Waste Management and Remediation Division
Statewide Generic Quality Assurance Project Plan

Third-Party Petroleum Assessment and Corrective Action

State of Idaho
Department of Environmental Quality

Waste Management and Remediation

Version 1

May 2017

TRIM Record Number: 2016BAF19

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1 Title and Approval Page

Waste Management and Remediation Division Statewide Generic Quality Assurance Project Plan

Title: Third-Party Petroleum Assessment and Corrective Action

Division: Waste Management and Remediation

Version Number: 1

Date: May 2017

TRIM Number: 2016BAF19

Approval Signatures

Note: This statewide generic quality assurance project plan (QAPP) becomes effective on the date of the last approval signature. Project-specific staff will be assigned by each region conducting oversight of third-party petroleum site activities.

State Office QAPP Program Manager

Signature: _____ 5/16/17

Name: Kristi Lowder, Underground and Leaking Underground Storage Tank Program Manager, WMR — Date

State Office QAPP Project Quality Assurance Officer

Signature: _____ 5/16/17

Name: Eric Traynor, Brownfields Program Manager, WMR — Date

*Note: At the time of QAPP signature, the state office project QAO is required to update the DEQ QAO project document tracker, found in TRIM (record #2012AEB8).

State Office QAPP Project Manager

Signature: _____ 5/16/17

Name: Kristi Lowder, Underground and Leaking Underground Storage Tank Program Manager, WMR — Date

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3 Distribution List

At a minimum, the following personnel will receive either an electronic or hard copy of the final signed statewide generic Quality Assurance Project Plan (QAPP) (Table 1). The regional office program manager (i.e., Regional Corrective action manager) must designate the regional office project manager and regional office project Quality Assurance Officer (QAO) prior to the QAPP being approved and signed. The regional staff listed in Table 1 must match those in Table 3 and Figure 2. However, the name of the regional office project manager and/or regional office project QAO may change via the process outlined in section 4. Names may also be changed when the QAPP is revised and re-approved.

Table 1. Project QAPP distribution list.

Name	Project Affiliation	Organization and Address/Location	Contact Number
Don Zaroban	DEQ Quality Manager	DEQ State Office, EMI	208 373-0405
Kristi Lowder	State Office QAPP Program Manager	DEQ State Office, WM&R	208 373-0247
Eric Traynor	State Office QAPP Project Quality Assurance Officer	DEQ State Office, WM&R	208 373-0565
Kristi Lowder	State Office QAPP Project Manager	DEQ State Office, WM&R	208 373-0247
Gary Stevens (CRO)	Regional Office Program Manager	DEQ Coeur d'Alene RO 2110 Ironwood Parkway Coeur d'Alene, ID 83814	208 769-1422
Marc Kalbaugh or Rob Eachon (CRO); Keith Dyarmett or Derek Young (SO)	Regional Office Project Manager		
Steve Gill (CRO); Keith Dyarmett or Derek Young (SO)	Quality Assurance Officer		
Dana Harper (LRO)	Regional Office Program Manager	DEQ Lewiston RO 1118 "F" St. Lewiston, ID 83501	208 799-4370
Dana Harper (LRO); Keith Dyarmett or Derek Young (SO)	Regional Office Project Manager		
Dana Harper (LRO); Keith Dyarmett or Derek Young (SO)	Quality Assurance Officer		
Albert Crawshaw (BRO)	Regional Office Program Manager	DEQ Boise RO 1445 N. Orchard St. Boise, ID 83706	208 373-0550
Fritz Durham or Mark Van Kleek (BRO)	Regional Office Project Manager		
Tina Elayer (BRO); Keith Dyarmett or Derek Young (SO)	Quality Assurance Officer		
Bobby Dye (TFRO)	Regional Office Program Manager	DEQ Twin Falls RO 650 Addison Avenue West, Suite 110 Twin Falls, ID 83301	208 736-2190
Stacy Schwabedissen or Tiffanny Bowman (TFRO); Keith Dyarmett or Derek Young (SO)	Regional Office Project Manager		
Tiffanny Bowman or Stacy Schwabedissen (TFRO); Keith Dyarmett or Derek Young (SO)	Quality Assurance Officer		

Doug Tanner (PRO)	Regional Office Program Manager	DEQ Pocatello RO 444 Hospital Way, #300 Pocatello, ID 83201	208 236-6160
Ralph Oborn (PRO); Keith Dyarmett or Derek Young (SO)	Regional Office Project Manager		
Ralph Oborn (PRO); Keith Dyarmett or Derek Young (SO)	Quality Assurance Officer		
Rensay Owen (IFRO)	Regional Office Program Manager	DEQ Idaho Falls RO 900 N. Skyline Drive, Suite B Idaho Falls, ID 83402	208 528-2650
Michael Summers (IFRO); Keith Dyarmett or Derek Young (SO)	Regional Office Project Manager		
Michael Summers or Troy Saffle (IFRO); Keith Dyarmett or Derek Young (SO)	Quality Assurance Officer		
Notes: quality assurance project plan (QAPP); Waste Management and Remediation (WMR); Coeur d'Alene Regional Office (CRO); regional office (RO); Lewiston Regional Office (LRO); Boise Regional Office (BRO); Twin Falls Regional Office (TFRO); Pocatello Regional Office (PRO); Idaho Falls Regional Office (IFRO)			

4 Project/Task Organization

This statewide generic QAPP, which will be referred to simply as QAPP within this document, was created for the Idaho Department of Environmental Quality (DEQ) Waste Management and Remediation (WMR) Division staff to evaluate third-party data and information for petroleum assessment and corrective action activities. Because this is a statewide generic QAPP, there are two levels of project staff: state office and regional office. The state office program manager identifies and assigns the state office project manager and state office QAPP project QAO, with approval from the DEQ quality manager, and then notifies the state office project manager of the QAO selection. The state office QAPP project QAO must meet criteria for independence. The state office QAPP project QAO and state office project manager may report to the same individual within DEQ. However, one individual cannot report to the other, and one person cannot hold both positions. The regional office program manager identifies and assigns the regional office project manager and regional office project QAO, with approval from the DEQ quality manager, and then notifies the regional office project manager of the QAO selection. The regional office project QAO must meet criteria for independence. The regional office project QAO and regional office project manager may report to the same individual within DEQ. However, one cannot report to the other, and one person cannot hold both positions.

Although data are generated by a third-party, DEQ is (1) using that data, (2) establishing the decision criteria to evaluate that data (e.g., determining what data are required and what data will be evaluated) through this QAPP, and (3) using that data to make decisions through the processes in this QAPP. Therefore, quality assurance staff must be independent of the project staff.

Key state office QAPP project personnel and their responsibilities are defined in Table 2. A state office project staff organizational chart is provided in Figure 1. The state office project QAO performs an annual audit to evaluate statewide compliance (Appendix A).

Key regional office project personnel and their responsibilities are defined in Table 3. A regional office project staff organizational chart is provided in Figure 2. Due to staff resource limitations, individuals listed in Table 3 and Figure 2 may serve as regional office project manager for one project and as the regional office QAO for another project. However, if one staff member is assigned as a regional office project manager, another staff member will be assigned as the regional office QAO for the same project to ensure independence criteria are satisfied.

The regional office project manager will verify that regional office project manager and/or regional office project QAO are listed consistently in Table 1, Table 3, and Figure 2 of the approved QAPP, or attach documentation to the regional office data review checklist showing the staffing change approval as described below (see Appendix B for checklist).

Regional office project management staff (i.e., regional office project manager and/or regional office project QAO) may be changed for projects subject to this QAPP with documented approval from the state office project manager. The regional office program manager is responsible for notifying the state office project manager via e-mail of a proposed change in the regional office project manager and/or regional office project QAO from those individuals identified in Table 1, Table 2, and Figure 2.

The regional office program manager must notify the state office project manager of project management staffing changes and must receive approval from the state office project manager and the DEQ quality manager, prior to the new staff performing project activities. The state office project manager is responsible to document the regional office staff change in TRIM. The state office project manager shall verify the regional office staff assignments meet the project staffing independence criteria (see Table 2).

The regional project management staff (i.e., project manager and quality assurance officer) must be identified (named) within the QAPP prior to the QAPP being approved (signed). However, since regional project management staff can change at any time based on workloads, project priorities, or other issues, the above process allows for documented and approved changes to regional project management staff within the approved QAPP framework without going through a QAPP revision if the changes are regional project management staff assigned to projects using this QAPP.

The project staff duties and responsibilities described in Table 2 and Table 3 are not intended to be all inclusive; see sections 1.2.5 through 1.2.7, and other sections, of the DEQ Quality Management Plan (QMP) (DEQ 2012) for a more detailed description.

Table 2. Key s*tate office* project personnel and associated responsibilities.

Name	Project Title/Responsibility
Kristi Lowder	**State Office QAPP Program Manager**: Note: The following description is *not all inclusive*; see section 1.2.7 and other relevant sections of the DEQ Quality Management Plan (QMP; DEQ 2012) for a more detailed description. This person is the state office program manager assigned to the QAPP, whose duties and responsibilities include the following: • Oversees the QAPP, performing functions such as statewide coordination of project efforts. These duties differ from the regional office program manager whose efforts are focused primarily on issues such as the project-specific aspects of the project. • Assists in reviewing the QAPP and signs the final QAPP as an approver. • Confirms the QAPP template meets the needs of the program and the regions through consultation with regional corrective action managers during QAPP development. • Ensures the QAPP is approved prior to the start of project work. • Ensures the program procedures and policies referenced in the QAPP are current and approved for use. Is the primary author of program standard operating procedures. • Selects and assigns a state office project QAO, who meets the criteria for independence defined in the DEQ QMP (see QAO duties below), and obtains approval for this selection from the DEQ quality manager. • Performs all State Office QAPP Program manager duties and other responsibilities as assigned in the approved QAPP.
Eric Traynor	**State Office QAPP Project Quality Assurance Officer**: Note: The following description is *not all inclusive*; see section 1.2.5 and other relevant sections of the DEQ QMP for a more detailed description. This person is the state office project QAO assigned to the QAPP, whose duties and responsibilities include the following: • Oversees the QAPP, performing functions such as the annual audit of the QAPP. These duties differ from the regional office project QAO whose efforts are focused primarily on project-specific issues. • Assists in reviewing the QAPP, verifies the QAPP meets the requirements of the DEQ QMP, and signs the final QAPP as an approver. • *All assigned QAOs are required to contact the DEQ quality manager to discuss the QAPP prior to signing any QAPP for approval.* • *When the state office project QAO signs the QAPP for approval, the state office project QAO is required to update the DEQ QAO project document tracker found at TRIM record 2012AEB8 with the project-specific information.* • Performs an annual audit, using the state office project QAO QAPP audit checklist located in Appendix A, on the QAPP to evaluate statewide compliance with the approved project QAPP. Files the completed audit checklist in TRIM to document the audit. • Documents state office project QAO activities in the DEQ TRIM system, per the DEQ QMP and the approved QAPP. • In matters of project quality, the state office project QAO has a direct line of communication to the DEQ quality manager. • Must meet the following independence criteria: The state office project QAO shall not be the project manager, program manager, or be otherwise assigned to the project data generation efforts. Neither the project manager nor the QAO may directly report to the other within the DEQ organizational structure. • Performs all other duties and responsibilities as assigned in the QAPP.
Kristi Lowder	**State Office QAPP Project Manager**: Note: The following description is *not all inclusive*; see section 1.2.6 and other relevant sections of the DEQ QMP for a more detailed description. This person is the state office project manager assigned to the QAPP, whose

	duties and responsibilities include the following: • Oversees the QAPP, performing functions such as serving as primary author of the QAPP and overall statewide project coordination. These duties differ from the regional office project manager whose efforts are focused primarily on project-specific issues such as laboratory and sampling coordination, data review and verification, etc. • Serves as the primary author of the QAPP and signs the final QAPP as an approver. • Works closely with regional corrective action office staff during QAPP development to ensure the QAPP satisfies the needs of the program and the regional corrective action offices. • Performs state office aspects of the project, such as statewide project planning, statewide generic quality system document development and approval, state office reporting functions, and state office project file maintenance in TRIM. • Enters the approved and current QAPP in the TRIM system, including a copy of the signed QAPP approval page. • Coordinates statewide efforts for the project, working closely with regional office project managers. • Ensures the state office procedures and policies referenced in the QAPP are current and approved for use. • Ensures that state office personnel assigned to a project under this QAPP are appropriately trained and qualified, with the corresponding training records on file in human resources. • Reviews the QAPP, and state office standard operating procedures (SOPs) annually to determine if revision is necessary. This review shall include soliciting comment from regional project staff and applicable state office staff to ensure regional and state office staff feedback is considered and incorporated, as appropriate. If the QAPP or associated SOPs do require revision, the project manager initiates such action. All such documents will be revised, reviewed, and approved in accordance with the DEQ QMP. • Documents state office project manager activities in the DEQ TRIM system, per the DEQ QMP and approved QAPP. • Reviews and approves/rejects proposed regional project management staffing changes (i.e., regional office project manager or regional office project QAO) when received from regional office program manager. • Performs all other duties and responsibilities as assigned in the QAPP.
NA	**Laboratory Contact/Manager**: This person is the primary contact at the laboratory for DEQ project staff. External third parties are collecting samples (not DEQ). Therefore DEQ does not deal directly with laboratories.

