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Draft Residential Metals Abatement Program Quality Assurance Project Plan (Non-Residential Parcels – Indoor Dust) (12/17/2021)

EPA REGION 8 QA DOCUMENT REVIEW CROSSWALK

QAPP/FSP/SAP for: <i>(check appropriate box)</i>	Entity (<i>grantee, contract, EPA AO, EPA Program, Other</i>)	Regulatory Authority and/or Funding Mechanism	___ 2 CFR 1500 for Grantee/Cooperative Agreements ___ 48 CFR 46 for Contracts ___ Interagency Agreement (FFA, USGS,) ___ EPA/Court Order ___ EPA Program Funding ___ EPA Program Regulation ___ EPA CIO 2105																				
<input type="checkbox"/> GRANTEE <input type="checkbox"/> CONTRACTOR <input type="checkbox"/> EPA <input type="checkbox"/> Other	Atlantic Richfield																						
Document Title <i>[Note: Title will be repeated in Header]</i>	Draft Residential Metals Abatement Program Quality Assurance Project Plan (Non-Residential Parcels – Indoor Dust) (12/17/2021)																						
QAPP/FSP/SAP Preparer																							
Period of Performance <i>(of QAPP/FSP/SAP)</i>	2021-2022	Date Submitted for Review	10/08/2021																				
EPA Project Officer EPA Project Manager	Nikia Greene	PO Phone # PM Phone #																					
QA Program Reviewer or Approving Official	Nikia Greene	Date of Review	11/22/21																				
Documents Submitted for QAPP Review (QA Reviewer must complete): 1. QA Document(s) submitted for review: <table border="1"> <thead> <tr> <th>QA Document</th> <th>Document Date</th> <th>Document Stand-alone</th> <th>Document with QAPP</th> </tr> </thead> <tbody> <tr> <td>QAPP</td> <td>10/08/2021</td> <td>Yes / No</td> <td></td> </tr> <tr> <td>FSP</td> <td></td> <td>Yes / No</td> <td>Yes / No</td> </tr> <tr> <td>SAP</td> <td></td> <td>Yes / No</td> <td>Yes / No</td> </tr> <tr> <td>SOP(s)</td> <td></td> <td></td> <td>Yes / No</td> </tr> </tbody> </table>		QA Document	Document Date	Document Stand-alone	Document with QAPP	QAPP	10/08/2021	Yes / No		FSP		Yes / No	Yes / No	SAP		Yes / No	Yes / No	SOP(s)			Yes / No	Notes for Document Submittals: 1. A QAPP written by a Grantee, EPA, or Federal Partner <u>must include</u> for review: Work Plan(WP) / Statement of Work (SOW) / Program Plan (PP) / Research Proposal (RP) and funding mechanism 2. A QAPP written by Contractor <u>must include</u> for review: a) Copy of Task Order Work Assignment/SOW b) Reference to a hard or electronic copy of the contractor’s approved QMP c) Copy of Contract SOW if no QMP has been approved d) Copy of EPA/Court Order, if applicable e) The QA Review must determine (with the EPA CO or PO) if a QARF was completed for the environmental data activity described in the QAPP. 3. a. Field Sampling Plan (FSP) and/or Sampling & Analyses Plan (SAP) must include the Project QAPP <u>or must</u> be a stand-alone QA document that <u>contain all QAPP required elements</u> (Project Management, Data Generation/Acquisition, Assessment and Oversight, and Data Validation and Usability). b. SOPs must be submitted with a QA document that <u>contains all QAPP required elements</u> .	
QA Document	Document Date	Document Stand-alone	Document with QAPP																				
QAPP	10/08/2021	Yes / No																					
FSP		Yes / No	Yes / No																				
SAP		Yes / No	Yes / No																				
SOP(s)			Yes / No																				
Summary of Comments (<i>highlight significant concerns/issues</i>): 1. Comment #1 – Please address the comments contained within the comment letter. Atlantic Richfield Response (12/16/2021): Comments addressed in comment letter.																							

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- 2. Comment #2 [Atlantic Richfield Response \(12/17/2021\)](#): The document title and period of performance have been revised.
- 3. Comment #3
- 4. Atlantic Richfield **must address the comments in the Summary of Comments, as well as those identified in the Comment section(s) that includes a “Response (date)” and Resolved (date)”**. [Atlantic Richfield Response \(12/17/2021\)](#): Comments addressed in comments sections below.

