Quality Assurance Project Plan

for

Sanitary Surveys of Public Water Systems

U.S. EPA QTRAK # 25-189

Period of Applicability
March 18, 2025 – March 6, 2028

NM Public Water System Supervision Grant # F-00620321-0

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QAPP VERSION CONTROL

QAPP Title	Version	Date	Page	Revisions & Comments	Reviewed by:
Sanitary Surveys for PWSs	0.0	11/26/24	All	QAPP is being submitted for full review & new term under the requirements of EPA IT/IM Standard Directive Number CIO 2105-S-02.1 – Quality Assurance Project Plan Standard. QAPP reflects internal restructure and change in QAM from Christina Pilar to Bethany Anderson.	

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ACRONYMS & ABBREVIATION

ASD	Administrative Services Division (NMED)
CCR	Consumer Confidence Report
CFR	Code of Federal Regulations
CO	Compliance Officer
DBPR	Disinfection By-Products Rule
DQO	Data Quality Objectives
DWB	Drinking Water Bureau
DWLCP	Drinking Water Laboratory Certification Program
DWSRF	Drinking Water State Revolving Fund
EIO	Environmental Information Operations
EPA, also U.S. EPA	United States Environmental Protection Agency
NM	New Mexico
NMAC	New Mexico Administrative Code
NMED	New Mexico Environment Department
NMSA 1978	New Mexico Statues Annotated 1978
NPDWR	National Primary Drinking Water Regulations
OGC	Office of General Counsel (NMED)
OIT	Office of Information Technology (NMED)
PAG	Program Administration Group
PWS	Public Water System
PWSS	Public Water System Supervision Program
QA	Quality Assurance
QAO	Quality Assurance Officer (DWB QA Coordinator)
QAPP	Quality Assurance Project Plan
QC	Quality Control
QMP	Quality Management Plan
LCRR	Revised Lead and Copper Rule Revisions
RTCR	Revised Total Coliform Rule

SDWA	Safe Drinking Water Act
SDWIS	Safe Drinking Water Information System
SOP	Standard Operating Procedure
SWIG	Sustainable Water Infrastructure Group
SWTR	Surface Water Treatment Rule
WCF	Water Conservation Fund Program

ESSENTIAL DEFINITIONS

Assessment—The evaluation process used to measure the performance or effectiveness of a system and its elements. As used here, assessment is an all-inclusive term used to denote any of the following: audit, performance evaluation, management review, peer review, inspection, surveillance, or readiness review (including competency assessment, Pre-award assessment of proposal, or technical assessment), peer consultation, product review (e.g., data inspection, software testing, pre-dissemination review, or review of contractor deliverables).

Audit—A systematic and independent examination to determine whether quality activities and related results comply with planned arrangements and whether these arrangements are implemented effectively and are suitable to achieve objectives.

Data—A quantitative or qualitative representation of values, facts, observations, or ideas in a formalized manner capable of being transmitted, processed, stored, analyzed, interpreted, and/or communicated by some.

Environmental Information—Includes data and information that describe environmental processes or conditions which support EPA's mission of protecting human health and the environment. Examples include but are not limited to:

- direct measurements of environmental parameters or processes
- analytical testing results of environmental conditions (e.g., geophysical, or hydrological conditions)
- information on physical parameters or processes collected using environmental technologies.
- calculations or analyses of environmental information
- information provided by models.
- information data compiled or obtained from databases, software applications, decision support tools, websites, existing literature, and other sources: and
- design, construction, and operation or application of environmental technology.

Environmental Information Operations (EIO)—A collective term for work performed to collect, produce, evaluate, or use environmental information and the design, construction, operation, or application of environmental technology.

Environmental Measurement—A subgroup of Environmental Information that includes or produces values derived from tools, instruments, observational results, laboratory operations on environmental samples, or other sampling and testing equipment. It is any data collection activity or investigation involving the assessment of chemical, physical, or biological factors in the environment which affect human health and the environment.

Environmental Processes—Manufactured or natural processes that produce discharges or that impact human health and the environment.

Environmental Programs—Work or activities involving the environment, including but not limited to, characterization of environmental processes and conditions; environmental monitoring; environmental research and development; the design, construction, and operation of environmental technologies; and laboratory operations on environmental samples.

Environmental Technology—An all-inclusive term for systems, devices, and their components applicable to both hardware and methods or techniques that measure and/or remove pollutants or contaminants and/or prevent them from entering the environment.

Extramural Agreement—A legal agreement between EPA and DWB. Such agreements include but are not limited to contracts, work assignments, delivery orders, task orders, cooperative agreements, research grants, state and local grants, and EPA-funded interagency agreements and as negotiated in other agreements not funded by EPA. Refer to *Environmental Information Quality Procedure,* for additional details related to QA documentation associated with extramural agreements.

Graded Approach—The process of determining the level of detail for management controls to be applied to an activity according to the intended use and the degree of confidence needed in the quality of the results. This approach establishes the QA and QC requirements commensurate with the importance of the work, the available resources, and the unique needs of the organization.

Must, Shall, Will—Denotes mandatory requirements. On responsible for the program/project activity.

Project Quality Assurance Manager (Project QAM)—The individual designated as the quality assurance manager for projects defined in this QAPP and is the individual designated in the DWBs QMP as the principal manager within the Bureau having oversight authority and responsibilities for planning, documenting, coordinating, and assessing the effectiveness of the Quality Program for the Bureau.

Process—A set of interrelated resources and activities which transforms inputs into outputs. Examples of processes include analysis, design, data collection, operation, fabrication, and calculation.

Product—The intended result or final output of an activity or

Project—A unique process consisting of a set of coordinated, defined, and controlled activities with start and finish dates, undertaken to achieve an objective conforming to specific requirements including constraints of time, cost, and resources.

Quality—The totality of processes, procedures, features, and characteristics of a product or service that bear on its ability to meet the stated or implied needs and expectations of the user.

Quality Assurance (QA)—Management of an integrated system of activities involving planning, implementation, documentation, assessment, reporting, and quality improvement to ensure that a process, item, or service is of the type and quality needed and expected by the organization.