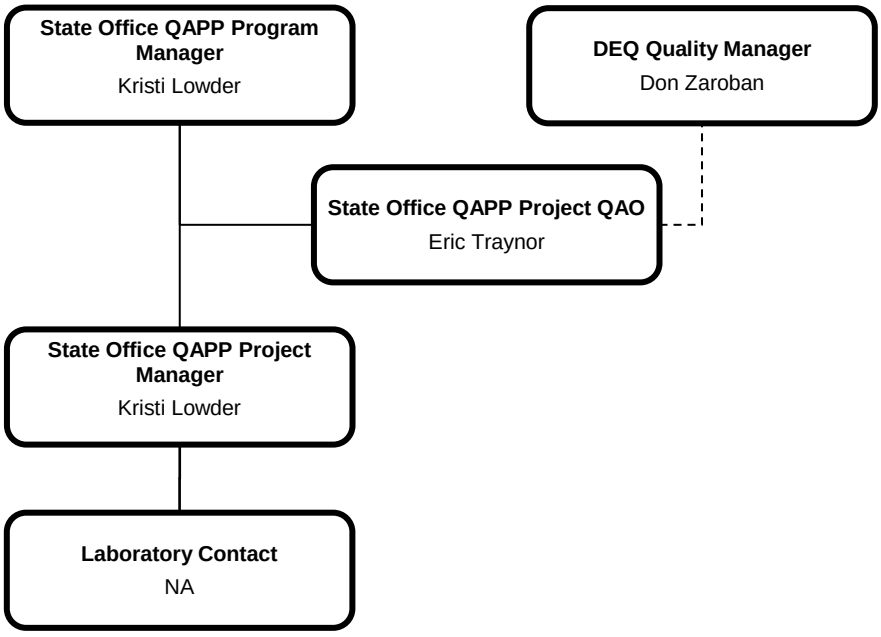

Figure 1. Statewide generic QAPP state office organizational chart.

Table 3. Key r*egional office* project personnel and associated responsibilities.

Name	Project Title/Responsibility
Gary Stevens (CRO) Dana Harper (LRO) Albert Crawshaw (BRO) Bobby Dye (TFRO) Doug Tanner (PRO) Rensay Owen (IFRO)	**Regional Office Program Manager:** Note: The following description is *not all inclusive*; see section 1.2.7 and other relevant sections of the DEQ QMP (DEQ 2012) for a more detailed description. This person is the regional office program manager for the region in which the petroleum site activities occur. Duties and responsibilities include the following: • Oversees the program-specific aspects of the QAPP conducted by regional staff and communicates with counterparts concerning project activities. These duties differ from the state office program manager whose efforts are focused primarily on issues such as the development of the QAPP and performing functions involving statewide coordination. • Assists in reviewing project-specific information and data, as necessary. regional office program managers are responsible for evaluating data and information from instances of nonconformance. • Ensures the procedures and policies referenced in the QAPP are current and approved for use. • Selects and assigns a regional office project QAO who meets the criteria for independence defined in the DEQ QMP (see QAO duties below). • Contacts the DEQ quality manager for approval of the regional office project QAO assignment. • Notifies state office project manager of proposed changes to project management staff (i.e., regional office project manager and /or regional office project QAO). Obtains approval of project management staff changes prior to new staff conducting project activities. • Performs all regional office corrective action manager duties and responsibilities as assigned in the approved QAPP.
Steve Gill (CRO) Dana Harper (LRO) Tina Elayer (BRO) Fritz Durham (BRO) Michael Summers (TFRO) Tiffanny Bowman (TFRO) Ralph Oborn (PRO) Christy Swenson (IFRO) Keith Dyarmett (SO)	**Regional Office Project Quality Assurance Officer:** Note: The following description is *not all inclusive*; see section 1.2.5 and other relevant sections of the DEQ QMP for a more detailed description. This person is the regional office project QAO assigned to individual projects subject to the QAPP, whose duties and responsibilities include the following: • Oversees the project-specific data quality functions, performing audits and data validation. These duties differ from the state office project QAO whose efforts are focused primarily on issues such as the annual audit of the QAPP. • Assists in reviewing the project-specific information and data. • Reviews the associated QAPP to ensure all information and requirements are present. • Performs an annual audit of project-specific activities *if activities approach (e.g., 11 months or more) or extend beyond 1 year*. The regional office project QAO annual audit checklist is located in Appendix C. This annual audit checklist shall be used to evaluate project compliance with the approved QAPP on selected projects (see section 20). Files the completed audit checklist in TRIM to document the audit. • Provides data validation per the QAPP using the appropriate checklist located in the Appendix B; may also participate in final regional project report review. • Documents all regional office project QAO activities, such as data validation, in the DEQ TRIM system, per the DEQ QMP and the approved QAPP. • In matters of project quality, the regional office project QAP has a direct line of communication to the DEQ quality manager. • Must meet the following independence criteria: The regional office project QAO and the regional office project manager may report to the same individual; data are generated by an third-party. • Performs all other regional office project QAO duties and responsibilities as

	assigned in the QAPP.
Marc Kalbaugh (CRO) Rob Eachon (CRO) Dana Harper (LRO) Fritz Durham (BRO) Mark Van Kleek (BRO) Michael Summers (TFRO) Tiffanny Bowman (TFRO) Ralph Oborn (PRO) Troy Saffle (IFRO) Keith Dyarmett (SO)	**Regional Office Project Manager**: Note: The following description is *not all inclusive*; see section 1.2.6 and other relevant sections of the DEQ QMP for a more detailed description. This person is the regional office project manager assigned to the individual project, whose duties and responsibilities include the following: • Oversees project-specific aspects of the QAPP, such as information and data review and verification. These duties differ from the state office project manager, whose efforts are focused primarily on issues such as generating and implementing the QAPP and coordinating overall statewide project aspects. • Reviews the associated QAPP to ensure all information and requirements are present. • Performs project-specific duties, regional reporting functions, document reviews, and regional project file maintenance in TRIM. • Ensures the regional procedures and policies referenced in the QAPP are current and approved for use. • Ensures all project work is conducted in accordance with the DEQ QMP, the approved QAPP, and the applicable standard operating procedures. • Ensures that regional office personnel assigned to this project are appropriately trained and qualified, with the corresponding training records on file in human resources. • Performs data review and verification per the QAPP, using the appropriate checklists located in the Appendix B, and documents these activities in the project TRIM system files. Notifies the state office QAPP project quality assurance officer. • Reviews the QAPP and SOPs annually to determine if revision is necessary. If the generic statewide QAPP or SOPs require revision, the regional office project manager will inform the state office project manager, who is responsible for QAPP revision and approval. All such documents will be revised, reviewed, and approved in accordance with the DEQ QMP. • Verifies that the regional office project manager and/or regional office project QAO are the same as who are designated in Table 1, Table 3, and Figure 2 of the approved QAPP, or attaches documentation to the regional office data review checklist showing the staffing change approval (see Appendix B for checklist). • Performs all other duties and responsibilities as assigned in the QAPP.
NA	**Laboratory Contact/Manager**: This person is the primary contact at the laboratory for DEQ project-specific staff. External third parties are collecting samples (not DEQ). Therefore, DEQ does not deal directly with laboratories.

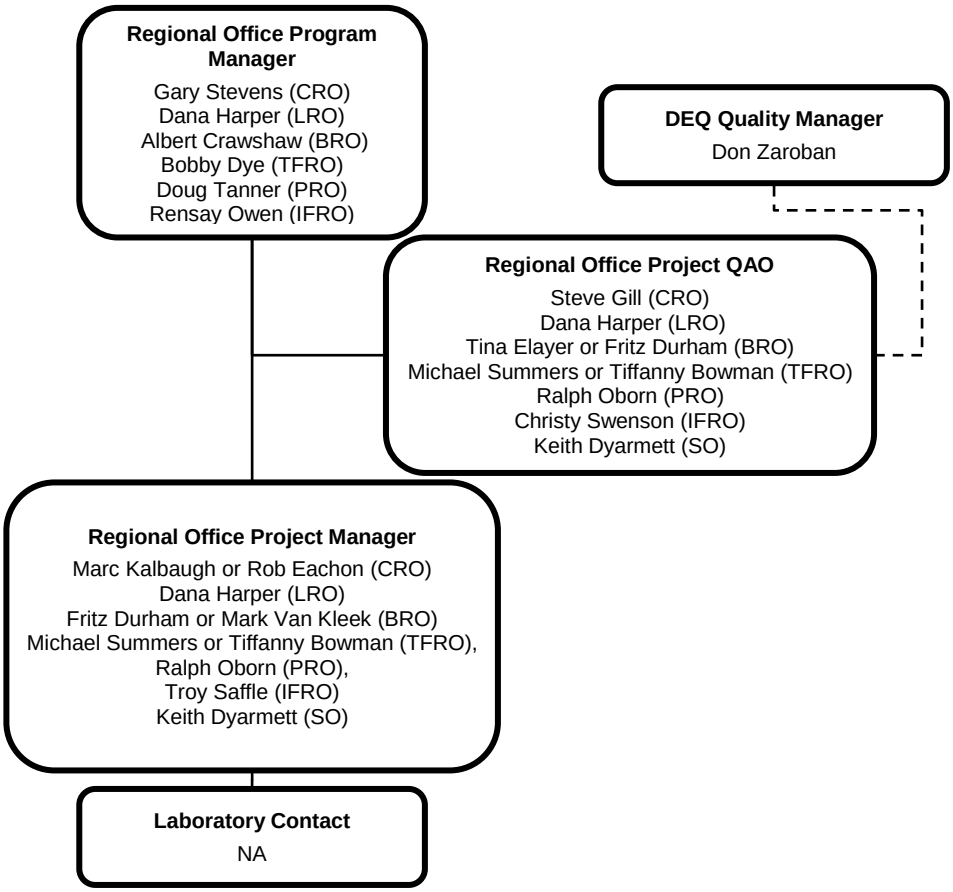

Figure 2. Project-specific regional office organizational chart.

5 Problem Definition/Background

This section describes the specific problem to be solved, project background, why the project will be done, what will be accomplished, decisions to be made, and the outcomes to be achieved.

5.1 Problem Statement

DEQ's Quality Management program oversees planning, implementation, and review of data collection activities and the use of data in decision-making. The goal of the program is to ensure the quality of environmental data collection, generation, and use by the DEQ. As stated in Section 1.1 of the DEQ Quality Management Plan (DEQ 2012), it is DEQ policy that:

- DEQ activities result in products and decisions of known and acceptable quality
- quality management practices be implemented to document and ensure that all environmental data generated, stored, reported, or used by DEQ is of known and adequate quality to fulfill the needs of the primary data user
- data used by DEQ shall be accurate, precise, complete, representative, comparable, and

when required, legally defensible

This policy applies to data generated internally (within DEQ through the direct efforts of DEQ personnel) and externally from regulated activities, contracts, interagency agreements, grants, and/or cooperative agreements. To satisfy this policy one of the specific objectives of the DEQ quality management system is to "ensure that environmental data generated and used by DEQ will be of known and documented quality through the use of approved QAPPs." Additional citations from the QMP are:

- Section 2.2.3 – "All DEQ work that involves acquiring environmental data generated from direct or indirect measurement activities, collected from other sources, or compiled from computerized databases and information systems must be implemented in accordance with an approved QAPP."
- Section 2.2.3 – "This requirement is in effect regardless of whether or not data are generated directly by DEQ, already exist, or are submitted to DEQ through the efforts of contractors, third parties, or partners."
- Section 7.4 – "Although DEQ personnel may not have direct responsibility for collecting and analyzing environmental samples and data in these situations, DEQ is responsible for assessing the quality of the data before using it in decision-making processes."
- Section 7.5 – "Prior to accepting or using any existing data from external sources for project-related purposes, DEQ will develop an internal QAPP in accordance with section 2.2.3 of this QMP that must clearly define the problem statement, data quality needs, and criteria that will be used to assess the quality of that data."

Therefore, an internal third-party data QAPP is required per DEQ policy anytime there is third party data submitted to DEQ (without a DEQ approved and signed QAPP) for which DEQ conducts the data evaluation and uses the third party data to make decisions.

DEQ does not sign externally generated QAPPs except under certain special circumstances when the third-party QAPP meets DEQ Quality Management System and QMP requirements and is suitable for DEQ signature as determined by the DEQ state office and regional office QAPP management staff (i.e., program manager, project manager and QAO) assigned to the project. The DEQ quality manager may be consulted for this determination. Exceptions include when a DEQ contractor generates a QAPP under contract for DEQ approval and signature, or when specific consent order requirements specify external QAPP approval and signature by DEQ. Under these types of specific examples, an existing external data QAPP would not be necessary. However, a QAPP is always required per DEQ policy to define the quality of the environmental data and information used by DEQ in making decisions. Therefore, this QAPP will apply to situations where DEQ has not reviewed and signed an externally developed QAPP.

Data collection and quality assurance associated with petroleum release investigations to confirm a suspected release, and underground storage tank closure and change in service assessment activities are discussed in a separate QAPP. Non-petroleum assessment and corrective activities are discussed in a separate QAPP.

Petroleum assessment and corrective action activities, regardless of association with the Leaking UST Program or General Remediation Program, are discussed in this QAPP. Site assessment or investigation activities are conducted by property owners, their representative, their contractors,

or others (referred to as third-party or third parties) at a variety of sites stemming from above ground and underground petroleum storage tank releases, emergency response incidents, property transactions, property cleanup efforts, complaints or other activities. These third parties provide submittals to DEQ, which are used by DEQ staff to determine if contamination is present, the extent of contamination, if corrective actions are necessary, to confirm that the completed corrective actions met cleanup criteria, and to determine suitability of the site for closure or for closure with land use restrictions.

