Municipal Solid Waste Laboratory Review Checklist

This data package consists of:

☐ This signature page, and the laboratory review checklist consisting of Table 1, Reportable Data (which includes the reportable data identified on this page), Table 2, Supporting Data, and Table 3, Exception Reports.

☐ R1 Field chain-of-custody documentation

☐ R2 Sample identification cross-reference

☐ R3 Test reports (analytical data sheets) for each environmental sample that includes:
- (a) Items specified in NELAC Chapter 5 for reporting results, e.g., Section 5.5.10 in 2003 NELAC Standard
- (b) Dilution factors
- (c) Preparation methods
- (d) Cleanup methods
- (e) If required for the project, tentatively identified compounds (TICs)

☐ R4 Surrogate recovery data including:
- (a) Calculated recovery (%R)
- (b) The laboratory's surrogate QC limits

☐ R5 Test reports/summary forms for blank samples

☐ R6 Test reports/summary forms for laboratory control samples (LCSs) including:
- (a) LCS spiking amounts
- (b) Calculated %R for each analyte
- (c) The laboratory's LCS QC limits

☐ R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
- (a) Samples associated with the MS/MSD clearly identified
- (b) MS/MSD spiking amounts
- (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
- (d) Calculated %Rs and relative percent differences (RPDs)
- (e) The laboratory's MS/MSD QC limits

☐ R8 Laboratory analytical duplicate (if applicable) recovery and precision:
- (a) The amount of analyte measured in the duplicate
- (b) The calculated RPD
- (c) The laboratory's QC limits for analytical duplicates

☐ R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix

☐ R10 Other problems or anomalies

☐ The Exception Report for every item for which the result is "No" or "NR" (Not Reviewed)

Release Statement: I am responsible for the release of this laboratory data package. This data package as been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Check, if applicable: [ ] This laboratory is an in-house laboratory controlled by the person responding to rule. The official signing the cover page of the rule-required report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

_____	_____	_____	_____
Name (printed)	Signature	Official Title	Date

Table 1. Reportable Data.

Laboratory Name: _____

Project Name: _____

Reviewer Name: _____

LRC Date: _____

Laboratory Job Number: _____

Prep Batch Number(s): _____

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
R1	O, I	**Chain-of-custody (COC)**		
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?		
		Were all departures from standard conditions described in an exception report?		
R2	O, I	**Sample and quality control (QC) identification**		
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?		
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?		
R3	O, I	**Test reports**		
		Were all samples prepared and analyzed within holding times?		
		Other than those results < MQL, were all other raw values bracketed by calibration standards?		
		Were calculations checked by a peer or supervisor?		
		Were all analyte identifications checked by a peer or supervisor?		
		Were sample quantitation limits reported for all analytes not detected?		
		Were all results for soil and sediment samples reported on a dry weight basis?		
		Was % moisture (or solids) reported for all soil and sediment samples?		
		If required for the project, TICs reported?		
R4	O	**Surrogate recovery data**		
		Were surrogates added prior to extraction?		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?		
R5	O, I	**Test reports/summary forms for blank samples**		
		Were appropriate type(s) of blanks analyzed?		
		Were blanks analyzed at the appropriate frequency?		

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?		
		Were blank concentrations < MQL?		
R6	O, I	**Laboratory control samples (LCS):**		
		Were all COCs included in the LCS?		
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?		
		Were LCSs analyzed at the required frequency?		
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?		
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?		
		Was the LCSD RPD within QC limits?		
R7	O, I	**Matrix spike (MS) and matrix spike duplicate (MSD) data**		
		Were the project/method specified analytes included in the MS and MSD?		
		Were MS/MSD analyzed at the appropriate frequency?		
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		
		Were MS/MSD RPDs within laboratory QC limits?		
R8	O, I	**Analytical duplicate data**		
		Were appropriate analytical duplicates analyzed for each matrix?		
		Were analytical duplicates analyzed at the appropriate frequency?		
		Were RPDs or relative standard deviations within the laboratory QC limits?		
R9	O, I	**Method quantitation limits (MQLs):**		
		Are the MQLs for each method analyte included in the laboratory data package?		
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?		
		Are unadjusted MQLs included in the laboratory data package?		
R10	O, I	**Other problems/anomalies**		
		Are all known problems/anomalies/special conditions noted in this LRC and ER?		
		Were all necessary corrective actions performed for the reported data?		
		Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?		

Table 2. Supporting Data.

Laboratory Name: _____

Project Name: _____

Reviewer Name: _____

LRC Date: _____

Laboratory Job Number: _____

Prep Batch Number(s): _____

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
S1	O, I	**Initial calibration (ICAL)**		
		Were response factors and/or relative response factors for each analyte within QC limits?		
		Were percent RSDs or correlation coefficient criteria met?		
		Was the number of standards recommended in the method used for all analytes?		
		Were all points generated between the lowest and highest standard used to calculate the curve?		
		Are ICAL data available for all instruments used?		
		Has the initial calibration curve been verified using an appropriate second source standard?		
S2	O, I	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):**		
		Was the CCV analyzed at the method-required frequency?		
		Were percent differences for each analyte within the method-required QC limits?		
		Was the ICAL curve verified for each analyte?		
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?		
S3	O	**Mass spectral tuning:**		
		Was the appropriate compound for the method used for tuning?		
		Were ion abundance data within the method-required QC limits?		
S4	O	**Internal standards (IS):**		
		Were IS area counts and retention times within the method-required QC limits?		
S5	O, I	**Raw data (NELAC section 1 appendix A glossary, and section 5.)**		
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?		
		Were data associated with manual integrations flagged on the raw data?		

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
S6	O	**Dual column confirmation**		
		Did dual column confirmation results meet the method-required QC?		
S7	O	**Tentatively identified compounds (TICs):**		
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?		
S8	I	**Interference Check Sample (ICS) results:**		
		Were percent recoveries within method QC limits?		
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**		
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?		
S10	O, I	**Method detection limit (MDL) studies**		
		Was a MDL study performed for each reported analyte?		
		Is the MDL either adjusted or supported by the analysis of DCSs?		
S11	O, I	**Proficiency test reports:**		
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?		
S12	O, I	**Standards documentation**		
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?		
S13	O, I	**Compound/analyte identification procedures**		
		Are the procedures for compound/analyte identification documented?		
S14	O, I	**Demonstration of analyst competency (DOC)**		
		Was DOC conducted consistent with NELAC Chapter 5C?		
		Is documentation of the analyst's competency up-to-date and on file?		
S15	O, I	**Verification/validation documentation for methods (NELAC Chap 5n 5)**		
		Are all the methods used to generate the data documented, verified, and validated, where applicable?		
S16	O, I	**Laboratory standard operating procedures (SOPs):**		
		Are laboratory SOPs current and on file for each method performed?		

Table 3. Exception Reports.

Laboratory Name: _____

Project Name: _____

Reviewer Name: _____

LRC Date: _____

Laboratory Job Number: _____

Prep Batch Number(s): _____

Exception Report No.	Description

[1] Items identified by the letter "R" must be available as a hard copy or as a .pdf file. Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
[2] O - organic analyses; I - inorganic analyses (including general chemistry constituents, when applicable).
[3] NA - Not applicable; NR - Not reviewed.
[4] Exception Report identification number; an Exception Report should be completed for an item if the result is "No" or "NR."