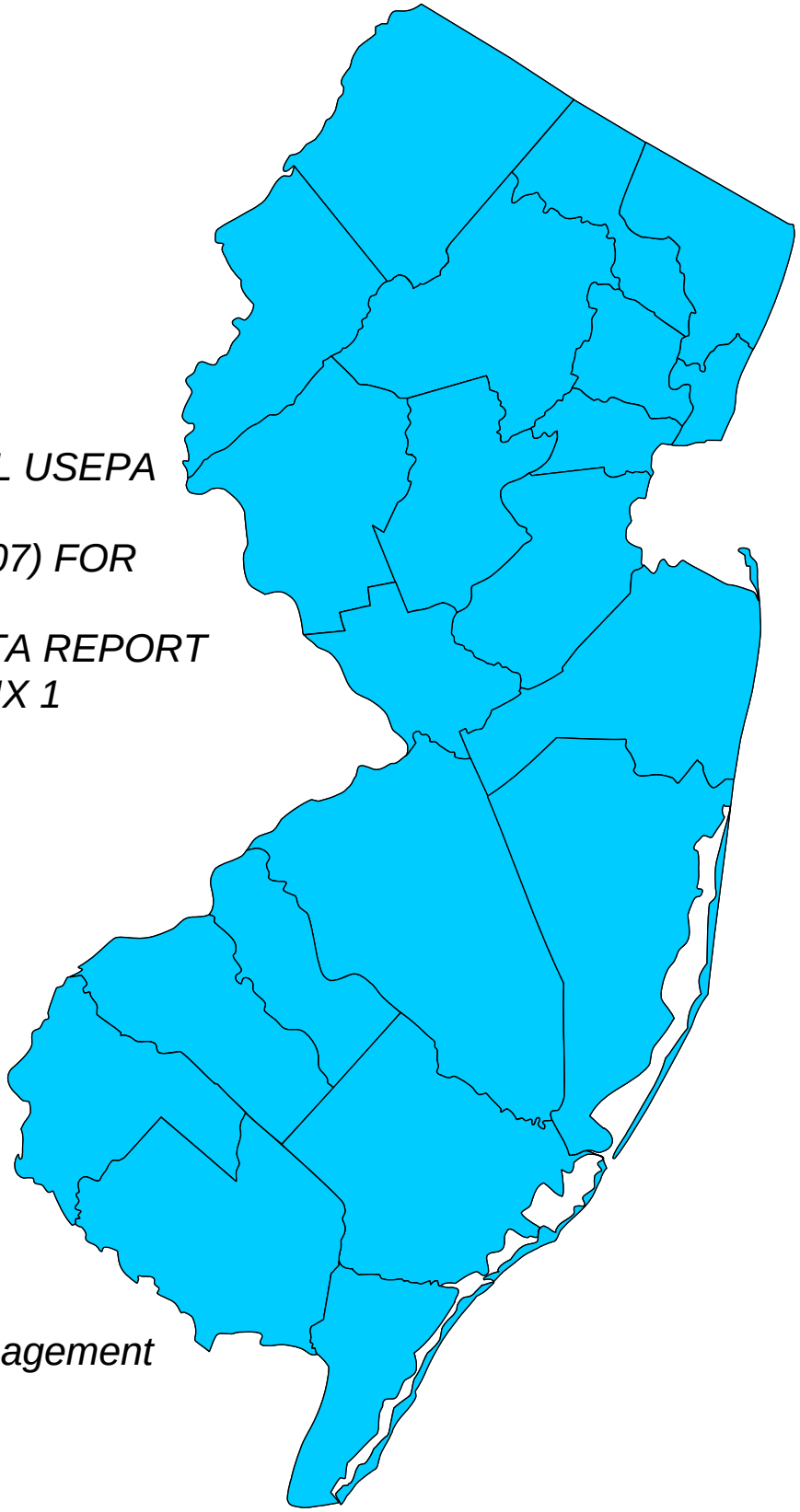
New Jersey Department of Environmental Protection
Division of Remediation Management Response



NJDEP-SRP LOW LEVEL USEPA METHOD T0-15 (NJDEP-LLTO-15-3/2007) FOR AMBIENT AIR NJDEP REGULATORY DATA REPORT FORMAT-APPENDIX 1 MARCH 2007

(March 2009- Update)

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APPENDIX 1

NJDEP-SRWM LOW LEVEL USEPA METHOD T0-15 (NJDEP-LLTO-15- MARCH 2007) FOR AMBIENT AIR NJDEP REGULATORY DATA REPORT FORMAT

1.0 INTRODUCTION

1.1 This Appendix contains the format used for reporting the Site Remediation Program's (SRP) NJDEP-SRP Low Level USEPA Method TO-15 March 2007 (NJDEP-LLTO-15-3/2007). It presents instructions and the order in which data are to be reported.

