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Intergovernmental Data Quality Task Force

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Workbook for

3

Uniform Federal Policy for Quality Assurance

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Project Plans

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Evaluating, Assessing, and Documenting Environmental Data
Collection and Use Programs

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Part 2A: UFP-QAPP Workbook



This Workbook supplements Part 1 of the UFP-QAPP, the UFP-QAPP Manual. Proper completion of these worksheets requires knowledge of the QAPP elements explained in the Manual.

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Review Draft

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Version 1, August 2003

TABLE OF CONTENTS

12	INTRODUCTION	
13	QAPP Worksheet #1.	Title and Approval Page 1
14	QAPP Worksheet #2.	QAPP Identifying Information 2
15	QAPP Worksheet #3.	Distribution List 6
16	QAPP Worksheet #4.	Project Personnel Sign-Off Sheet 7
17	QAPP Worksheet #5.	Project Organizational Chart 8
18	QAPP Worksheet #6.	Communication Pathways 9
19	QAPP Worksheet #7.	Personnel Responsibilities and Qualifications Table 10
20	QAPP Worksheet #8.	Special Personnel Training Requirements Table 11
21	QAPP Worksheet #9.	Project Scoping Session Participants Sheet 12
22	QAPP Worksheet #10.	Problem Definition 13
23	QAPP Worksheet #11.	Project Quality Objectives/Systematic Planning Process Statements . . 14
24	QAPP Worksheet #12.	Measurement Performance Criteria Table 15
25	QAPP Worksheet #13.	Secondary Data Criteria and Limitations Table 16
26	QAPP Worksheet #14.	Summary of Project Tasks 17
27	QAPP Worksheet #15.	Reference Limits and Evaluation Table 18
28	QAPP Worksheet #16.	Project Schedule/Timeline Table 19
29	QAPP Worksheet #17.	Sampling Design and Rationale 20
30	QAPP Worksheet #18.	Sampling Locations and Methods/SOP Requirements Table 21
31	QAPP Worksheet #19.	Analytical SOP Requirements Table 22
32	QAPP Worksheet #20.	Field Quality Control Sample Summary Table 23
33	QAPP Worksheet #21.	Project Sampling SOP Reference Table 24
34	QAPP Worksheet #22.	Field Equipment Calibration, Maintenance, Testing, and Inspection
35		Table 25
36	QAPP Worksheet #23.	Analytical SOP Reference Table 26
37	QAPP Worksheet #24.	Analytical Instrument Calibration Table 27
38	QAPP Worksheet #25.	Analytical Instrument and Equipment Maintenance, Testing, and
39		Inspection Table 28
40	QAPP Worksheet #26.	QC Samples Table 29
41	QAPP Worksheet #27.	Project Documents and Records Table 30
42	QAPP Worksheet #28.	Analytical Services Table 31
43	QAPP Worksheet #29.	Planned Project Assessment Table 32
44	QAPP Worksheet #30.	Assessment Findings and Response Actions 33
45	QAPP Worksheet #31.	QA Management Reports Table 34
46	QAPP Worksheet #32.	Sampling and Analysis Verification (Step I) Process Table 35
47	QAPP Worksheet #33.	Sampling and Analysis Validation (Steps IIa and IIb) Process Table . 36
48	QAPP Worksheet #34.	Sampling and Analysis Validation (Steps IIa and IIb) Summary Table 37
49	QAPP Worksheet #35.	Data Usability Assessment 38
50	QAPP Worksheet #36.	Sample Handling System 39

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WORKBOOK FOR UNIFORM FEDERAL POLICY FOR QUALITY ASSURANCE PROJECT PLANS

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INTRODUCTION

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This *Workbook for Uniform Federal Policy for Quality Assurance Project Plans* is Part 2A of the *Uniform Federal Policy for Quality Assurance Project Plans* (UFP-QAPP). It provides examples of worksheets to assist with the preparation of QAPPs in accordance with Part 1 of the UFP-QAPP (the UFP-QAPP Manual) and Part B of *Specifications and Guidelines for Quality Systems for Environmental Data Collection and Environmental Technology Programs*, ANSI/ASQC E4 (Final, January 1995). This Workbook may be used by the lead organization and its contractors to assist with the preparation of QAPPs for environmental data gathering activities.

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Each worksheet addresses specific requirements of the UFP-QAPP. Both the UFP-QAPP Manual and the Workbook are intended to be comprehensive and are not intended to be program-specific. Since the content and level of detail in a specific QAPP will vary by program, by the work being performed, and by the intended use of the data, specific worksheets may not be applicable to all projects.

