Spring 4-30-2021

EPA REGION 8 QA DOCUMENT REVIEW CROSSWALK

Pioneer Technical Services, Inc.

Nikia Greene

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QAPP/FSP/SAP for: *(check appropriate box)* **GRANTEE** **CONTRACTOR** **EPA** **Other**	**Entity** *(grantee, contract, EPA AO, EPA Program, Other)* Atlantic Richfield (PRP)	**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**
Document Title ***[Note: Title will be repeated in Header]***	Final Butte Reduction Works (BRW) Phase III QAPP		
QAPP/FSP/**SAP Preparer**	Pioneer Technical Services, Inc. for Atlantic Richfield Company (AR)		
Period of Performance *(of QAPP/FSP/SAP)*	**2021**	**Date Submitted for Review**	04/30/2021
EPA Project Officer **EPA Project Manager**	Nikia Greene	PO Phone # **PM Phone #**	(406) 457-5019
QA Program Reviewer or **Approving Official**	Nikia Greene	**Date of Review**	1/19/2021

Documents Submitted for QAPP Review **(QA Reviewer must complete)*:***

1. QA Document(s) submitted for review:

QA Document	**Document Date**	**Document Stand-alone Document with QAPP**
QAPP	**Yes / No**	
FSP	Yes / No	Yes / No
SAP	Yes / No	Yes / No
SOP(s)		Yes / No

2. WP/SOW/TO/PP/RP Date _____
WP/SOW/TO/RP Performance Period _____

3. QA document consistent with the:
WP/SOW/PP for grants? Yes / No / NA
SOW/TO for contracts? Yes / No / NA

4. QARF signed by R8 QAM Yes / No / NA
Funding Mechanism IA / contract / grant / NA
Amount _____

Notes for Document Submittals:

1. A QAPP written by a Grantee, EPA, or Federal Partner must include for review: Work Plan (WP) / Statement of Work (SOW) / Program Plan (PP) / Research Proposal (RP) and funding mechanism

2. A QAPP written by Contractor must include 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 ***or*** must be a stand-alone QA document that contain all QAPP required elements (Project Management, Data Generation/Acquisition, Assessment and Oversight, and Data Validation and Usability).

b. SOPs must be submitted with a QA document that contains all QAPP required elements.

Summary of Comments *(highlight significant concerns/issues)*:

1. EPA comment – Please address all of EPA's and DEQ's comment in the comment letter and update the crosswalk accordingly.

Element	Acceptable *Yes/No/NA*	Page/ Section	Comments
A. Project Management			
A1. Title and Approval Sheet			
a. Contains project title	Yes	Title Page	EPA: No comments (1/18/21).
b. Date and revision number line (for when needed)	Yes	Approval Page	EPA: No comments (1/18/21).
c. Indicates organization's name	Yes	Title Page	EPA: No comments (1/18/21).
d. Date and signature line for organization's project manager	Yes	Approval Page	EPA: No comments (1/18/21).
e. Date and signature line for organization's QA manager	Yes	Approval Page	EPA: No comments (1/18/21).
f. Other date and signatures lines, as needed	Yes	Approval Page	EPA: No comments (1/18/21).
A2. Table of Contents			
a. Lists QA Project Plan information sections	Yes	Pages i to iii	EPA: No comments (1/18/21).
b. Document control information indicated	Yes	Footer	EPA: No comments (1/18/21).
A3. Distribution List			
Includes all individuals who are to receive a copy of the QA Project Plan and identifies their organization	Yes	Distribution List	EPA: No comments (1/18/21).
A4. Project/Task Organization			
a. Identifies key individuals involved in all major aspects of the project, including contractors	Yes	Section 7.0	EPA: No comments (1/18/21).
b. Discusses their responsibilities	Yes	Section 7.0	EPA: No comments (1/18/21).