This QAPP focuses on petroleum site assessment and corrective action activities only. DEQ provides oversight of site assessment and corrective action activities conducted by external third parties. DEQ project staff typically work with the external third party to ensure the appropriate types of samples are collected in the appropriate locations, the necessary analytes are identified, and appropriate analytical methods are selected (see section 18). This oversight process is guided by the following authorities:

- Environmental Protection and Health Act, Idaho Code §39-101 et. seq.
  Section 39-108 states "The director shall cause investigations to be made upon receipt of information concerning an alleged violation of this act or of any rule, permit or order promulgated thereunder, and may cause to be made such other investigations as the director shall deem advisable."

- Water Quality Standards, IDAPA 58.01.02.851, Petroleum Release Reporting, Investigation and Confirmation
  Section 851 states "This section includes requirements for reporting releases to DEQ, investigations due to off-site impacts, release investigation and confirmation of suspected releases within 7 days if corrective action is not initiated per IDAPA 58.01.02.852, and cleanup of above ground spills and overfills."

- Water Quality Standards, IDAPA 58.01.02.852, Petroleum Release Response and Corrective Action
  Section 852 states "This section includes requirements for release response, initial abatement, initial characterization within 45 days of release confirmation, free product removal, investigations for soil and water cleanup, corrective action plan, and compliance."

- Ground Water Quality Rule IDAPA 58.01.11.400, Ground Water Contamination
  Section 400 states "The discovery of any contamination exceeding a ground water standard that poses a threat to existing or projected future beneficial uses of ground water shall require appropriate actions, as determined by the Department, to prevent further contamination."

- Standards and Procedures for Application of Risk Based Corrective Action at Petroleum Release Sites, IDAPA 58.01.24
  These rules establish standards and procedures to determine whether and what risk based corrective action measures should be applied to property subject to assessment and cleanup requirements under IDAPA 58.01.02, sections 851 and 852, "Water Quality Standards," and associated definitions; IDAPA 58.01.11, Subsection 400.05, "Ground Water Quality Rule;"

Petroleum releases are also subject to the following guidance, standard operating procedures, and procedures:

- 2012 Risk Evaluation Manual for Petroleum Releases (http://www.deq.idaho.gov/waste-mgmt-remediation/remediation-activities/risk-evaluation-manuals.aspx)
- Standard Operating Procedure for Management and Disposal of Petroleum-Contaminated Soil Following a Release from a Non-UST Petroleum Storage Tank (WST-2014-1; TRIM 2011BAF2)
- DEQ Used Oil UST Closure and Release Sampling Standard Operating Procedures (TRIM 2016BAF24)

If DEQ project staff collect samples associated with oversight of third-party activities, a project specific QAPP and field sampling plan (FSP) are required; these activities are not covered by this QAPP.

The owner, operator or their representative are responsible to assess the contamination resulting from a petroleum release and perform corrective action in accordance with 58.01.02 and 58.01.24. The third-party conducting the assessment and/or corrective action activities at a petroleum site should follow 'standard of practice' or 'professional practice' (see section 18) for sample collection, handling and analysis. The acceptable standards and practices include various American Society for Testing and Materials (ASTM) standards for sample collection (e.g., ASTM D4448-01, D4687-95, D4700-91, D5956-96, D6009-12, D6044-96, D6051-96, D6597-10, and E1903-11), sample handling protocols (e.g., ASTM D6911-03), and chain of custody (e.g., ASTM 4840-99), EPA published standards for sample collection, handling and analysis, the third party's own company standards, or other published standards and/or guidance documents (e.g., EPA guidance).

There is no requirement for the third-party to have or follow written standards or standard operating procedures (SOPs). However, there are acceptable industry standards (e.g., chain of custody, sample collection techniques/methods, sample containers, and analytical methods) that third parties should follow or otherwise comply with to provide DEQ with data of sufficient quality from which decisions can be made. The third-party may use or reference such industry standards. Where the third-party does not reference or follow a written standard, general industry standards, standards of practice, or professional practice procedures, commonly referred to as industry accepted practices, still apply and should be followed (e.g., samples need to be collected in appropriate containers, with appropriate preservatives, and chain of custody procedures should always be followed).

The third-party property owner, their representative, or other party should conduct sample collection and handling using containers and preservatives provided by the laboratory conducting the analysis, or appropriate supplier. The third party is responsible for conducting sample collection and handling activities in an appropriate manner. DEQ may provide guidance and input, but cannot act as a consultant to the third-party.

A report documenting site assessment and/or corrective action activities is typically submitted by the third-party to DEQ for review. DEQ does not have the authority to require the external third

parties to create or follow a QAPP, unless such a requirement is included in a consent order. However, the third-party data submitted to DEQ must be of sufficient quantity and quality to allow DEQ to make decisions regarding the need for further investigation or corrective action, and to determine suitability of the site for closure or to approve implementation of activity and use limitations through a legal instrument called an environmental covenant.

This QAPP provides a framework for DEQ staff to evaluate the data collected by external third parties at petroleum sites. Refer to section 18 for minimum data acceptance criteria.

5.2 Intended Usage of Data

The information and data provided by the third-party and submitted to DEQ will be used by DEQ to make decision regarding the completeness of the investigation and/or corrective action, and suitability of the project for closure and/or implementation of activity and use limitations. Therefore, the quality of the data, where necessary, must be legally defensible. Appropriate data interpretation and recommendations, made by DEQ, may also be included. Refer to section 18.4 for additional information regarding data use in decision-making.

6 Project/Task Description

This section describes (in general terms) how the project will be implemented through a summary of how the work will be performed, what data are to be obtained, where the data gathering activities will occur, and the related projected schedule.

6.1 General Overview of Project

This QAPP defines the duties and responsibilities of DEQ staff and establishes SOPs for accepting or rejecting data and information collected by external third parties for petroleum site assessment and corrective action activities. The data and information may involve sample collection, preservation, handling and transportation, and laboratory analysis (see section 18). The objective of DEQ's evaluation of the third-party data are to ensure that the data submitted by third parties are, to the best of our knowledge, representative of actual site conditions and the quality of the data are sufficient to allow DEQ to make informed decisions regarding the assessment and/or corrective actions performed, and, where necessary, legally defensible.

Third-party submittals will be evaluated by DEQ staff in accordance with the procedures outlined in this QAPP. Specific sections regarding third-party data include sections 18, 22, 23 and 24. Section 18 identifies what data are being evaluated and the acceptance criteria for that data. Section 22 identifies who conducts the data review, verification and validation. Section 23 identifies the methods DEQ will use to complete the data review, verification, and validation. Section 24 describes how DEQ will document the outcome of the data evaluation.

6.2 Project Timetable

Third-party activities occur as scheduled by the party conducting the work. Therefore, a projected schedule for the major project activities, such as field sampling, data review, and report generation, is identified by the third-party based on the needs of each individual project.

7 Data Quality Objectives and Data Quality Indicators

This section of the QAPP defines the project data quality objectives (DQOs), essentially defining the requirements to support the qualitative or quantitative design of the data collection effort. DQOs are also used to assess the adequacy of the data (new or existing) in relation to their intended use. Data quality indicators (DQIs) are used to describe, in part, the specific measurement elements used when evaluating data in support of the project DQOs.

Additional information and guidance concerning the DQO process and DQI selection and definition is included in the following reference materials:

- EPA *Guidance on Systematic Planning Using the Data Quality Objectives Process* (EPA 2006a)
- EPA *Guidance for Quality Assurance Project Plans* (EPA 2002a)
- EPA *Requirements for Quality Assurance Project Plans* (EPA 2001)
- EPA *Guidance on Environmental Data Verification and Data Validation* (EPA 2002b)

The objective of QA/QC is to ensure that analytical results obtained by the third-party are representative of actual chemical and physical composition of the sampled media (e.g., soil, soil vapor, indoor air, surface water, and ground water), and of sufficient quality with which to make decisions. DEQ will review, verify, and validate the data and quality measures of the third-party against standard acceptable quality measures (i.e., industry standards and professional practice procedures) to determine if the data are acceptable and usable for its intended purpose; or whether the data are unacceptable and not useable for its intended purpose. Refer to section 18 for additional details.

7.1 Data Quality Objectives

DQOs for the data submitted by third parties for site assessment and/or corrective action activities are presented below:

1. State the Problem

   The problem is to determine the acceptability and usability of the data and information provided by third parties to allow DEQ to make decisions regarding completed assessment and corrective actions and to identify any necessary further actions at sites where a DEQ-signed QAPP is not in effect.

2. Identify the Decision

   The first decision is regarding the quality of the data and information provided by the third-party. DEQ will evaluate the data and information provided and compare it to the

minimum acceptance criteria identified in section 18.6 of this QAPP. The first question to be answered follows:

> Is the data provided by the third-party of sufficient quantity and quality for an evaluation of the extent and magnitude of the petroleum contamination in the sampled media?

If the third-party data and information is of sufficient quantity and quality to evaluate the extent and magnitude of the contaminated media, the second decision is broken into two parts. Part one is evaluation of that data and information to determine whether additional assessment and/or corrective action is necessary. Part two is whether that submitted data and information are sufficient to allow for project closure with or without activity and use limitations (see section 18.4). The two parts of the second question to be answered follows:

> Is additional assessment and/or corrective action necessary to further address contamination?
>
> Is the contaminated area subject to the assessment and/or corrective action suitable for closure either with or without activity and use limitations?

3. Inputs to the Decision

   The inputs to the decisions are mainly from the data and information provided by the third-party (see section 18). Additional information may be available, including observations made by DEQ staff conducting oversight of the third-party field activities (see section 9), or from data from other sources (e.g., DEQ records and databases, other state and federal agencies, and other third party data). There is no requirement from DEQ for a specific type or level of a laboratory data package to be submitted by external third parties. However, certain laboratory information, identified as minimum acceptance criteria in section 18.6, will need to be submitted by third parties.

4. Define the Boundaries

   The boundaries are generally the spatial limits of the assessment and/or corrective action activities conducted by the third-party, which may include off-site impacts to various media.

5. Develop a Decision Rule

   a. If the data provided by the third-party is of sufficient quantity and quality for an evaluation of the extent and magnitude of the petroleum contamination in the sampled media, then DEQ:

      i. If the DEQ evaluation of the third-party data indicates that additional assessment and/or corrective action is necessary, then the DEQ response would indicate that additional assessment and/or corrective action activities are necessary (see section 18.4). Third-Party data submitted to

DEQ would be evaluated under this Third Party Petroleum Assessment and Corrective Action QAPP.

ii. If the DEQ evaluation of the third-party data indicates that additional assessment and/or corrective action is not necessary and the area subject to the assessment and/or corrective action is suitable for closure either with or without activity and use limitations, then the DEQ response would indicate that further assessment and/or corrective action is not necessary (see section 18.4).

b. If the data provided by the third-party is not of sufficient quantity and/or quality for an evaluation of the extent and magnitude of the petroleum contamination in the sampled media, then DEQ will need to request additional data and information from the third party before proceeding with the data review, data verification and data validation steps (see section 18.4).

Decision rules related to minimum acceptance criteria for data and information provided by the third-party are further provided in sections 18 and 24.

6. Specify Limits on Decision Errors

Decision errors will be managed by evaluation of the DQIs identified in section 7.2 and section 18.5, and the minimum acceptance criteria identified in section 18.6. Data review and verification will be conducted on all third-party submittals, as described in sections 22 and 23. Data validation will only occur on a selected subset of third-party projects and submittals using a graded approach, described in sections 22 and 23.

7. Optimize the Design

The number, type, and location of samples are site-specific and will be evaluated based on the third-party providing data of sufficient quality for decisions to be made regarding their assessment and corrective action activities.

7.2 Data Quality Indicators

DQIs are identified in the following subsections. Data accuracy and precision DQIs may not be able to be calculated or otherwise determined for some projects since there is no requirement from DEQ for external third parties to collect duplicate or blank samples, or to require laboratory control sample (LCS), matrix spike sample, surrogate spike sample, or duplicate/split sample, or other laboratory QA/QC sample analysis. For petroleum assessment and corrective action activities, field quality control sample results, including trip blanks for VOC analyses, are considered to be minimum acceptance criteria. In addition, laboratories routinely conduct internal quality control analyses. Therefore, laboratory quality control data is considered to be minimum acceptance criteria.

7.2.1 Data Accuracy, Precision, and Measurement Range

Accuracy is a measure of the agreement between a true or reference value and the associated measured value. Third-party sampling data may include spiked samples with a known matrix

submitted blind to the laboratory, or may rely on reported recoveries for LCS or other laboratory QA data, as described in section 18. The standard practice is for laboratories to spike samples going through their analysis stream with known concentrations of an analyte and measure the recovered analytes. This analyte spike may be performed on the third-party samples, on other samples submitted to the laboratory, or may be internal laboratory samples. The recoveries of LCS, matrix spikes, and surrogate spikes will be used to evaluate the accuracy of the analytical method. These recoveries are typically calculated as percent recovery (%*R*) represented by Equation 1 and Equation 2.

$$\%R = C_M / C_T \times 100$$

Equation 1. Spiked sample or laboratory control sample percent recovery.

Where: C_M = measured spike/LCS concentration
C_T = true spike/LCS concentration

$$\%R = (C_S - C_{US}) / C_T \times 100$$

Equation 2. Matrix spike and surrogate recoveries.