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The ultimate success of an environmental program or project depends on the quality of the environmental data collected and used in decision-making, and this may depend significantly on the adequacy of the QAPP and its effective implementation. It is recommended that the individual worksheets included in this Workbook be taken to the project scoping and planning sessions. The use of the worksheets will aid in identifying the critical project information that will ensure that the right type, quality, and quantity of data are collected to meet all of the project's quality objectives. Though the format of each worksheet is not mandatory, the information required on the worksheets must still be presented in the QAPP, as appropriate to the project. In addition, QAPP preparers are encouraged to develop additional tables, as appropriate to the project. Sufficient written discussion in text format should accompany all tables. Certain sections, by their nature, will require more written discussion than others. In particular, Section 3.1.1 should provide an in-depth explanation of the sampling design rationale, and Section 5.2 should describe the procedures and criteria that will be used for data review.

79 **QAPP Worksheet #1**
80 **(UFP-QAPP Manual Section 2.1)**
81 **Title and Approval Page**

82 **Site Name/Project Name:**

83 **Site Location:**

Title:

Revision Number:

Revision Date:

Page ___ of ___

84 _____
85 _____
86 _____
87 _____
88 Document Title

89 _____
90 Lead Organization

91 _____
92 Preparer's Name and Organizational Affiliation

93 _____
94 Preparer's Address, Telephone Number, and E-mail Address

95 _____
96 Preparation Date (Day/Month/Year)

97 Investigative Organization's Project Manager: _____

98 Signature

99 _____
100 Printed Name/Organization/Date

101 Investigative Organization's Project QA Officer: _____

102 Signature

103 _____
104 Printed Name/Organization/Date

105 _____
106 Lead Organization's Project Manager: _____

107 Signature

108 _____
109 Printed Name/Organization/Date

110 Approval Signatures: _____

111 Signature

112 _____
113 Printed Name/Title/Date

114 _____
115 Approval Authority

116 Other Approval Signatures: _____

117 Signature

118 _____
119 Printed Name/Title/Date

120 **Document Control Number:** _____

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QAPP Worksheet #2
(UFP-QAPP Manual Section 2.2.4)
QAPP Identifying Information

124 **Site Name/Project Name:**
125 **Site Location:**
126 **Site Number/Code:**
127 **Operable Unit:**
128 **Contractor Name:**
129 **Contractor Number:**
130 **Contract Title:**
131 **Work Assignment Number:**

Title:
Revision Number:
Revision Date:
Page ___ of ___

132 1. Identify guidance used to prepare QAPP:
133 _____

134 2. Identify regulatory program: _____
135

136 3. Identify approval entity: _____
137

138 4. Indicate whether the QAPP is a generic or a project-specific QAPP. (circle one)

139 5. List dates of scoping sessions that were held: _____
140 _____
141 _____
142 _____
143 _____
144 _____

145 6. List dates and titles of QAPP documents written for previous site work, if applicable:

146 Title	Approval Date
147 _____	_____
148 _____	_____
149 _____	_____
150 _____	_____

151 7. List organizational partners (stakeholders) and connection with lead organization: _____
152 _____
153 _____

154 8. List data users: _____
155 _____
156 _____

157 9. If any required QAPP elements and required information are not applicable to the project, then
158 circle the omitted QAPP elements and required information on the attached table. Provide an
159 explanation for their exclusion below: _____
160 _____
161 _____

QAPP Worksheet #2
QAPP Identifying Information
(continued)

Title:
Revision Number:
Revision Date:
Page ___ of ___

162 Circle QAPP elements and required information that are not applicable to the project. Provide an
 163 explanation in the QAPP.

Required QAPP Element(s) and Corresponding QAPP Section(s)	Optional QAPP Worksheet # in QAPP Workbook	Required Information
Project Management and Objectives		
164 2.1 Title and Approval Page	1	- Title and Approval Page
165 2.2 Document Format and Table of Contents		- Table of Contents
166 2.2.1 Document Control Format	2	- QAPP Identifying Information
167 2.2.2 Document Control Numbering System		
168 2.2.3 Table of Contents		
169 2.2.4 QAPP Identifying Information		
170 2.3 Distribution List and Project Personnel Sign-Off Sheet	3	- Distribution List
171 2.3.1 Distribution List	4	- Project Personnel Sign-Off Sheet
172 2.3.2 Project Personnel Sign-Off Sheet		
173 2.4 Project Organization	5	- Project Organizational Chart
174 2.4.1 Project Organizational Chart	6	- Communication Pathways
175 2.4.2 Communication Pathways	7	- Personnel Responsibilities and Qualifications Table
176 2.4.3 Personnel Responsibilities and Qualifications	8	- Special Personnel Training Requirements Table
177 2.4.4 Special Training Requirements and Certification		
184 2.5 Project Planning/Problem Definition		- Project Planning Session Documentation (including Data Needs tables)
185 2.5.1 Project Planning (Scoping)		- Project Scoping Session Participants Sheet
186 2.5.2 Problem Definition, Site History, and Background	9	- Problem Definition, Site History, and Background
187	10	- Site Maps (historical and present)
188		
189 2.6 Project Quality Objectives and Measurement Performance Criteria	11	- Site-Specific PQOs
190 2.6.1 Development of Project Quality Objectives Using the Systematic Planning Process	12	- Measurement Performance Criteria Table
191 2.6.2 Measurement Performance Criteria		
192		
193		
194		
195 2.7 Secondary Data Evaluation	13	- Sources of Secondary Data and Information
		- Secondary Data Criteria and Limitations Table