Element	Acceptable <i>Yes/No/NA</i>	Page/ Section	Comments
A. Project Management			
A1. Title and Approval Sheet			
a. Contains project title	Yes	Title page and Signature page	EPA no comment (11/22/21)
b. Date and revision number line (for when needed)	Yes	Title page and Signature page	EPA no comment (11/22/21)
c. Indicates organization’s name	Yes	Title page	EPA no comment (11/22/21)
d. Date and signature line for organization’s project manager	No	Signature Page	EPA comment (11/22/21) – Please provide signatures with the revised plan Atlantic Richfield Response (12/16/2021): Signatures inserted.
e. Date and signature line for organization’s QA manager	No	Signature Page	EPA comment (11/22/21) – Please provide signatures with the revised plan Atlantic Richfield Response (12/16/2021): Signatures inserted
f. Other date and signatures lines, as needed	Yes	Signature Page	EPA no comment (11/22/21)
A2. Table of Contents			
a. Lists QA Project Plan information sections	Yes	Pages iii to vi	EPA no comment (11/22/21)
b. Document control information indicated	Yes	Page v	EPA no comment (11/22/21)
A3. Distribution List			
Includes all individuals who are to receive a copy of the QA Project Plan and identifies their organization	No	Page ii	EPA comment (11/22/21) – Please provide this information with the revised plan Atlantic Richfield Response (12/16/2021): Distribution List inserted
A4. Project/Task Organization			
a. Identifies key individuals involved in all major aspects of the project, including contractors	Yes	Sections 2.0 to 2.6	EPA no comment (11/22/21)
b. Discusses their responsibilities	Yes	Sections 2.0 to 2.6	EPA no comment (11/22/21)

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c. Project QA Manager position indicates independence from unit generating data	Yes	Sections 2.0 to 2.6	EPA no comment (11/22/21)
d. Identifies individual responsible for maintaining the official, approved QA Project Plan	Yes	Section 2.6	EPA comment (11/22/21) – the name of the individual should be identified in this section Atlantic Richfield Response (12/16/2021): The name of the ERM QA Manager has been inserted.
e. Organizational chart shows lines of authority and reporting responsibilities	Yes	Figure 3	Atlantic Richfield Response (12/16/2021): Figure 3 has been updated based on EPA comment letter.
A5. Problem Definition/Background			
a. States decision(s) to be made, actions to be taken, or outcomes expected from the information to be obtained	Yes	Sections 1.0 and 2.9	EPA comment (11/22/21) – please update based on the EPA comment letter Atlantic Richfield Response (12/16/2021): Sections have been updated based on EPA comment letter.
b. Clearly explains the reason (site background or historical context) for initiating this project	Yes	Sections 2.7 and 2.8	EPA comment (11/22/21) – please update based on the EPA comment letter Atlantic Richfield Response (12/16/2021): Sections have been updated based on EPA comment letter.
c. Identifies regulatory information, applicable criteria, action limits, etc. necessary to the project	Yes	Section 2.9	EPA comment (11/22/21) – please update based on the EPA comment letter Atlantic Richfield Response (12/16/2021): Section has been updated based on EPA comment letter.
A6. Project/Task Description			
a. Summarizes work to be performed, for example, measurements to be made, data files to be obtained, etc., that support the project’s goals	Yes	Sections 1.0 and 2.7	EPA comment (11/22/21) – please update based on the EPA comment letter Atlantic Richfield Response (12/16/2021): Sections have been updated based on EPA comment letter.
b. Provides work schedule indicating critical project points, e.g., start and completion dates for activities such as sampling, analysis, data or file reviews, and assessments	Yes	Section 2.8	EPA comment (11/22/21) – please update based on the EPA comment letter Atlantic Richfield Response (12/16/2021): Section has been updated based on EPA comment letter.
c. Details geographical locations to be studied, including maps where possible	Yes	Sections 1.0 and 2.8	EPA comment (11/22/21) – please update based on the EPA comment letter Atlantic Richfield Response (12/16/2021): Section has been updated based on EPA comment letter.
d. Discusses resource and time constraints, if applicable	Yes	Section 2.8.1	EPA no comment (11/22/21)
A7. Quality Objectives and Criteria			