1.2 This Deliverable is applicable to Responsible Party Laboratories and State Contract Laboratories who are certified for NJDEP-LLTO-15-3/2007 by the NJDEP Office of Quality Assurance and is the required deliverable for this method.

1.3 The Contractor/Laboratory must follow all the requirements regarding scaling and presentation of chromatograms, spectra, manual integration requirements and quantitation reports as specified in the NJDEP-LLTO-15-3/2007 Method.

1.4 The Appendix provides examples of the three reporting forms for this deliverable. The forms are the Title Page, Case Narrative and Methodology Form. These forms are required for the all state contract work and non contract work. Copies of these forms are located in Section 15.0 of this Appendix. Electronic Copies will also be provided upon request.

1.5 The Appendix provides examples of the NJDEP Chain of Custodies forms in Section 15.0. These are required forms for the all state contract work. The Responsible Party Laboratories' Chains of Custody forms must contain all the same information.

1.6 The NJDEP-LLTO-15 Field Test Data Sheet is located in Section 15.0 of this Appendix. This Form is required for every canister unless a combined External Chain of Custody/Field Test Data Sheet is used. Examples of the Chain of Custody documentation used by NJDEP can be obtained electronically.

1.7 For all other reporting forms, the Contractor/Laboratory must generate the forms from their stand-alone Reporting Form Generation Software (such as Thruput Inc, Thru-Put Systems, Target, The Khemia Company or Environment Information System Corporation) that contains the information required by NJDEP.

1.8 The Microsoft™ Excel Spreadsheet that is used to report the data electronically on the NJDEP-SRWM Air Methods Data Summary Table cannot be used for the reporting forms.

1.9 The Contractor/Laboratory generated forms shall not have labels referring to "CLP", "SOW" and "EPA Sample #. If the Contractor's/Laboratory's reporting software requires inclusion of these labels, the Contractor must add a statement to the Case Narrative informing the data reviewer to disregard the labels.

1.10 All Laboratories must receive a written approval from NJDEP-DRMR-ODQ prior to using any modified forms in Section 15.0. The NJDEP shall reject noncompliant forms and data packages.

1.11 Each Sample Delivery Group (20 samples or less) consists of a separate Extended Data Report (Section 3.0) and Summary Data Report (Section 2.5.1) and the associated

electronic deliverables. Individual Sample Delivery Groups cannot be merged together to create a single data package.

Note: For Responsible Parties that are required to report analytical data by this method, your contract laboratory is required to follow all reporting requirements in this document (including the requirement that the internal chain of custody is to remain with the samples at all times and bear the name of the person assuming responsibility of the samples with associated dates) and to comply with the requirements of the NJDEP Technical Requirements for Site Remediation NJAC 7:26E.

2.0 NJDEP REGULATORY FORMAT REQUIREMENTS FOR THE DATA PACKAGES AND ELECTRONIC FILES

2.1 The deliverable from the Contractor/Laboratory will consist of both the paper documents and electronic files.

2.2 The Contractor/Laboratory must submit the following deliverables to the NJDEP, other state users or the Responsible Party within the time frame established at the time of engagement.

2.2.1 Original Extended Data Report with original chain of custody forms
2.2.2 Original and one copy of the Summary Data Report
2.2.3 Electronic Deliverables
2.2.4 Acrobat Format (PDF) File of both the Extended and Summary Report compact disc.

2.3 The NJDEP Regulatory Report Format is organized to facilitate the preparation and review of the data package. The Contractor/Laboratory must present the NJDEP- LLTO-15-3/2007 data in a separate section from other air methods and must comply with the requirements of this Appendix in the specified order.

2.4 General Data Package Requirements for Both the Extended and Summary Data Report

2.4.1 The entire document must be legible. The State shall reject data packages containing incomplete or illegible signatures and documentation.

2.4.2 Each batch of samples or sample delivery group (20 field samples or less) must have a separate set of data packages. If more than one air analysis is required of a sample (for example a sample is analyzed for fixed gases by USEPA Method 3C), all data must be present in one data set in separate sections. The only information from each analysis that can be merged together in the front section of the data package is as follows.

