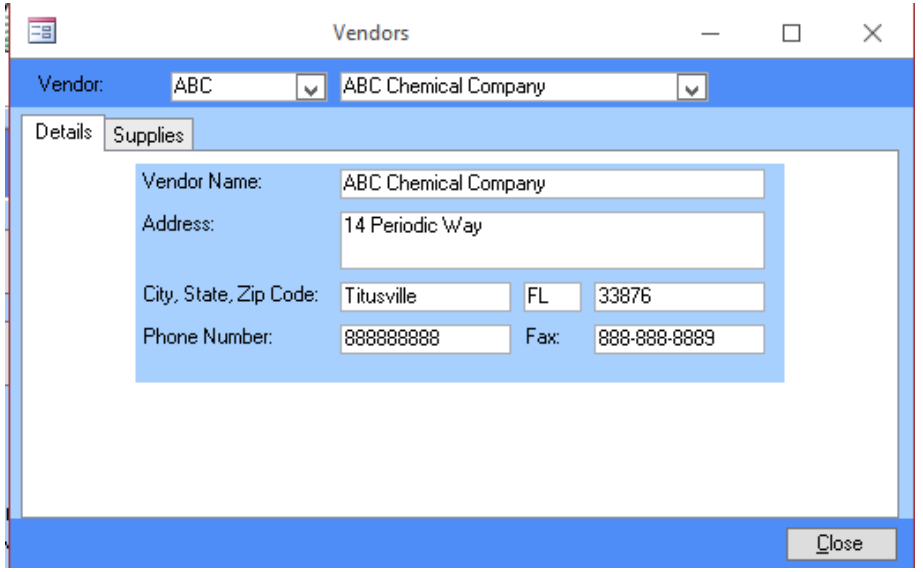
8 - Subcontracting of Tests

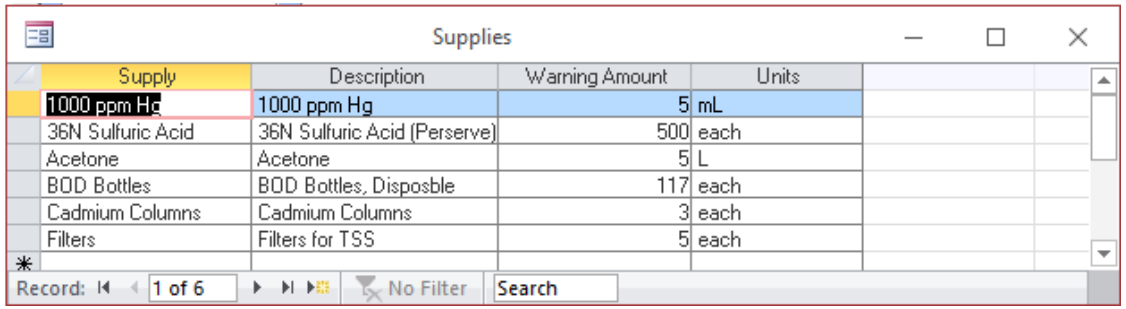


9 – Purchasing Services & Supplies

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



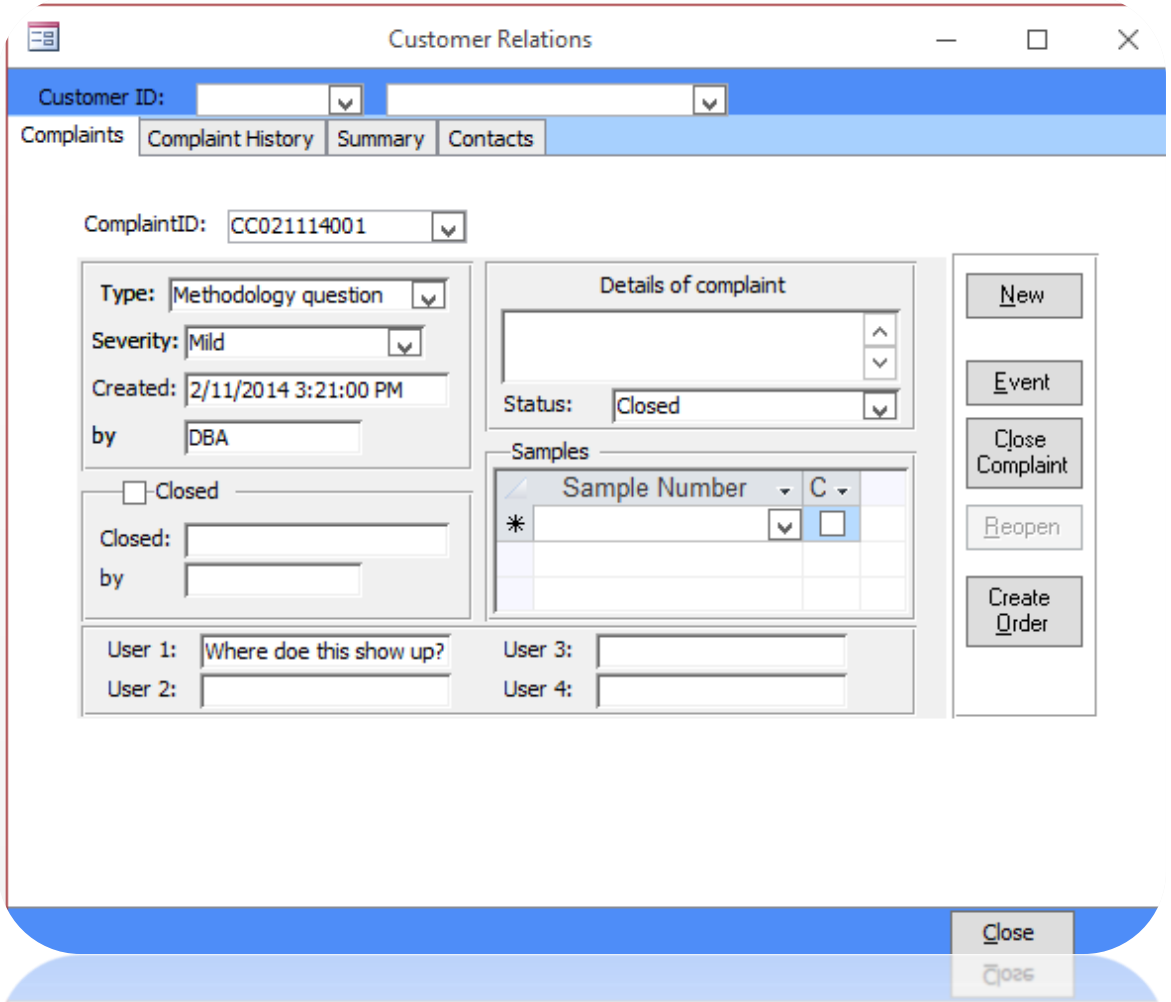




Accelerated Technology LABORATORIES INC.
LEADERS IN LIMS

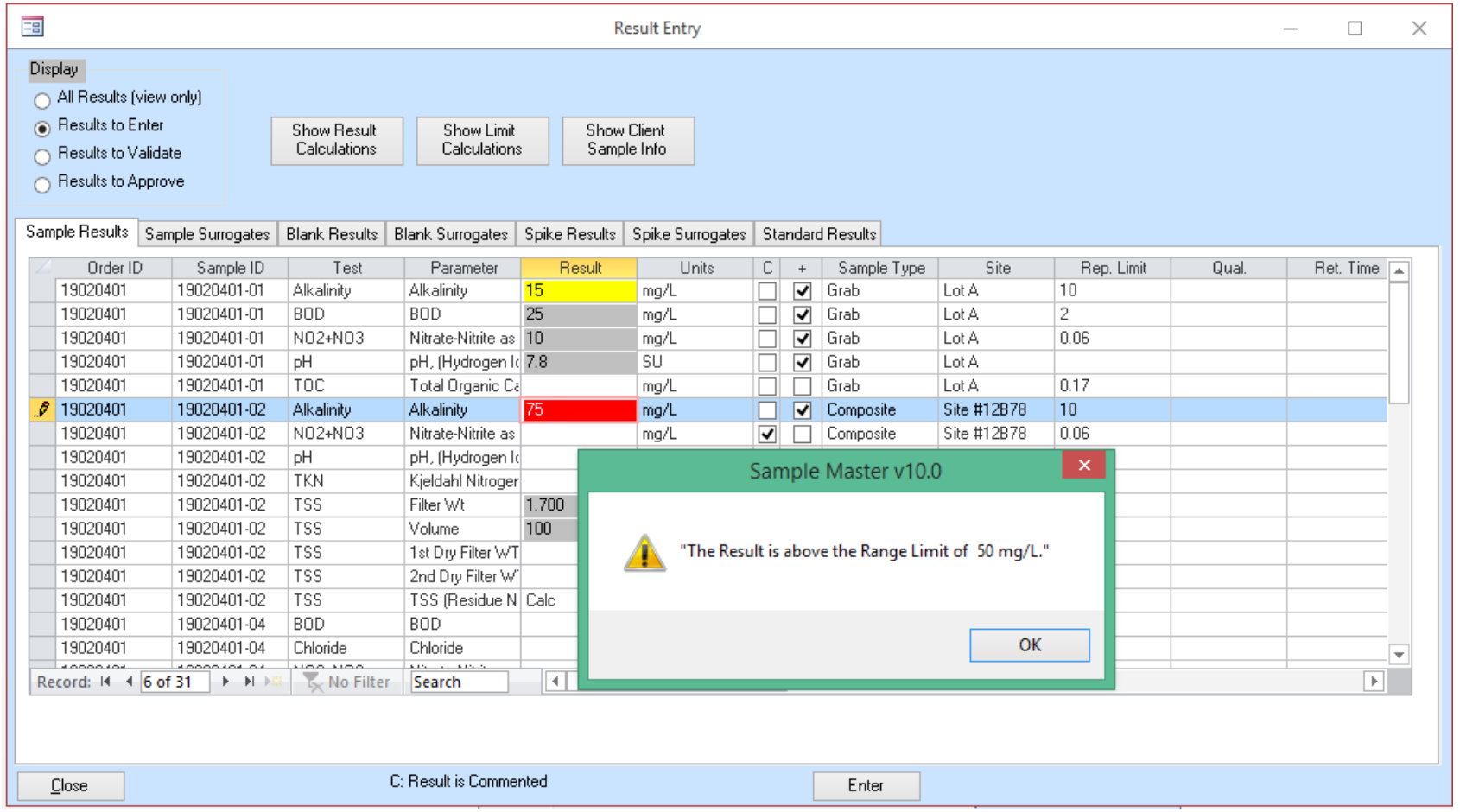
11 – Customer Complaints