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<p>a. Identifies - performance/measurement criteria for all information to be collected and acceptance criteria for information obtained from previous studies, - including project action limits and laboratory detection limits and - range of anticipated concentrations of each parameter of interest</p>	<p>Yes</p>	<p>Section 2.9.1; Table 1</p>	<p>EPA comment (11/22/21) – please update based on the EPA comment letter Atlantic Richfield Response (12/16/2021): Sections have been updated based on EPA comment letter.</p>
<p>b. Discusses precision</p>	<p>Yes</p>	<p>Sections 2.9.2, 3.9.2 and 3.10.1 (formerly 3.7.2, and 3.8.2)</p>	<p>EPA comment (11/22/21) – please update based on the EPA comment letter Atlantic Richfield Response (12/16/2021): Sections have been updated based on EPA comment letter.</p>
<p>c. Addresses bias</p>	<p>Yes</p>	<p>Sections 2.9.2 and 3.9.2 (formerly 3.7.2)</p>	<p>EPA comment (11/22/21) – please update based on the EPA comment letter Atlantic Richfield Response (12/16/2021): Sections have been updated based on EPA comment letter.</p>
<p>d. Discusses representativeness</p>	<p>Yes</p>	<p>Sections 2.9.2 and 3.9.2 (formerly 2.7.2 and 3.7.2)</p>	<p>EPA comment (11/22/21) – please update based on the EPA comment letter Atlantic Richfield Response (12/16/2021): Sections have been updated based on EPA comment letter.</p>
<p>e. Identifies the need for completeness</p>	<p>Yes</p>	<p>Sections 2.9.2 and 3.9.2 (formerly 3.7.2)</p>	<p>EPA comment (11/22/21) – please update based on the EPA comment letter Atlantic Richfield Response (12/16/2021): Sections have been updated based on EPA comment letter.</p>
<p>f. Describes the need for comparability</p>	<p>Yes</p>	<p>Sections 2.9.2 and 3.9.2 (formerly 3.7.2)</p>	<p>EPA comment (11/22/21) – please update based on the EPA comment letter Atlantic Richfield Response (12/16/2021): Sections have been updated based on EPA comment letter.</p>
<p>g. Discusses desired method sensitivity</p>	<p>Yes</p>	<p>Sections 2.9.2 and 3.9.2 (formerly 3.7.2)</p>	<p>EPA comment (11/22/21) – please update based on the EPA comment letter Atlantic Richfield Response (12/16/2021): Sections have been updated based on EPA comment letter.</p>

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A8. Special Training/Certifications			
a. Identifies any project personnel specialized training or certifications	Yes	Section 2.10	EPA no comment (11/22/21)
b. Discusses how this training will be provided	Yes	Section 2.10	EPA no comment (11/22/21)
c. Indicates personnel responsible for assuring training/certifications are satisfied	Yes	Section 2.10	EPA no comment (11/22/21)
d. identifies where this information is documented	Yes	Section 2.10	EPA no comment (11/22/21)
A9. Documentation and Records			
a. Identifies report format and summarizes all data report package information	Yes	Section 2.11	EPA no comment (11/22/21)
b. Lists all other project documents, records, and electronic files that will be produced	Yes	Section 2.11	EPA no comment (11/22/21)
c. Identifies where project information should be kept and for how long	Yes	Section 2.11	EPA no comment (11/22/21)
d. Discusses back up plans for records stored electronically	Yes	Section 2.11	EPA no comment (11/22/21)
e. States how individuals identified in A3 will receive the most current copy of the approved QA Project Plan, identifying the individual responsible for this	Yes	Section 2.11	EPA no comment (11/22/21)
B. Data Generation/Acquisition			
B1. Sampling Process Design (Experimental Design)			
a. Describes and justifies design strategy, indicating size of the area, volume, or time period to be represented by a sample	Yes	Section 3.0	EPA comment (11/22/21) – please update based on the EPA comment letter Atlantic Richfield Response (12/16/2021): Sections have been updated based on EPA comment letter.
b. Details the type and total number of sample types/matrix or test runs/trials expected and needed	Yes	Section 3.2	EPA comment (11/22/21) – please update based on the EPA comment letter Atlantic Richfield Response (12/16/2021): Sections have been updated based on EPA comment letter.
c. Indicates where samples should be taken, how sites will be identified/located	Yes	Section 3.2.1; FSP	EPA comment (11/22/21) – please update based on the EPA comment letter Atlantic Richfield Response (12/16/2021): Sections have been updated based on EPA comment letter.