- Title Page
- External Chain of Custody or External Chain of Custody/Field Test Data Sheets
- Internal Chain of Custody
- Field Test Data Sheet (if Applicable)
- Shipping Documentation
- Copies of Traceability Certificates from Commercial Gas Standard Suppliers
- Case Narrative

- Methodology Review
- Data Sheets in Excel
- Method Detection Limit Studies (MDL Study and MDLV Study)

2.4.3 If a sample is diluted because a parameter concentration exceeded the upper calibration standard, then the Contractor/Laboratory is required to report both the undiluted and diluted data sets of both acquisitions. Data from two analytical runs are only allowed to be merged/combined on the electronic (excel) spreadsheet LL TO15 Conversion Tables. If the parameter concentrations are such that the sample can be analyzed only at a dilution, then the sample data set at the appropriate dilution and one data set at a more concentrated dilution must be submitted.

2.4.4 The data summary forms, at a minimum, must include the project number, sample delivery group number, laboratory name, field sample identification number, laboratory sample identification number (if applicable), QC sample name (if applicable), and the time and date of analysis.

2.4.5 The Contractor/Laboratory must complete all the required information on the reporting forms and raw data forms as specified by this Appendix.

2.4.6 The original extended data report and data summary reports can be printed single sided or double sided. However, the original chain of custody forms and shipping documentation must be single sided.

2.4.7 Both data reports must be organized and labeled in accordance with instructions in this Appendix.

2.4.8 Both data reports must be securely bound along the left-hand margin of the report. Staples are not acceptable.

2.4.9 The extended data report must be sequentially paginated starting with the first page after the Table of Contents.

2.5 NJDEP Regulatory Format Summary Data Report

2.5.1 The NJDEP Regulatory Format Summary Report will consist of documentation required by sections listed below. The documentation includes summary reporting forms for the sample data, laboratory control sample, method blanks, instrument blanks (if applicable), and initial and continuing calibration data.

- Section 4.2 Title Page
- Section 4.4 Chain of Custody (external documentation and Field Test Data Sheets)
- Section 4.7 Methodology Review
- Section 4.8 Case Narrative
- Section 4.9 Method Detection Limit Summary
- Section 4.10 Verified Method Detection Limit Summary
- Section 5.1 Reporting Limit Laboratory Control Sample
- Section 5.2 Method Blank Summary
- Section 5.3 Instrument Performance Check Summary
- Section 5.4 Internal Standard Area and Retention Time Summary
- Section 6.0 Sample Data Summary (summary data only)
- Section 7.1.1 Initial Calibration Form Summary- (reporting form only)

- Section 7.1.2 Initial Calibration Verification Sample Standard Summary- (reporting form only)
- Section 7.1.3 Continuing Calibration Verification Summary- (reporting form only)
- Section 8.2 Blank Data (reporting form only)

2.5.2 Clearly label and complete the deliverable in accordance with instructions in this Appendix. Arrange the deliverable in the order specified in this Appendix.

2.5.3 Do not submit raw QC data, sample preparation, shipping documentation, and standard data in the summary data report.

2.6 NJDEP Regulatory Format Extended Data Report

See Sections 3.0-14 below for the complete requirements.

2.7 Electronic Files by Electronic Mail

The three electronic files generated by the Contractor/Laboratory are to be submitted by electronic mail to the Contract Administrator/Responsible Party on the same day that the data package is due to the State/Responsible Party. Copies of these files will also be submitted to the State/Responsible Party on CD-ROM as required by Section 2.8 of this Appendix.

- NJDEP-SRP Air Methods Data Summary Table
- The Electronic Data Deliverable Format
- The Electronic HZResult Table
-

2.7.1 NJDEP- SRP Air Methods Data Summary Table

2.7.1.1 There is no embedded calculation in this worksheet.

2.7.1.2 Data from other matrices cannot be reported with the air data.

2.7.1.3 The cell format must be text format. This is known in Visual Basic for Applications (VBA) as "@." This causes each entry to be displayed exactly as entered.

2.7.1.4 Do not set the Print Area in any worksheet. Incorrectly setting of the Print Area will cause all the sample information not to be printed out.

2.7.1.5 The Contractor is required to input information that is required in the custom headers and footers of the worksheet for each sample.

- The left header information is as follows:
  - Project Number or Name
  - Field Sample Identification Number
  - Laboratory File Identification Number

- The right header information is as follows:
  - Sample Date
  - Analysis Date
- The left footer information is as follows:

- Laboratory Name
- Laboratory City/State

2.7.1.6 This table in a Microsoft Excel spreadsheet lists every target parameter that can be analyzed by this method. Only the target parameters required to be analyze by the Contractor/Laboratory are to be included in the file that is submitted to the State.