QAPP Worksheet #2
QAPP Identifying Information
(continued)

Title:
Revision Number:
Revision Date:
Page ___ of ___

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Required QAPP Element(s) and Corresponding QAPP Section(s)	Optional QAPP Worksheet # in QAPP Workbook	Required Information
2.8 Project Overview and Schedule	14	- Summary of Project Tasks
2.8.1 Project Overview	15	- Reference Limits and Evaluation Table
2.8.2 Project Schedule	16	- Project Schedule/Timeline Table
Measurement/Data Acquisition		
3.1 Sampling Tasks	17	- Sampling Design and Rationale
3.1.1 Sampling Process Design and Rationale		- Sample Location Map
3.1.2 Sampling Procedures and Requirements	18	- Sampling Locations and Methods/SOP Requirements Table
3.1.2.1 Sampling Collection Procedures		- Analytical Methods/SOP Requirements Table
3.1.2.2 Sample Containers, Volume, and Preservation	19	- Field Quality Control Sample Summary Table
3.1.2.3 Equipment/Sample Containers Cleaning and Decontamination Procedures	20	- Sampling SOPs
3.1.2.4 Field Equipment Calibration, Maintenance, Testing, and Inspection Procedures	21	- Project Sampling SOP References Table
3.1.2.5 Supply Inspection and Acceptance Procedures	22	- Field Equipment Calibration, Maintenance, Testing, and Inspection Table
3.1.2.6 Field Documentation Procedures		
3.2 Analytical Tasks		- Analytical SOPs
3.2.1 Analytical SOPs	23	- Analytical SOP References Table
3.2.2 Analytical Instrument Calibration Procedures	24	- Analytical Instrument Calibration Table
3.2.3 Analytical Instrument and Equipment Maintenance, Testing, and Inspection Procedures	25	- Analytical Instrument and Equipment Maintenance, Testing, and Inspection Table
3.2.4 Analytical Supply Inspection and Acceptance Procedures		
3.3 Sample Collection Documentation, Handling, Tracking, and Custody Procedures		- Sample Collection Documentation Handling, Tracking, and Custody SOPs
3.3.1 Sample Collection Documentation		- Sample Container Identification
3.3.2 Sample Handling and Tracking System		- Sample Handling Flow Diagram
3.3.3 Sample Custody		- Example Chain-of-Custody Form and Seal
3.4 Quality Control Samples	26	- QC Samples Table
3.4.1 Sampling Quality Control Samples		- Screening/Confirmatory Analysis Decision Tree
3.4.2 Analytical Quality Control Samples		

QAPP Worksheet #2
QAPP Identifying Information
(continued)

Title:
Revision Number:
Revision Date:
Page ___ of ___

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Required QAPP Element(s) and Corresponding QAPP Section(s)	Optional QAPP Worksheet # in QAPP Workbook	Required Information
3.5 Data Management Tasks	27	- Project Documents and Records Table - Analytical Services Table - Data Management SOPs
3.5.1 Project Documentation and Records		
3.5.2 Data Package Deliverables	28	
3.5.3 Data Reporting Formats		
3.5.4 Data Handling and Management		
3.5.5 Data Tracking and Control		
Assessment/Oversight		
4.1 Assessments and Response Actions		- Assessments and Response Actions - Planned Project Assessments Table - Audit Checklists - Assessment Findings and Corrective Action Responses Table
4.1.1 Planned Assessments	29	
4.1.2 Assessment Findings and Corrective Action Responses	30	
4.2 QA Management Reports	31	- QA Management Reports Table
4.3 Final Project Report		
Data Review		
5.1 Overview		
5.2 Data Review Steps	32	- Verification (Step I) Process Table - Validation (Steps IIa and IIb) Process Table - Validation (Steps IIa and IIb) Summary Table - Usability Assessment
5.2.1 Step I: Verification	33	
5.2.2 Step II: Validation		
5.2.2.1 Step IIa Validation Activities	34	
5.2.2.2 Step IIb Validation Activities		
5.2.3 Step III: Usability Assessment	35	
5.2.3.1 Data Limitations and Actions from Usability Assessment		
5.2.3.2 Activities		
5.3 Streamlining Data Review		
5.3.1 Data Review Steps To Be Streamlined		
5.3.2 Criteria for Streamlining Data Review		
5.3.3 Amounts and Types of Data Appropriate for Streamlining		