Where: C_S = measured concentration of spiked sample
C_{US} = measured concentration of unspiked sample
C_T = true concentration of spike added

Laboratory accuracy for each analysis is determined through statistical analysis of the laboratory equipment performance by the laboratory; the acceptable accuracy range for the laboratory performance is generally indicated in the laboratory report and on the data sheets. Any outliers from the laboratory's acceptable range in percent recovery, as determined by the laboratory, will be flagged by the laboratory. Refer to section 18 for how DEQ staff will use accuracy in determining if the third-party data are acceptable.

Precision is a measure of agreement between two measurements of the same property under prescribed conditions. Third-party sampling data may include duplicate samples (field replicates or split samples) or may rely on LCS or matrix spike duplicate sample results. The relative percent difference (RPD) of duplicate samples will be used to assess data precision. For laboratory and field duplicates, Equation 3 will be used to calculate RPD:

$$RPD = \frac{(C_1 - C_2)}{(C_1 + C_2)/2} \times 100$$

Equation 3. Relative percent difference.

Where: C_1 = concentration in first sample
C_2 = concentration in the second/duplicate sample

Precision will be based on the RPDs of field and/or laboratory duplicates, if used. For laboratory duplicates, duplicate data (for laboratory control samples or matrix spike samples) is to be within the ranges of acceptability, based on RPD, identified by the specific laboratory conducting the analysis for each method and analyte. The maximum RPD goal for field water sample duplicates, if collected, analyzed, and reported, is ±30%. The maximum RPD goal for field soil sample duplicates, if collected, analyzed, and reported, is ±50%. However, this goal depends on the sampled media and is generally lower for ground water and air samples. Analysis of field or

laboratory duplicate samples may or may not be performed for individual projects subject to this QAPP. Refer to section 18 for how DEQ staff will use precision information in determining if the third-party data are acceptable.

Appropriate **measurement range** is determined by comparing the laboratory reporting limits or method detection limits (MDLs) to appropriate criteria used for decision making (e.g., comparing reporting limits to screening levels). Laboratory reporting limits or MDLs may vary based on dilution factors, the individual laboratory, the analytical method used by the third-party for sample analysis, and the analytes. Refer to section 18 for how DEQ staff will use measurement range information in determining if the third-party data are acceptable.

7.2.2 Data Representativeness

Representativeness is the degree to which the sample data accurately and precisely represent site conditions. The representativeness criterion is best satisfied by confirming that sampling locations are appropriately selected, sample collection procedures are appropriate and consistently followed, a sufficient number of samples are collected, and analytical results meet DQOs.

Representativeness is evaluated by DEQ project staff during data review, verification, validation, and reconciliation efforts. In addition to the above, the representativeness criterion will be evaluated by reviewing the combination of data accuracy, precision, measurement range, and methods and assessing other potential sources of bias, including sample holding times, reported results of blank samples, and laboratory QA review. Refer to section 18 for how DEQ staff will use representative information in determining if the third-party data are acceptable.

7.2.3 Data Comparability

Comparability is the confidence with which one data set can be compared to another data set. To ensure data comparability, third parties should follow ‘standard of practice’ procedures for sample collection, handling, and analysis. Refer to section 18 for how DEQ staff will use data comparability information in determining if the third-party data are acceptable.

7.2.4 Data Completeness

Completeness is the percentage of the number of verified data relative to the total number of data points actually collected. For data to be considered verified, it must meet all of the minimum acceptance criteria in section 18. The overall DQO for completeness for the sampling events conducted by third parties and evaluated under this QAPP is 90%. Since data validation is not conducted on all projects or on all data, the completeness DQO is based on data verification. If the sampling event does not meet the QA goal of 90% verified data, the regional office project manager and regional office QAO will discuss the data with the state office project manager, state office QAO, and regional office and state office program managers, and if necessary, the state office QAO, and a course of action agreed upon, as described in sections 21 and 24. Any departure from this completeness DQO will be justified and explained in the project records in accordance with the QMP (as explained in sections 9 and 10 of the QMP, DEQ 2012). Refer to section 18 for how DEQ staff will use data completeness information in determining if the third-party data are acceptable.

8 Special Training/Certification

Third-party property owners, their representative, or other parties conducting the field work at petroleum sites are responsible for ensuring that their personnel are experienced in environmental sample collection and handling, and informed about and trained on relevant Occupational Safety and Health Administration (OSHA) requirements and guidelines.

The DEQ regional office program manager and project manager are responsible to ensure that DEQ staff conducting field oversight of third-party activities are appropriately trained and qualified, with applicable training records on file with DEQ Human Resources. All work performed by DEQ personnel will be conducted in accordance with the current version of the DEQ Safety and Loss Control Plan (DEQ 2015a), DEQ Safety Manual (DEQ 2015b), and the Idaho General Safety and Health Standards (IGSHS) (Division of Building Safety 2006). The IGSHS are guidelines applicable to places of public employment and persons in the service of the State. The IGSHS are the basis for general safety and health for DEQ staff. The IGSHS are available on the Division of Building Safety website at http://dbs.idaho.gov/safety_code/index.html.

DEQ regional office project manager, or other field oversight staff, will complete OSHA hazardous waste operations and emergency response (HAZWOPER) training to at least the 24-hour level, with annual 8-hour refresher training, in accordance with 40 CFR 311 (Worker Protection) and 29 CFR 1910.120 (Hazardous Materials). Since DEQ staff will not collect samples, no special training for sample collection is required. However, DEQ staff involved in evaluation of third-party data will have sufficient knowledge and understanding of appropriate practices for sampling various media, including soil, surface water, soil vapor, and ground water.

9 Documentation and Records

QAPP-assigned state office project staff are responsible for project-related statewide documentation and records, including the following, as applicable to the project:

- Statewide generic QAPP
- Statewide reports summarizing program and/or regional data and information
- Project-related division/program SOPs
- Training records for assigned state office staff
- Annual state office project QAO's QAPP audit and assessment reports
- Project document tracker spreadsheet updates related to QAPPs (TRIM record 2012AEB8)
- Corrective action reports and plans

Project specific regional office project staff are responsible for project-specific documentation and records, including the following, as applicable to the project:

- Third-party data and information submitted to DEQ
    - Project-specific reports and other project documents
    - Supplemental project-related reports and documents
    - Laboratory reports and laboratory data

    - Sample chain-of-custody records
- Created by DEQ staff
    - Documentation for assignment changes in the regional office project manager or regional office project QAO
    - Project-specific field notes, sheets, forms, checklists, etc.
    - Data review, verification, and validation checklists and related documentation
    - Training records for assigned regional office staff
    - Corrective action reports and plans
    - Environmental covenants
    - Letters in response to external submittals

Third-party and DEQ project documents will be filed electronically in TRIM in accordance with applicable LUST program filing procedures (DEQ, no date, TRIM record 2012BAQ6) and General Remediation program filing procedures (DEQ, no date, TRIM record 2011BAQ3). The QAPP author (state office project manager) and SOP author (state office program manager) are responsible for entering the respective documents into TRIM. The regional office project managers are responsible for ensuring that a copy of the current approved QAPP, and SOPs, are available in TRIM (i.e., verifying that these documents are final and are in TRIM). A copy of the signed signature page for the QAPP must be filed in the TRIM system by the state office project manager. The approved QAPP, including the signed signature page, will be entered into TRIM in PDF format.

DEQ staff may be present during part or all of the field activities conducted by the third-party. In these situations, DEQ field personnel conducting oversight shall record information on a field sheet or in a field logbook, to document each day's activities. DEQ staff may or may not be present to provide oversight of all third-party field activities. However, DEQ staff should make every attempt to be present during critical aspects of field activities; which include, but are not necessarily limited to, observations of soil sampling, soil vapor sampling, ground water well installation, ground water sampling activities, source removal activities and other corrective action activities. If DEQ staff are present during field activities, their observations become part of the data/information used during the review, verification, and validation process. Field information shall be recorded as follows:

- Project data must be recorded directly, promptly, and legibly.
- Field logbook or field sheet entries must be made in black or blue permanent ink and must be signed/initialed and dated by the person making the entry.
- Changes or corrections to field logbook notes or field sheets must be indicated with a single line through the original entry. Changes must be initialed, dated, and explained.

Electronic copies of all documentation available to support the DQOs of the project and the validity of project data (e.g., chain-of-custody forms, audit reports, laboratory reports, field notes, and field logbooks) shall be entered into the project TRIM files by regional project staff (see LUST TRIM Facility SOPs (DEQ, 2012) and GR TRIM Facility SOPs (DEQ 2012)). Annual project audit and assessment documentation (see Appendix A for the state office project QAO Annual Audit Checklist, and Appendix C for the regional office project QAO Audit Checklist), per the DEQ QMP (2012), shall also be entered into the project TRIM files by the person completing the audit (i.e., the applicable project QAO and/or the applicable project

manager). The data review, data verification, and data validation checklists (see Appendix B) will be entered into the project TRIM file by the person completing the checklist.

All project documentation and records shall be retained in the TRIM system in accordance with the current approved DEQ records retention schedule (DEQ, no date, TRIM record 2010AIC3).

10 Sampling Process Design

This section describes the project data collection activities, assumptions, sampling site selection, general descriptions of the number of samples to be taken, the number of sampling locations, compositing of samples, and other relevant project-specific information.

10.1 Rationale for Selection of Sampling Sites

The selection of sampling sites is made by the third-party, either on their own or on occasion in consultation with DEQ project staff. See section 18.6 and the SOP for data review and data verification of third-party petroleum assessment data submittals regarding the procedures DEQ staff will use to evaluate sampling location information to determine sufficiency of the third-party data.

10.2 Sample Design Logistics

Sampling logistics (e.g, sample media, number of sample locations, and number of samples) for projects subject to this QAPP will be made by the third-party, either on their own or on occasion in consultation with DEQ project staff. Sample logistics are typically documented in an assessment report and/or corrective action report, other project report, or documents submitted to DEQ. Section 18.6 and the SOP for data review and data verification of third-party petroleum assessment data submittals describes the procedures DEQ staff will use to evaluate sample design logistic information to determine sufficiency of the third-party data.

11 Sampling Methods

The third-party should obtain environmental samples following the ‘standard of practice’ for the specific media or by project-specific SOPs. Section 18 and the SOP for data review and data verification of third-party petroleum assessment data submittals describes the procedures DEQ staff will use to evaluate sampling method information to determine sufficiency of the third-party data.

12 Sample Handling and Custody

Procedures for the handling and custody of samples collected by the third-party should follow ‘standard practice’ for the sampled media. Standard practice includes, but is not limited to, collection into laboratory-supplied sampling containers (i.e., from an analytical laboratory, laboratory supplier, or laboratory equipment provider), proper labeling, storage in an ice-chilled

cooler or other media-specific container, and transport directly to the laboratory or shipment location, and chain-of-custody documentation. Section 18.6 and the SOP for data review and data verification of third-party petroleum assessment data submittals describes the procedures DEQ staff will use to evaluate sample handling information to determine sufficiency of the third-party data.

Chain-of-custody forms should be used by third parties conducting the field work to document sample custody and transfer. Chain-of-custody forms should accompany the samples from sample collection to acceptance by the laboratory. Copies of chain-of-custody forms submitted by the third-party to DEQ will be filed in the project TRIM files by the DEQ regional office project manager (see LUST TRIM Facility SOPs (DEQ, 2012) and GR TRIM Facility SOPs (DEQ 2012)). Section 18.6 and the SOP for data review and data verification of third-party petroleum assessment data submittals describes the procedures DEQ staff will use to evaluate sample handling information to determine sufficiency of the third-party data.

13 Analytical Methods

Appendix B of the data review and data verification SOP WST-2014-7 (DEQ 2014b) provides examples of the container types, preservatives, holding times, and analytical methods applicable to data collected by third parties.

14 Quality Control

In general, QC is a means of measuring or estimating the potential variability of sample collection, analysis, or measurement activities conducted by third parties or by laboratories during sample analysis. Sample collection and handling, and analytical requirements are outlined in section 18.6 and the SOP data review and data verification of third-party petroleum assessment data submittals.

15 Instrument/Equipment Testing, Inspection, and Maintenance

Laboratory instrument/equipment testing, inspection, and maintenance will be performed and documented by the laboratory if/as required by the State of Idaho laboratory certification process or as required by the EPA-approved analytical method. Procedures and schedules for preventive maintenance of sampling and analytical equipment are the responsibility of the laboratory. Each instrument or item of laboratory equipment will be maintained as necessary to ensure accuracy and precision. These procedures and frequency of performance are described in the individual instrument manuals and the laboratory's QA manual.

16 Instrument/Equipment Calibration and Frequency

Laboratory instrument calibration will be conducted and documented by the laboratories if/as required by the State of Idaho laboratory certification process or as required by the EPA-approved analytical method.

17 Inspection/Acceptance of Supplies and Consumables

The third-party is responsible for inspection and acceptance of supplies and consumable items required for project activities subject to this QAPP.

18 Nondirect Measurements and Data Acquisition

Nondirect measurements and data acquisition refer to data obtained *for use by the project* from existing data sources and not directly measured or generated in the scope of the project subject to this QAPP. This type of data are often referred to as "existing data." Examples of existing data include data obtained from existing sources or databases (within or outside DEQ), and data obtained by others (e.g., external third parties) and submitted to DEQ for evaluating the project subject to this QAPP.