2.7.1.7 The files must be named with the Sample Delivery Group Number and end with ".XLS". An example of this form is in Section 15.0 of this Appendix.

2.7.1.8 A separate Excel worksheet within one Microsoft Excel™ workbook must be provided for each field sample.

2.7.1.9 The Field Sample Identification Number must be used as the tab name of the sample worksheet.

2.7.1.10 The dilution factor must be listed on the first row of each method data in the worksheet for each sample below the method/units row. The dilution factor must be listed even if the dilution factor is 1.

2.7.1.11 For the QC samples generated by the laboratory such as the RLLCS, the Laboratory File Name must be used as the tab name of the sample worksheet. The name must also be the same that is used in the Print Setup header information.

2.7.1.12 The compound names cannot be changed. The names that must be used are listed in Table 1 "List of Required Compounds, Molecular Weight and CAS Number" located in Section 15 of this Appendix. These are the same names used by the NJDEP Laboratory Certification Program for this method.

2.7.1.13 The CAS numbers for any target compound cannot be changed. The required CAS numbers for each target compound are listed in the Table 1 "List of Required Compounds, Molecular Weight and CAS Number" located in Section 15.0 of this Appendix.

2.7.1.14 The required molecular weights for each target compound are located in the Table 1 "List of Required Compounds, Molecular Weight and CAS Number" located in Section 15.0 of this Appendix.

2.7.1.15 The order of the target compounds on the table can be revised. All target compounds must be presented prior to the non-target compounds.

2.7.1.16 No notes are to be included in the table as to the acceptability of any target or non-target compound data.

2.7.1.17 If non-target compounds are requested, then they are to be reported at the end of the list of compounds by the NJDEP-LLTO-15-3/2007 method. The retention times are to be reported in the field labeled "Retention Time NT Only" column of the worksheet. Retention times are to be reported in minutes with two decimal places.

2.7.1.18 For the non-target compounds, unless there is a positive identification and molecular weight can be determined based on the compound, the ug/m3 result field must be left blank.

2.7.1.19 If a CAS number exists for a non-target compound, then that number is to be inserted in the appropriate column.

2.7.1.20 If non-target compounds were requested and none were detected, then that entire section is to be left blank with no entries or wording listed.

2.7.1.21 If other air methods such as Method 3C or Method 25C are being reported for the same sample, all of the results for the other air methods must be reported on the same form. The results of each method must be listed together under a separate sub-header and the correct units listed. An example of this format is supplied on the worksheet is in Section 15.0 of this Appendix.

2.7.1.22 Required Reporting of Results (ppbv and ug/m3)

The ppbv values are to be reported exactly as required in the sample data summary forms.

The ug/m3 data is to be reported as follows:

The screening levels have been rounded to 2 significant figures for a value greater than or equal to 10 and to 1 significant figure for a value less than 10, including those less than 1. This approach is used by the USEPA Office of Solid Waste and Emergency Response and is described in the Supplement Guidance for Developing Soil Screening Levels for Superfund Sites, (USEPA, 2001). The rounding rules specified below are contained in Hurlbert (1994).

- If the first number beyond the last significant digit is less than 5, the last significant number remains the same; and the remaining numbers are dropped. For example, 4.438 is rounded to one significant figure, 4 and 44.38 is rounded to 2 significant figures, 44.

- If the first number beyond the last significant digit is more than 5, the last significant number increases by one and the remaining numbers are dropped. For example, 4.638 is rounded to one significant figure, 5 and 46.68 is rounded to 2 significant figures, 47.

- If the first number beyond the last significant digit is exactly 5, then the last digit is rounded to the closest even number. For example, 4.5 is rounded to one significant figure, 4 and 45.4 is rounded to two significant figures, 46.

2.7.2 Electronic Data Deliverable Format (Sample.Txt File)

2.7.2.1 Character fields must present all alphabetic characters in the upper case. Submit this information electronically to the State/Responsible Party. Contain the data fields in a plain text file, with a file named

"SAMPLE.TXT." Enter each data field on a separate line concluded by a carriage return line feed combination (ASCII characters 13 and 10).

2.7.2.2 The State provides a unique site identifier (eight alphanumeric characters) for sampling under this contract. For Responsible party work use the site name.