26 **QAPP Worksheet #4**

26 (UFP-QAPP Manual Section 2.3.2)

26 Have copies of this form signed by key project personnel from each organization

27 to indicate that they have read the applicable sections of the QAPP and will

27 perform the tasks as described. Ask each organization to forward signed sheets to

27 the central project file.

Title:

Revision Number:

Revision Date:

Page ___ of ___

273

Project Personnel Sign-Off Sheet

27 **Organization:** _____

275

Project Personnel	Title	Telephone Number	Signature	Date QAPP Read

27 **QAPP Worksheet #5**

27 (UFP-QAPP Manual Section 2.4.1)

27 Identify reporting relationships between all organizations

27 involved in the project, including the lead organization and all contractor and subcontractor
28 organizations. Identify the organizations providing field sampling, on-site and off-site analysis,
28 and data review services, including the names and telephone numbers of all project managers,
28 project team members, and/or project contacts for each organization.

Title:

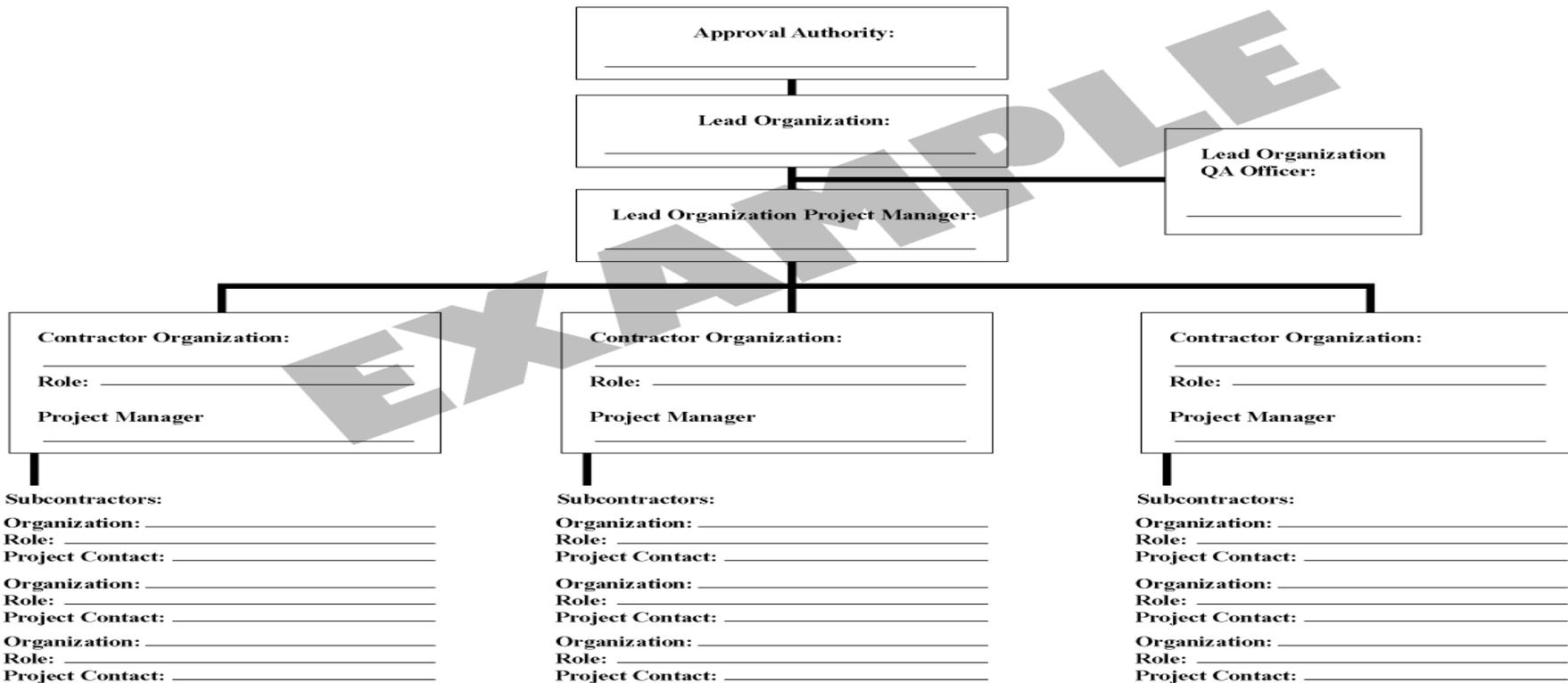
Revision Number:

Revision Date:

Page ___ **of** ___

283

Project Organizational Chart



284 **QAPP Worksheet #6**
 285 (UFP-QAPP Manual Section 2.4.2)
 286 Describe the communication pathways and modes of communication that will
 287 be used during the project, after the QAPP has been approved. Describe the procedures
 288 for soliciting and/or obtaining approval between project personnel, between different
 289 contractors, and between samplers and laboratory staff. Describe the procedure that
 290 will be followed when any project activity originally documented in an approved QAPP
 291 requires real-time modification to achieve project goals or a QAPP amendment is required.
 292 Describe the procedures for stopping work and identify who is responsible.

Title:
Revision Number:
Revision Date:
Page ___ of ___

293 **Communication Pathways**

294

Communication Drivers	Responsible Entity	Name	Phone Number	Procedure (Timing, Pathways, etc.)

295 **QAPP Worksheet #7**
 296 (UFP-QAPP Manual Section 2.4.3)
 297 Identify project personnel associated with each organization, contractor,
 298 and subcontractor participating in responsible roles. Include data users,
 299 decision-makers, project managers, QA officers, project contacts for
 300 organizations involved in the project, project health and safety officers,
 301 geotechnical engineers and hydrogeologists, field operation personnel,
 302 analytical services, and data reviewers. Identify project team members
 303 with an asterisk (*). Attach resumes to this worksheet or note the location
 304 of the resumes.

Title:
Revision Number:
Revision Date:
Page ___ of ___

Personnel Responsibilities and Qualifications Table

Name	Title	Organizational Affiliation	Responsibilities	Education and Experience Qualifications

308 **QAPP Worksheet #8**
 309 (UFP-QAPP Manual Section 2.4.4)
 310 Provide the following information for those projects requiring personnel
 311 with specialized training. Attach training records and/or certificates to
 312 the QAPP or note their location.

Title:
Revision Number:
Revision Date:
Page ___ of ___

313 **Special Personnel Training Requirements Table**

314 Project Function	315 Specialized Training – Title or Description of Course	Training Provider	Training Date	Personnel/Groups Receiving Training	Personnel Titles/ Organizational Affiliation	Location of Training Records/Certificates¹

316 ¹If training records and/or certificates are on file elsewhere, document their location in this column. If training records and/or certificates do not
 317 exist or are not available, then this should be noted.

QAPP Worksheet #10

(UFP-QAPP Manual Section 2.5.2)

Clearly define the problem and the environmental questions that should be answered for the current investigation and develop the project decision “If..., then...” statements in the QAPP, linking data results with possible actions. The prompts below are meant to help the project team define the problem. They are not comprehensive.

Title:

Revision Number:

Revision Date:

Page ___ of ___

336

Problem Definition

337

The problem to be addressed by the project:

338

The environmental questions being asked:

339

Observations from any site reconnaissance reports:

340

A synopsis of secondary data or information from site reports:

341

The possible classes of contaminants and the affected matrices:

342

The rationale for inclusion of chemical and nonchemical analyses:

343

Information concerning various environmental indicators:

344

Project decision conditions (“If..., then...” statements):

345 **QAPP Worksheet #11**
346 (UFP-QAPP Manual Section 2.6.1)
347 Use this worksheet to develop project quality objectives (PQOs) in terms of type, quantity, and
348 quality of data determined using a systematic planning process. Provide a detailed discussion
349 of PQOs in the QAPP. List the PQOs in the form of qualitative and quantitative statements.
350 These statements should answer questions such as those listed below. These questions are
351 examples only, however; they are neither inclusive nor appropriate for all projects.

Title:
Revision Number:
Revision Date:
Page ___ of ___

352 **Project Quality Objectives/Systematic Planning Process Statements**

353 **Who will use the data?**

354 **What will the data be used for?**

355 **What type of data are needed? (target analytes, analytical groups, field screening, on-site analytical or off-site laboratory techniques,**
356 **sampling techniques)**

357 **How “good” do the data need to be in order to support the environmental decision?**

358 **How much data are needed? (number of samples for each analytical group, matrix, and concentration)**

359 **Where, when, and how should the data be collected/generated?**

360 **Who will collect and generate the data?**

361 **How will the data be reported?**

362 **How will the data be archived?**

QAPP Worksheet #12

(QAPP Manual Section 2.6.2)

Complete this worksheet for each matrix, analytical group, and concentration level. Identify the data quality indicators (DQIs), measurement performance criteria (MPC), and QC sample and/or activity used to assess the measurement performance for both the sampling and analytical measurement systems. Use additional worksheets if necessary. If MPC for a specific DQI vary within an analytical parameter, i.e., MPC are analyte-specific, then provide analyte-specific MPC on an additional worksheet.