Quality Assurance Project Plan (QAPP)—A planning document related to a project that describes in comprehensive detail the necessary QA/QC requirements and other technical activities that must be implemented to ensure that the results of the work performed will satisfy the stated performance and acceptance criteria.

Quality Control (QC)—The overall system of technical activities that measures the attributes and performance of a process, item, or service against defined standards to verify that they meet the stated requirements; operational techniques and activities that are used to fulfill requirements for quality.

Quality Management—The aspects of the Bureau 's overall management system that drive the implementation of an organization's Quality Program. Quality Management includes strategic planning, allocation of resources, and other systematic activities (e.g., planning, implementation, documentation, and assessment) pertaining to a Bureau's' s Quality Program.

Quality Management Plan (QMP)—The DWB QMP defines the Quality Program in terms of the organizational structure, functional responsibilities of management and staff, lines of authority, and required interfaces for those planning, implementing, and assessing all activities conducted.

Quality Program—The totality of management controls, processes, and documentation in EPA's And DWB's planning, implementation, and assessment for ensuring the quality of Agency environmental information operations products and services.

PROJECT SCOPE

The "Quality Assurance Project Plan *(QAPP)* for Sanitary Surveys of Public Water Systems*"* is to ensure results of the New Mexico Environment Department Drinking Water Bureau (NMED DWB) sanitary surveys and other technical activities meet the required Quality Assurance (QA) criteria. It also describes how environmental information operations are planned, implemented, documented, and assessed during the life cycle of the project.

This QAPP applies to all sanitary survey activities performed by DWB staff and applicable contractors, who are responsible for the implementation of the methods and procedures described in this QAPP. The current revision of this QAPP is made publicly available on the Drinking Water Bureau webpage.

The Environmental Information Operation (EIO) activities represented in this document are in alignment with EPA's Agency-wide Quality Program , Quality Policies, and Quality Procedures through implementation the Bureau's Quality Program that supports EPA's mission to protect the environment and human health and ensure environmental information operations products and services are of known documented quality for their intended use.

The QAPP implements EPA Quality Policy and Procedures for principle of the graded approach applied to the systematic planning and establishes Quality Assurance(QA) and Quality Controls(QC) to perform sanitary surveys of source, treatment, distribution, storage, pump facilities, data verification, management, operation, and operator compliance for new and existing Public Water Systems (PWSs).

The general objectives and goals of the NMED DWB quality system are to ensure quality in the work processes and products of the DWB such that all environmental data generated and processed are scientifically valid; of known precision and accuracy; of acceptable completeness, representativeness, and comparability; and legally defensible. The quality system includes processes for planning, implementing, documenting, and assessing work performed by DWB staff.

The Bureau is committed to maintaining a quality system which instills confidence that deliverables and decisions generated by using environmental data operations meet the requirements of the State and Federal drinking water regulations, and that the public is provided with safe, clean drinking water. DWB requires that each project which generates environmental data has an approved QAPP.

The content of this QAPP is in alignment with all applicable EPA environmental information management documents and is compliant with EPA's Quality Policies, Standards, and regulatory requirements. Quality Information documents for DWB Quality Program are available on EPA's Managing the Quality of Environmental Information - Specifications for States webpage.

Table 1 – Document Related to QAPP

Title of Document	**Document Date**	**Pertinence to this QAPP**
NMED DWB Quality Management Plan	Feb 15, 2024	This QAPP is developed in accordance with the DWB's QMP and is made publicly available on the Drinking Water Bureau webpage
PWSS SOP	Feb 1, 2021	Sanitary Survey Procedure
EPA Quality Assurance Project Plan (QAPP) Standard– IT/IM Standard, CIO 2105-S-02.1	April 3, 2024	This QAPP is developed in accordance with EPA's Environmental Information Standards available on the EPA Environmental Information Policy, Procedures and Standards webpage.
Environmental Information Quality Policy– IT/IM Directive, CIO 2105.4	April 3, 2024	" "
EPA Environmental Information Quality Procedure IT/IM Directive, CIO 2105-P-01.4	April 3, 2024	" "

The PWSS Manager is responsible for preparation and maintenance of this QAPP. The PWSS Manager will update this document and implement the current version of the EPA IT/IM Directive - Quality Assurance Project Plan Standard and QAPP and QAPP checklist. The PWSS shall submit this QAPP to the DWB QAM 120 days prior to the QAPPs expiration date for internal review and approval.

The QAM is EPA's point of contact for this QAPP and will consult with the EPA project officer and EPA Regional Quality Assurance Manager for additional requirements before submittal and approval of the QAPP. The QAM will submit the QAPP 60 days before the expiration date to the EPA Quality Assurance Manager for their approval. The QAM will assure the quality assurance requirements have been implemented and updated within this QAPP during the annual review.

Group Managers and supervisors ensure the quality system is implemented in accordance with the quality system requirements. All issues relating to quality should be presented to a supervisor, or the management team, who will coordinate with the QAM to determine appropriate action and create or revise any policies or procedures, as necessary.

The Group Managers have authority to coordinate with the QAM to resolve QA concerns within the DWB programs. The Group Managers ensure the responsibilities and duties are met for EPA assisted programs, grant funding, extramural agreements, contracts, memorandums of understanding (MOUs)/agreements, and QA/QC EIOs.

1 PROJECT MANAGEMENT & INFORMATION/DATA QUALITY OBJECTIVES

1.1 PURPOSE

The "Quality Assurance Project Plan *(QAPP)* for Sanitary Surveys of Public Water Systems*"* is used to ensure results of the New Mexico Environment Department Drinking Water Bureau (NMED DWB) sanitary surveys and other technical activities meet the required Quality Assurance (QA) criteria. It also describes how environmental information operations are planned, implemented, documented, and assessed during the life cycle of the project.

