

Laboratory Data Review Checklist

ATTACHMENT: LABORATORY DATA REVIEW GUIDANCE

INSTRUCTIONS

The following is the informal checklist that should be used to review data for the Minnesota Department of Agriculture, Minnesota Pollution Control Agency and Minnesota Department of Health. The information follows the general format of the National Functional Guidelines, which is the primary data review tool used in the U.S. Environmental Protection Agency's Contract Laboratory Program for Superfund analytical work. Refer to the appropriate guidance document for each agency for instructions.

PROJECT INFORMATION

Project Name	Laboratory	
Work Order Number / Lab Report ID	Report Date	Review Date
	Reviewer's Signature	

1. CHAIN OF CUSTODY, PRESERVATION AND HOLDING TIMES

QUESTION		YES	NO	N/A	COMMENTS
A	Is there a chain of custody (COC) with the report?				
B	Is there a sample condition form with the report?				
C	Were the samples preserved according to program requirements?				
D	Were samples received in the correct containers?				
	i. Was there enough sample volume/weight to complete all requested analyses?				
	ii. Was there enough sample collected to complete required batch QC?				
E	Were samples received within holding time for sample prep for all requested analyses?				
F	Are there notes about sample condition or holding time issues on the COC? Explain the data impact.				
G	Are there narration or data qualifiers with the report about sample condition or holding time issues? Explain the data impact.				
H	Are the lab IDs cross-referenced correctly with the field IDs?				

2. CALIBRATION					
QUESTION		YES	NO	N/A	COMMENTS
A	Do the report narrative or data qualifiers indicate calibration problems for any analyses? If yes, explain the data impact.				
3. BLANKS					
QUESTION		YES	NO	N/A	COMMENTS
A	Do any of the analyses contain samples for field or trip blanks?				
	i. If yes, are there target analytes present above the reporting limit in the blanks?				
	ii. If yes, are the same compounds also present in the samples? Explain the possible data impact.				
B	Do method blanks for any analyses contain target analytes above the reporting limit?				
	i. If yes, are the same compounds present in the samples?				
	ii. Is the amount of target analyte in the method blank more than 1/10th of that in the sample(s)? Explain the possible impact on the sample results.				
C	Do instrument blanks contain analytes above the reporting limit?				
4. SURROGATES - ORGANIC ANALYSIS					
QUESTION		YES	NO	N/A	COMMENTS
A	Are the lab recovery limits for surrogates specified on the report?				
B	Are the surrogates outside lab QC limits? (These should have a data qualifier.)				
	i. If yes, are the surrogates above the lab QC limits?				
	ii. Below the lab QC limits?				
	iii. Were the affected samples re-analyzed? Discuss in the case narrative.				
	iv. Explain what this could mean for the affected samples. Include in narrative.				

5. LABORATORY CONTROL SAMPLE (LCS) LABORATORY CONTROL SAMPLE DUPLICATE (LCSD)					
QUESTION		YES	NO	N/A	COMMENTS
A	Are there LCS/LCSD samples present for the reported analyses?				
	Are there LCS/LCSD compounds outside lab limits? If the LCS/LCSD fails, the LCS/LCSD and samples must be re-analyzed.				
	i. If yes, are there compounds above the lab QC limits? If yes, an explanation is required. Include in narrative.				
B	ii. Below the lab QC limits? If yes, an explanation is required. Include in narrative.				
6. MATRIX SPIKE (MS) MATRIX SPIKE DUPLICATE (MSD) SAMPLE DUPLICATE (DUP)					
QUESTION		YES	NO	N/A	COMMENTS
A	Do the analytical methods used require an MS and/or MSD? If no, skip to 6 B.				
	i. Have the required matrix spikes been prepared and reported?				
	ii. If no, is there an explanation in the report as to why?				
	iii. Did the lab process an alternate spiked sample such as an LCSD instead?				
	iv. Are the lab QC limits specified in the report?				
	v. Are there compounds outside the lab QC limits?				
	vi. If yes, did the lab re-run an MS/MSD?				
	1. Did the re-run MS/MSD pass? Discuss in the case narrative.				
	2. Did the re-run MS/MSD fail? Discuss in the case narrative.				
	3. Is the source sample flagged for MS/MSD compounds outside the lab QC limits?				
B	Was a duplicate sample submitted for the analytical method(s)?				
	i. Is the Relative Percentage Difference (RPD) within 20%* for the duplicate pair? If no, explain possible causes and data impact. *Other RPD's may be acceptable. Check with regulatory agency.				

7. REPORTING LIMITS

QUESTION		YES	NO	N/A	COMMENTS
A	Are reporting limits clearly listed on the report for all analyses?				
B	Do the reporting limits meet the program required limits listed? If not, an explanation is required.				

8. SAMPLE INFORMATION

QUESTION		YES	NO	N/A	COMMENTS
A	Are sample numbers cross-referenced correctly with the associated QC?				
B	Are soil samples reported in dry weight basis?				
C	Are percent moisture results reported?				
D	Are positive detections reported?				
E	Are sample analytes appropriately flagged if the QC failed?				

9. REPORT NARRATIVE

QUESTION		YES	NO	N/A	COMMENTS
A	Is a narrative provided with the laboratory report which describes all problems with the analyses and all corrective actions taken to address these problems?				

10. ADDITIONAL COMMENTS ABOUT THE LAB REPORT