This section describes, for all nondirect measurements and data acquired for use by the project, the following information:

1. **Source of the data**
2. **List/description of the information/data to be used**
3. **Intended use of the data**
4. **Description of how the data will be used in the decision-making process**
5. **Specific criteria to be used for data acceptance or rejection prior to use, including what information will be used to determine if the data are of sufficient quality for use by the project**
6. **Specific criteria used to determine data use limitations**
7. **Other relevant information**

Project staff are strongly encouraged to review the EPA guidance for data acquisition and the use of nondirect measurements (existing data) presented in chapter 3 of EPA QA/G-5 (EPA 2002a).

18.1 Source of Data

The data are generated or compiled by third parties and may include existing data from previously performed assessment and/or corrective activities. The third-party submits the data, in electronic and/or hard copy format, to DEQ for evaluation.

18.2 Document Information/Data to be Used

Petroleum assessments and/or corrective action may be required by DEQ under IDAPA 58.01.02.851, IDAPA 58.01.02.852, IDAPA 58.01.11, IDAPA 58.01.24, and/or as otherwise agreed to by DEQ under Idaho Code §39-101 et. seq. Third parties conduct sampling of various

media (e.g., soil, soil vapor, indoor air, surface water, and/or ground water) to determine the areal and vertical extent of contamination during site assessments and confirmation sampling during corrective actions, or to assess or characterize local conditions. In general, a QAPP is not required to be developed by the third party prior to sampling activities conducted by third parties. However, the third parties should conduct sample collection and handling practices according to 'standard of practice' for the media.

Third parties typically submit sample location information, sample collection and handling information, sample analytical data, chain of custody, and other information related to site assessments or corrective action activities to DEQ. There are also instances when a site assessment or corrective action report may be submitted to DEQ for review that was not previously required or requested by DEQ. DEQ project staff may also document site-specific information from on-site observations made during field activities performed by third parties.

18.3 Intended Use of Data

DEQ project staff will use the information and data submitted by third parties to evaluate whether additional site investigation and/or corrective actions are necessary to mitigate the contaminant impact to human health and the environment in soil, surface water, ground water or other media.

18.4 Use of Data in Decision-Making Process

DEQ project staff will evaluate the information and data provided by the third-party to determine necessary further action at the site based on acceptable risk to human health and the environment. These further actions may include site closure without further assessment or corrective action, site closure with activity and use limitations, or additional assessment or corrective actions. The observations made by on-site DEQ staff and site-specific circumstances will be included in the evaluation by DEQ project staff.

After the data review and verification activities (and data validation if conducted for the project) are completed (as described in sections 22 and 23), the regional office project manager will conduct a data usability assessment. The data usability assessment determines the adequacy of the verified (and validated) data for the intended use of the data, considers whether all aspects of the data meet the quality objectives related to the decision to be made, and evaluates whether the verified (and validated) data are suitable for making that decision. The regional office project manager will document project activities, including the data usability assessment, in a letter to the third-party. The letter will include the following:

1. Summary of petroleum assessment and/or corrective action activities conducted, including a summary of the data submitted to DEQ.

2. Identification of DEQ presence on-site during site assessment and/or corrective action activities and a summary of observations made by DEQ.

3. One of the following three outcomes of the data evaluation:

    a. The data meet the needs of the project and can be used. The minimum acceptance criteria identified in section 18.6 of the QAPP are met. Existing data meet basic

project specifications and are appropriately relevant and suitable for their targeted use;

i. the quality of existing data meet the acceptance criteria specified and a sufficient quantity of external third party data are available to meet data quality criteria

ii. proper procedures and protocols were used by the third-party to obtain data

iii. sufficient quality control information was submitted for the data

b. The data do not meet the needs of the project and cannot be used. The minimum acceptance criteria identified in section 18.6 of the QAPP are not met. Identify the reason(s) for not accepting the data and identify which criteria from section 18.6 were not satisfied. Examples may include, but are not limited to, the following:

i. samples were not collected in appropriate locations or at appropriate depths

ii. samples were not analyzed for the appropriate constituents

iii. standard of practice protocols were not followed during sampling and handling

iv. laboratory reporting limit or method detection limits were higher than screening levels

v. chain of custody procedures were not followed

vi. data accuracy and precision are undefined and/or not able to be determined

This outcome implies that additional data collection is necessary. DEQ will not make decisions regarding the site if the data collected by the third-party is not of sufficient quality.

Discuss any limits on the use of these data resulting from uncertainty in its quality.

c. The data can be used with caveats on the confidence or significance of the findings based on the data. The criteria identified in section 18.6 as minimum acceptance criteria may be relaxed (i.e., revised), or additional data may be necessary, before DEQ makes a final determination regarding the site assessment or corrective action conducted.

The reasons for requiring additional data, or for accepting the data with the associated caveats and revised acceptance criteria (if applied), will be documented by the regional office project manager. Discussion with the state office project manager is required prior to making this determination.

Revision of minimum acceptance criteria will be determined on a case-by-case basis through discussion involving the regional office project manager, regional office program manager, regional office project QAO, state office project manager, and state office program manager, and, if necessary, state office QAO. Minimum acceptance criteria will only be revised when supplemental data and information are

sufficient to define uncertainty and support the conclusion that data of known quality were provided, in which case, DEQ will use the data for decision making regarding the need for further action at the site. Final approval of revision of minimum acceptance criteria will be made by the state office program manager. The regional office project manager will document the situation and rationale for revision of minimum acceptance criteria in a memo filed in TRIM with other site or project documents.

4. One or more of the following conclusions may be drawn from the data evaluation and included in the letter:

    a. If unexpected analytical results are reported, request that the third-party conduct additional quality review of the data in question.

    b. If data gaps are identified for an assessment, indicate that additional site assessment activities are necessary to determine the extent of soil, soil vapor, surface water, and/or ground water contamination.

    c. If the site assessment identifies contamination above risk-based or other criteria, indicate that corrective action or conducting a site-specific risk evaluation is necessary. The implementation of activity and use limitations through an environmental covenant in accordance with the Uniform Environmental Covenant Act (UECA) (Idaho Code §55-3001 et seq.) may be part of the corrective action. The third-party should submit a Corrective Action Plan or Corrective Action Plan to DEQ for review and comment.

    d. If the site assessment does not identify contamination above risk-based or other criteria, indicate that DEQ will close the specific items addressed in the assessment without further assessment or corrective action.

        If DEQ was not on-site during assessment activities, then DEQ cannot verify what occurred for the assessment activities, nor can DEQ verify the contents of or conclusions drawn based on those activities. If DEQ was not on-site and concludes that the assessment activities were adequate, DEQ can only state that the assessment *appears adequate* with a caveat that the sampling occurred without DEQ oversight. DEQ cannot use *no further action* or similar terms for these situations.

    e. If data gaps are identified for a corrective action, indicate that additional confirmation sampling activities are necessary to determine that cleanup criteria have been satisfied.

    f. If the corrective action sampling identifies contamination above risk-based or other criteria, indicate that additional corrective action or conducting a site-specific risk evaluation is necessary. The implementation of activity and use limitations through an environmental covenant in accordance with the UECA (Idaho Code §55-3001 et seq.) may be part of the corrective action.

g. If the corrective action sampling does not identify contamination above risk-based or other criteria, indicate that DEQ will close the specific items addressed in the corrective action without further assessment or corrective action.

Project letters sent by the regional office project manager to the third-party will be entered into TRIM following program procedures.

18.5 Specific Criteria for Data Acceptance or Rejection Before Use, Including Information To Determine Sufficient Data Quality for Project Use

Collection of samples and the laboratory analysis of soil, soil vapor, surface water, ground water, and other media is an integral part of the evaluation of third-party site assessment and corrective action activities. The intent is that appropriate media will be sampled to determine potential contaminant impact (assessment) and/or to verify cleanup (corrective action) of the contaminant. Criteria used for data acceptance or rejection include representativeness and comparability of the samples and laboratory analyses, and the accuracy and precision of the laboratory analyses.

Representativeness includes confirming that sampling locations are appropriately selected, sample collection and handling procedures are appropriate and consistently followed, a sufficient number of samples are collected for the purpose of the sampling, laboratory reporting or detection limits are lower than the applicable screening criteria, and the analytical results are useable, as described in DEQ SOP WST-2014-7.

Comparability is satisfied by the third-party conducting consistent "standard practice" sample collection and handling processes, and the laboratory performs sample analysis following approved preparation and analysis procedures, as described in DEQ SOP WST-2014-7.

Completeness (number of verified data points relative to the total number of data points) must be $\geq$ 90%. For data to be considered verified, it must meet all of the minimum acceptance criteria in section 18.6. Additional discussion is available in DEQ SOP WST-2014-7.

Accuracy of the laboratory QC samples (LCS, matrix spikes) should be within the ranges of acceptability for percent recovery identified by the specific laboratory conducting the analysis for each method and analyte. Laboratories routinely conduct internal quality control analyses. Therefore accuracy is considered to be minimum acceptance criteria (DEQ SOP WST-2014-7).

Precision is to be within the ranges of acceptability, based on RPD, identified by the specific laboratory conducting the analysis for each method and analyte for the laboratory data, within ±50% for third-party collected soil duplicate samples, ± 30% for third-party collected ground water duplicate samples, and ± 25% for third-party collected soil vapor duplicate samples. Field duplicate samples are standard practice for environmental assessments, with at least one (1) field duplicate sample collected for every ten (10)

environmental samples collected. In addition, laboratories routinely conduct internal quality control analyses. Therefore, laboratory precision data and information, and field precision data and information are considered to be minimum acceptance criteria (DEQ SOP WST-2014-7).

18.6 Specific Criteria Used To Determine Data Use Limitations

The third-party typically provides DEQ with a petroleum site assessment report describing activities that occurred during the site assessment work, a corrective action report describing the activities that occurred during the corrective action, or other written documentation of assessment or corrective action activities. This documentation should include sample locations, sample collection and handling information, analytical results of the collected samples, a copy of the chain-of-custody record, and, if available, the laboratory QA/QC report for the analyses. DEQ will evaluate the third-party submittal to determine if the data are usable in making decisions regarding the presence and severity of contamination at the site or making decisions regarding corrective action that has occurred at the site. The data requirements may vary depending on site characteristics as well as the type(s) of contaminants and specifics of the types of decisions that are to be made. DEQ may not be involved in planning field activities conducted by the third parties. Therefore, DEQ staff may have to evaluate the data and information with little or no prior knowledge of or involvement with the site or activities occurring on the site.

The DEQ regional office project manager, or other assigned staff, will evaluate the submitted information and data, as described in sections 22, 23 and 24, to determine whether the data are acceptable and whether additional action is warranted. The criteria to be used regarding data use limitations include the following:

1. Minimum Acceptance Criteria (least amount of data from which to make decision)
    a. Identification of the source(s) of petroleum release subject to assessment as containing only certain petroleum products (e.g., gasoline, diesel, heating oil, and/or jet fuels), and/or used oil.
    b. Sufficient type and number of samples collected from appropriate locations to determine the areal and vertical extent of soil, soil vapor, surface water, ground water, and other media contamination. The assessment work may be performed in phases with soil sampling conducted during the first phase, and surface water or ground water sampling, if deemed necessary, conducted during a subsequent phase.
    c. Sufficient type and number of samples collected from appropriate locations to monitor the progress of corrective action or to confirm completion of corrective action activities, as applicable.
    d. Sample collection documentation.
    e. Sample handling documentation.
    f. Sample location map. Map depicting the site and locations of samples collected as part of the release investigation activities.
    g. Description of ‘Standard of practice’, ‘professional practice’ or ‘industry standard’ or written procedures followed for sample collection, handling and analysis that are acceptable to DEQ.

h. Analytical data must be current (i.e., within the last 12 months) to be considered representative of site conditions and status. Historical, peer-reviewed published data may be used for trend analysis, but do not represent current site conditions if that data are more than 12 months old.
i. Appropriate types of samples collected and appropriate analytical methods used.
j. Analysis of appropriate chemicals/contaminants based on the type of petroleum release, which may include used oil.
k. Proper sample containers and preservatives used.
l. Sample holding times met for extraction and analysis.
m. Trip blank samples analyzed when collecting volatile organic compound (VOC) samples, as applicable.
n. Laboratory reporting limits or MDLs below screening criteria.
o. Laboratory control sample and/or duplicate analyses are within laboratory specified ranges.
p. Laboratory matrix spike and/or spike duplicate analyses are within laboratory specified ranges.
q. Chain of custody documentation provided to DEQ, including sample date and time, sample numbers, sample location, sample matrix, sample container and preservation, sample analytical methods, and transfer of samples to laboratory with appropriate dates and signatures.
r. Laboratory data sheets and information provided to DEQ.
s. Field duplicate samples collected of soil, soil vapor and/or surface water/ground water are within specified RPDs.
t. Rinsate blank samples collected to evaluate decontamination practices.
u. Field blank samples collected to evaluate sample collection, handling, and analysis processes.

The criteria listed above are discussed in more detail in DEQ SOP WST-2014-7.

2. Supplemental Data and Information (additional information beyond minimum acceptance criteria)
    a. DEQ on-site during site assessment and corrective action activities. Field activities (i.e., site assessment and corrective action activities) conducted by external third parties observed and documented by DEQ staff.
    b. Field data summary and readings from photoionization detector (PID), water quality parameter meters, and water levels provided to DEQ, if collected, and field instrument calibration information provided to DEQ, if performed.

18.7 Other Relevant Information

The DEQ regional office project manager typically receives chain-of-custody documentation, sample collection and handling documentation, and analytical documentation, including laboratory data sheets, from third-party property owners, their representatives, or other parties.

Data will be entered into TRIM by the DEQ regional office project manager, or other assigned staff, in accordance with program procedures.