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d. Discusses what to do if sampling sites become inaccessible	Yes	Section 3.2.2 to 3.2.5 (formerly 3.2.6)	EPA comment (11/22/21) – please update based on the EPA comment letter Atlantic Richfield Response (12/16/2021): Sections have been updated based on EPA comment letter.
e. Identifies project activity schedules such as each sampling event, times samples should be sent to the laboratory, etc.	Yes	Sections 3.2 to 3.5	EPA comment (11/22/21) – please update based on the EPA comment letter Atlantic Richfield Response (12/16/2021): Sections have been updated based on EPA comment letter.
f. Specifies what information is critical and what is for informational purposes only	Yes	Sections 3.2 to 3.5	EPA comment (11/22/21) – please update based on the EPA comment letter Atlantic Richfield Response (12/16/2021): Sections have been updated based on EPA comment letter.
g. Identifies sources of variability and how this variability should be reconciled with project information	Yes	Sections 3.7 and 3.8	EPA comment (11/22/21) – please update based on the EPA comment letter Atlantic Richfield Response (12/16/2021): Sections have been updated based on EPA comment letter.
B2. Sampling Methods			
a. Identifies all sampling SOPs by number, date, and regulatory citation, indicating sampling options or modifications to be taken	Yes	Sections 3.2, 3.3, and 3.5	EPA comment (11/22/21) – please update based on the EPA comment letter Atlantic Richfield Response (12/16/2021): Sections have been updated based on EPA comment letter.
b. Indicates how each sample/matrix type should be collected	Yes	Sections 3.2 to 3.5	EPA comment (11/22/21) – please update based on the EPA comment letter Atlantic Richfield Response (12/16/2021): Sections have been updated based on EPA comment letter.
c. If in situ monitoring, indicates how instruments should be deployed and operated to avoid contamination and ensure maintenance of proper data	NA	NA	NA
d. If continuous monitoring, indicates averaging time and how instruments should store and maintain raw data, or data averages	NA	NA	NA
e. Indicates how samples are to be homogenized, composited, split, or filtered, if needed	Yes (formerly NA)	Section 3.3.1 (formerly NA)	NA Atlantic Richfield Response (12/16/2021): Section has been inserted based on request to collect earthen basement soil samples.

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f. Indicates what sample containers and sample volumes should be used	Yes	Sections 3.2 to 3.5	EPA comment (11/22/21) – please update based on the EPA comment letter Atlantic Richfield Response (12/16/2021): Sections have been updated based on EPA comment letter.
g. Identifies whether samples should be preserved and indicates methods that should be followed	Yes	Sections 3.5	EPA comment (11/22/21) – Section 3.5 is field equipment. Please update to the appropriate section. Atlantic Richfield Response (12/16/2021): Section numbers have been updated. Section 3.5 (formerly 3.4) is Field Procedures.
h. Indicates whether sampling equipment and samplers should be cleaned and/or decontaminated, identifying how this should be done and by-products disposed of	Yes	Section 3.5.2 (incorrectly listed as 3.2.4), FS-WI -010	EPA no comment (11/22/21) Atlantic Richfield Response (12/16/2021): Section numbers have been updated. Section 3.5.2 (formerly 3.4.2) is now Floor Surface Sampling.
i. Identifies any equipment and support facilities needed	Yes	Sections 3.6 (incorrectly listed as 3.4 and 3.10)	EPA comment (11/22/21) – please update to the appropriate section. Atlantic Richfield Response (12/16/2021): Section numbers have been updated. Section 3.6 (formerly 3.5) is now Field Equipment.
j. Addresses actions to be taken when problems occur, identifying individual(s) responsible for corrective action and how this should be documented	Yes	Section 4.1	EPA no comment (11/22/21)
B3. Sample Handling and Custody			
a. States maximum holding times allowed from sample collection to extraction and/or analysis for each sample type and, for in-situ or continuous monitoring, the maximum time before retrieval of information	Yes	Section 3.7 (incorrectly listed as 3.5)	EPA comment (11/22/21) – please update to the appropriate section. Atlantic Richfield Response (12/16/2021): Section numbers have been updated. Section 3.7 (formerly 3.6) is now Sample Handling and Chain of Custody.
b. Identifies how samples or information should be physically handled, transported, and then received and held in the laboratory or office (including temperature upon receipt)	Yes	Section 3.7 (incorrectly listed as 3.5)	EPA comment (11/22/21) – please update to the appropriate section. Atlantic Richfield Response (12/16/2021): Section numbers have been updated. Section 3.7 (formerly 3.6) is now Sample Handling and Chain of Custody.
c. Indicates how sample or information handling and custody information should be documented, such as in field notebooks and forms, identifying individual responsible	Yes	Sections 2.11.2, 2.11.4 and 3.7 (incorrectly listed as 3.5)	EPA comment (11/22/21) – please update to the appropriate section. Atlantic Richfield Response (12/16/2021): Section numbers have been updated. Section 3.7 (formerly 3.6) is now Sample Handling and Chain of Custody. Added reference to Section 2.11.2 Field Documentation.