2.7.2.3 All Responsible Parties, for the Contract Number entry, use the word "None.".

2.7.2.4 All Responsible Parties, for the Report Format, use the word "Regulatory".

(The format below is an EXAMPLE ONLY).

ELECTRONIC DATA DELIVERABLES FORMAT TABLE			
FIELD NAME	**TYPE**	**LENGTH**	**COMMENT**
Site ID	Character	12	EPA ID for site.*
Site Name	Character	40	DEP site name.*
Initial Date Sampled	Date	10	Format: mm/dd/yyyy
Received at Lab Date	Date	10	Format: mm/dd/yyyy
Analysis Complete Date	Date	10	Format: mm/dd/yyyy
Laboratory	Character	30	Lab Name.
Number of Samples	Integer	3	
Contract Number	Character	6	Contract Number
Report Format	Character	10	Lab deliverable format.
Field ID (For each sample)	Character	15	Unique ID from chain of custody form.
Laboratory ID (For each sample)	Character	15	Unique ID established by the lab.
Date Sampled(For each sample)	Date	10	Format: mm/dd/yyyy
Matrix(For each sample)	Character	10	Air, Soil Gas, Ambient

The file must appear as the following with values in place of the field names and ellipses (**…**) where "n" equals the number of samples:

Site ID
Site Name
Initial Date Sampled
Received at Lab Date
Analysis Complete Date
Laboratory
Number of Samples
Contract Number
Report Form
Sample 1 Field ID
Sample 1 Laboratory ID
Sample 1 Date Sampled
Sample 1 Matrix
Sample 2 Field ID
Sample 2 Laboratory ID
Sample 2 Date Sampled

Sample 2 Matrix
...
Sample n Field ID
Sample n Laboratory ID
Sample n Date Sampled
Sample n Matrix

2.7.3 The Electronic HZSAMPLE and HZRESULT Tables

Due to the uniqueness of air data and the changes to the units that has to occur for Air Data, SRP requires that all electronic data for air be reported in files separate from other matrices.

Additional clarification will be posted on the SRP website as a general notice to all parties. Laboratories and consultants should routinely review the website for additional clarification documents.

The Responsible party must use the HZRESULT Table and merge it with the HZSAMPLE Table to generate the complete file to report to the NJDEP as required by the Technical Requirements for Site Remediation.

2.7.3.1 Acceptable Formats

The Site Remediation Program Electronic Data Interchange Manual (SRP-EDI Manual) contains the required formats for laboratories to submit the HZRESULT table. It allows for any of the three acceptable formats tab-delimited text format (.TXT extension) or FoxPro 2.6 format (.DBF and .FPT extensions), or version 2.X of Lotus 1-2-3 format (.WK1 extension). The 1999 SRP-EDI Manual defines 19 columns that must appear in the HZRESULT table prepared by a laboratory, the length limit and data type of each column, and information required in each. The 1999 SRP-EDI Manual is available for viewing and downloading from the NJDEP web site http://www.state.nj.us/dep/srp/hazsite and in hard copy by calling the NJDEP (609) 292-9418.

NJDEP also distributes checker for the HZRESULT table. The Electronic Data Submission Application (EDSA) checks for certain common inconsistencies with the requirements of the 1999 SRP-EDI Manual. This application and other supporting tools are available for downloading at the NJDEP web site http://www.state.nj.us/dep/srp/hazsite. A CD containing this application and other support tools may be requested from NJDEP by calling (609) 292-9418.

This Appendix has additional requirements not included in the 1999 SRP-EDI Manual. It requires delivery of the HZRESULT table in tab-delimited format only. It requires the analyte names to follow certain conventions established by NJDEP. It also calls for columns added to the table for data elements not mentioned in the 1999 SRP-EDI Manual. The Contract Administrator and/or Department may require additional data elements beyond those described in this Appendix.

The HZRESULT table must omit results from any laboratory-generated quality control samples. It must also omit results for any internal standard, system-monitoring compound or surrogate.

2.7.3.2 Analyte Names

The names of analytes in the HZRESULT table use the spellings listed in the Approved Certified Parameter List that the NJDEP Office of Quality Assurance issued to the laboratory upon certification/accreditation.

2.7.3.3 Additional Data Provided by NJDEP

NJDEP will provide to the laboratory specifications for the first three columns that contain the foreign key used to join the HZRESULT table with the sample table. These fields are SRPID, SAMPDATE and SAMPNUM.

2.7.3.4 Required Reporting of Results (ppbv and ug/m3)

The ppbv values are to be reported exactly as required in the sample data summary forms.