DEQ project staff should make every attempt to be on site during aspects of site assessment and remedial action activities conducted by third parties. If DEQ staff are not on site during at least part of the field activities, then DEQ cannot verify what happened during the assessment and/or cleanup activities, nor can DEQ verify the contents of or conclusions drawn based on those field activities. The level of field oversight should be determined by the regional office project manager, in consultation with the regional office program manager, based on workload, priorities, and availability of resources. The level of field oversight of third parties also depends on the third party notifying DEQ of the field activities schedule.

19 Data Management

Electronic copies of DEQ field notes and documents and data submitted by the third parties will be entered into the project TRIM file. Additional document retention requirements may apply depending on project-specific, program, state, or federal requirements. The regional office project manager is responsible for ensuring all document retention requirements are met.

20 Assessment and Response Actions

This section describes general project assessment and response actions. A complete listing of state and regional office project staff duties and responsibilities is available in section 4 of this QAPP and the DEQ 2012 QMP.

State and regional office coordination: Project staff from the state and regional offices shall work in close coordination when performing project assessment and audit functions. If issues or concerns are identified, state and regional project staff shall communicate and discuss the issues and concerns to ensure a coordinated response effort. For example, if the state office identifies a discrepancy in the QAPP that leads to revision of the document, any such revision must be discussed with and communicated to affected regional staff to ensure compliance with the QAPP revisions.

State office activities: The state office project QAO will audit the QAPP annually, per the DEQ QMP, to determine if revision is necessary. Audits shall use the checklist in Appendix A and the audit checklist will be entered into TRIM, indicating the date of the audit and listing identified issues or concerns in accordance with the QMP. If the QAPP requires revision by the state office project manager as a result of this audit, action will be taken and the revised QAPP submitted for approval prior to implementation, per the DEQ QMP (DEQ 2012a).

The QAPP audit conducted by the state office project QAO should include a review of randomly selected DEQ field notes, submitted third-party documents, and DEQ correspondence. Any errors or inconsistencies identified in the DEQ field notes, including electronic notes, will be investigated and corrected to ensure the integrity of the data and conformance to the QAPP. Results of internal QA review, audits, surveillances, or other types of assessments will also be considered. The state office project QAO will conduct reasonable review of project-specific

activities, ensuring conformance with QAPP requirements. Prior to the annual audit, the state office project QAO, state office program manager, and state office project manager will discuss the level of state office project QAO effort to review specific projects and select the project(s) for audit. This is not predetermined and the number of project(s) included in the annual audit by the state office project QAO is undesignated. The number of projects reviewed by the state office project QAO depends on the current understanding of potential impacts to human health and the environmental based on the data reviewed under the QAPP.

The state office project manager will also review the QAPP on an annual basis to ensure the document continues to meet the needs of the data user(s). However, the state office project QAO will assess the program independently of the state office project manager.

Regional office activities: The regional office project QAO shall complete an annual audit of one project in the region subject to this QAPP when the project activities approach or extend beyond one year (e.g., 11 months or more). These annual audits will use the checklist in Appendix A and will be documented in TRIM, indicating the date of the audit and list of identified issues or concerns in accordance with the QMP. Prior to the annual audit, the regional office project QAO, regional office program manager, and regional office project manager will discuss the level of regional office project QAO effort to review specific project activities and identify the project selected for this annual regional QAO audit. If there is not a project within a region where project activities approach or extend beyond a year, the annual audit by the regional office project QAO is not necessary.

The regional office project QAO and regional office project manager will provide the state office project QAO and state office project manager with proposed revisions to the QAPP, as necessary. However, the regional office project QAO will assess the projects subject to this QAPP independent of the regional office project manager.

21 Reports to Management

A summary of the data usability assessment, project activities, and sample results for third-party petroleum site activities will be documented in a letter sent from the regional office project manager to the third-party (e.g., property owner or other party) conducting the general corrective action site activities, as described in sections 18.4. This letter will be entered into the project TRIM files.

The regional office project manager will apprise the state office project manager, regional office program manager, and the regional administrator of unusual or extenuating circumstances. Likewise, the state office project manager, who is also the state office program manager, will apprise the WMR Administrator of unusual or extenuating circumstances. Such circumstances may involve high profile sites where data are rejected, complex sites where data are rejected, or sites where less than the minimum acceptance criteria are satisfied, but the data are considered to be useful given other information submitted, or available.

22 Data Review, Verification, and Validation

Data review is conducted to ensure that project data submitted have been recorded, transmitted, and processed correctly. For third-party data, the DEQ regional office project manager, or assigned technical staff (not the regional office project QAO), performs the data review. Data review for third-party projects will occur as identified in sections 18 and 23, and in DEQ SOP WST-2014-7.

Data verification is generally conducted following data review and is performed to evaluate the completeness, correctness, conformance, and compliance of the data against the QAPP-specified methodological, procedural, or contractual requirements. The purpose of data verification is to evaluate the extent to which the sample collection requirements, analytical processes prescribed in the QAPP, and site-specific project procedures were followed. Data verification essentially evaluates the actual project performance against the requirements established in the QAPP. The result of this process is considered and evaluated during the reconciliation with user requirements (assessment) phase. For third-party data, the DEQ regional office project manager, or assigned technical staff (not the regional office project QAO), performs the data verification. Data verification for third-party projects will occur as identified in sections 18 and 23, and in DEQ SOP WST-2014-7.

Data validation follows data review and data verification, and is an analyte- and sample-specific process that extends the data evaluation beyond method, procedure, or contractual compliance to determine the quality of a specific data set relative to the end use. This effort should focus on the project-specific data needs and note any potentially unacceptable departures from the QAPP. The result of this process is considered and evaluated during the reconciliation with user requirements (assessment) phase. Data validation is performed by an independent entity not closely associated with the entity generating the data. For third-party data, the DEQ regional office project QAO performs the data validation. Data validation for third-party projects will occur as identified in sections 18 and 23, and in DEQ SOP WST-2014-6.

Data review, verification, and validation tasks for QAPP projects are assigned to regional office project staff by position title, such as the project manager or project QAO, as described in section 23 of the QAPP.

The level of documentation required for a specific project data review, verification, validation, and reconciliation effort is specified in section 23. This level of documentation is determined by the regional office project manager, in consultation with the state office project manager and regional and state office program managers, consistent with the "graded approach" used by DEQ in implementing the quality management system. The principle of a graded approach recognizes that a "one size fits all" approach to quality is not effective, given the wide variety of environmental programs and diversity of projects implemented or overseen by those programs. The graded approach applies to data verification and data validation on a project-specific basis, as established during project planning, and communicated in planning or implementation support documentation such as a QAPP or SOP. The level of detail and stringency of data verification and data validation efforts depends on the needs of the project and program in question.

Those assigned to perform project data review, verification, and validation *will use the associated checklist provided in Appendix B to* ***perform and document*** the effort in the associated project TRIM file.

23 Review, Verification, and Validation Methods

Data review, verification, and validation efforts are based on the analytical support determined to be necessary for third-party projects. DEQ personnel performing data review, verification, and validation are encouraged to review the following guidance documents:

- EPA QA/G-8 (EPA 2002b)
- Appendix A of EPA's *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (EPA 2009)
- *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review* (EPA 2004)
- *USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review* (EPA 2008)

Data review of the data and information collected by third parties for projects subject to this QAPP will be performed by the regional office project manager, or assigned technical staff (not the regional office project QAO), using the data review checklist in Appendix B and data review procedures presented in DEQ SOP WST-2014-7. This review will also include evaluation of supplied laboratory data reports. Data review will include, at a minimum, the following activities:

- An examination of project data to identify potential errors in data entry, storage, calculation, reduction, transformation, or transcription.
- An examination to ensure all minimum acceptance criteria information, as listed in section 18.6, is documented and available, in preparation for the verification, validation, and assessment process. This includes pertinent project information concerning blanks, matrixes, sample preservation requirements (e.g., temperature and acidification), duplicates, shipping dates, holding times, and chain-of-custody records. These are identified as minimum acceptance criteria in section 18.6, with the exception of field blanks and field duplicates, which are identified as supplemental data in section 18.6.
- An examination to identify supplemental data and information submitted for the verification and validation process.
- A completeness check to determine if any data deficiencies exist, such as missing data or compromised data integrity, due to issues such as loss in acquisition, storage, or processing.
- An examination to ensure all necessary analytical laboratory support documentation, as outlined in this QAPP, have been received from the third parties.
- An examination to identify programming and/or software related errors, if applicable to the project.

Data verification for data and information collected by third parties for projects subject to this QAPP shall be performed by the regional office project manager, or assigned technical staff (not the QAO), using the data verification checklist in Appendix B and data verification procedures

presented in DEQ SOP WST-2014-7. The general focus of the process is to determine if all requirements specified in this QAPP, associated procedures, and project contractual requirements (if applicable), have been met, and, if not, to determine the extent to which requirements were not achieved. Data verification will include, at a minimum, the following activities:

- Verification that all data completeness criteria, as outlined in this QAPP, have been satisfied. This will include, but is not necessarily limited to, the number of samples, locations of samples, depths of samples, analytical methods, and chain-of-custody records.
- Verification that individual data point values, and/or comparison calculations such as RPD, meet the criteria specified in this QAPP and DEQ SOP WST-2014-7.
- Verification that the required analytical methods, as listed in this QAPP and DEQ SOP WST-2014-7, correspond to the analytical methods employed by the laboratory, as recorded in laboratory reports.
- Verification that requirements relative to laboratory analytical support documentation presented in this QAPP and DEQ SOP WST-2014-7 have been satisfied by the reporting laboratory, including the correct application of data qualifiers.
- Verification that all supporting information and documentation for nondirect measurement data (existing data) meet the requirements of this QAPP and DEQ SOP WST-2014-7. If not, identify any limitations or restriction on the use of such data.
- Verification that data and sample collection practices adhere to procedural requirements, including a review of project logs and field notes, as applicable.
- Verification that sample handling activities conform to QAPP and DEQ SOP WST-2014-7 requirements. Examples include sample shipment timelines, sample holding times, preservatives, number of samples obtained, duplicate or split sample frequency, and chain-of-custody documentation.
- Verification that data calculation and handling activities conform to QAPP and DEQ SOP WST-2014-7 requirements. Examples include correct use of mathematical formulas and numerical methods, correct use of programs and programing, and correct application of database information transfers.
- Verification that any remaining or unique QAPP or procedural requirements have been met, and if not, determine the extent to which these requirements were not achieved.
- Determination and documentation of any limitations on the use of the project data.

Formal data validation for data and information collected by third parties for projects subject to this QAPP shall be performed by the regional office project QAO in accordance with the requirements of this QAPP. However, for projects not selected for formal regional office project QAO data validation, the regional office project manager will perform the aspects of data validation necessary for the decision-making process following completion of data verification. Specifically, the regional office project manager will determine, where possible and if applicable, the reasons for failure of the data to meet project requirements and evaluate the impact of such failure on the data prior to the decision-making process. The regional office project manager will utilize the data verification checklist to perform the informal data validation.

The regional office project QAO will perform formal data validation efforts using the data validation checklist in Appendix B and the data validation procedures presented in DEQ SOP

WST-2014-6. The general focus of the data validation process is to determine if the quality of the project data meets the needs of the data user and the associated decision makers. *Formal data validation for projects subject to this QAPP will be conducted by the regional office project QAO on all of the data for at least one third-party data submittal per region per year.* This applies to site assessment, risk evaluation and remedial action sampling activities. The goal is to conduct formal data validation on projects for which the potential impact to human health and the environment is identified as high. These projects are defined as large quantity spills/releases and/or large areal extent of contamination with relatively higher overall risk to human health or the environment. The classification is based on the quantity of the release, potential extent of contamination, distance to potential receptors, general fate and transport of the chemicals released, and toxicity of those chemicals. If a region does not receive or does not anticipate receipt of a third-party data submittal for this type of site, the regional program manager, in consultation with the state office program manager will select at least one submittal from other types of sites (e.g., those with lower potential impact to human health and the environment, or those for which DEQ is not a signatory to a third-party QAPP) for formal data validation to ensure that at least one third-party data submittal in the region has formal data validation conducted by the regional office project QAO. In addition, formal data validation will also be performed on third-party data submittals by the regional office project QAO if deemed necessary by the regional office project manager based on significant problems being discovered through the review and verification process.

Formal data validation will occur prior to the final decision regarding data usability and prior to DEQ making decisions regarding necessary further actions at the site. Through the regional office project QAO conducting formal data validation on a select number of project submittals and the regional office project manager conducting data review, verification, and aspects of data validation as outlined in this QAPP on all project submittals, sufficient confidence in the data are achieved under the graded approach to satisfy the needs of the data user.

The state office program manager will work with the regional office program managers to estimate the percentage of project submittals undergoing formal data validation by the regional office project QAO each year, with a goal of 10%.

Formal data validation will include, at a minimum, the following activities:

- A review of the outcome of the data verification effort to evaluate the impact on data quality with respect to the DQOs.
- An evaluation and examination of all (100%) obtained field QC and/or laboratory QC data (if collected, analyzed and submitted to DEQ), such as duplicates and trip blanks, followed by assignment (if necessary) of appropriate data qualifiers to these data based on project criteria.
- A review of project analytical laboratory reports and data, including the laboratory-assigned data qualifiers, to evaluate the data quality with respect to the project DQOs. Assign data qualifiers to individual data values as outlined in SOP WST-2014-6.
- A determination, when necessary and where possible, of the reasons for any failure to meet methodological, procedural, or contractual requirements and an evaluation of the impact of such failure on the overall data.