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d. Discusses system for identifying samples, for example, numbering system, sample tags and labels, and attaches forms to the plan	Yes	Section 3.8 (incorrectly listed as 3.6)	EPA comment (11/22/21) – please update to the appropriate section. Atlantic Richfield Response (12/16/2021): Section numbers have been updated. Section 3.8 (formerly 3.7) is now Sample Identification
e. Identifies chain-of-custody procedures and includes form to track custody	Yes	Sections 2.11.4 and 3.7	EPA comment (11/22/21) – please update to the appropriate section. Atlantic Richfield Response (12/16/2021): Section numbers have been updated. Section 3.7 (formerly 3.6) is now Sample Handling and Chain of Custody.
B4. Analytical Methods			
a. Identifies all analytical SOPs (field, laboratory and/or office) that should be followed by number, date, and regulatory citation, indicating options or modifications to be taken, such as sub-sampling and extraction procedures	Yes	Section 3.9 (incorrectly listed as 3.7), Appendix C	EPA comment (11/22/21) – please update based on the EPA comment letter Atlantic Richfield Response (12/16/2021): Section numbers have been updated. Section 3.9 (formerly 3.8) is now Analyses Methods
b. Identifies equipment or instrumentation needed	Yes	Section 3.9.1 (incorrectly listed as 3.7)	EPA comment (11/22/21) – please update to the appropriate section. Atlantic Richfield Response (12/16/2021): Section numbers have been updated. Section 3.9.1 (formerly 3.8.1) is now Dust Sample Analysis Methods
c. Specifies any specific method performance criteria	Yes	Sections 2.9.2 and 3.9.2 (incorrectly listed as 3.7.2)	EPA comment (11/22/21) – please update to the appropriate section. Atlantic Richfield Response (12/16/2021): Section numbers have been updated. Section 3.9.1 (formerly 3.8.1) is now Dust Sample Analysis Methods
d. Identifies procedures to follow when failures occur, identifying individual responsible for corrective action and appropriate documentation	Yes	Sections 3.9.2.1, 3.9.2.2, 3.9.2.3, 4.1, Appendix B	EPA comment (11/22/21) – please update to the appropriate section. Atlantic Richfield Response (12/16/2021): Included specific laboratory control sample subsections from Sections 3.9.2 that discuss corrective action. Section 4.1 paragraph 5 discusses corrective action during analysis. Appendix B, Laboratory SOPs also include method specific corrective action procedures.
e. Identifies sample disposal procedures	Yes	Section 3.11 (incorrectly listed as 3.9)	EPA comment (11/22/21) – please update to the appropriate section. Atlantic Richfield Response (12/16/2021): Section numbers have been updated. Section 3.11 (formerly 3.10) is now Sample Disposal

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f. Specifies laboratory turnaround times needed	Yes	Sections 2.9.1 and 4.3	EPA comment (11/22/21) – please update to the appropriate section. Section 2.9.1 Step 3 Identifying appropriate sampling and analytical methods , paragraph 2 discusses laboratory turnaround times. Section 4.3 Reports to Management, paragraph 2 discusses turnaround times.
g. Provides method validation information and SOPs for nonstandard methods	Yes	Section 5.0	EPA no comment (11/22/21)
B5. Quality Control			
a. For each type of sampling, analysis, or measurement technique, identifies QC activities which should be used, for example, blanks, spikes, duplicates, etc., and at what frequency	Yes	Sections 3.9.2 and 3.10 (formerly 3.7 and 3.8)	EPA no comment (11/22/21) Atlantic Richfield Response (12/16/2021): Section numbers have been updated. Section 3.9.2 (formerly 3.8.2) is Laboratory Quality Control Samples. Section 3.10 (formerly 3.9) is Field Quality Control Samples.
b. Details what should be done when control limits are exceeded, and how effectiveness of control actions will be determined and documented	Yes	Section 5.0	EPA no comment (11/22/21)
c. Identifies procedures and formulas for calculating applicable QC statistics, for example, for precision, bias, outliers and missing data	Yes	Sections 2.9.2, 3.9.2, 3.10 (formerly 3.7, 3.8), and Table 2	EPA no comment (11/22/21) Atlantic Richfield Response (12/16/2021): Section numbers have been updated. Section 3.9.2 (formerly 3.8.2) is Laboratory Quality Control Samples. Section 3.10 (formerly 3.9) is Field Quality Control Samples.
B6. Instrument/Equipment Testing, Inspection, and Maintenance			
a. Identifies field and laboratory equipment needing periodic maintenance, and the schedule for this	Yes	Section 3.12 (incorrectly listed as 3.10)	EPA comment (11/22/21) – please update to the appropriate section. Atlantic Richfield Response (12/16/2021): Section numbers have been updated. Section 3.12 (formerly 3.11) is Instrument/Equipment Testing, Inspection, and Maintenance
b. Identifies testing criteria	Yes	Section 3.12 (incorrectly listed as 3.10)	EPA comment (11/22/21) – please update to the appropriate section. Atlantic Richfield Response (12/16/2021): Section numbers have been updated. Section 3.12 (formerly 3.11) is Instrument/Equipment Testing, Inspection, and Maintenance
c. Notes availability and location of spare parts	Yes	Section 3.12 (incorrectly listed as 3.10)	EPA comment (11/22/21) – please update to the appropriate section. Atlantic Richfield Response (12/16/2021): Section numbers have been updated. Section 3.12 (formerly 3.11) is Instrument/Equipment Testing, Inspection, and Maintenance