The ug/m3 data is to be reported as follows:

The screening levels have been rounded to 2 significant figures for a value greater than or equal to 10 and to 1 significant figure for a value less than 10, including those less than 1. This approach is used by the USEPA Office of Solid Waste and Emergency Response and is described in the Supplement Guidance for Developing Soil Screening Levels for Superfund Sites, (USEPA, 2001). The rounding rules specified below are contained in Hurlbert (1994).

- If the first number beyond the last significant digit is less than 5, the last significant number remains the same; and the remaining numbers are dropped. For example, 4.438 is rounded to one significant figure, 4 and 44.38 is rounded to 2 significant figures, 44.

- If the first number beyond the last significant digit is more than 5, the last significant number increases by one and the remaining numbers are dropped. For example, 4.638 is rounded to one significant figure, 5 and 46.68 is rounded to 2 significant figures, 47.

- If the first number beyond the last significant digit is exactly 5, then the last digit is rounded to the closest even number. For example, 4.5 is rounded to one significant figure, 4 and 45.4 is rounded to two significant figures, 46.

2.7.3.5 New Requirements for Existing Columns

SAMPNUM in the 3rd HZRESULT column accepts 10 characters, an increase from the 7 allowed in 1999. The Contractor is required to list in this column, the field sample identification number generated by the sampler on the external chain of custody form. The use of the sampler generated field identification sample number provides the only definitive link on the HZRESULT Table for the sampler to the HZSAMPLE Table to

identify the sampling information to a particular sample result generated by the Laboratory. If the HZRESULT table includes more than one set of results for a sample, results of each extra data acquisition such as a dilution or a reanalysis require an identifying suffix on the SAMPNUM value to make it unique to that data acquisition. The suffix may be as short as one character.

SAMPLABID (A.K.A. LABID) in the 4th HZRESULT column accepts 20 characters, an increase from the 12 allowed in 1999. If the HZRESULT table includes more than one set of results for a sample, results of each extra data acquisition require an identifying suffix on SAMPLABID value to make it unique to that data acquisition. The suffix for the SAMPLABID should follow the conventions of the laboratory.

DANALYZ in the 5th HZRESULT column must include both the date and time of day of the data acquisition. The date and time character string can range up to 20 characters.

CONC in the 11th HZRESULT column must contain, for each target analyte, the concentration number expressed in "corrected" units of ug/m3. This column must be completed for the tentatively identified compounds, the results must be same as reported on the Air Methods Summary Table for the sample.

CONCUNITS in the 12th HZRESULT column must state, for each target analyte, the unit of the number in the 11th column, "ug/m3" in this case. For the tentatively identified compounds the required units are ppbv.

The non target compounds concentrations and units must be reported in the “Conc” and “Conc Unit” Columns. Report the actual concentrations detected in the “Conc” columns and for the “Conc Unit” column insert “ppbv”.

MDL in the 15th HZRESULT column must contain, for each target analyte, the Method Detection Limit from the Method Detection Limit report as the numeric value with the units of ppbv.

QUANTTYPE in the 16th HZRESULT column must identify, for each target analyte, the quantitation type as “RL-ppbv.”

QUANTLEVEL in the 17th HZRESULT column must state, for each target analyte, the reporting limit number in ppbv units. That number must be scaled up by the dilution factor if the sample was diluted.

ANLYS_MTHD in the 18th HZRESULT column must state “NJDEP LLTO-15”.

QAQC_SDG (A.K.A. QAQC) in the 19th HZRESULT column must contain the Sample Delivery Group Number. This column accepts 15 characters, an increase from the single character allowed in 1999.

2.7.3.6 Requirements for New Columns.

UNCOR_CONC in the 20th HZRESULT column must contain the concentration number expressed in instrument units of ppbv. This number must include any adjustment for dilution. This column accepts 12 characters.

UNCOR_UNIT in the 21st HZRESULT column must state the units of the 20th column, in this case "ppbv." This column accepts 15 characters.

RETEN_TIME in the 22nd HZRESULT column must contain, for any tentatively identified compound, the retention time in minutes to two decimal places of precision. The retention time is required whether or not a CAS registry number is available for the compound.

DILUT_FAC in the 23rd HZRESULT column must report the dilution factor applied to the sample. For results reported from a diluted sample, this column must contain the dilution factor as a number greater than 1. For results reported from an undiluted sample, this column must contain the dilution factor of 1. This column accepts 12 characters.