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

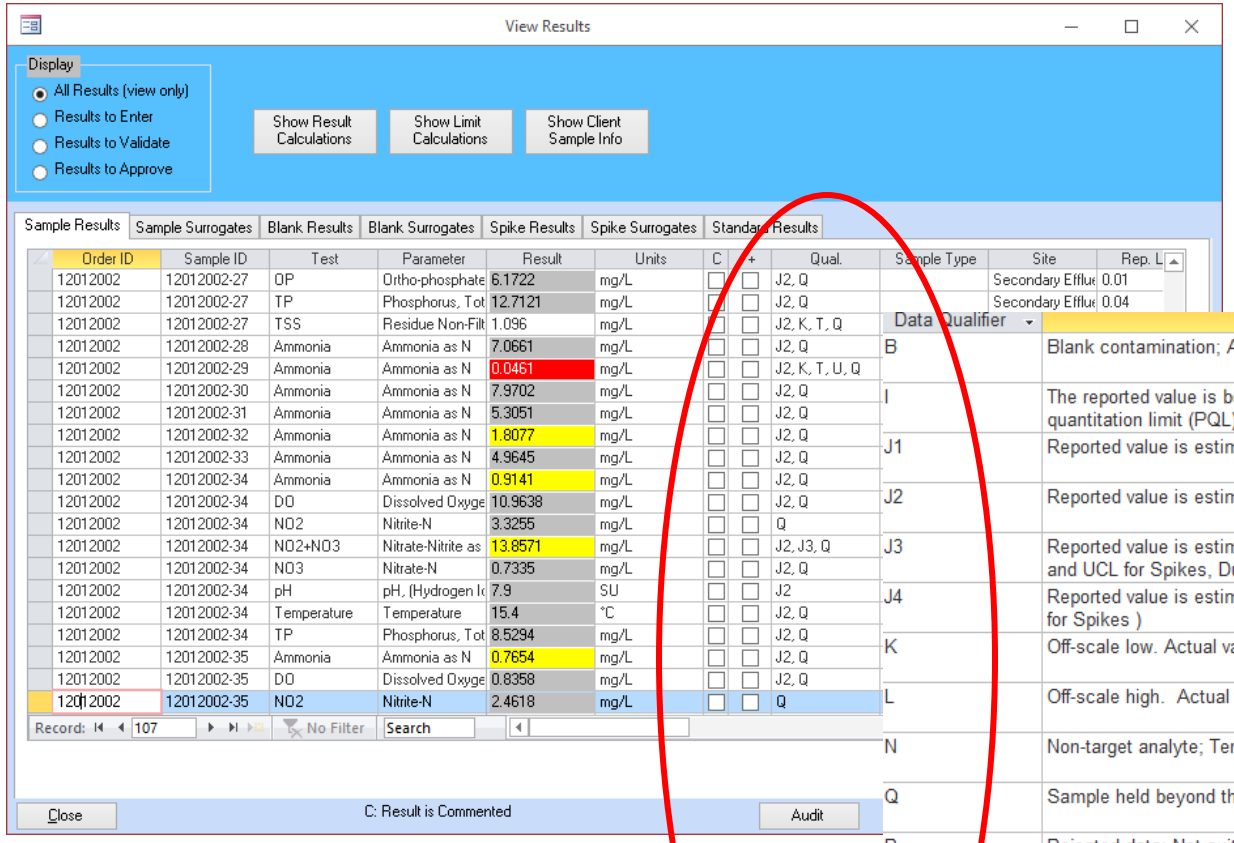


12 – Control of Non-conforming Work

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



Data Qualifiers



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)

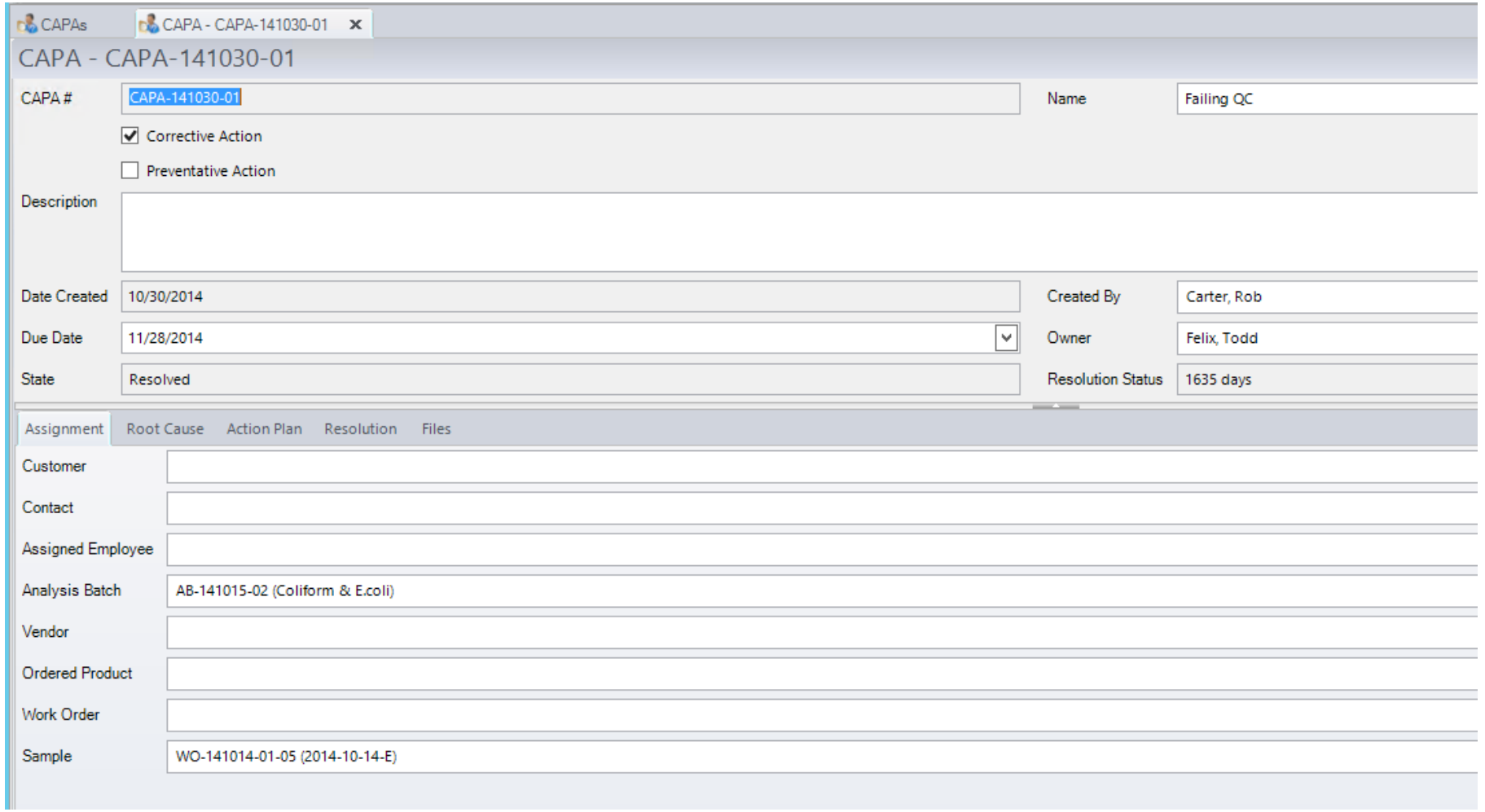
13/14/15 – Improvement, Corrective & Preventative Actions

Corrective Actions - (*CAPA)*

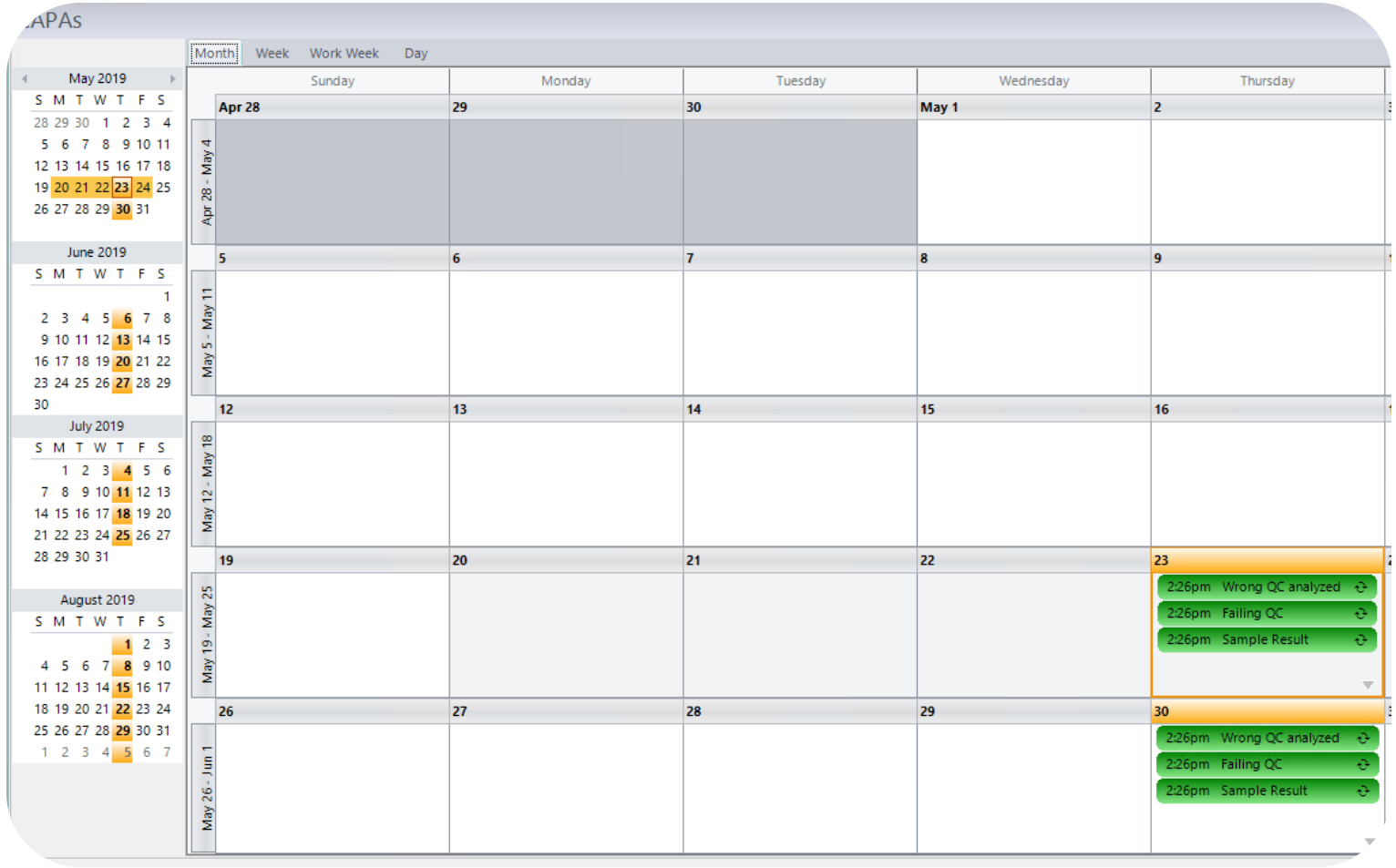
a) React to nonconformity (*Investigate Incident*)
b) Evaluate the need for action (*Root Cause*)
c) Implement action (*Action Plan*)
d) Review the effectiveness (*resolution*)
e) Make changes to management system

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.



CAPA Calendar



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

Permit Number
USA

Samplers Initials _____

All Samples Refrigerated?: Y ____ N ____
Comment(s):

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

SAMPLER(S) SIGNATURE:

SIGNATURE OF COMPANY REPRESENTATIVE: Date: Time:

Set Date / Set Time	End Date / End Time	Sample ID - Site ID	Sample Type	Matrix	Method	Container Type	Preservative	Sample	Blanks
8/6/2021 1:23 PM	8/6/2021 1/1/1900 1:23:52 PM	21080602-01 - Field #123		Waste Water	EPA 200.8 - ICP-MS Total	1/2 Gallon Plastic (acid preserved)	HNO3 to pH < 2		

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

Chain of Custody Record and Analysis Request Form

ATL TITAN
BEYOND LABORATORY INFORMATION MANAGEMENT

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:

LIMS Sample #	Sample #	Collection Information: Date	Time	Collector	Analysis Methods	Container	Recieved
W-211028-02-01	Sample Effluent (009) (10/28/2021)				zzother name	W-211028-02-01-1	☐
					pH	W-211028-02-01-1	☐
					Temperature - Field	W-211028-02-01-1	☐
					Alkalinity	W-211028-02-01-1	☐
					Ammonia, 350.1	W-211028-02-01-1	☐
					ICP Metals	W-211028-02-01-1	☐
					Anions	W-211028-02-01-1	☐
W-211028-02-02	Sample Influent (008) (10/28/2021)				zzother name	W-211028-02-02-1	☐
					pH	W-211028-02-02-1	☐
					Temperature - Field	W-211028-02-02-1	☐
					Alkalinity	W-211028-02-02-1	☐
					Ammonia, 350.1	W-211028-02-02-1	☐
					ICP Metals	W-211028-02-02-1	☐
					Anions	W-211028-02-02-1	☐

Customer to sign & date below

Relinquished By:	Date/Time:	Accepted By:	Date/Time:
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:	Sealed/Lock Opened By:	Date/Time:

Total Samples: 2
Priority
Normal
10.00 day
Date Results Requested

Accelerated Technology LABORATORIES INC.
LEADERS IN LIMS

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.

General | Training Courses | Trainer Employees | Employee Type Trainings | Employee Effective Trainings | Exempt Employees | Documents | Notes | Training Resources

Drag a column header here to group by that column.

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

NEMC
Accelerated Technology LABORATORIES INC.
LEADERS IN LIMS

23 – Calibration Requirements

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

Instruments | Instrument - 12-305

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-	Prep Duration	
		Analysis Duration	
Run Capacity		Results Are Corrected For Dilution	
Export Path			
Available		State	Available

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

Maintenance History

Scheduled Asset Maintenance

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.

Filter

Showing 3 item(s)

Logged in as TITANW\ATLUSER on TITANW:8000 - SessionId: 22114

23 – Calibration Requirements

Calibrations Expiring within 1 Month

Report Date: Thursday, November 4, 2021

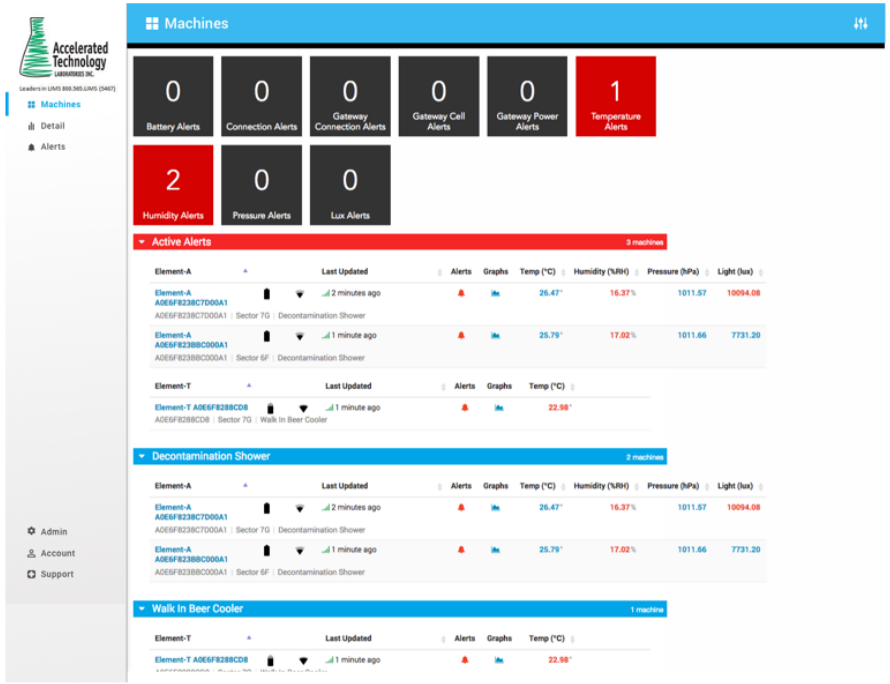
Expiration Date	Calibration Description	Instrument	Cert. Agency	Matrix	Test	Method
11/22/2020	Annual Service	ICP	In House	Waste Water	EC_7 metals	EPA 200.7
11/22/2020	Annual Service	ICP	In House	Waste Water	ICP-OES Dissolved	EPA 200.7
9/3/2020	Annual Service	ICP	In House	Waste Water	ICP-OES Total	EPA 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

NEMC

Accelerated Technology LABORATORIES INC.
LEADERS IN LIMS

23 – Calibration Requirements

Monitor Plus – Remote Temperature Monitoring



Monitor:

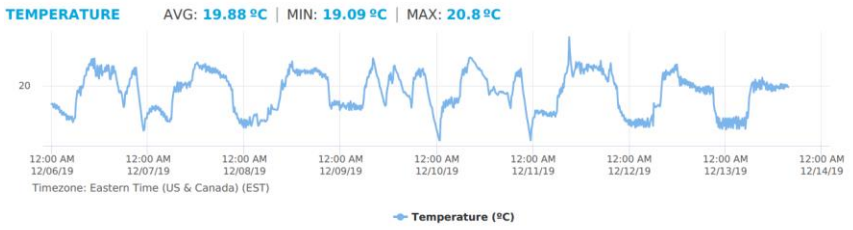
- Fridges
- Freezers
- Incubators
- Humidity chambers

NIST National Institute of Standards and Technology U.S. Department of Commerce

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:

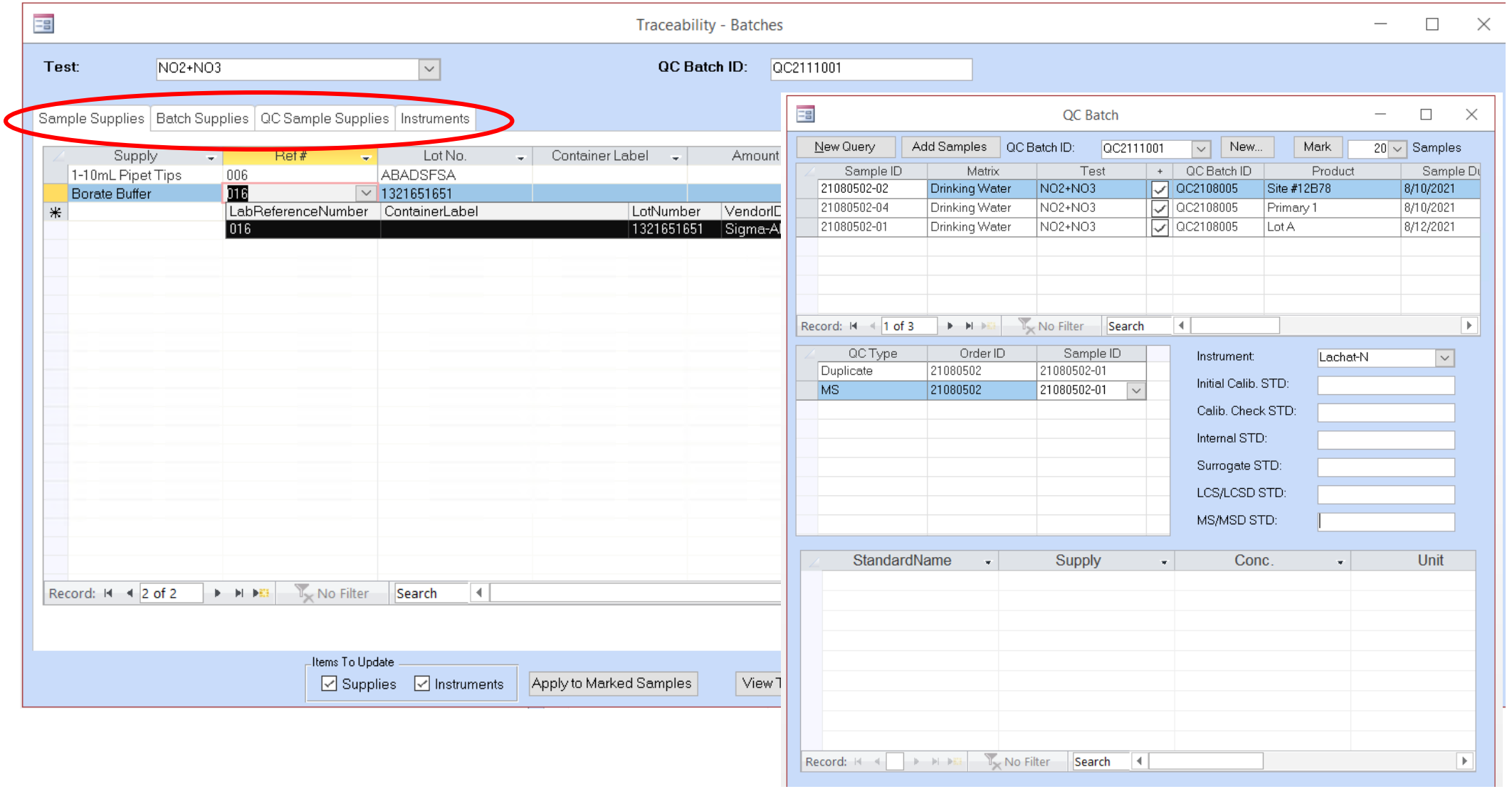
EQUIPMENT DETAILS
Category: **Unknown**
Manufacturer:
Model:
Service Entered Date:



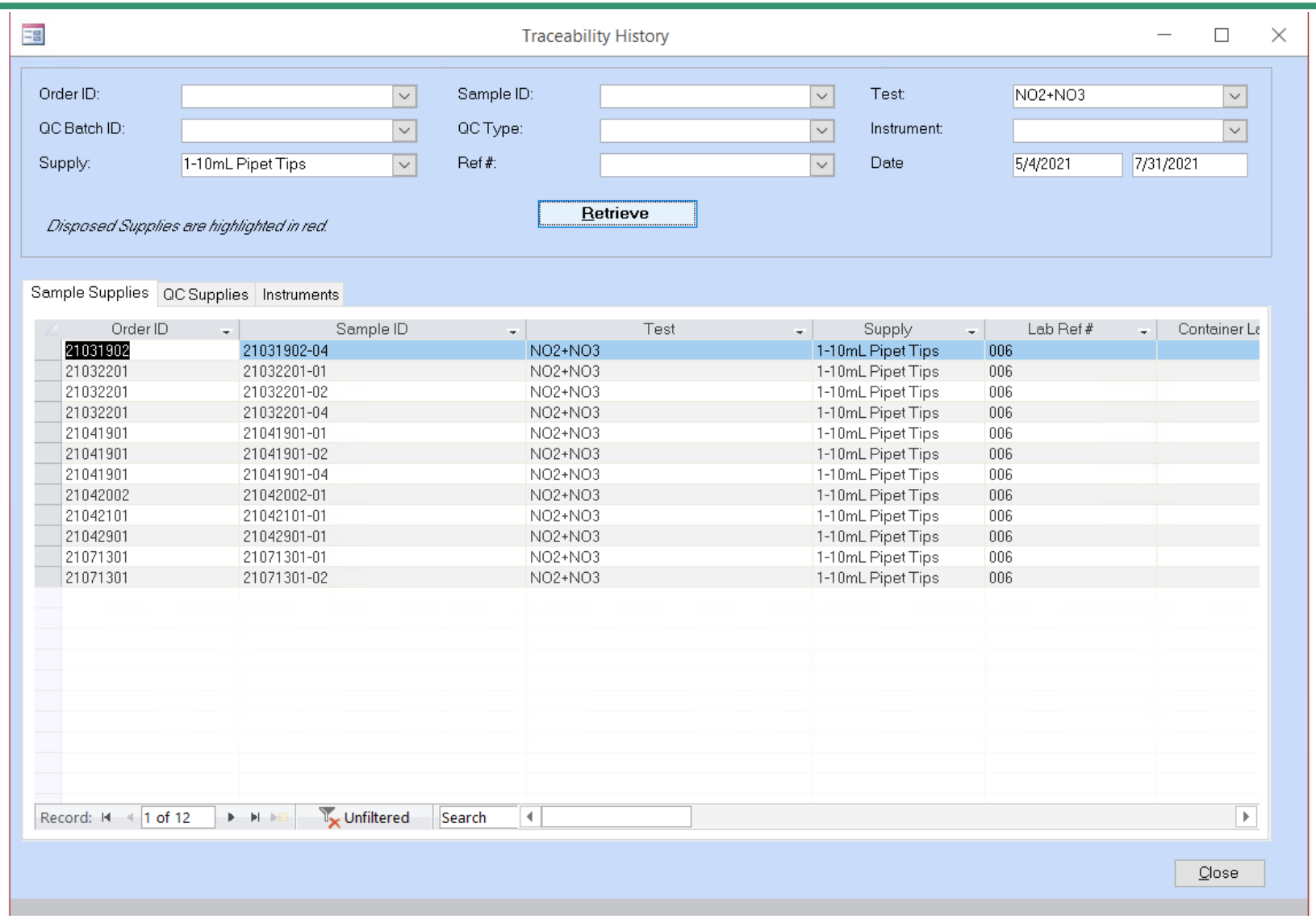
Replacement of mundane tasks – Temperature Monitoring daily recording of incubators, fridges and freezers

Accelerated Technology LABORATORIES INC. LEADERS IN LIMS

24 – Measurement Traceability



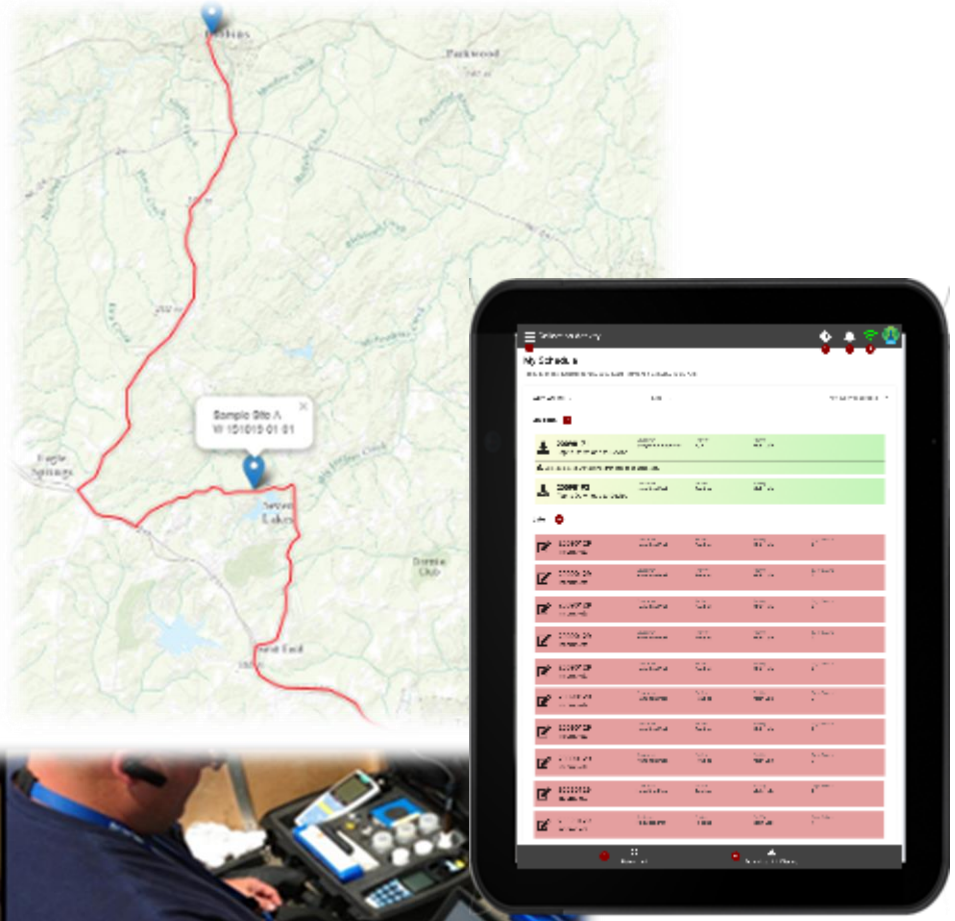
24 – Measurement Traceability



25 – Collection of Samples

Retain Records including:

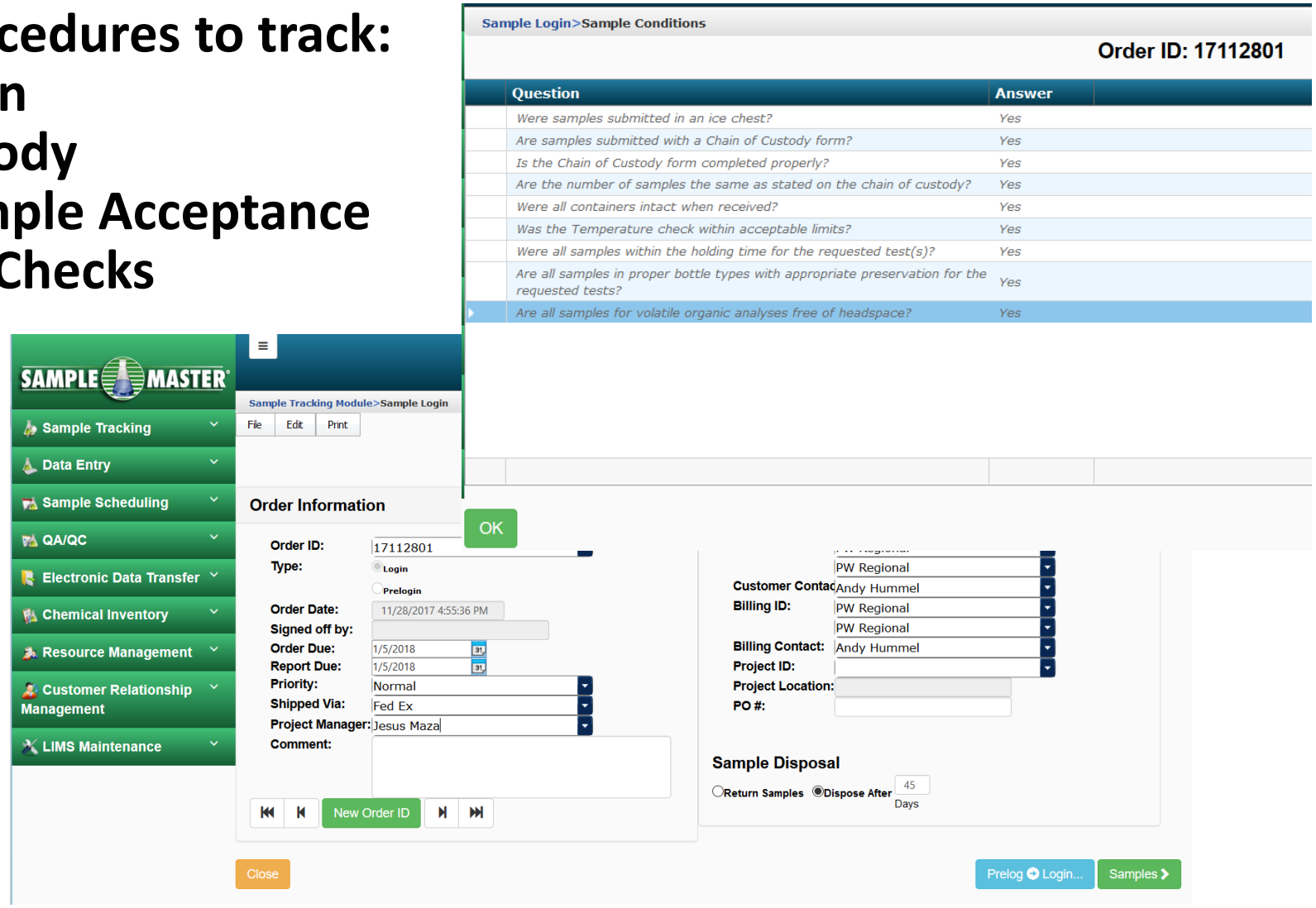
- Reference to sampling methods
- Date, time and conditions of sampling
- Person collecting the samples
- Location information/site identification
- Field Results
- Eliminate transcription errors
- Comments



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



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:**

Recv'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		NIOSH 7400	11/2/2021	

Sample #: 21101901-02 **Customer Sample #:** **Site:**

Recv'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 Confirm	11/2/2021	

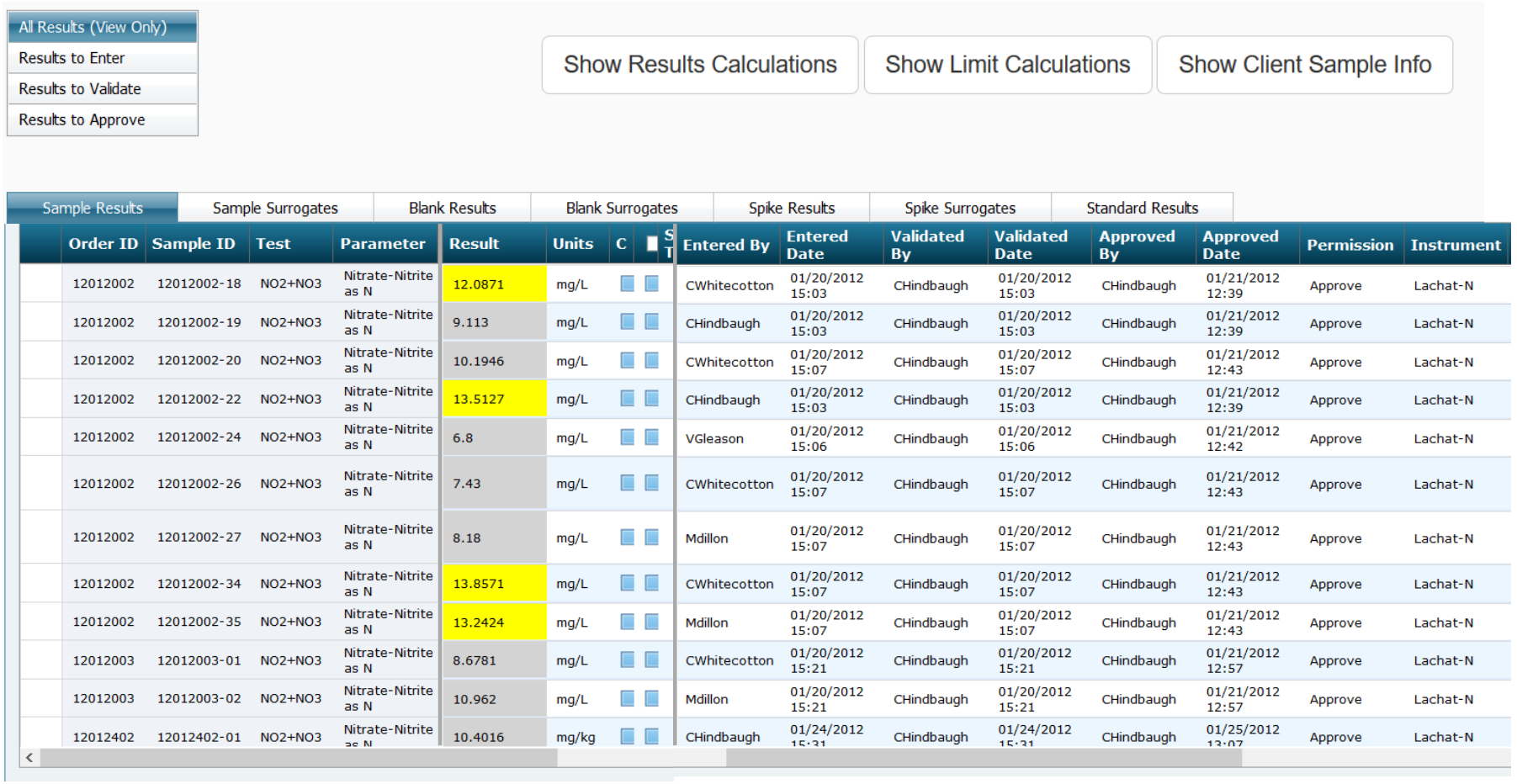
Customer Name: McGrains **Order ID:** 21101901
Purchase Order: **Order Date:** 10/19/2021
Project ID:
Comment:

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

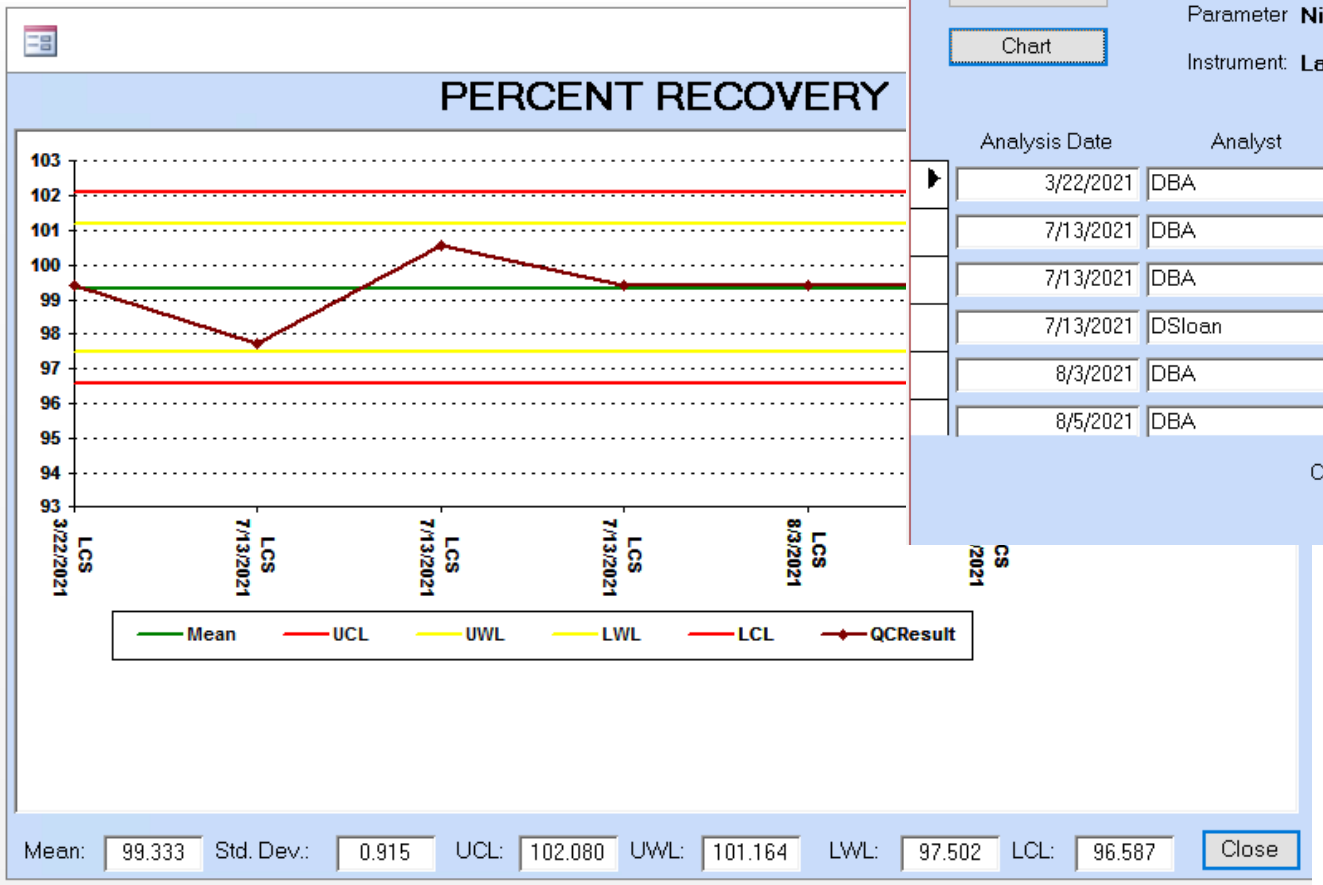
Data Review

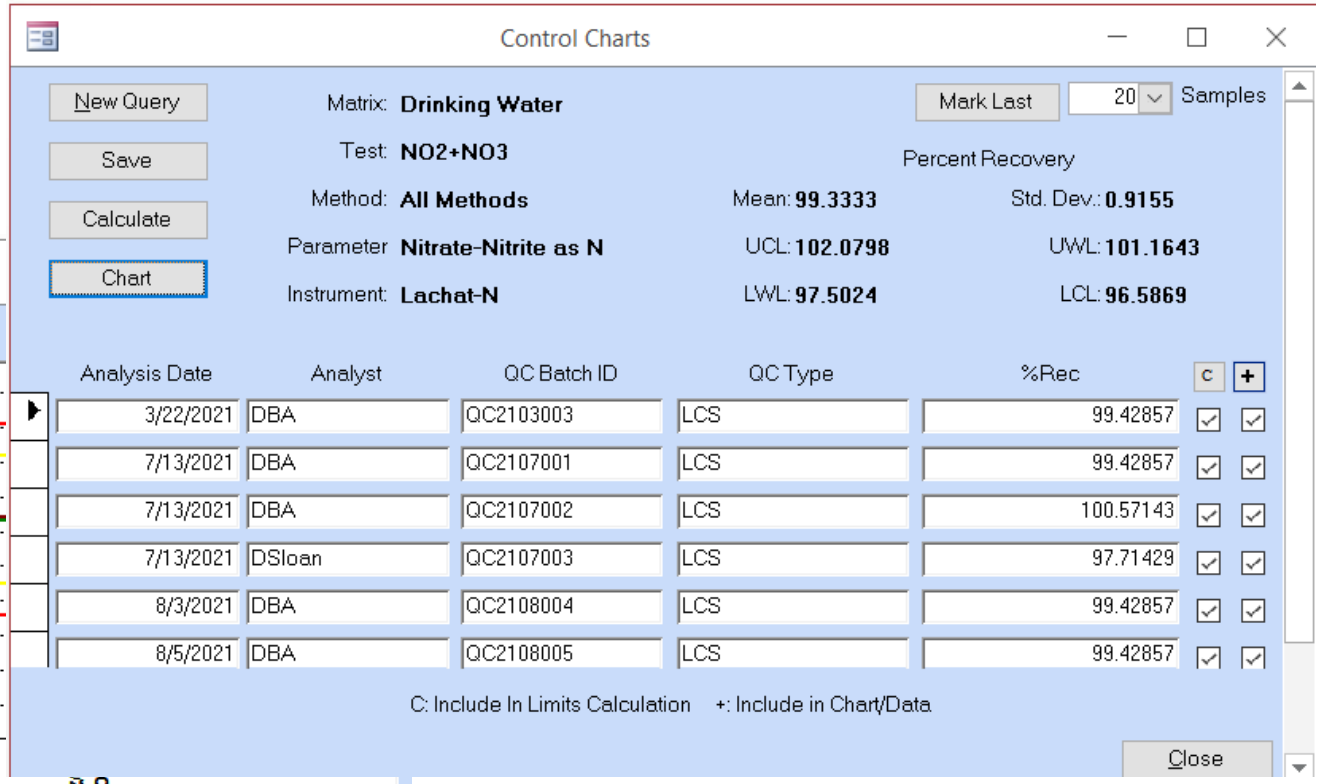


Order ID	Sample ID	Test	Parameter	Result	Units	C	Entered By	Entered Date	Validated By	Validated Date	Approved By	Approved Date	Permission	Instrument
12012002	12012002-18	NO2+NO3	Nitrate-Nitrite as N	12.0871	mg/L		CWhitecotton	01/20/2012 15:03	CHindbaugh	01/20/2012 15:03	CHindbaugh	01/21/2012 12:39	Approve	Lachat-N
12012002	12012002-19	NO2+NO3	Nitrate-Nitrite as N	9.113	mg/L		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		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		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		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		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		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		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		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		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		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		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

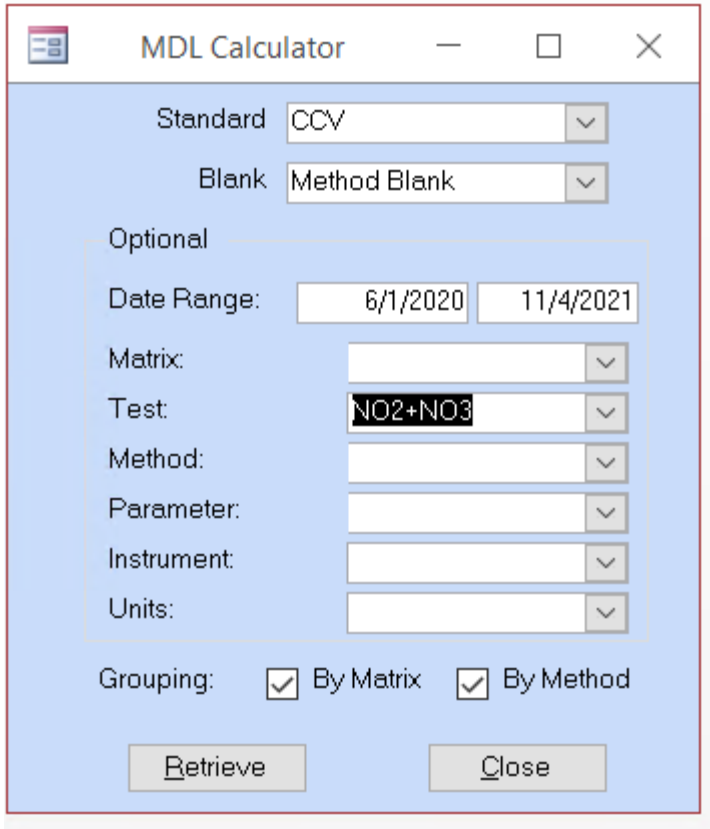
Control Charts

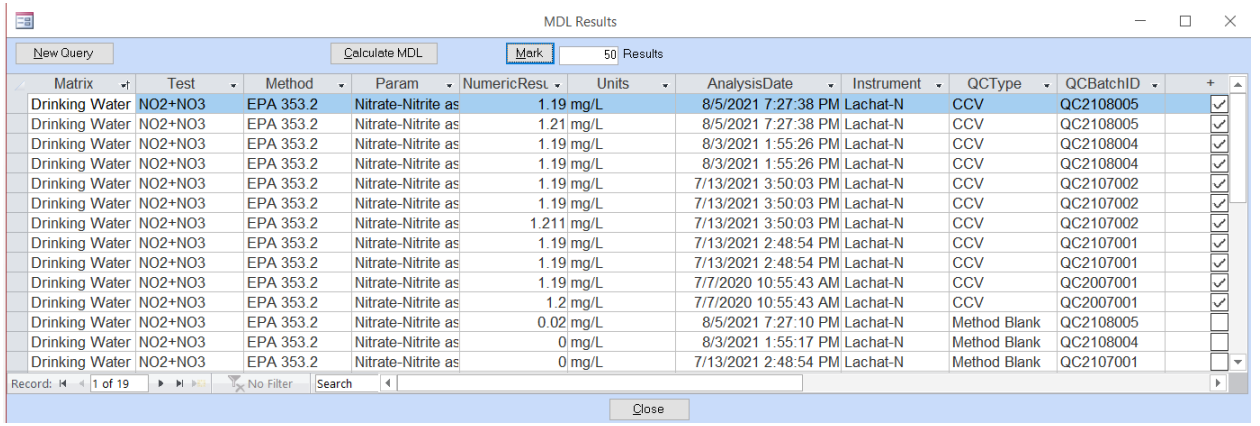


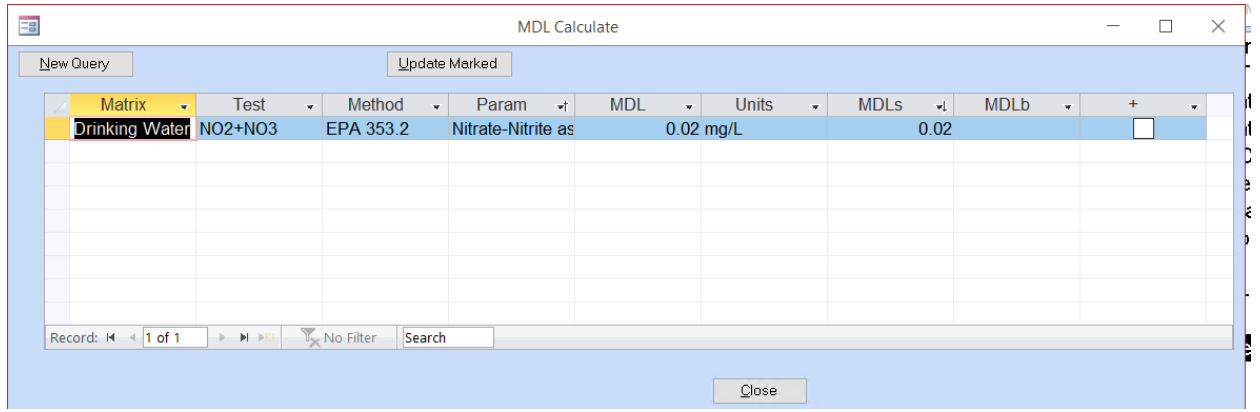


27 – Quality Assurance for Testing

MDL Calculator



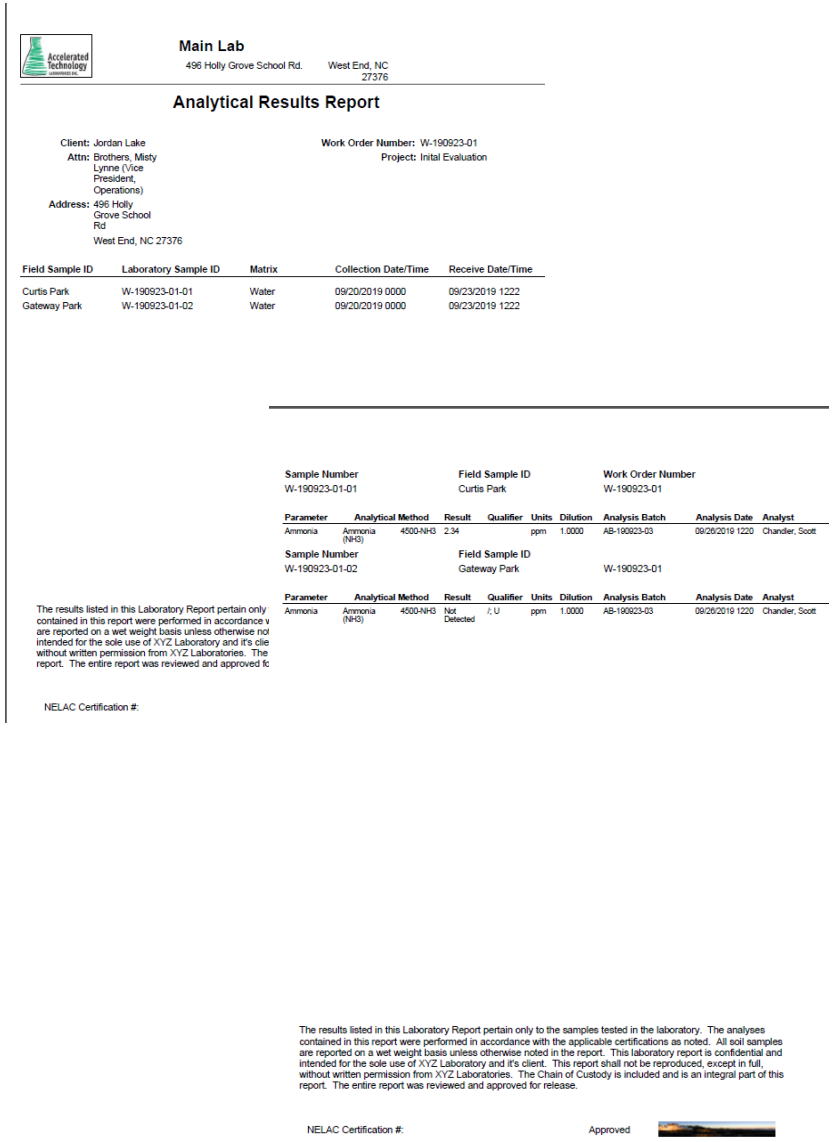




28 – Reporting and Results

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



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: Inital 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: W-190923-01-01 | Field Sample ID: Curtis Park | Work Order Number: 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	09/26/2019 1220	Chandler, Scott

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

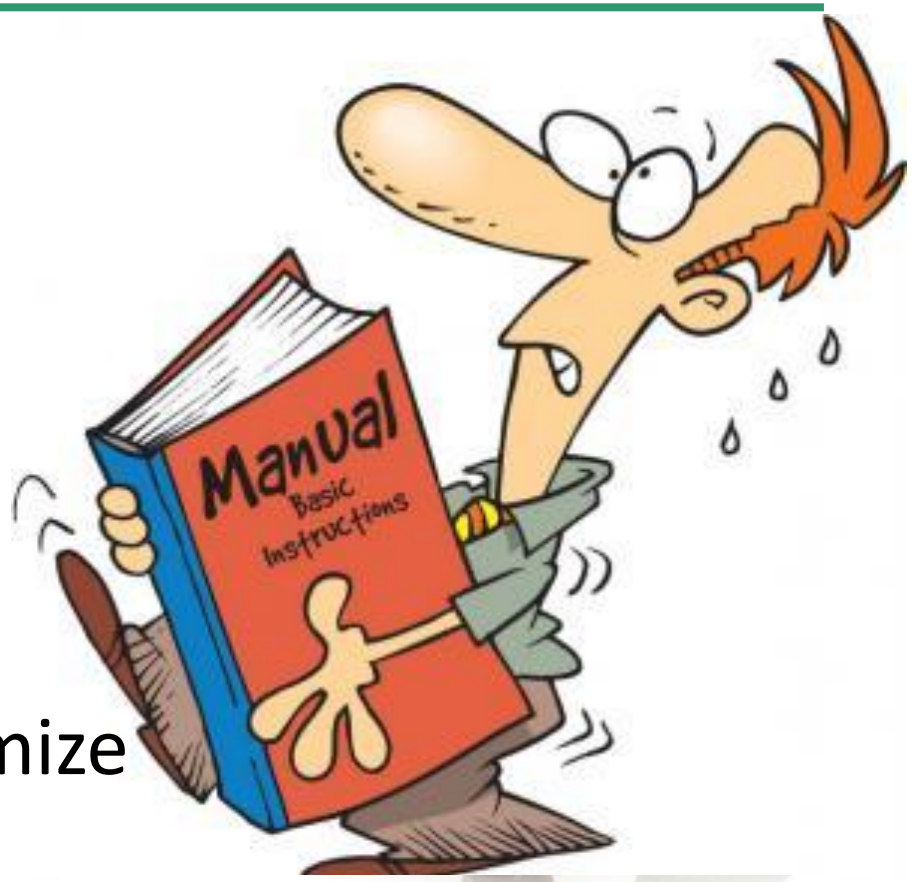
Parameter	Analytical Method		Result	Qualifier	Units	Dilution	Analysis Batch	Analysis Date	Analyst
Ammonia	Ammonia (NH3)	4500-NH3	Not Detected	J; U	ppm	1.0000	AB-190923-03	09/26/2019 1220	Chandler, Scott

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 it's 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

EDDs – Electronic Data Deliverables

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?

NEMC

Accelerated Technology LABORATORIES INC.
LEADERS IN LIMS

THANK YOU!

Stephen Wesson, Director of Sales
Accelerated Technology Laboratories

- Email: swesson@atlab.com

- Stop by Booth # 7