- A comparison of the project DQOs, as defined in this QAPP, to the data obtained by the project to assess the adequacy of the data (new or existing) in relation to their intended use.
- A determination of the extent to which any nondirect measurement data (existing data), and the accompanying supporting information and documentation, meet the requirements of the data user. Specifically, does the quality of the existing data adequately support the needs of the project and support the intended use of the data for the project?
- Determination and documentation of any limitations on the use of the project data.
- A determination of the adequacy of the data to proceed on to the data assessment and reconciliation with user requirements phase.

Only a representative effort will be made under formal data validation. If significant problems are discovered through the application of this graded approach, additional action can be taken to ensure necessary data quality is maintained. This may include, but is not limited to, a more thorough formal validation process and the development of Corrective Action Reports and Corrective Action Plans per the DEQ QMP.

Refer to Section 18.4, item 3.c for the process to respond to situations where the data do not meet the needs of the project or the DQOs, and/or if the conclusions drawn from the data do not appear to be reasonable.

24 Reconciliation with User Requirements

Data quality assessment (DQA) will be performed in accordance with this QAPP, the DEQ QMP (DEQ 2012a), and DEQ SOP WST-2014-6 (DEQ 2014a) and WST-2014-7 (DEQ, 2014b). Additional guidance for conducting data assessment can be found in EPA QA/G-9R or EPA QA/G-9S (EPA 2006a, b).

The regional office project manager will perform a DQA on all data submittals to determine if the project data set is of the right type, quality, and quantity to achieve the objectives of the project and can confidently be used to make an informed decision. A DQA will also be performed (at a minimum) by the regional office project manager and the regional office project QAO on at least one data submittal per region per year.

Information and findings associated with the project data review, verification, and validation efforts shall be considered during the data assessment process.

When DQOs are not met, the regional office project manager, regional office QAO, and/or the regional office program manager will discuss appropriate corrective actions with the state office project manager, state office QAO, and/or the state office program manager. Corrective actions may be initiated with the third party to resolve deficiencies identified in the data submittal. Changes may also be initiated to this QAPP and associated SOPs to correct quality issues.

If the state office or regional office project manager or the state office or regional office project QAO determine that the project data do not meet the project needs or the QAPP DQOs, and/or if the conclusions drawn from the data do not appear to be reasonable (e.g., based on professional judgment of the complexity of the situation and impacts of rejection), the matter will be referred

to the regional office program manager and the state office program manager to determine and document the necessary corrective actions.

If evaluation protocols of third-party data require revision, this QAPP will be revised, as necessary. Following revision, and prior to implementation, the revised QAPP must be re-approved in accordance with the DEQ QMP (DEQ 2012a).

25 References

29 CFR 1910.120 Code of Federal Regulations. OSHA (Occupational Safety and Health Administration). Hazardous waste operations and emergency response.

40 CFR 311 Code of Federal Regulations. EPA (US Environmental Protection Agency). Worker Protection.

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DEQ (Idaho Department of Environmental Quality). Used Oil UST Closure and Release Sampling Standard Operating Procedures. Boise, ID: DEQ. TRIM record number 2016BAF24.

DEQ (Idaho Department of Environmental Quality). 2014b. Standard Operating Procedure for Data Review and Verification of Third-party Petroleum Data Submittals. Boise, ID: DEQ. TRIM record number 2016BAF20.

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EPA (US Environmental Protection Agency). 2006b. *Data Quality Assessment: Statistical Methods for Practitioners* (QA/G-9S). Washington, DC: EPA, Office of Environmental Information. EPA/240/B-06/003. Available at http://www.epa.gov/quality/qs-docs/g9s-final.pdf.

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Appendix A. State Office Project QAPP QAO Annual Audit Checklist

The statewide generic quality assurance plan (QAPP) template includes one checklist for use by the state office QAPP project quality assurance officer (QAO) to conduct an annual audit of the QAPP. Prior to using this checklist, the state office QAPP project QAO will review the applicable requirements listed in the *Waste Management and Remediation Division Statewide Generic Quality Assurance Project Plan, Third-Party Petroleum Site Assessment and Corrective Action* and the DEQ *Quality Management Plan*. The state office QAPP project QAO is encouraged to add additional items to the associated checklist as necessary.

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State Office QAPP Project QAO Statewide Generic Annual Audit—Checklist

This checklist is designed for use by the individual **assigned as the state office quality assurance project plan (QAPP) project quality assurance officer (QAO) in the QAPP** to perform the required annual QAPP audit. This audit is required to be performed by the state office project QAO on QAPPs. The State Office project QAO assigned in the QAPP *shall complete this checklist as part of the audit process and file the completed form in WR REM Multipurpose Project Folder titled "Third Party Petroleum Assessment and Corrective Action QA," TRIM record number 2014BAE3.* Project QAOs are encouraged to expand this standard list as project conditions warrant.

Printed Name of Staff Performing the QAPP Audit	Date Completed
Third-Party Petroleum Site Assessment and Corrective Action Statewide Generic QAPP Title	2016BAF19 QAPP TRIM Record #

Check the following review boxes after completion of each listed task.

Check *yes* if the task was completed without any noted discrepancies. Otherwise, check *no* and include a description of the discrepancy in the space provided. Use additional sheets as necessary.

Yes	No	
☐	☐	Verify that the approved current QAPP, including a copy of the signed approval signature page, is currently filed in the TRIM system. Also, verify the Third Party Petroleum Site Assessment and Corrective Action QAPP has been entered into the QAO project tracker found at TRIM record 2012AEB8. If the QAPP is not filed in TRIM, or the QAO tracker is not current, immediately inform the DEQ QA manager.
☐	☐	Verify regional project management staff (i.e., regional office project manager and regional office project QAO) are the same as identified in Tables 1 and 3, and Figure 2, of the QAPP. ☐ Check the box to the right if the regional project management staff are not the same as identified in Tables 1 and 3, and Figure 2, of the QAPP and attach to this checklist documentation showing the staffing change approval by the state office project manager.
☐	☐	Determine if the QAPP adequately documents and describes the actual program requirements such that the needs of the data user are satisfied. If necessary, in coordination with the state office program manager and regional office project managers, initiate document revision, review, and approval efforts in accordance with the DEQ QMP.
☐	☐	Compare project documents available in the DEQ TRIM record system against the document filing requirements contained in the QAPP. Identify existing deficiencies in the project TRIM system files, such as missing documents, and provide this information to the regional office project managers for immediate resolution. The state office project QAO will spot check projects subject to this QAPP to ensure that project records, including DEQ response letters, are completed and entered into TRIM

Yes	No	
		_____
		_____
☐	☐	Ensure there is at least one data validation checklist completed by a regional office project QAO per region per year and that each is entered into TRIM for the specific project.
		CRO _____
		LRO _____
		BRO _____
		TFRO _____
		PRO _____
		IFRO _____
☐	☐	Ensure that all deficiencies and/or conditions adverse to quality determined during the state office QAPP QAO audit are listed on this checklist or attached for inclusion in the TRIM record system.
		_____
		_____
☐	☐	Verify that a copy of this audit report has been provided to the QAPP project manager for deficiency resolution and placed in the project TRIM file system. Note that additional audit administrative actions may be required based on audit findings, such as a corrective action plan/reports, etc. The state office project QAO shall consult the DEQ QMP and proceed accordingly.
		_____
		_____

Please list any additional comments below. Attach additional sheets as necessary.

_____
_____
_____
_____

Appendix B. Regional Office Data Review, Verification, and Validation Checklists

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Regional Office Data Review—Checklist

This checklist is designed for use by the individual **assigned as the regional office project manager, or delegated to project staff by the regional office project manager,** to perform project **data review for projects conducted under a statewide generic quality assurance project plan (QAPP).** This person *shall complete and file this checklist in the appropriate project TRIM system files (i.e., this checklist is site-specific and should go in the project folder in TRIM for the site).* Project personnel are encouraged to expand this standard list, as project conditions warrant.

Printed Name of Staff Performing Data Review	Date Completed
Project Title	Project Folder TRIM Record #
Third-Party Petroleum Site Assessment and Corrective Action	2016BAF19
"Parent" Statewide Generic QAPP Title	QAPP TRIM Record #

Check the following review boxes after completion of each listed task.

Check yes if the task was completed without any noted discrepancies. Check no if there are discrepancies and include a description of the discrepancy in the space provided. Do not check any boxes and write NA (not applicable) in the space provided if the task does not apply to the data received or to the project.

Yes	No	
☐	☐	Examine and review the associated QAPP to determine if additional program and/or project-specific data *review* requirements apply. Update this checklist to include all such items. _____ _____ _____ _____
☐	☐	Examine project data, identifying errors in data entry, storage, calculation, reduction, transformation, or transcription, as applicable. _____

Yes	No	
☐	☐	Sample collection information, including deviations from SOPs followed or industry accepted practices (minimum acceptance criteria).
☐	☐	Types, locations, and depths of samples (minimum acceptance criteria).
☐	☐	Current data (within last 12 months) (minimum acceptance criteria).
☐	☐	Sample analytical methods used (minimum acceptance criteria).
☐	☐	List of chemicals included in the analysis based on the type of petroleum release, which may include used oil (minimum acceptance criteria).
☐	☐	Sample containers used (minimum acceptance criteria).
☐	☐	Sample preservatives used (minimum acceptance criteria).
☐	☐	Sample extraction and analysis dates (minimum acceptance criteria).
☐	☐	Laboratory reporting limits and method detection limits, including measurement units for sample analysis (minimum acceptance criteria).
☐	☐	Chain-of-custody documentation, including sample date and time, sample numbers, sample location, sample matrix, sample container and preservation, sample analytical methods, and transfer of samples to laboratory with appropriate dates and signatures (minimum acceptance criteria).
☐	☐	Laboratory data sheets (minimum acceptance criteria).

Yes	No	
☐	☐	DEQ on-site during critical aspects of petroleum assessment and corrective action activities, and field records available (supplement information, not minimum acceptance criteria).
☐	☐	Field data (Level I) summary and readings, if collected, and field instrument calibration information, if performed (supplement information, not minimum acceptance criteria).
☐	☐	Sample locations provided to DEQ on a map (minimum acceptance criteria).
☐	☐	Sample collection procedures documented and provided to DEQ (minimum acceptance criteria).
☐	☐	Sample handling methods documented and provided to DEQ (minimum acceptance criteria).
☐	☐	Field duplicate samples collected of soil, surface water, ground water, or other media (minimum acceptance criteria).
☐	☐	Rinsate blank samples collected to evaluate decontamination practices (minimum acceptance criteria).
☐	☐	Trip blank samples analyzed when collecting VOC samples (minimum acceptance criteria).
☐	☐	Field blank samples collected to evaluate sample collection, handling and analysis (minimum acceptance criteria).
☐	☐	Laboratory control sample analyzed (minimum acceptance criteria).
☐	☐	Matrix spike sample analyzed (minimum acceptance criteria).
☐	☐	Laboratory control sample duplicate or matrix spike duplicates analyzed (minimum acceptance criteria).
☐	☐	Determine if any data deficiencies exist, such as missing data or compromised data integrity, due to issues such as loss in acquisition, storage, or processing.

Yes No

_____
_____
_____

☐ ☐ Ensure that all deficiencies and/or conditions adverse to quality determined during the project data *review* process have been communicated to the regional office project manager (if the regional office project manager did not conduct the data review), the regional office program manager and the regional office project QAO at a minimum, and are listed on this checklist or attached for inclusion in the TRIM record system.

_____
_____
_____

☐ ☐ Verify that a copy of this data *review* checklist has been provided to the regional office project manager (if the regional office project manager did not conduct the review) for deficiency resolution and placed in the project TRIM file system. Note that additional actions may be required based on the checklist findings, such as a corrective action plan/reports, etc. The project manager shall consult the DEQ QMP and proceed accordingly if additional actions are required.

_____
_____
_____

☐ The following information was inserted by the regional office project manager, or other staff conducting the data review:
Date data received by DEQ: _____
Sample data provided to DEQ by: _____
Samples collected by: _____

☐ State Office QAO notified of checklist entered into TRIM.

List any additional comments below. Attach additional sheets as necessary.

_____
_____
_____
_____
_____
_____

Regional Office Data Verification—Checklist

This checklist is designed for use by the individual **assigned as the regional office project manager, or delegated to project staff by the regional office project manager,** to perform project **data verification for projects conducted under a statewide generic quality assurance project plan (QAPP).** This person *shall complete and file this checklist in the appropriate project TRIM system files (i.e., this checklist is site-specific and should go in the project folder in TRIM for the site).* Project personnel are encouraged to expand this standard list, as project conditions warrant.

Printed Name of Staff Performing Data Verification	Date Completed
Project Title	**Project Folder TRIM Record #**
Third-Party Petroleum Site Assessment and Corrective Action	2016BAF19
"Parent" Statewide Generic QAPP Title	QAPP TRIM Record #

Check the following review boxes after completion of each listed task.

Check yes if the task was completed without any noted discrepancies. Check no if there are discrepancies and include a description of the discrepancy in the space provided. Do not check any boxes and write NA (not applicable) in the space provided if the task does not apply to the data received or to the project. Use additional sheets as necessary.