Title:
Revision Number:
Revision Date:
Page ___ **of** ___

371

Measurement Performance Criteria Table

Matrix	Analytical Group ¹	Concentration Level	Sampling Procedure ²	Analytical Method/SOP ³	Data Quality Indicators (DQIs)	Measurement Performance Criteria	QC Sample and/or Activity Used to Assess Measurement Performance	QC Sample Assesses Error for Sampling (S), Analytical (A) or both (S&A)

¹ If information varies within an analytical group, separate by individual analyte.

² Reference number from QAPP Worksheet #21 (see Section 3.1.2).

³ Reference number from QAPP Worksheet #23 (see Section 3.2).

381 **QAPP Worksheet #13**
382 (UFP-QAPP Manual Section 2.7)
383 Identify all secondary data and information that will be used for
384 the project and their originating sources. Specify how the secondary data
385 will be used and the limitations on their use.

Title:
Revision Number:
Revision Date:
Page ___ of ___

386 **Secondary Data Criteria and Limitations Table**

387

Secondary Data	Data Source (Originating Organization, Report Title, and Date)	Data Generator(s) (Originating Org., Data Types, Data Generation/Collection Dates)	How Data Will Be Used	Limitations on Data Use

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QAPP Worksheet #14
(UFP-QAPP Manual Section 2.8.1)
Provide a brief overview of the listed project activities.

Title:
Revision Number:
Revision Date:
Page ___ of ___

Summary of Project Tasks

<p><u>Sampling Tasks:</u></p> <p><u>Analysis Tasks:</u></p> <p><u>Quality Control Tasks:</u></p> <p><u>Secondary Data:</u></p> <p><u>Data Management Tasks:</u></p> <p><u>Documentation and Records:</u></p> <p><u>Assessment/Audit Tasks:</u></p> <p><u>Data Review Tasks:</u></p>

398

399 **QAPP Worksheet #15**
 400 (UFP-QAPP Manual Section 2.8.1)
 401 Complete this worksheet for each matrix, analytical group, and concentration
 402 level. Identify the target analytes/contaminants of concern and project-required
 403 action limits. Next, determine the quantitation limits (QLs) that must be met to
 404 achieve the project quality objectives. Finally, list the published and achievable
 405 detection and quantitation limits for each analyte.

Title:
Revision Number:
Revision Date:
Page ___ of ___

406
 407 Matrix:
 408 Analytical Group:
 409 Concentration Level:

Reference Limits and Evaluation Table

410

Analyte	CAS Number	Project Action Limit (applicable units)	Project Quantitation Limit Goal (applicable units)	Analytical Method ¹		Achievable Laboratory Limits ²	
				MDLs	Method QLs	MDLs	QLs

411 ¹Analytical MDLs and QLs are those documented in validated methods.
 412 ²Achievable MDLs and QLs are limits that an individual laboratory can achieve when performing a specific analytical method.

QAPP Worksheet #16

(UFP-QAPP Manual Section 2.8.2)

List all project activities as well as the QA assessments that will be performed during the course of the project. Include the anticipated start and completion dates.

Title:

Revision Number:

Revision Date:

Page ___ of ___

413

Project Schedule/Timeline Table

414

Activities	Organization	Dates (MM/DD/YY)		Deliverable	Deliverable Due Date
		Anticipated Date(s) of Initiation	Anticipated Date of Completion		

415 **QAPP Worksheet #17**
416 (UFP-QAPP Manual Section 3.1.1)
417 Describe the project sampling approach. Provide the rationale
418 for selecting sample locations and matrices for each
419 analytical group and concentration level.

Title:
Revision Number:
Revision Date:
Page ___ of ___

420 **Sampling Design and Rationale**
421

422 **Describe and provide a rationale for choosing the sampling approach (e.g., grid system, biased statistical approach):**

423 **Describe the sampling design and rationale in terms of what matrices will be sampled, what analytical groups will be analyzed and at**
424 **what concentration levels, the sampling locations (including QC, critical, and background samples), the number of samples to be taken,**
425 **and the sampling frequency (including seasonal considerations) [May refer to map or Worksheet #18 for details]:**

QAPP Worksheet #21

(UFP-QAPP Manual Section 3.1.2)

List all SOPs associated with project sampling including, but not limited to, sample collection, sample preservation, equipment cleaning and decontamination, equipment testing, inspection and maintenance, supply inspection and acceptance, and sample handling and custody. Include copies of the SOPs as attachments or reference all in the QAPP. Sequentially number sampling SOP references in the Reference Number column. The reference number can be used throughout the QAPP to refer to a specific SOP.

