Laboratory Data Review Checklist

Completed By:

Title:

Date:

Consultant Firm:

Laboratory Name:

Laboratory Report Number:

Laboratory Report Date:

CS Site Name:

ADEC File Number:

Hazard Identification Number:

Laboratory Report Number:

[   ]

Laboratory Report Date:

[   ]

CS Site Name:

[   ]

Note: Any N/A or No box checked must have an explanation in the comments box.

1. <u>Laboratory</u>

   a. Did an ADEC CS approved laboratory receive and <u>perform</u> all of the submitted sample analyses?

      Yes☐ No☐ N/A☐   Comments:

      [   ]

   b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS approved?

      Yes☐ No☐ N/A☐   Comments:

      [   ]

2. <u>Chain of Custody (CoC)</u>

   a. CoC information completed, signed, and dated (including released/received by)?

      Yes☐ No☐ N/A☐   Comments:

      [   ]

   b. Correct analyses requested?

      Yes☐ No☐ N/A☐   Comments:

      [   ]

3. <u>Laboratory Sample Receipt Documentation</u>

   a. Sample/cooler temperature documented and within range at receipt (0° to 6° C)?

      Yes☐ No☐ N/A☐   Comments:

      [   ]

   b. Sample preservation acceptable – acidified waters, Methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?

      Yes☐ No☐ N/A☐   Comments:

      [   ]

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     c. Sample condition documented – broken, leaking (Methanol), zero headspace (VOC vials)?

        Yes☐ No☐ N/A☐   Comments:

     d. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, etc.?

        Yes☐ No☐ N/A☐   Comments:

     e. Data quality or usability affected?

                                Comments:

4. <u>Case Narrative</u>

    a. Present and understandable?

        Yes☐ No☐ N/A☐   Comments:

    b. Discrepancies, errors, or QC failures identified by the lab?

        Yes☐ No☐ N/A☐   Comments:

    c. Were all corrective actions documented?

        Yes☐ No☐ N/A☐   Comments:

    d. What is the effect on data quality/usability according to the case narrative?

                                  Comments:

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5. Samples Results

    a. Correct analyses performed/reported as requested on COC?

    Yes☐   No☐   N/A☐   Comments:

    [ ]

    b. All applicable holding times met?

    Yes☐   No☐   N/A☐   Comments:

    [ ]

    c. All soils reported on a dry weight basis?

    Yes☐   No☐   N/A☐   Comments:

    [ ]

    d. Are the reported LOQs less than the Cleanup Level or the minimum required detection level for the project?

    Yes☐   No☐   N/A☐   Comments:

    [ ]

    e. Data quality or usability affected?

    [ ]

6. QC Samples

    a. Method Blank

        i. One method blank reported per matrix, analysis and 20 samples?

    Yes☐   No☐   N/A☐   Comments:

    [ ]

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    ii. All method blank results less than limit of quantitation (LOQ) or project specified objectives?

       Yes☐ No☐ N/A☐   Comments:

[   ]

    iii. If above LOQ or project specified objectives, what samples are affected?

                       Comments:

[   ]

    iv. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

       Yes☐ No☐ N/A☐   Comments:

[   ]

    v. Data quality or usability affected?

                       Comments:

[   ]

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

    i. Organics – One LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)

       Yes☐ No☐ N/A☐   Comments:

[   ]

    ii. Metals/Inorganics – one LCS and one sample duplicate reported per matrix, analysis and 20 samples?

       Yes☐ No☐ N/A☐   Comments:

[   ]

    iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)

       Yes☐ No☐ N/A☐   Comments:

[   ]

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    iv. Precision – All relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? RPD reported from LCS/LCSD, and or sample/sample duplicate. (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)

        Yes☐　No☐　N/A☐　　　Comments:

    v. If %R or RPD is outside of acceptable limits, what samples are affected?
                              Comments:

    vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

        Yes☐　No☐　N/A☐　　　Comments:

    vii. Data quality or usability affected? (Use comment box to explain.)
                              Comments:

  c. Matrix Spike/Matrix Spike Duplicate (MS/MSD)
    Note: Leave blank if not required for project
    i. Organics – One MS/MSD reported per matrix, analysis and 20 samples?

        Yes☐　No☐　N/A☐　　　Comments:

    ii. Metals/Inorganics – one MS and one MSD reported per matrix, analysis and 20 samples?

        Yes☐　No☐　N/A☐　　　Comments:

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   iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable?

    Yes☐ No☐ N/A☐ Comments:

[   ]

   iv. Precision – All relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? RPD reported from MS/MSD, and or sample/sample duplicate.

    Yes☐ No☐ N/A☐ Comments:

[   ]

   v. If %R or RPD is outside of acceptable limits, what samples are affected?
             Comments:

[   ]

   vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

    Yes☐ No☐ N/A☐ Comments:

[   ]

   vii. Data quality or usability affected? (Use comment box to explain.)
             Comments:

[   ]

  d. Surrogates – Organics Only or Isotope Dilution Analytes (IDA) – Isotope Dilution Methods Only

   i. Are surrogate/IDA recoveries reported for organic analyses – field, QC and laboratory samples?

    Yes☐ No☐ N/A☐ Comments:

[   ]

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    ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods 50-150 %R for field samples and 60-120 %R for QC samples; all other analyses see the laboratory report pages)

Yes☐ No☐ N/A☐   Comments:

[ ]

    iii. Do the sample results with failed surrogate/IDA recoveries have data flags? If so, are the data flags clearly defined?

Yes☐ No☐ N/A☐   Comments:

[ ]

    iv. Data quality or usability affected?
                     Comments:

[ ]

e. Trip Blanks

    i. One trip blank reported per matrix, analysis and for each cooler containing volatile samples? (If not, enter explanation below.)

Yes☐ No☐ N/A☐   Comments:

[ ]

    ii. Is the cooler used to transport the trip blank and VOA samples clearly indicated on the COC? (If not, a comment explaining why must be entered below)

Yes☐ No☐ N/A☐   Comments:

[ ]

    iii. All results less than LOQ and project specified objectives?

Yes☐ No☐ N/A☐   Comments:

[ ]

    iv. If above LOQ or project specified objectives, what samples are affected?
                     Comments:

[ ]

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  v. Data quality or usability affected?
<div align="center">Comments:</div>

 f. Field Duplicate

  i. One field duplicate submitted per matrix, analysis and 10 project samples?

  Yes☐ No☐ N/A☐ Comments:

  ii. Submitted blind to lab?

  Yes☐ No☐ N/A☐ Comments:

  iii. Precision – All relative percent differences (RPD) less than specified project objectives? (Recommended: 30% water, 50% soil)

$$\text{RPD (\%)} = \text{Absolute value of:} \quad \frac{(R_1 - R_2)}{((R_1 + R_2)/2)} \times 100$$

<div align="center">Where R_1 = Sample Concentration
R_2 = Field Duplicate Concentration</div>

  Yes☐ No☐ N/A☐ Comments:

  iv. Data quality or usability affected? (Use the comment box to explain why or why not.)
<div align="center">Comments:</div>

 g. Decontamination or Equipment Blank (If not applicable, a comment stating why must be entered below)?

  Yes☐ No☐ N/A☐ Comments:

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      i.   All results less than LOQ and project specified objectives?

         Yes☐ No☐ N/A☐   Comments:

[   ]

      ii. If above LOQ or project specified objectives, what samples are affected?
                                Comments:

[   ]

      iii. Data quality or usability affected?
                                  Comments:

[   ]

7. <u>Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)</u>

    a. Defined and appropriate?

         Yes☐ No☐ N/A☐   Comments:

[   ]