Yes	No	
☐	☐	Examine and review the associated QAPP to determine if additional program and/or project-specific data *verification* requirements apply. Update this checklist to include all such items.
☐	☐	Review the outcome of the data review effort to evaluate the impact on data quality with respect to the DQOs.
☐	☐	Evaluate submitted field records for consistency. Field records should include field instrument calibration data, if used.
☐	☐	Review sample collection and handling information submitted, including specific sample collection procedures. Verify appropriate sample collection methods were used, through implementation of standard of practice or industry standard practices, or in accordance with published standards and guidance.
☐	☐	Verify soil, surface water, ground water and other media sampling procedures were conducted in a manner that minimizes loss of VOCs, if applicable.
☐	☐	Verify samples were collected using appropriate equipment.
☐	☐	Verify soil, surface water, ground water, and other media sampling procedures were conducted in a manner that minimizes cross-contamination.

Yes	No	
		_____
		_____
☐	☐	Verify appropriate types of samples were collected based on the type of petroleum release, which may include used oil. Types of samples collected should be based on the potential contaminants and exposure routes/pathways (e.g., vapor intrusion, direct contact, and ingestion).
		_____
		_____
☐	☐	Verify appropriate volumes of samples were collected. Volume of sample should be based on the analytical method and type of sample.
		_____
		_____
☐	☐	Verify sufficient numbers of samples were collected from appropriate locations and depths to determine areal and vertical extent of soil, surface water, ground water, and other media contamination.
		_____
		_____
☐	☐	Verify sufficient numbers of samples were collected from appropriate locations and depths to confirm completion of corrective activities, as applicable.
		_____
		_____
☐	☐	Verify chain-of-custody.
		_____
		_____
☐	☐	Verify method holding times were satisfied for sample extraction and analysis.
		_____
		_____
☐	☐	Verify samples were appropriately preserved based on media and analytical method.
		_____
		_____
☐	☐	Verify appropriate sample containers were used.
		_____
		_____
☐	☐	Verify that the appropriate analytical methods were performed and correspond to the analytical methods employed by the laboratory used by the third-party as recorded in laboratory reports.
		_____
		_____
☐	☐	Verify laboratory reporting limits and method detection limits are lower than the applicable screening levels for each contaminant of concern.
		_____
		_____
☐	☐	Verify representativeness by confirming that sampling locations are properly selected, sample collection procedures are appropriate and consistently followed, a sufficient number of samples are collected, method detection limits are less than screening criteria, and analytical results are useable.
		_____
		_____
☐	☐	Verify that laboratory data are Level III/Stage 1 or Stage 2A.
		_____
		_____
☐	☐	Verify completeness meets 90% goal.
		_____
		_____

Yes	No	
☐	☐	If DEQ staff were on-site during site assessment and corrective action activities, verify field activities conducted by third parties observed and documented by DEQ staff correspond to activities reported by the third-party. This is a supplement category and is not included as minimum acceptance criteria.
☐	☐	Evaluate Level I data to determine representativeness of samples collected and acceptability of the data and information provided (e.g., identify potential problems or issues with sample collection that may result in uncertainty of the data). Level I data are not used to make assessment and corrective action decisions. This is a supplement category and is not included as minimum acceptance criteria.
☐	☐	Evaluate sample locations provided to DEQ on a map. This is included as minimum acceptance criteria.
☐	☐	Evaluate sample collection procedures documented and provided to DEQ. This is included as minimum acceptance criteria.
☐	☐	Evaluate sample handling methods documented and provided to DEQ. This is included as minimum acceptance criteria.
☐	☐	Verify accuracy is within the ranges of acceptability, based on percent recovery, identified by the specific laboratory conducting the analysis for each method and analyte; LCS, matrix spikes or surrogate spikes are routinely conducted and recoveries are reported by the laboratory and should be submitted by the third-party with the data package. This is minimum acceptance criteria.
☐	☐	Verify laboratory precision is within the ranges of acceptability, based on RPD, identified by the specific laboratory conducting the analysis for each method and analyte for laboratory duplicate sample analysis, if conducted, and if internal laboratory duplicate samples are analyzed and the information is submitted by the third-party. This is minimum acceptance criteria.
☐	☐	Verify field soil duplicate precision is within ± 50%, field ground water duplicate precision is within ± 30%, and field soil vapor duplicate precision is within ± 25% based on RPD calculation for duplicate samples collected by the third-party. This is minimum acceptance criteria.
☐	☐	Examine results and identify blank samples (field, trip and/or equipment) where chemical parameters were detected in the blank samples at a concentration equal to or greater than the MDL. This is minimum acceptance criteria.
☐	☐	Verify that any remaining or unique project or procedural requirements have been met, and if not, determine the extent to which these requirements failed to be achieved.
☐	☐	Determine and document any limitations on the use of the project data.

Yes	No	
		_____
		_____
☐	☐	Ensure that all deficiencies and/or conditions adverse to quality determined during the project data *verification* process have been communicated to the regional office project manager (if not performed by the regional office program manager) and the regional office project QAO at a minimum and are listed on this checklist or attached for inclusion in the TRIM record system.
		_____
		_____
☐	☐	Verify that a copy of this data *verification* checklist has been provided to the regional office project manager (if not performed by the regional office program manager) for deficiency resolution and placed in the project TRIM files. Note that additional actions may be required based on checklist findings, such as internal corrective action plans and corrective action reports per the QMP, etc. The regional office project manager shall consult the DEQ QMP and proceed accordingly if additional actions are required.
		_____
		_____
☐	☐	List of *data validation* issues or concerns, including reasons for failure of the data to meet project requirements, identified by the regional office project staff conducting *data verification*. Note that this is an informal data validation process conducted at the same time as the data verification. Additional actions may be required based on checklist findings, such as internal corrective action plans and corrective action reports per the DEQ QMP, etc. The regional office project manager shall consult the DEQ QMP and proceed accordingly if additional actions are required.
		_____
		_____
☐		State Office QAO notified of checklist entered into TRIM.

Please list any additional comments below. Attach additional sheets as necessary.

_____
_____
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Regional Office Data Validation—Checklist

This checklist is designed for use by the individual **assigned regional office project QAO** to perform **project data validation for projects conducted under a statewide generic quality assurance project plan (QAPP).** This person *shall complete and file this checklist in the appropriate project TRIM system files (i.e., this checklist is site-specific and should go in the project folder in TRIM for the site).* Project personnel are encouraged to expand this standard list, as project conditions warrant.

Printed Name of Staff Performing Data Validation	Date Completed
Project Title	Project Folder TRIM Record #
Third-Party Petroleum Site Assessment and Corrective Action	2016BAF19
"Parent" Statewide Generic QAPP Title	QAPP TRIM Record #

Check the following review boxes after completion of each listed task.

Check yes if the task was completed without any noted discrepancies. Otherwise, check no and include a description of the discrepancy in the space provided. Use additional sheets as necessary.

Yes	No	
☐	☐	Examine and review the associated QAPP to determine if additional program and/or project-specific data *validation* requirements apply. Update this checklist to include all such items.
☐	☐	Review the outcome of the data review effort to evaluate the impact on data quality with respect to the DQOs.
☐	☐	Validate chain-of-custody.
☐	☐	Validate method holding times for sample extraction and analysis.
☐	☐	Validate samples were appropriately preserved based on media and analytical method.
☐	☐	Validate appropriate sample containers were used.
☐	☐	Validate that the appropriate analytical methods were performed and correspond to the analytical methods employed by the laboratory used by the third-party as recorded in laboratory reports.
☐	☐	Validate laboratory reporting limits and method detection limits are lower than the applicable screening levels for each contaminant of concern.
☐	☐	Validate representativeness by confirming that sampling locations are properly selected, sample collection procedures are appropriate and consistently followed, a sufficient number of samples are collected, method detection limits are less than screening criteria, and analytical results are useable.

Yes	No	
		_____
		_____
☐	☐	Validate laboratory practices, if applicable.
		_____
		_____
☐	☐	Validate completeness meets 90% goal.
		_____
		_____
☐	☐	Review project analytical laboratory reports and data, including the assigned data qualifiers, to evaluate the data quality with respect to the project DQOs. Assign data qualifiers to individual data values as necessary and appropriate.
		_____
		_____
☐	☐	Validate accuracy is within the ranges of acceptability, based on percent recovery, identified by the specific laboratory conducting the analysis for each method and analyte; LCS, matrix spikes or surrogate spikes are routinely conducted and recoveries are reported by the laboratory and should be submitted by the third-party with the data package.
		_____
		_____
☐	☐	Validate laboratory precision is within the ranges of acceptability, based on RPD, identified by the specific laboratory conducting the analysis for each method and analyte for laboratory duplicate sample analysis, if conducted, and if internal laboratory duplicate samples are analyzed and the information is submitted by the third-party.
		_____
		_____
☐	☐	Validate field soil duplicate precision is within ± 50%, field ground water duplicate precision is within ± 30%, and field soil vapor duplicate precision is within ± 25% based on RPD calculations for duplicate samples collected by the third-party.
		_____
		_____
☐	☐	Examine results and identify blank samples (field, trip and/or equipment), if applicable, where chemical parameters were detected in the blank samples at a concentration equal to or greater than the MDL.
		_____
		_____
☐	☐	Determine, when necessary and where possible, the reasons for any failure to meet methodological, procedural, or contractual requirements and evaluate the impact of such failure on the overall data.
		_____
		_____
☐	☐	Compare the project DQOs, as defined in the QAPP to the data obtained by the project to assess the adequacy of the data (new or existing) in relation to their intended use.
		_____
		_____
☐	☐	Determine and document any limitations on the use of the project data.
		_____
		_____
☐	☐	Determine the adequacy of the data to proceed on to the data assessment and reconciliation with user requirements phase.
		_____
		_____

Yes	No	
☐	☐	Ensure that all deficiencies and/or conditions adverse to quality determined during the project data *validation* process have been communicated to the project manager, at a minimum, and are listed on this checklist or attached for inclusion in the TRIM record system.
☐	☐	Verify that a copy of this data *validation* checklist has been provided to the project manager for deficiency resolution and placed in the project TRIM file system. Note that additional actions may be required based on the checklist findings, such as a corrective action plan/reports, etc. The regional office project manager and the project QAO shall consult the DEQ QMP and proceed accordingly if additional actions are required.
☐		State Office QAO notified of checklist entered into TRIM.

Please list any additional comments below. Attach additional sheets as necessary.

Appendix C. Regional Office Project QAO Annual Audit Checklist

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Regional Office Project QAO Annual Audit—Checklist

This checklist is designed for use by the individual **assigned as the regional office project quality assurance officer (QAO)** to perform the required annual project audit **for projects conducted under a statewide generic quality assurance project plan (QAPP)**. This audit is required only on project activities **approaching (i.e., 11 months or more) or extending beyond one year**. The QAO assigned *shall complete this checklist as part of the audit process and file the completed form in the appropriate project TRIM system files (i.e., this checklist is site-specific and should go in the project folder in TRIM for the site).* Project QAOs are encouraged to expand this standard list as project conditions warrant.

Printed Name of Staff Performing the Project Audit	Date Completed
Project Title	**Project TRIM Record #**
Third-Party Petroleum Site Assessment and Corrective Action	2016BAF19
"Parent" Statewide Generic QAPP Title	**QAPP TRIM Record #**

Check the following review boxes after completion of each listed task.

Check yes if the task was completed without any noted discrepancies. Otherwise, check no and include a description of the discrepancy in the space provided. Use additional sheets as necessary.

Yes	No	
☐	☐	Verify that the approved current QAPP, including a copy of the signed approval signature pages, are currently filed in the TRIM system. Also, verify the project information for the QAPP has been entered into the QAO project tracker found at TRIM record 2012AEB8. If the QAPP is not filed in TRIM, or the QAO tracker is not current, immediately inform the DEQ QA manager.
☐	☐	Verify regional project management staff (i.e., regional office project manager and regional office project QAO) are the same as identified in Tables 1 and 3, and Figure 2, of the QAPP.
		☐ Check the box to the right if the regional project management staff are not the same as identified in Tables 1 and 3, and Figure 2, of the QAPP and attach to this checklist documentation showing the staffing change approval by the state office project manager.
☐	☐	Verify that the approved and current project documents, such as the QAPP, SOPs, etc., are available to project staff and are in use per project requirements.
☐	☐	Determine through review and observation if the project has performed and documented project activities as described and required by the QAPP, such that the needs of the data user are satisfied.

Yes	No	
☐	☐	Determine if the QAPP adequately documents and describes the actual project requirements such that the needs of the data user are satisfied. If necessary, in coordination with the QAPP and project managers, initiate project document revision, review, and approval efforts in accordance with the DEQ QMP.
☐	☐	Determine if oversight of third-party project field activities are in compliance with the requirements of the QAPP.
☐	☐	Determine if all nondirect data acquisition associated with the project (section 18) has been addressed and properly documented in accordance with the QAPP.
☐	☐	Compare actual project documents available in the DEQ TRIM record system against the document filing requirements contained in the QAPP. Identify existing deficiencies in the project TRIM system files, such as missing data review, verification, and validation checklists; missing field note pages; and missing chain-of-custody forms. Provide this information to the project manager for immediate resolution.
☐	☐	Ensure that all deficiencies and/or conditions adverse to quality determined during the project QAO audit are listed on this checklist or attached for inclusion in the TRIM record system.
☐	☐	Verify that a copy of this annual project QAO audit report has been provided to the project managers for deficiency resolution and placed in the project TRIM file system. Note that additional audit administrative actions may be required based on audit findings, such as a corrective action plan/reports, etc. The regional office project QAO shall consult the DEQ QMP and proceed accordingly.

☐ State Office QAO notified of checklist entered into TRIM.

Please list any additional comments below. Attach additional sheets as necessary.