Title:

Revision Number:

Revision Date:

Page ___ of ___

448

Project Sampling SOP References Table

Reference Number	Title, Revision Date and/or Number	Originating Organization	Equipment Type	Modified for Project Work? (Y/N)	Comments

QAPP Worksheet #23

(UFP-QAPP Manual Section 3.2.1)

List all SOPs that will be used to perform on-site or off-site analysis. Indicate whether the procedure produces screening or definitive data. Sequentially number analytical SOP references in the Reference Number column. Include copies of the SOPs as attachments or reference in the QAPP. The reference number can be used throughout the QAPP to refer to a specific SOP.

Title:

Revision Number:

Revision Date:

Page ___ of ___

455

Analytical SOP References Table

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Reference Number	Title, Revision Date, and/or Number	Definitive or Screening Data	Analytical Group	Instrument	Organization Performing Analysis	Modified for Project Work? (Y/N)

QAPP Worksheet #24

(UFP-QAPP Manual Section 3.2.2)

Identify all analytical instrumentation that requires calibration and provide the SOP reference number for each. In addition, document the frequency, acceptance criteria, and corrective action requirements on the worksheet.

Title:

Revision Number:

Revision Date:

Page ___ of ___

458

Analytical Instrument Calibration Table

459

Instrument	Calibration Procedure	Frequency of Calibration	Acceptance Criteria	Corrective Action (CA)	Person Responsible for CA	SOP Reference¹

460

¹Specify the appropriate reference letter or number from the Analytical SOP References table (Worksheet #23).

QAPP Worksheet #25

(UFP-QAPP Manual Section 3.2.3)

Identify all analytical instrumentation that requires maintenance, testing, or inspection and provide the SOP reference number for each. In addition, document the frequency, acceptance criteria, and corrective action requirements on the worksheet.

Title:

Revision Number:

Revision Date:

Page ___ of ___

461

Analytical Instrument and Equipment Maintenance, Testing, and Inspection Table

462

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Instrument/ Equipment	Maintenance Activity	Testing Activity	Inspection Activity	Frequency	Acceptance Criteria	Corrective Action	Responsible Person	SOP Reference¹

464

¹Specify the appropriate reference letter or number from the Analytical SOP References table (Worksheet #23).

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QAPP Worksheet #26

(UFP-QAPP Manual Section 3.4)

Complete a separate worksheet for each sampling technique, analytical method/SOP, matrix, analytical group, and concentration level. If method/SOP QC acceptance limits exceed the measurement performance criteria, the data obtained may be unusable for making project decisions.

Title:
Revision Number:
Revision Date:
Page ___ of ___

QC Samples Table

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Matrix						
Analytical Group						
Concentration Level						
Sampling SOP						
Analytical Method/ SOP Reference						
Sampler's Name						
Field Sampling Organization						
Analytical Organization						
No. of Sample Locations						
QC Sample:	Frequency/Number	Method/SOP QC Acceptance Limits	Corrective Action	Person(s) Responsible for Corrective Action	Data Quality Indicator (DQI)	Measurement Performance Criteria

QAPP Worksheet #29

(UFP-QAPP Manual Section 4.1.1)

Identify the type, frequency, and responsible parties of planned assessment activities that will be performed for the project.

Title:

Revision Number:

Revision Date:

Page ___ of ___

501

Planned Project Assessments Table

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Assessment Type	Frequency	Internal or External	Organization Performing Assessment	Person(s) Responsible for Performing Assessment (Title and Organizational Affiliation)	Person(s) Responsible for Responding to Assessment Findings (Title and Organizational Affiliation)	Person(s) Responsible for Identifying and Implementing Corrective Actions (CA) (Title and Organizational Affiliation)	Person(s) Responsible for Monitoring Effectiveness of CA (Title and Organizational Affiliation)

504 **QAPP Worksheet #30**
 505 (UFP-QAPP Manual Section 4.1.2)
 506 For each type of assessment describe procedures for handling
 507 QAPP and project deviations encountered during the planned
 508 project assessments.