c. Project QA Manager position indicates independence from unit generating data	Yes	Section 7.0	EPA: No comments (1/18/21).
d. Identifies individual responsible for maintaining the official, approved QA Project Plan	Yes	Section 7.0	EPA: No comments (1/18/21).
e. Organizational chart shows lines of authority and reporting responsibilities	Yes	~~Figure 8~~ Figure 9	EPA: No comments (1/18/21).
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	Section 1.2	EPA: No comments (1/18/21).
b. Clearly explains the reason (site background or historical context) for initiating this project	Yes	Section 1.1, Section 2.0	EPA: No comments (1/18/21).
c. Identifies regulatory information, applicable criteria, action limits, etc. necessary to the project	Yes	Section 2.4	EPA: No comments (1/18/21).
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	Section 1.2	EPA: No comments (1/18/21).
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	Table 4	EPA: No comments (1/18/21).
c. Details geographical locations to be studied, including maps where possible	Yes	~~Figures 4 through 7~~ Figures 5 through 8	EPA: No comments (1/18/21).
d. Discusses resource and time constraints, if applicable	Yes	Table 3	EPA: No comments (1/18/21).
A7. Quality Objectives and Criteria			

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	Yes	Section 3.1, Table 3	EPA: No comments (1/18/21).
b. Discusses precision	Yes	Section 3.1	EPA: No comments (1/18/21).
c. Addresses bias	Yes	Section 3.1	EPA: No comments (1/18/21).
d. Discusses representativeness	Yes	Section 3.1	EPA: No comments (1/18/21).
e. Identifies the need for completeness	Yes	Section 3.1	EPA: No comments (1/18/21).
f. Describes the need for comparability	Yes	Section 3.1	EPA: No comments (1/18/21).
g. Discusses desired method sensitivity	Yes	Section 3.1	EPA: No comments (1/18/21).
A8. Special Training/Certifications			
a. Identifies any project personnel specialized training or certifications	Yes	Section 4.1.1	EPA: No comments (1/18/21).
b. Discusses how this training will be provided	Yes	Section 4.1.1	EPA: No comments (1/18/21).
c. Indicates personnel responsible for assuring training/ certifications are satisfied	Yes	Section 4.1.1	EPA: No comments (1/18/21).
d. identifies where this information is documented	Yes	Section 4.1.1	EPA: No comments (1/18/21).
A9. Documentation and Records			
a. Identifies report format and summarizes all data report package information	Yes	~~Section 4.13~~ Section 4.12, Section 5.4, Section 8.1.2	EPA: No comments (1/18/21).
b. Lists all other project documents, records, and electronic files that will be produced	Yes	~~Section 4.13~~ Section 4.12	EPA: No comments (1/18/21).
c. Identifies where project information should be kept and for how long	Yes	~~Section 4.13~~ Section 4.12	EPA: No comments (1/18/21).

d. Discusses back up plans for records stored electronically	Yes	~~Section 4.13~~ Section 4.12	EPA: No comments (1/18/21).
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 4.1.1, Section 7.0	EPA: No comments (1/18/21).
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	Table 3	EPA: No comments (1/18/21).
b. Details the type and total number of sample types/ matrix or test runs/trials expected and needed	Yes	Table 3	EPA: No comments (1/18/21).
c. Indicates where samples should be taken, how sites will be identified/located	Yes	Table 3	EPA: No comments (1/18/21).
d. Discusses what to do if sampling sites become inaccessible	Yes	Table 3	EPA: No comments (1/18/21).
e. Identifies project activity schedules such as each sampling event, times samples should be sent to the laboratory, etc.	Yes	Table 3	EPA: No comments (1/18/21).
f. Specifies what information is critical and what is for informational purposes only	Yes	Table 3	EPA: No comments (1/18/21).
g. Identifies sources of variability and how this variability should be reconciled with project information	Yes	Table 3	EPA: No comments (1/18/21).
B2. Sampling Methods			
a. Identifies all sampling SOPs by number, date, and regulatory citation, indicating sampling options or modifications to be taken	Yes	Table 6 and ~~Table 8~~ Table 7, Appendix A	EPA: No comments (1/18/21).
b. Indicates how each sample/matrix type should be collected	Yes	Table 6 and ~~Table 8~~ Table 7, Appendix A	EPA: No comments (1/18/21).