2.7.3.7 Unless stated in Sections 2.7.3.5 and 2.7.3.6 above there are no other column changes or clarifications.

2.8 Files on Compact Disc

The Compact Disc (CD) must have the laboratory logo and name of the laboratory as a hologram on the disc label. The SDG number must be on a sticker on the label. The cover slip of cardboard must document the laboratory name, including a sticker with SDG number. The cover slip must be sealed shut for delivery to State/Responsible Party. The following files must be included on the CD.

2.8.1 Adobe™ Portable Document File (PDF) files of the Extended and the Summary Data Reports (format See Section 2.9)
2.8.2 HZresult File
2.8.3 NJDEP-SRWM Air Methods Data Summary Table File
2.8.4 Sample.Txt File

2.9 Delivery of Hardcopy Data in PDF Format

The Contractor/Laboratory shall provide a complete copy of both hardcopy data reports in Adobe™ Acrobat PDF on a Compact Disc (CD). The Adobe™ Acrobat software used to generate the files must be the latest version of the software. The PDF file for Extended Data Report must be organized in accordance to directions provided in Table 2 located in Section 15.0 of this Appendix. The PDF file shall be bookmarked as described below for ease of data retrieval and navigation. The data shall be bookmarked using a hierarchal bookmark structure (i.e., an overview or "parent" bookmark, and a subordinate or "child" bookmark nested underneath the "parent" bookmark). The required hierarchal bookmark structure for the Extended Data Report is shown in Table 2 in Section 15.0 of this Appendix.

The Summary Data Report PDF file is not required to be bookmarked. The Summary Data Report PDF must follow the order established below and report only the required forms as specified in Section 2.5.

If the sampling event includes air methods such as USEPA Method 3C or Method 25C or other air methods in addition to NJDEP-LLTO-15 Method within the same sample delivery group, then the hierarchal bookmark structure must be expanded to the Group Bookmark level for each method. Group Bookmark → Parent Bookmark → Child Bookmark. Each method shall be considered a Group Bookmark. The Group Bookmark for each method would begin at the QC Summary Level. From the "Title Page" through "Method Detection Limit Studies" the documentation for all the methods can be grouped together.

3.0 CHROMATOGRAMS, MASS SPECTRA AND QUANTITATION REPORT REPORTING REQUIREMENTS

The required information on the Chromatograms and Quantitation Reports are the same for the calibration standards, quality control samples, blanks and samples.

3.1 Quantitation Report Requirements

3.1.1 The Quantitation Report that accompanies the chromatogram must contain at a minimum the following information at the top of the Report:

3.1.1.1 Data file identification
3.1.1.2 Report date
3.1.1.3 Injection date and time
3.1.1.4 Operator
3.1.1.5 Sample Identification Number
3.1.1.6 Instrument identification
3.1.1.7 Method file
3.1.1.8 Quantitation type
3.1.1.9 Integrator (instrument type)
3.1.1.10 Version of form generation software
3.1.1.11 Calibration file

3.1.2 The actual data results must be reported with the following information:

3.1.2.1 Compound
3.1.2.2 Retention time
3.1.2.3 Response (area count)
3.1.2.4 Amount (ppbv)

3.1.3 The following additional information must be included in the quantitation report or elsewhere in the data package such as a client specific sample summary report, narrative, final data report, spectral displays or calibration check reports or reports generated through a LIM system. If the information is included elsewhere, then the locations of each must be referenced in the front of the data submission such as in a table of contents or other summary index.

3.1.3.1 Sample information (Field ID number *(indexed to the laboratory ID number)*, date/time of sampling, type of sample)
3.1.3.2 Calibration date (initial calibration end date and time)
3.1.3.3 Dilution factor
3.1.3.4 Concentration formula
3.1.3.5 Expected retention time

3.1.3.6 Delta retention time (Difference between the expected and actual retention times)
3.1.3.7 On-column amount (ppbv)
3.1.3.8 Calculated amount (ppbv)

3.2 Chromatograms

3.2.1 Chromatograms are to be generated using a form generation software. Strip chart data is not acceptable.

3.2.2 The following information must be printed in the top section of the chromatogram page.

3.2.2.1 Sample identification number.
3.2.2.2 Analyst
3.2.2.3 Injection date and time
3.2.2.4 Instrument identification
3.2.2.5 Data file

The column phase/column diameter and a dilution factor are to be included either on the chromatogram page or in another section as described in 3.1.3 above.