Title:
Revision Number:
Revision Date:
Page ___ of ___

509 **Assessment Findings and Corrective Action Responses**

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Assessment Type	Nature of Deficiencies Documentation	Individual(s) Notified of Findings (Name, Title, Organization)	Timeframe of Notification	Nature of Corrective Action Response Documentation	Individual(s) Receiving Corrective Action Response (Name, Title, Org.)	Timeframe for Response

512

513 **QAPP Worksheet #31**
 514 (UFP QAPP Manual Section 4.2)
 515 Identify the frequency and type of planned QA Management
 516 Reports, the project delivery dates, the personnel responsible
 517 for report preparation, and the report recipients.

Title:
Revision Number:
Revision Date:
Page ___ of ___

518 **QA Management Reports Table**

519

Type of Report	Frequency (daily, weekly monthly, quarterly, annually, etc.)	Projected Delivery Date(s)	Person(s) Responsible for Report Preparation (Title and Organizational Affiliation)	Report Recipient(s) (Title and Organizational Affiliation)

520 **QAPP Worksheet #32**
 521 (UFP-QAPP Manual Section 5.2.1)
 522 Describe the processes that will be followed to verify project data.
 523 Manual (Section 5.1). Describe how each item will be verified, when
 524 the activity will occur, and what documentation is necessary, and identify
 525 the person responsible. *Internal* or *external* is in relation to the data generator.

Title:
Revision Number:
Revision Date:
Page ___ of ___

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Verification (Step I) Process Table

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Verification Input	Description	Internal/ External	Responsible for Verification (Name, Organization)

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QAPP Worksheet #33

(UFP-QAPP Manual Section 5.2.2)

Describe the processes that will be followed to validate project data.

Validation inputs include items such as those listed in Table 9

of the UFP-QAPP Manual (Section 5.1). Describe how each item will be

validated, when the activity will occur, and what documentation is necessary and

identify the person responsible. Differentiate between steps IIa and IIb of validation.

Title:

Revision Number:

Revision Date:

Page ___ of ___

536

Validation (Steps IIa and IIb) Process Table

537

Step IIa/IIb	Validation Input	Description	Responsible for Validation (Name, Organization)

538 **QAPP Worksheet #34**
539 (UFP-QAPP Manual Section 5.2.2)
540 Identify the matrices, analytical groups, and concentration levels that each
541 entity performing validation will be responsible for, as well as criteria
542 that will be used to validate those data.

Title:
Revision Number:
Revision Date:
Page ___ of ___

543 **Validation (Steps IIa and IIb) Summary Table**

544

Step IIa/IIb	Matrix	Analytical Group	Concentration Level	Validation Criteria	Data Validator (title and organizational affiliation)

545 **QAPP Worksheet #35**
546 (UFP-QAPP Manual Section 5.2.3)
547 Describe the procedures/methods/activities that will be used to
548 determine whether data are of the right type, quality, and quantity
549 to support environmental decision-making for the project. Describe
550 how data quality issues will be addressed and how limitations on the
551 use of the data will be handled.

Title:
Revision Number:
Revision Date:
Page ___ of ___

552 **Usability Assessment**

553 **Summarize the usability assessment process and all procedures, including interim steps and any statistics, equations, and computer**
554 **algorithms that will be used:**

555 **Describe the evaluative procedures used to assess overall measurement error associated with the project:**

556 **Identify the personnel responsible for performing the usability assessment:**

557 **Describe the documentation that will be generated during usability assessment and how usability assessment results will be presented**
558 **so that they identify trends, relationships (correlations), and anomalies:**

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QAPP Worksheet #36

(UFP-QAPP Manual Appendix A)

Use this worksheet to identify components of the project-specific sample handling system. Record personnel, and their organizational affiliations, who are primarily responsible for ensuring proper handling, custody, and storage of field samples from the time of collection, to laboratory delivery, to final sample disposal. Indicate the number of days field samples and their extracts/digestates will be archived prior to disposal.

Title:
Revision Number:
Revision Date:
Page ___ of ___

Sample Handling System

SAMPLE COLLECTION, PACKAGING, AND SHIPMENT
Sample Collection (Personnel/Organization):
Sample Packaging (Personnel/Organization):
Coordination of Shipment (Personnel/Organization):
Type of Shipment/Carrier:
SAMPLE RECEIPT AND ANALYSIS
Sample Receipt (Personnel/Organization):
Sample Custody and Storage (Personnel/Organization):
Sample Preparation (Personnel/Organization):
Sample Determinative Analysis (Personnel/Organization):
SAMPLE ARCHIVING
Field Sample Storage (No. of days from sample collection):
Sample Extract/Digestate Storage (No. of days from extraction/digestion):
Biological Sample Storage (No. of days from sample collection):
SAMPLE DISPOSAL
Personnel/Organization:
Number of Days from Analysis: