COMMON PROBLEMS OBSERVED IN UFP QAPPS

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INTRODUCTION

- UFP QAPP = Standardized format
- Similar issues observed in project and program QAPPs
- Reduction of common problems
DATA QUALITY OBJECTIVES

- Project DQOs are insufficiently detailed.
- Example: DQOs indicate that field based decisions will determine sample locations and numbers.
  - What criteria will be used to make field decisions?

Worksheets #10 and #11
DATA QUALITY OBJECTIVES

- DQOs should discuss:
  - WHY the proposed investigation is necessary
  - AMOUNT/TYPE of data needed to answer study questions
  - HOW data collection will be performed
  - DECISIONS to be made based on the data collected

Worksheets #10 and #11
DECISION STATEMENTS

- Clear decision statements (e.g., If...then...) are not presented in the project DQOs.

- How will the data collected be used to make project decisions?
Example Decision Statements:

- If the concentration of any COC in surface soil exceeds its respective PAL, step-out samples will be collected 15 feet north, east, south, and west of the original sample location to delineate the extent of contamination.

- If concentrations of COCs do not exceed PALs in surface soil, no further samples will be collected.
The sampling design is not appropriate for the COCs being investigated.

Examples: VOCs and ISM
Statistical calculations are proposed for a judgmental sampling approach.

Statistical assumptions are made, but are not verified.

Recommendation: Ensure the sampling approach allows for statistical calculations, if desired.
SAMPLING RATIONALE

- Rationale for sampling approach explains what will be done, but not why it will address DQOs.
- The sampling strategy proposed should be suitable for the COCs in the media of interest.
- Specify why the proposed location/depth, analytes, temporal boundary, and number of samples will satisfy project DQOs.
Example Rationale:

The area of concern (AOC) is a 10 feet by 10 feet area next to Building 101. Explosives are the COCs at this site since they were historically manufactured in Building 101. One explosives sample will be collected from this AOC (i.e., decision unit) using ISM, which will provide an average concentration of explosives for the entire AOC. The AOC is small in size so 30 aliquots will be sufficient to comprise the ISM sample. Sample aliquots will be collected from 0-6 inches to evaluate explosives contamination in surface soil.
Proposed analytical methods are not sensitive enough to meet the Project Action Limits (PALs), but no explanation is provided in the QAPP.

For example: Method 6010C is proposed, but the PAL for antimony is lower than the laboratory limit of quantitation (LOQ).
Recommendations:

- Utilize a more sensitive analytical method (consider standard or specialized analyses).
- Justify why the proposed procedure is sensitive enough (i.e., discuss uncertainty).
LABORATORY-SPECIFIC INFO

- Laboratory-specific information is not provided.
  - For example: Laboratory SOPs, QC limits, LOQs, Limits of Detection (LODs), etc. are not submitted with the QAPP.
  - This information is necessary to document the capabilities of the selected laboratory(s) and to allow the reviewer verify the laboratory will be able to provide data that will meet project DQOs.

Worksheets #12, #15, and #23
### Laboratory-Specific Info

<table>
<thead>
<tr>
<th>Method</th>
<th>Analyte</th>
<th>LOD</th>
<th>LOQ Units</th>
<th>RPD</th>
<th>%R</th>
<th>RPD</th>
<th>%R</th>
<th>RPD</th>
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</thead>
<tbody>
<tr>
<td><strong>Volatile Organic Compounds by EPA Method 8260B (TCL OLM 4.3)</strong></td>
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<tr>
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<td>25 ug/L</td>
<td>31</td>
<td>46-145</td>
<td>17</td>
<td>53-138</td>
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<tr>
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<td>1.0 ug/L</td>
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<td>80-129</td>
<td>9</td>
<td>84-119</td>
<td>20</td>
</tr>
<tr>
<td>USEPA-8260B</td>
<td>Bromodichloromethane</td>
<td>0.13</td>
<td>1.0 ug/L</td>
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<td>81-130</td>
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<td>82-124</td>
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<tr>
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<td>1.0 ug/L</td>
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<td>60-122</td>
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<tr>
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<td>80-121</td>
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</table>
DATA VALIDATION

- The data validation procedures proposed in the QAPP are not transparent.
  - Example: The QAPP indicates that data validation will be performed based on SW-846 Methods, EPA NFG, and DoD QSM.
  - Which one takes precedence?
DATA VALIDATION

- Recommendation:
- Provide data validation checklists for each method identifying:
  - Items to be evaluated
  - QC acceptance criteria
  - How and which qualifiers will be assigned based on exceedances
DATA MANAGEMENT

- Data management is not discussed in sufficient detail.
- Example: QAPPs routinely only discuss laboratory data reduction, reporting and management.
DATA MANAGEMENT

Recommendations:

Indicate how data from the laboratory is incorporated into the final report. For example, if electronic data deliverables will be uploaded into database, the QAPP should indicate this and discuss how the information is verified.

Specify how data validation qualifiers will be incorporated (e.g., manually, electronically) into the final reports, and how this information is verified.

Specify where and how long project records are maintained.
COMPLETENESS

- The completeness calculation is not provided or is unclear.
  - For example, completeness can be calculated per analyte, per sample, etc.
- Recommendation: Provide calculations for both field and laboratory completeness.

Worksheets #12 and #37
SPECIFIC REFERENCES

- A specific reference to information located in other parts of the UFP QAPP, or in other documents is not provided.
SPECIFIC REFERENCES

- Recommendation: Provide specific references (e.g., document name, section number, and page number) to information located in other documents or sections of the UFP QAPP.
COMMUNICATION PROCEDURES

- The timing and form of communication is not provided in Worksheet #6.

- The QAPP should include:
  - Timeframe for notification
  - Form of communication (e.g., e-mail, phone, fax, etc.) to be used
CONCLUSIONS

- Reduction of common QAPP problems can:
  - Save time and $$$
  - Expedite regulatory approval
QUESTIONS

Questions are guaranteed in life; Answers aren't.

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