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d. Indicates procedures in place for inspecting equipment before usage	Yes	Section 3.12 (incorrectly listed as 3.10)	EPA comment (11/22/21) – please update to the appropriate section. Atlantic Richfield Response (12/16/2021): Section numbers have been updated. Section 3.12 (formerly 3.11) is Instrument/Equipment Testing, Inspection, and Maintenance
e. Identifies individual(s) responsible for testing, inspection and maintenance	Yes	Section 3.12 (incorrectly listed as 3.10)	EPA comment (11/22/21) – please update to the appropriate section. Atlantic Richfield Response (12/16/2021): Section numbers have been updated. Section 3.12 (formerly 3.11) is Instrument/Equipment Testing, Inspection, and Maintenance
f. Indicates how deficiencies found should be resolved, re-inspections performed, and effectiveness of corrective action determined and documented	Yes	Section 3.12 (incorrectly listed as 3.10)	EPA comment (11/22/21) – please update to the appropriate section. Atlantic Richfield Response (12/16/2021): Section numbers have been updated. Section 3.12 (formerly 3.11) is Instrument/Equipment Testing, Inspection, and Maintenance
B7. Instrument/Equipment Calibration and Frequency			
a. Identifies equipment, tools, and instruments that should be calibrated and the frequency for this calibration	Yes	Sections 3.12.1, 3.12.2, and Appendix B (Incorrectly listed 2.9.2, and 3.8)	EPA comment (11/22/21) – please update to the appropriate section. Atlantic Richfield Response (12/16/2021): Section numbers have been updated. Section 3.12.1 (formerly 3.11.1) is Field Equipment and Section 3.12.2 is Laboratory Equipment. Calibration is also included in the Appendix B SOPs for laboratory methods.
b. Describes how calibrations should be performed and documented, indicating test criteria and standards or certified equipment	Yes	Sections 3.12.1, 3.12.2, and Appendix B (Incorrectly listed as 2.9.2 and 3.10; Appendix C)	EPA comment (11/22/21) – please update to the appropriate section. Atlantic Richfield Response (12/16/2021): Section numbers have been updated. Section 3.12.1 (formerly 3.11.1) is Field Equipment and Section 3.12.2 is Laboratory Equipment. Calibration is also included in the Appendix B SOPs for laboratory methods.
c. Identifies how deficiencies should be resolved and documented	Yes	Section 4.1 (incorrectly listed as 5.1)	EPA comment (11/22/21) – please update to the appropriate section. Atlantic Richfield Response (12/16/2021): Section numbers have been updated. Section 3.12.1 (formerly 3.11.1) is Field Equipment and Section 3.12.2 is Laboratory Equipment.
B8. Inspection/Acceptance for Supplies and Consumables			

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a. Identifies critical supplies and consumables for field and laboratory, noting supply source, acceptance criteria, and procedures for tracking, storing and retrieving these materials	Yes	Sections 3.6, 3.13 (incorrectly listed as 3.11), and Appendix B	EPA comment (11/22/21) – please update to the appropriate section. Atlantic Richfield Response (12/16/2021): Section numbers have been updated. Section 3.13 (formerly 3.12) is Inspection/Acceptance of Supplies and Consumables. Section 3.6 is Field Equipment. Appendix B SOPs for laboratory methods include laboratory supplies.
b. Identifies the individual(s) responsible for this	Yes	Section 3.13 (incorrectly listed as 3.11)	EPA comment (11/22/21) – please provide this information and update the section accordingly. Atlantic Richfield Response (12/16/2021): Section numbers have been updated. Section 3.13 (formerly 3.12) is Inspection/Acceptance of Supplies and Consumables. Field supplies will be inspected by the Field Team Leader (may vary). Laboratory supplies are inspected by laboratory personnel (may vary).
B9. Use of Existing Data (Non-direct Measurements)			
a. Identifies data sources, for example, computer databases or literature files, or models that should be accessed and used	Yes	Section 3.14 (Incorrectly listed as 5.0)	EPA comment (11/22/21) – please provide this information and update the section accordingly. Atlantic Richfield Response (12/16/2021): Inserted Section 3.14 Non-Direct Measurement Data Acquisition Requirements
b. Describes the intended use of this information and the rationale for their selection, i.e., its relevance to project	Yes	Section 3.14 (Incorrectly listed as 5.0)	EPA comment (11/22/21) – please provide this information and update the section accordingly. Atlantic Richfield Response (12/16/2021): Inserted Section 3.14 Non-Direct Measurement Data Acquisition Requirements
c. Indicates the acceptance criteria for these data sources and/or models	Yes	Section 3.14 (Incorrectly listed as 5.0)	EPA comment (11/22/21) – please provide this information and update the section accordingly. Atlantic Richfield Response (12/16/2021): Inserted Section 3.14 Non-Direct Measurement Data Acquisition Requirements
d. Identifies key resources/support facilities needed	Yes	Section 3.14 (Incorrectly listed as 5.0)	EPA comment (11/22/21) – please provide this information and update the section accordingly. Atlantic Richfield Response (12/16/2021): Inserted Section 3.14 Non-Direct Measurement Data Acquisition Requirements
e. Describes how limits to validity and operating conditions should be determined, for example, internal checks of the program and Beta testing	Yes	Section 3.14 (Incorrectly listed as 5.0)	EPA comment (11/22/21) – please provide this information and update the section accordingly. Atlantic Richfield Response (12/16/2021): Inserted Section 3.14 Non-Direct Measurement Data Acquisition Requirements

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B10. Data Management			
a. Describes data management scheme from field to final use and storage	Yes	Section 3.15 (incorrectly listed as 3.12)	EPA comment (11/22/21) – please provide this information and update the section accordingly. Atlantic Richfield Response (12/16/2021): Section numbers have been updated. Section 3.15 (formerly 3.13) is Date Management Procedures)
b. Discusses standard record-keeping and tracking practices, and the document control system or cites other written documentation such as SOPs	Yes	Section 3.15 (incorrectly listed as 3.12)	EPA comment (11/22/21) – please provide this information and update the section accordingly. Atlantic Richfield Response (12/16/2021): Section numbers have been updated. Section 3.15 (formerly 3.13) is Date Management Procedures)
c. Identifies data handling equipment/procedures that should be used to process, compile, analyze, and transmit data reliably and accurately	Yes	Section 3.15 (incorrectly listed as 3.12)	EPA comment (11/22/21) – please provide this information and update the section accordingly. Atlantic Richfield Response (12/16/2021): Section numbers have been updated. Section 3.15 (formerly 3.13) is Date Management Procedures)
d. Identifies individual(s) responsible for this	Yes	Section 3.15 (incorrectly listed as 3.12)	EPA comment (11/22/21) – please provide this information and update the section accordingly. Atlantic Richfield Response (12/16/2021): Section numbers have been updated. Section 3.15 (formerly 3.13) is Date Management Procedures)
e. Describes the process for data archival and retrieval	Yes	Section 3.15 (incorrectly listed as 3.12)	EPA comment (11/22/21) – please provide this information and update the section accordingly. Atlantic Richfield Response (12/16/2021): Section numbers have been updated. Section 3.15 (formerly 3.13) is Date Management Procedures)
f. Describes procedures to demonstrate acceptability of hardware and software configurations	Yes	Section 3.15 (incorrectly listed as 3.12)	EPA comment (11/22/21) – please provide this information and update the section accordingly. Atlantic Richfield Response (12/16/2021): Section numbers have been updated. Section 3.15 (formerly 3.13) is Date Management Procedures)
g. Attaches checklists and forms that should be used	Yes	Section 3.15 (incorrectly listed as 3.12)	EPA comment (11/22/21) – please provide this information and update the section accordingly. Atlantic Richfield Response (12/16/2021): Section numbers have been updated. Section 3.15 (formerly 3.13) is Date Management Procedures)
C. Assessment and Oversight			
C1. Assessments and Response Actions			