The purpose of sanitary surveys is to evaluate and document the ability of a water system to continually provide safe drinking water to the public and meet the goals and requirements of Federal and State drinking water regulations. A sanitary survey enables DWB to provide a comprehensive and accurate review of the components of a water system, to assess the operating condition and adequacy of the water system, and to determine if past recommendations were implemented effectively. The sanitary survey encompasses specific elements which are evaluated during the survey. Those elements are:

- Operator Compliance with Regulations
- Source (Protection, Physical Components, and Condition)
- Treatment
- Distribution System
- Finished Water Storage
- Pumps/Pump Facilities and Controls
- Monitoring/Reporting/Data Verification
- Water System Management/Operations

1.2 PROJECT BACKGROUND SUMMARY & PROBLEM DEFINITION

New Mexico water systems consisting of at least fifteen service connections, or that regularly serve at least twenty-five individuals for 60 days out of the year, are designated as Public Water Systems (PWSs) and are regulated under the Safe Drinking Water Act (SDWA). Drinking water may become contaminated from numerous sources such as improperly disposed of chemicals; animal wastes; pesticides; human threats; wastes injected underground; and naturally occurring substances. Likewise, drinking water that is improperly treated, or which travels through an inadequately maintained distribution system, may also pose a health risk.

1.3 PROJECT TASK DESCRIPTION

Sanitary surveys evaluate a public water system's water source, facilities, equipment, operation, and maintenance. Surveys identify significant deficiencies and assess a system's capability to supply safe drinking water. Sanitary surveys, mandated by the SDWA, lower the risk of contamination that can cause waterborne disease and identify systems that require technical or capacity development.

Sanitary surveys are conducted every three to five years, depending on the type of system. Community Water Systems are surveyed every three years, unless they have outstanding performance* in which case, they may be surveyed every five years. Non-community systems are surveyed every five years. All water systems may be surveyed more frequently if necessary.

The State of New Mexico has approximately 1,100 public water systems which include: Community Water Systems, Transient Non-Community Water Systems, and Non-Transient Non-Community Water Systems.

All Sanitary Survey activities covered by this QAPP are performed by NMED DWB personnel or contractors. The organizations and responsibilities are discussed below.

- **The PWSS Group Manager and Regional Supervisors** are responsible for verifying that all applicable activities of these sections comply with the provisions of this QAPP and ensures that all DWB staff who collect or manage sanitary survey data are responsible for the implementation of methods and procedures described in this QAPP and must be familiar with and follow the provisions of this QAPP. accordance with the requirements in this QAPP.
- **Contractors:** Sanitary surveys may be conducted by a contractor, depending on needs and availability of funding. Any contractor(s) hired to perform a Sanitary Survey will conduct those activities in accordance with the requirements in this QAPP.

** Note - Outstanding performance is based on CFR 40 Part 142.16(o)(2)(iii), which states that the system has "at least 4-log treatment of viruses (using inactivation, removal, or a State-approved combination of 4-log inactivation and removal) before or at the first customer for all its ground water sources, or if it has an outstanding performance record, as determined by the State and documented in previous sanitary surveys and has no history of total coliform MCL or monitoring violations under §141.21 of this chapter since the last sanitary survey.*

1.4 PROJECT INFORMATION/DATA QUALITY OBJECTIVES & PERFORMANCE/ACCEPTANCE CRITERIA

The establishment of quality objectives ensures that the DWB makes decisions relating to water quality management that are:

- Consistent with the mission, goals, and objectives of NMED and DWB
- Based on proper application of policy and guidance
- Based on all available pertinent information
- Based on a thorough understanding of the information
- Based on accurate information

Data Quality Objectives (DQOs) are criteria that aid the DWB staff to make data-based decisions while limiting the occurrence of errors. Sanitary surveys are conducted by trained compliance staff in accordance with the procedures specified in Section 2.2 of this QAPP and undergo extensive review to ensure that the data and information collected is of sufficient quality to provide a prominent level of confidence in the resulting decisions.

1.5 PROJECT DISTRIBUTION LIST

A list of key positions and their roles regarding this QAPP are provided in Table 2. Verification that DWB – PWSS Group have access to and will comply with the requirements of the QAPP are documented by acknowledgement statements and maintained in DWB QA files.

Table 2 – Distribution List

TABLE 1 - PROJECT KEY PERSONNEL				
PERSONNEL	TITLE	AGENCY	EMAIL	PHONE NO.
Christy Warren	**EPA Quality Assurance Manager**	USEPA - R6	warren.christy@epa.gov	(281) 983-2137
Jessica L. Fry	**EPA Project Officer**	USEPA - R6	Fry.Jessica.L@epa.gov	(214) 665-8038
Joe Martinez	**DWB Bureau Chief**	NMED DWB	joe.martinez@env.nm.gov	(505) 467-9415
Bethany Anderson	**Quality Assurance Manager**	NMED DWB	bethany.anderson@env.nm.gov	(505) 469-7658
Martin Torrez	**PWSS Group Manager**	NMED DWB	Martin.torrez@env.nm.gov	(505) 469-5207
Wayne Jeffs	**Northern PWSS Supervisor**	NMED DWB	wayne.jeffs@env.nm.gov	(505) 469-7457
Vacant	Pb/Cu Rule Administrator	NMED DWB	~	~
Chet Markham	RTCR Rule Administrator	NMED DWB	chet.markham2@env.nm.gov	(505) 629-3085
Vacant	DBP Rule Administrator	NMED DWB	~	~
Jacob Kruse	Northern Compliance Officer	NMED DWB	Jacob.kruse@env.nm.gov	(505) 629-3318
Gordon Miller	Northern Compliance Officer	NMED DWB	gordon.miller@env.nm.gov	(505) 258-3203
Vacant	Northern Compliance Officer	NMED DWB	~	~
Brandi Littleton	**Southern PWSS Supervisor**	NMED DWB	brandi.littleton@env.nm.gov	(575) 323-4298
Joe Savage	SWTR Rule Administrator	NMED DWB	joe.savage@env.nm.gov	(575) 973-0009
Tim Willy	Southern Compliance Officer	NMED DWB	tim.willy@env.nm.gov	(505) 690-6657
Deborah Jones	Southern Compliance Officer	NMED DWB	Deborah.jones@env.nm.gov	(505) 795-2642
Vacant	Southern Compliance Officer	NMED DWB	~	~
Rocio Galvan	Southern Compliance Officer	NMED DWB	rocio.galvan@env.nm.gov	(505 819-7687
Vacant	Pb/Cu Rule Administrator	NMED DWB	~	~
James Midkiff	**SDWIS Supervisor**	NMED DWB	james.midkiff1@env.nm.gov	(505) 660-3391
Michelle Olson	Data Steward	NMED DWB	michelle.olson1@env.nm.gov	(505) 901-7342
Daniel Ramirez	Data Steward	NMED DWB	daniel.ramirez1@env.nm.gov	(505) 670-9705
Natsaran Gottlieb	Data Steward	NMED DWB	natsaran.gottlieb@env.nm.gov	(505) 819-7164
Vacant	**Enforcement Supervisor**	NMED DWB	~	~
Maria Medina	Enforcement Coordinator	NMED DWB	maria.medina@env.nm.gov	(505) 629-7223
Vacant	Enforcement Coordinator	NMED DWB	~	~
PWSS Contractor	**Eastern Research Group**	ERG	https://www.erg.com	(505) 477-8051