c. If in situ monitoring, indicates how instruments should be deployed and operated to avoid contamination and ensure maintenance of proper data	Yes	Section 4.0	EPA: No comments (1/18/21).
d. If continuous monitoring, indicates averaging time and how instruments should store and maintain raw data, or data averages	Yes	Section 4.0	EPA: No comments (1/18/21).
e. Indicates how samples are to be homogenized, composited, split, or filtered, if needed	Yes	Section 4.0, Appendix A	EPA: No comments (1/18/21).
f. Indicates what sample containers and sample volumes should be used	Yes	Table 6	EPA: No comments (1/18/21).
g. Identifies whether samples should be preserved and indicates methods that should be followed	Yes	Table 6	EPA: No comments (1/18/21).
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	Appendix A	EPA: No comments (1/18/21).
i. Identifies any equipment and support facilities needed	Yes	Section 4.0	EPA: No comments (1/18/21).
j. Addresses actions to be taken when problems occur, identifying individual(s) responsible for corrective action and how this should be documented	Yes	Section 5.0	EPA: No comments (1/18/21).
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	Table 6	EPA: No comments (1/18/21).
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 4.7~~ Section 4.6	EPA: No comments (1/18/21).
c. Indicates how sample or information handling and custody information should be documented, such as in field notebooks and forms, identifying individual responsible	Yes	~~Section 4.7~~ Section 4.6	EPA: No comments (1/18/21).

d. Discusses system for identifying samples, for example, numbering system, sample tags and labels, and attaches forms to the plan	Yes	~~Section 4.7~~ Section 4.6	EPA: No comments (1/18/21).
e. Identifies chain-of-custody procedures and includes form to track custody	Yes	~~Section 4.7~~ Section 4.6	EPA: No comments (1/18/21).
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	Table 2, Table 6, and Appendix A	EPA: No comments (1/18/21).
b. Identifies equipment or instrumentation needed	Yes	~~Section 4.11~~ Section 4.10	EPA: No comments (1/18/21).
c. Specifies any specific method performance criteria	Yes	Section 3.1, Table 6	EPA: No comments (1/18/21).
d. Identifies procedures to follow when failures occur, identifying individual responsible for corrective action and appropriate documentation	Yes	Section 5.0	EPA: No comments (1/18/21).
e. Identifies sample disposal procedures	Yes	Appendix A, Lab SOPs	EPA: No comments (1/18/21).
f. Specifies laboratory turnaround times needed	Yes	~~Section 4.9~~ Section 4.8	EPA: No comments (1/18/21).
g. Provides method validation information and SOPs for nonstandard methods	Yes	Section 8.0	EPA: No comments (1/18/21).
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	~~Section 4.10~~ Section 4.9	EPA: No comments (1/18/21).
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 comments (1/18/21).

c. Identifies procedures and formulas for calculating applicable QC statistics, for example, for precision, bias, outliers and missing data	Yes	Section 3.1	EPA: No comments (1/18/21).
B6. Instrument/Equipment Testing, Inspection, and Maintenance			
a. Identifies field and laboratory equipment needing periodic maintenance, and the schedule for this	Yes	~~Section 4.11~~ Section 4.10	EPA: No comments (1/18/21).
b. Identifies testing criteria	Yes	~~Section 4.11~~ Section 4.10	EPA: No comments (1/18/21).
c. Notes availability and location of spare parts	Yes	~~Section 4.11~~ Section 4.10	EPA: No comments (1/18/21).
d. Indicates procedures in place for inspecting equipment before usage	Yes	~~Section 4.11~~ Section 4.10, Appendix A	EPA: No comments (1/18/21).
e. Identifies individual(s) responsible for testing, inspection and maintenance	Yes	Section 7.0	EPA: No comments (1/18/21).
f. Indicates how deficiencies found should be resolved, re-inspections performed, and effectiveness of corrective action determined and documented	Yes	~~Section 4.11~~ Section 4.10 and Section 5.0	EPA: No comments (1/18/21).
B7. Instrument/Equipment Calibration and Frequency			
a. Identifies equipment, tools, and instruments that should be calibrated and the frequency for this calibration	Yes	~~Section 4.10, Section 4.11,~~ Section 4.9, Section 4.10, Appendix A	EPA: No comments (1/18/21).
b. Describes how calibrations should be performed and documented, indicating test criteria and standards or certified equipment	Yes	~~Section 4.10, Section 4.11,~~ Section 4.9, Section 4.10, Appendix A	EPA: No comments (1/18/21).

c. Identifies how deficiencies should be resolved and documented	Yes	~~Section 4.10,~~ ~~Section 4.11,~~ Section 4.9, Section 4.10, Appendix A	EPA: No comments (1/18/21).
B8. Inspection/Acceptance for Supplies and Consumables			
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	~~Section 4.12~~ Section 4.11	EPA: No comments (1/18/21).
b. Identifies the individual(s) responsible for this	Yes	~~Section 4.12~~ Section 4.11	EPA: No comments (1/18/21).
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 2.3	EPA: No comments (1/18/21).
b. Describes the intended use of this information and the rationale for their selection, i.e., its relevance to project	Yes	Section 2.3	EPA: No comments (1/18/21).
c. Indicates the acceptance criteria for these data sources and/or models	Yes	Section 2.3, Section 3.1	EPA: No comments (1/18/21).
d. Identifies key resources/support facilities needed	Yes	Section 2.3	EPA: No comments (1/18/21).
e. Describes how limits to validity and operating conditions should be determined, for example, internal checks of the program and Beta testing	Yes	Section 2.3	EPA: No comments (1/18/21).
B10. Data Management			
a. Describes data management scheme from field to final use and storage	Yes	~~Section 4.7,~~ ~~Section 4.13~~ Section 4.6, Section 4.12	EPA: No comments (1/18/21).
b. Discusses standard record-keeping and tracking practices, and the document control system or cites other written documentation such as SOPs	Yes	~~Section 4.13~~ Section 4.12	EPA: No comments (1/18/21).

c. Identifies data handling equipment/procedures that should be used to process, compile, analyze, and transmit data reliably and accurately	Yes	~~Section 4.13~~ Section 4.12	EPA: No comments (1/18/21).
d. Identifies individual(s) responsible for this	Yes	~~Section 4.13~~ Section 4.12	EPA: No comments (1/18/21).
e. Describes the process for data archival and retrieval	Yes	~~Section 4.13~~ Section 4.12	EPA: No comments (1/18/21).
f. Describes procedures to demonstrate acceptability of hardware and software configurations	Yes	~~Section 4.13~~ Section 4.12	EPA: No comments (1/18/21).
g. Attaches checklists and forms that should be used	Yes	~~Section 4.13~~ Section 4.12; Appendix E	EPA: No comments (1/18/21).
C. Assessment and Oversight			
C1. Assessments and Response Actions			
a. Lists the number, frequency, and type of assessment activities that should be conducted, with the approximate dates	Yes	Section 5.0	EPA: No comments (1/18/21).
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	Section 5.0	EPA: No comments (1/18/21).
c. Describes how and to whom assessment information should be reported	Yes	Section 5.0	EPA: No comments (1/18/21).
d. Identifies how corrective actions should be addressed and by whom, and how they should be verified and documented	Yes	Section 5.0	EPA: No comments (1/18/21).
C2. Reports to Management			
a. Identifies what project QA status reports are needed and how frequently	Yes	Section 5.0	EPA: No comments (1/18/21).
b. Identifies who should write these reports and who should receive this information	Yes	Section 5.0	EPA: No comments (1/18/21).

D. Data Validation and Usability			
D1. Data Review, Verification, and Validation			
Describes criteria that should be used for accepting, rejecting, or qualifying project data	Yes	Section 8.0	EPA: No comments (1/18/21).
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	Section 8.0	EPA: No comments (1/18/21).
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	Section 8.0	EPA: No comments (1/18/21).
c. Identifies issue resolution process, and method and individual responsible for conveying these results to data users	Yes	Section 8.0	EPA: No comments (1/18/21).
d. Attaches checklists, forms, and calculations	Yes	Section 8.0; Appendix E	EPA: No comments (1/18/21).
D3. Reconciliation with User Requirements			
a. Describes procedures to evaluate the uncertainty of the validated data	Yes	Section 8.0	EPA: No comments (1/18/21).
b. Describes how limitations on data use should be reported to the data users	Yes	Section 8.0	EPA: No comments (1/18/21).