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a. Lists the number, frequency, and type of assessment activities that should be conducted, with the approximate dates	Yes	Section 4. (formerly 4.0)	EPA comment (11/22/21) – please provide this information and update the section accordingly. Atlantic Richfield Response (12/16/2021): Section 4. has been updated based on EPA comment letter.
b. Identifies individual(s) responsible for conducting assessments, indicating their authority to issue stop work orders, and any other possible participants in the assessment process	Yes	Sections 4.1 and 4.2 (formerly 4.0)	EPA comment (11/22/21) – please provide this information and update the section accordingly. Atlantic Richfield Response (12/16/2021): Section references have been updated to include information.
c. Describes how and to whom assessment information should be reported	Yes	Sections 4.1, 4.2, and 4.3	EPA comment (11/22/21) – please provide this information and update the section accordingly. Atlantic Richfield Response (12/16/2021): Section references have been updated to include information.
d. Identifies how corrective actions should be addressed and by whom, and how they should be verified and documented	Yes	Sections 4.2, 4.3 (formerly 4.1 and 4.2), and Appendix F	EPA comment (11/22/21) – please provide this information and update the section accordingly. Atlantic Richfield Response (12/16/2021): Section references have been updated to include information.
C2. Reports to Management			
a. Identifies what project QA status reports are needed and how frequently	Yes	Section 4.3	EPA comment (11/22/21) – please provide this information and update the section accordingly. Atlantic Richfield Response (12/16/2021): Section 4.3, Paragraph 3 “A separate report will be prepared by the consultant QA manager, as needed, to communicate the results of performance evaluations or program audits to identify specific significant QA issues and provided to the USEPA for review. Any corrective action reporting described in Section 4.2 above will be summarized and included as appropriate.”
b. Identifies who should write these reports and who should receive this information	Yes	Section 4.3	EPA comment (11/22/21) – please provide this information and update the section accordingly. Atlantic Richfield Response (12/16/2021): Section 4.3, Paragraph 3 “A separate report will be prepared by the consultant QA manager, as needed, to communicate the results of performance evaluations or program audits to identify specific significant QA issues and provided to the USEPA for review. Any corrective action reporting described in Section 4.2 above will be summarized and included as appropriate.”
D. Data Validation and Usability			
D1. Data Review, Verification, and Validation			

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Describes criteria that should be used for accepting, rejecting, or qualifying project data	Yes	Sections 5.2 and 5.3 (formerly 5.0)	EPA comment (11/22/21) – please provide this information and update the section accordingly. Atlantic Richfield Response (12/16/2021): Section references have been updated to include information. Sections 5.2.3 and 5.3 were revised to include missing information.
D2. Verification and Validation Methods			
a. Describes process for data verification and validation, providing SOPs and indicating what data validation software should be used, if any	Yes	Sections 5.1.2, 5.1.3, and 5.2 (formerly 5.0)	EPA comment (11/22/21) – please provide this information and update the section accordingly. Atlantic Richfield Response (12/16/2021): Section references have been updated to include information.
b. Identifies who is responsible for verifying and validating different components of the project data/information, for example, chain-of-custody forms, receipt logs, calibration information, etc.	Yes	Sections 5.1.2 and 5.1.3 (formerly 5.0)	EPA comment (11/22/21) – please provide this information and update the section accordingly. Atlantic Richfield Response (12/16/2021): Section references have been updated to include information.
c. Identifies issue resolution process, and method and individual responsible for conveying these results to data users	Yes	Sections 5.1.1, 5.1.2, and 5.2.2 (formerly 5.0)	EPA comment (11/22/21) – please provide this information and update the section accordingly. Atlantic Richfield Response (12/16/2021): Section references have been updated to include information.
d. Attaches checklists, forms, and calculations	Yes	Section 5.2 (formerly 5.0), Appendix D, and Appendix G	EPA comment (11/22/21) – please provide this information and update the section accordingly. Atlantic Richfield Response (12/16/2021): Section references have been updated to include information.
D3. Reconciliation with User Requirements			
a. Describes procedures to evaluate the uncertainty of the validated data	Yes	Section 5.3 (formerly 5.0)	EPA comment (11/22/21) – please provide this information and update the section accordingly. Atlantic Richfield Response (12/16/2021): Sections 5.3 has been inserted.
b. Describes how limitations on data use should be reported to the data users	Yes	Section 5.3 (formerly 5.0)	EPA comment (11/22/21) – please provide this information and update the section accordingly. Atlantic Richfield Response (12/16/2021): Section 5.3 has been inserted.