1.6 PROJECT QAM INDEPENDENCE

Through the delegation of the Cabinet Secretary the Water Protection Division (WPD) Director has designated the Drinking Water Bureau Chief to develop and oversee the Quality Program for the Bureau's environmental programs. The Drinking Water Bureau Chief has in turn delegated these responsibilities to the DWB Quality Assurance Manager.

The DWB Quality Assurance Manager (QAM) is responsible for the DWB Program in its entirety. The QAM is independent of operational activities within the Bureau and has appropriate access and authority to coordinate development and implementation of the Bureau's Quality Program.

The QAM, or designee, distributes copies of the approved QAPP to the appropriate DWB staff listed within the QAPPs distribution List (Table 1) and outside participants, as applicable, to ensure that quality system policies are understood and implemented accordingly. Receipt and understanding of quality system documents are acknowledged by signing an acknowledgement form. The signed acknowledgement is retained and recorded by the QAM.

Resolution of quality-related disputes between individual program areas and DWB staff shall be resolved at the bureau staff level. If disputes cannot be resolved at this level, then disputes shall be escalated to supervisors. If quality-related disputes that cannot be resolved at the supervisory level, then disputes will be elevated through the DWB QAM to the Bureau Chief and the Director of the Water Protection Division.

The PWSS Manager will not have authority to sign QAPPs for the QAM, nor will the QA Manager have authority to sign QAPPs for the PWSS Manager.

1.7 PROJECT ORGANIZATION

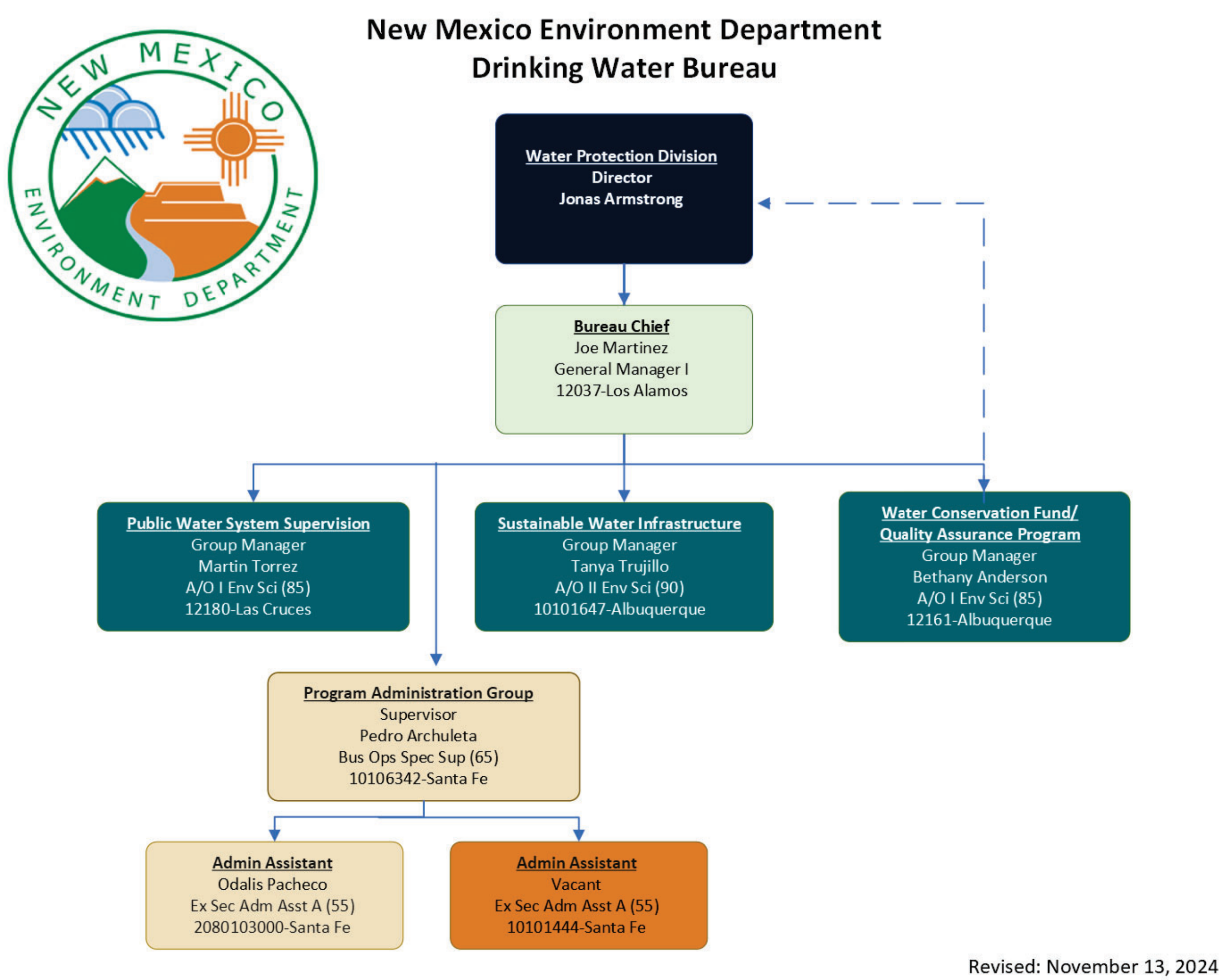
The PWSS Group is supervised by the PWSS Group Manager and consists of three (3) subprograms:

1) **Compliance:** The compliance group manages compliance activities statewide. Compliance staff are assigned to either the Northern region or the Southern region. Each regional compliance team is led by a Regional Team Supervisor who oversees compliance activities. The DWB Compliance Officers (DWB COs) conduct sanitary surveys, make compliance determinations, issue Notices of Violation, and participate in enforcement and technical assistance activities. The compliance group includes field staff and DWB COs that act as "Rule Administrators", who are dedicated to managing regulatory compliance of specific federal SDWA rules, including the Lead and Copper Rule Revisions (LCRR), Revised Total Coliform Rule (RTCR), Disinfection By-Products Rule (DBPR), Consumer Confidence Report (CCR), and the Surface Water Treatment Rule (SWTR). Rule Administrators oversee compliance with their assigned rules for the entire state.

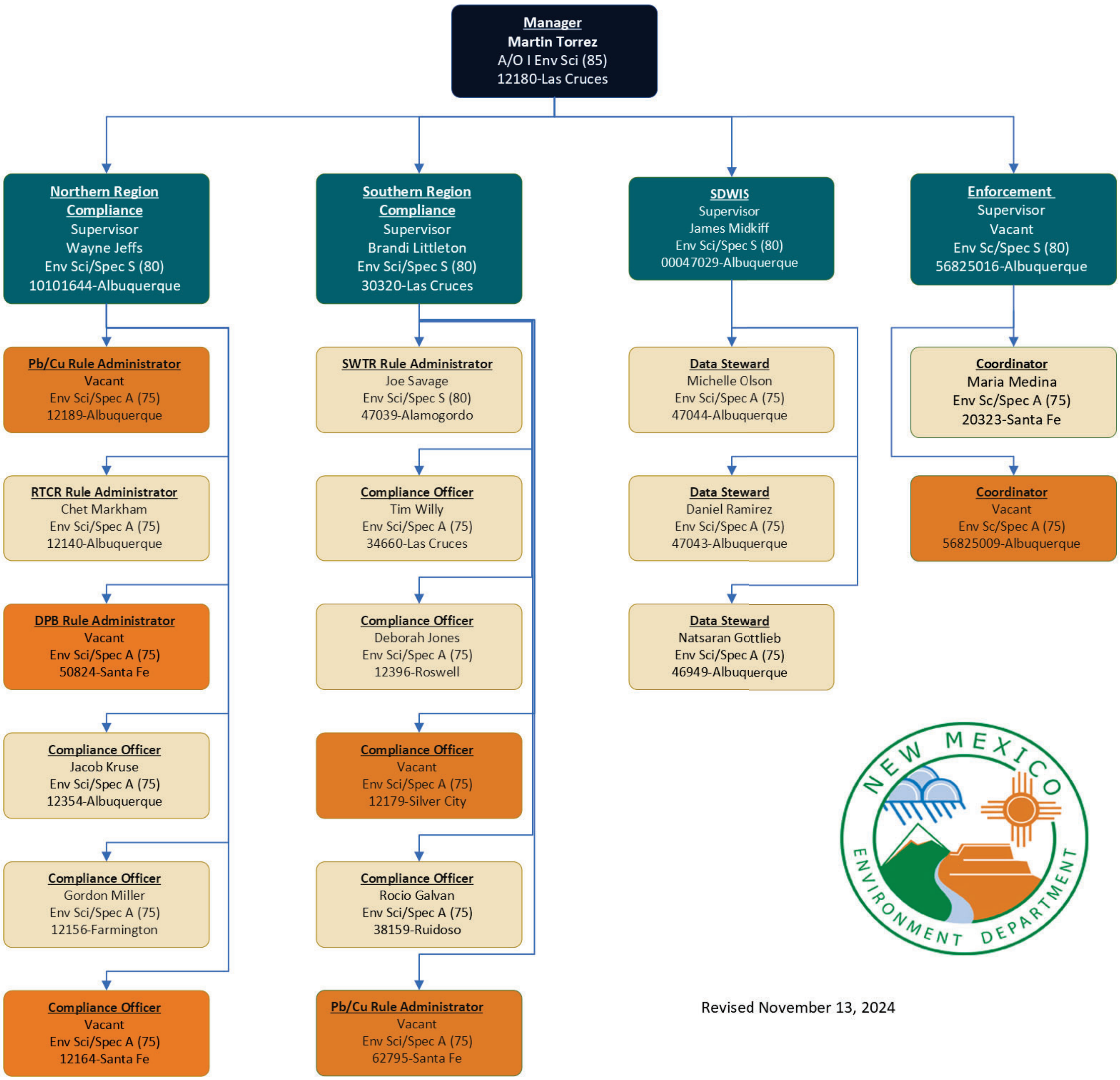
2) **Safe Drinking Water Information System (SDWIS):** The SDWIS group is led by the SDWIS Program Supervisor who oversees a team of Data Stewards. Data Stewards ensure that information is properly and consistently entered or uploaded to SDWIS to meet federal reporting regulations. Data Stewards also provide support in the approval of lab invoices/statements, ensuring labs are properly paid by the DWB's Water Conservation Fund Group. (WCF)

3) **Enforcement:** The Enforcement group currently only consists of one Enforcement Coordinator. The Enforcement Coordinator issues and tracks administrative compliance orders, penalties for violations including court ordered compliance and the Enforcement Targeting Tool.

1.8 NMED DWB PWSS ORGANIZATION CHARTS



New Mexico Environment Department
Drinking Water Bureau
Public Water System Supervision Group



Revised November 13, 2024

1.9 STAFF TRAINING & CERTIFICATIONS

Staff responsible for conducting environmental information operations identified in the QAPP shall have appropriate qualifications, education, training, experience, and knowledge of the requirements of the work activities to be performed. The Quality Assurance Manager, or designee, is responsible the individual responsible for documenting personnel training as identified below.

- **QA Training:** All PWSS staff are required to be familiar with this QAPP, the DWB Quality Program, DWB's Quality Management Plan (QMP), and all applicable policies and procedures pertinent to the project. Supervisors will provide these and other applicable documents to all new staff. PWSS staff are also required to be familiar with DWB's Sanitary Survey Standard Operating Procedure (SOP) which outlines the sanitary survey processes.

  The PWSS Manager is required to complete the EPA Region R6 Quality Assurance Training for Quality Management of Environmental Information and obtain the corresponding EPA QA certificate of completion. This certificate must be submitted to the DWB's Quality Assurance Manager. The QA training documentation will be officially recorded for the DWB Quality Program.

  Additionally, it is the responsibility of the PWSS Manager to ensure that all relevant project supervisors complete the EPA Quality Assurance Training. The certificates of completion for these supervisors must also be provided to the DWB Quality Assurance Manager.

- **Special Training:** Sanitary surveys are conducted by trained personnel who have experience and knowledge of the design, operation, maintenance, and management of water systems. These individuals are qualified to assess problems and make sound decisions using hydrological, hydraulic, mechanical, and other basic engineering and management knowledge. Supervisors ensure these qualifications are met by including the basic minimum requirements in the job requirement for all DWB COs responsible for conducting sanitary surveys. New DWB COs are mentored and trained by advanced level DWB COs, Area Supervisors, and/or the PWSS Group Manager prior to conducting sanitary surveys.

  As resources allow, DWB staff are encouraged to seek out and attend appropriate training courses, workshops, or other informative events and to share what they have learned with other staff. Information pertaining to attendance at these types of events is maintained in personnel files. Supervisor approval is required prior to attending any in-person events.

- **Driving Certification:** Conducting sanitary surveys requires travel to and from the water systems. In accordance with NMED Vehicle Use Policy and Procedure 07-07 and 1.5.3.12 NMAC, all DWB personnel must adhere to the requirements specified in these documents and are required to complete the National Safety Council Defensive Driving Course and retain a copy of the Defensive Driving training certificate while operating state vehicles.

1.10 DOCUMENTS & RECORDS

1.10.1 Documents

This QAPP is reviewed annually and revised as applicable, or upon changes in procedure. Upon approval it is made available to DWB staff and project personnel identified in the Distribution List in Section 1.5 of this QAPP. The QAM, or designee, ensures distribution of the approved QAPP.

All data generated from projects covered by this QAPP shall be of sufficient quality to withstand challenges to their validity, accuracy, and legalities. To meet this objective, data are recorded in standardized formats and in accordance with prescribed procedures. The documentation of all environmental data collection activities must meet the following minimum requirements:

Data and associated information must be documented directly, promptly, and legibly. All reported data must be uniquely traceable to the raw data/information.

Any changes to an original entry must not obscure the original entry. The reason for the change must be documented, the change must be initialed and dated by the person making the change, and by and approved by the individual's immediate supervisor or the PWSS Group Manager.

1.10.2 Records

Table 3 on the following page, describes how records are maintained by DWB. Records retention periods for the DWB files are in accordance with applicable State and Federal Regulations (20.7.10 NMAC; 40 CFR 141; 40 CFR 142; 40 CFR 143).

Table 3 - DWB Records Repositories

Record Type	Record Location	Document Repository Information
DWB Central Filing System	DWB Main office in Santa Fe, NM	All original hard-copy documents prior to 2014 are in paper format are filed and kept at DWB main office. Original hard copy folder & files include: ▪ All official records associated with PWSS Sanitary Surveys Reports, Plans & Specifications, Maps, Notices of Violations, Capacity Development, Source Water Assessments, and all related Correspondence etc. ▪ All official drinking water compliance & sample chemical analyses results. ▪ All original correspondence not associated with primary drinking water categories. ***Note –** In future, all DWB original hard copy files will be archived at the New Mexico State Records Center and Archives division.
DWB Electronic Data Folders	NMED Cloud Storage. Maintained by NMED IT & DWB	All Digitalized documents & information are stored in the departments electronic filing system. All documents post 2014 are stored in NMED specific electronic data folders and include the following documents: ▪ All official records associated with PWSS Sanitary Surveys Reports, Plans & Specifications, Maps, Notices of Violations, Capacity Development, Source Water Assessments, and all related Correspondence etc. ▪ All official drinking water compliance & sample chemical analyses results. ▪ All original correspondence not associated with primary drinking water categories.
SDWIS	Database. Maintained by NMED IT & DWB	Electronic repository for information specific to individual PWS such as board and operator contact information, inventory information, water quality data, and information pertaining to monitoring and compliance schedules, violations, and any enforcement actions.

DWB Sample Collection Application	Online application. Maintained by NMED IT & DWB	Web-based tool that is updated from the SDWIS database daily. Once registered with a password and assigned to a water system sample collectors and PWS operators can view the compliance sample schedules assigned to the water system and automatically prepare a Sample Request Form for any lab that DWB has on contract with all the proper demographic information pulled from SDWIS to minimize any errors.

2 IMPLEMENTATION OF PROJECT ENVIRONMENTAL INFORMATION OPERATIONS

2.1 SANITARY SURVEYS ENVIRONMENTAL INFORMATION OPERATIONS

Sanitary surveys are conducted at each PWS in accordance with the specified schedules. The elements covered by a Sanitary Survey are not limited to discreet sampling points but cover a wide range of information collected about the system and include physical and administrative elements. See the Sanitary Survey Standard Operating Procedure for detailed instructions. The Sanitary Survey SOP addresses the following eight elements:

(1) Operator compliance with regulations – Water system operators and key staff must be trained based on system type, size, and treatment. The state will confirm that operators are appropriately certified for their roles and responsibilities.

(2) Source protection, physical components, and condition - Protecting the source prevents contaminants and pathogens from reaching consumers. The state will review information relating to source water quality and wellhead protection. Observations will be made about well construction, potential sources of contamination, setback distances, source quantity and capacity, well locations, source water transmission mains, site security, and general housekeeping.

(3) Treatment - Treatment varies among PWSs based on the quality of the source water and state regulatory requirements. The state will take into consideration design criteria, plant records, and past inspections during the review. The overall design, operation, maintenance, and management of the treatment facility will be examined.

(4) Finished water storage - The condition of the storage facility can affect both quality and quantity of water provided to consumers. The state reviews the PWS's files; performs field inspections to assess the tank's integrity, operational readiness, site security, and potential sanitary risks; ensures maintenance checks have been completed; and discusses current operation and maintenance procedures with staff.

(5) Distribution System – "Verify" or "Review" Inspection of the upkeep and maintenance of accessible pipes and fixtures is completed to assess the integrity of the distribution system and the safety of drinking water. To assess ground infrastructure, the state completes a paper review of schematics, operation and maintenance records, operating procedures, construction standards, and distribution system water quality data.

(6) Pumps/pump facility and controls - Pumps are inspected to determine proper functionality, are installed to fulfill intended use, and to determine reliability and establish if there are any sanitary risks. The state will obtain information about the pumps, including available data from previous sanitary surveys, the emergency power system (if applicable), pump tests, and remote monitoring controls and alarms.

(7) Monitoring, reporting, and data verification – Data review to verify the quality of the drinking water distributed to the public complies with drinking water regulations and requirements. The state will determine whether site sampling and monitoring plans are being followed and requirements are being met by checking test results, monthly reports, and daily logs. The surveyor determines whether the system has complete, up-to-date, and reasonable monitoring data.

(8) Water system management and operations – Assessment of management strategies can provide a PWS with direction, paths to sufficient funding, and establish strong managerial support. Review of water system goals, plans, and budgets provides indication of whether the system's team is working well together or might need some assistance. The state will evaluate whether the PWS is sufficiently staffed and has enough funding for equipment to operate in a sustainable and safe manner.

2.2 PROJECT REPORTING REQUIREMENTS

The primary method for the DWB compliance officer to report the results of the PWS Sanitary Survey is through the Sanitary Survey Final Report. These reports are available within 30 days of the survey's completion.

The Sanitary Survey Report Template is stored electronically in the Reflex Server for each CO's remote desktop profile. The DWB COs completed reports are archived within the Electronic Central Files on DWB shared data drive. The applicable portions of the information obtained during a Sanitary Survey are entered into SDWIS after the report and supporting documents are approved by the Regional Supervisor. A copy of the approved Sanitary Survey is provided electronically to the PWS's Administrative Contact.

The PWSs are required to provide a Corrective Action Plan (CAP) to the survey report within **30 days** of receiving the report for ground water systems and **45 days** for surface water systems [40 CFR 141.(a)(4)]. A template for the CAP is included in the *Sanitary Survey Report* to assist water systems in maintaining compliance with this requirement (for further details refer to the *Sanitary Survey Report* template). DWB COs are responsible for reviewing and approving CAPs. The following apply to CAPs:

- Ground water PWSs have 120 days to correct deficiencies unless the Compliance Officer approve an alternate schedule. [40 CFR 14(a)(5)] The water system can petition to extend the correction, up to 180 days, if they submit compelling justification prior to the deadline.
- PWSs employing 100% surface water as a source must submit a proposed correction timeline for approval by DWB. Once approved, the surface water PWS must meet the deadlines to remain in compliance. [40 CFR 141.723)] The water system can petition to extend the correction, up to 180 days, if they submit compelling justification prior to the deadline.

- PWSs employing both ground water and surface water must meet the 30-day CAP deadline and the 120-day correction deadline for portions of the water system served by both ground water and surface water or ground water under the direct influence of surface water. [40 CFR 141.403(a)(3]). The water system can petition to extend the correction, up to 180 days, if they submit compelling justification prior to the deadline.

- PWSs employing both ground water and surface water must submit a proposed correction timeline for approval by DWB for those portions of the water system served by 100% surface water or groundwater under the direct influence of surface water (40 CFR 141.723) Once approved, the surface water PWS must meet the deadlines to remain in compliance. The water system can petition to extend the correction, up to 180 days, if they submit compelling justification prior to the deadline.

The surveys are conducted at each PWS in accordance with the specified schedules. The elements covered by a sanitary survey are not limited to discreet sampling points but cover a wide range of information collected about the system and include physical and administrative elements. The DWB COs archive their completed reports in DWB's Electronic Central Files on the shared drive of the NMED network. The applicable portions of the information obtained during a sanitary survey are entered into SDWIS after the report and supporting documents are approved by the Area Supervisor. A copy of the approved sanitary survey is provided electronically to PWS's Administrative Contact. See the Sanitary Survey Standard Operating Procedure for detailed instructions.

2.3 INTEGRITY OF ENVIRONMENTAL INFORMATION

The purpose of this section is to provide consistent information on how Sanitary Surveys will be conducted by all DWB COs for all state-wide PWS locations.

All DWB COs must meet the minimum requirements specified within Section 1.10 – *Staff Training & Certification*, of this QAPP. In addition to training and certifications, the DWB COs are guided by: Sanitary Survey Guidance Manual for Ground Water Systems (EPA 2008) and Guidance Manual for Conducting Sanitary Surveys of Public Water Systems; Surface Water and Ground Water Under the Direct Influence (EPA 1999), the New Mexico Environment Department Drinking Water Bureau's Ground Water Rule Sanitary Survey Inspection and Compliance Procedure (2019), New Mexico Environment Department Drinking Water Bureau's Surface Water Rule Significant Deficiency Policy, and the New Mexico Environment Department Drinking Water Bureau's Ground Water Rule Significant Deficiency Policy

2.4 QUALITY CONTROL

Quality control (QC) activities are technical activities performed on a routine basis to quantify the variability that is inherent to any environmental data measurement activity. The purpose for conducting QC activities is to understand and incorporate the effects this variability may have in the decision-making process. Additionally, the results obtained from QC activities may identify areas where the variability can be reduced or eliminated in future data collection efforts, thereby improving the overall quality of the program or project being implemented.

Regional Supervisors coordinate all QA/QC activities for sanitary surveys, ensuring that qualified and professionally trained staff conducts sanitary surveys. Newly hired DWB COs accompany senior DWB COs or Regional Supervisors on several sanitary surveys until both parties are confident that surveys will be performed consistently and reliably in accordance with DWB's procedures.

Regional Supervisors review their staff's reports for completeness and accuracy following each sanitary survey and provide feedback to the individual DWB COs. Corrections are made to the sanitary survey if warranted with proper documentation of the basis for any changes. Regional Supervisors provide final approval following this review. Approved sanitary survey information is entered into SDWIS by DWB's Data Stewards. Data Stewards identify any discrepancies, discuss with compliance staff and Area Supervisors, and make any necessary corrections. Following completion of data entry, DWB COs conduct a final review for accuracy. An additional check on the quality of survey activities includes Quality Assurance Assessments which are performed on an annual basis by the QAM.

2.5 EQUIPMENT CALIBRATION, TESTING, INSPECTION & MAINTENANCE

Complete procedures for calibrating instruments used for collecting measurements are contained in the manufacturer's instruction manual for each instrument. All DWB personnel using field equipment are expected to read and follow all procedures detailed in these manuals. Staff shall use appropriate standards and reagents specific to each instrument that are not expired.

2.6 INSPECTION & ACCEPTANCE OF PROJECT SUPPLIES & SERVICES

Equipment typically used during a sanitary survey includes smartphones equipped with Global Positioning System and digital camera applications. Each CO is also provided with a digital chlorine residual test kit and pressure gauge. In addition, field turbidity meters are available for staff who conduct surface water sanitary surveys. This equipment is incorporated into the sanitary survey field visits. All field equipment is inspected, calibrated, and refurbished as necessary before each sampling trip. Complete procedures for operating and maintaining equipment used for collecting environmental measurements are contained in the manufacturer's instruction manual for each instrument. Any deficiencies in equipment must be reported immediately to the Regional Supervisor or PWSS Group Manager, who will recheck the equipment and arrange for repair by the manufacturer or replacement. DWB staff do not use equipment if the working condition of the equipment is in doubt.

2.6.1 Instrument/Equipment Calibration and Frequency:

Complete procedures for calibrating instruments used for collecting measurements are contained in the manufacturer's instruction manual for each instrument. All DWB personnel using field equipment are expected to read and follow all procedures detailed in these manuals. Personnel shall use appropriate standards and reagents specific to each instrument that are not expired.

2.6.2 Indirect Measurements:

Sanitary surveys carried out according to this Quality Assurance Project Plan (QAPP) involve the collection of current information using the procedures outlined in this document, as well as in the supporting Standard Operating Procedures (SOP) and forms. Historical data from water systems is typically reviewed during these surveys. If any historical or external data is referenced for compliance assessments, it must meet the quality assurance requirements specified in this document.

2.7 ENVIRONMENTAL INFORMATION MANAGEMENT

The data and information gathered during a sanitary survey are recorded directly on the *Sanitary Survey Checklists*. The *Sanitary Survey Checklists* are then used to develop a draft *Sanitary Survey Report* by the Compliance Officer, which is saved to the DWB Electronic Central Files in NMED's shared drive. The files are then reviewed by the appropriate Area Supervisor for approval. Once approved, the data is entered into SDWIS by the Data Stewards, an electronic copy of the final approved *Sanitary Survey Report* is e-mailed to the PWSS Group Manager and additional copies are filed following the specifications listed in Section 1.11 of this QAPP. Photographs taken by DWB COs during sanitary surveys are included as part of the *Sanitary Survey Report*.

3 ASSESSMENTS & RESPONSE ACTIONS

3.1 ASSESSMENTS

The progress and quality of *Sanitary Survey Reports* is continuously assessed to ensure that objectives are met. The PWSS Group Manager periodically evaluates the following:

- Sanitary survey schedules are being met.
- Sanitary surveys are being conducted per the procedures specified in this QAPP.
- Corrective actions are implemented as needed.

3.2 RESPONSE ACTIONS

The PWSS Group Manager will coordinate with the QAM as necessary to discuss any problems that arise and will develop appropriate corrective actions to maintain program integrity. Annual assessments will be conducted to identify areas in need of improvement. If data are found to be consistently outside of the specified DQOs, corrective actions will be taken. Corrective actions can include additional training for program staff, revised procedures, alternate schedules, etc. All project staff is encouraged to identify problems immediately and provide feedback on program activities and needs. Any resulting program modifications will be documented in subsequent revisions to the QAPP.

3.3 OVERSIGHT & REPORTING TO MANAGEMENT

Regional Supervisors conduct periodic meetings to review schedules and discuss any problems that have arisen and identify systems in need of further assistance. This information is used by the PWSS Group Manager to report activities to grant entities and to address NMED's quarterly performance measures.

The QAM performs a quality assessment review annually and produces a summary report of the evaluation. This report provides an evaluation of the overall status and quality assessment findings. The report includes program updates and identifies any changes that were made or may be needed. This report is provided to all parties included on the Distribution List in Section 1.5 of this QAPP.

4 ELEMENTS FOR ENVIRONMENTAL INFORMATION REVIEW & USABILITY DETERMINATION

4.1 REVIEW & USEABILITY

All data/information collected by DWB undergoes a series of checks to ensure that data is of sufficient quality and conforms to a project's specific objectives. The following sections describe the procedures used to determine to accept, reject, or qualify data/information generated as part of the DWB's PWSS Program.

Data verification and validation are performed automatically by a series of SDWIS applications. The criteria for flagging and rejecting data are coded into the application. Data is considered usable once the data verification and validation process has been completed and the Area Supervisor has approved the final *Sanitary Survey Report*. DWB compliance staff are then able to take action to address any systems deficiencies knowing that the determinations were made based on quality information.

4.2 RECONCILIATION WITH USER REQUIREMENTS

The data is considered usable once the data verification and validation process has been completed and the Area Supervisor has approved the final *Sanitary Survey Report*. DWB compliance staff are then able to take action to address any systems deficiencies knowing that the determinations were made based on quality information.