3.2.3 Only the internal standards in the chromatograms shall be labeled with the names or retention times on the peaks.

3.2.4 When no compounds are identified in a sample, the chromatograms from the analyses of the sample must use the same scaling factor as was used for the low-point standard of the initial calibration associated with those analyses.

3.2.5 Scaling factors (label the “x” and “y” axis using a numerical scale) must be provided.

3.2.6 Chromatograms must display all target compound peaks and internal standard peaks normalized to full scale for all samples, standards and QC samples. The chromatograms shall be normalized to full scale based on the highest target or internal standard.

3.2.7 If a chromatogram is replotted electronically to meet these requirements, then the scaling factor used must be displayed on the chromatogram.

3.2.8 Data System Printouts - If automated data systems procedures are used for preliminary identification and/or quantitation of the target compounds, then the complete data system report shall be included in all sample data packages. The complete data system report shall include all the information listed below. For Contractors/Laboratories that do not use the automated data system procedures, a laboratory “raw data sheet” containing the following information shall be included in the sample data package in addition to the chromatograms.

3.2.8.1 Comparison of compounds found vs. the library entry
3.2.8.2 Sample identification number
3.2.8.3 Date and time of analysis
3.2.8.4 Retention time or scan number of identified target compounds
3.2.8.5 Ion used for quantitation with measured area
3.2.8.6 Copy of area table from data system
3.2.8.7 GC/MS instrument identifier

3.2.8.8 Laboratory file identifier

In all instances where the data system report has been edited or where manual integration or quantitation has been performed, the GC/MS operator shall identify such edits or manual procedures by initialing and dating the changes made to the report, and shall include the integration scan range. In addition, a hardcopy printout of the EICP of the quantitation ion displaying the manual integration shall be included in the raw data. This applies to all compounds targeted by the method/contract and internal standards.

3.2.9 In all instances where the data system report has been edited or where manual integrations or quantitation has been preformed, the GC/MS Operator shall identify such edits or manual procedures by initialing and dating the changes made to the report and shall include the integration time range. The instrument must automatically mark the integrated area with the letter “M” on the quantitation report. The GC/MS operator shall verify that each integrated area is properly marked on the quantitation report. In addition, a hardcopy printout of the EICP of the quantitation ion displaying the prior to the manual integration and after the manual integration shall be included in the raw data on separate EICP area printouts. The manual integration lines must be clearly distinguishable from the baseline. This applies to all compounds and internal standards compounds.

3.2.10 A separate hardcopy printout (presented on one page) of the manual integration shall be included immediately behind its associated chromatogram. The manual integration lines must be distinguishable from any line that is drawn by the instrument when printed out.

3.2.11 Reconstructed ion chromatograms shall be normalized to the largest target or internal standard and shall be labeled with following header information:

3.2.11.1 Sample identification number.
3.2.11.2 Laboratory data file number
3.2.11.3 Injection date and time
3.2.11.4 Instrument identification
3.2.11.5 Analyst name

3.3 Mass Spectra Requirements

For each sample, by each compound identified, the following items shall be included in the data package:

3.3.1 Copies of raw spectra and copies of background-subtracted mass spectra of target compounds that are identified in the sample and corresponding background-subtracted target compound standard mass spectra must be provided. Spectra shall be labeled with Sample Identification Number, Laboratory File Identifier, date and time of analysis, and GC/MS instrument identifier. Compound names shall be clearly marked on all spectra

3.3.2 When applicable, copies of mass spectra of non target compounds with associated best-match spectra (maximum of three best matches) must be provided. Spectra shall be labeled with Sample Identification Number, Laboratory File Identifier, date and time of analysis, and GC/MS instrument identifier. Compound names shall be clearly marked on all spectra.

4.0 REPORT FORMAT AND DATA REPORT REQUIREMENT INSTRUCTIONS

4.1 The order of the NJDEP Regulatory Format Extended Data Report for NJDEP-LLTO-15 Method is specified in this section. The format is tailored to NJDEP-LLTO-15 Method and differs from the requirements for other methods. The data package must follow the order specified below (unless a similar/equivalent format is submitted and an exception is granted by the Department during the certification process) and meet all the requirements specified below.

4.2 Title Page – NJDEP Form A-1A is a required form. All areas must be completed on the form. The required information includes the following:

4.2.1 Name of Agency which sent the samples to the laboratory
4.2.2 NJDEP or other State agency's case number or name
4.2.3 Contract number (for state work)
4.2.4 Laboratory's name and location
4.2.5 Sample Delivery Group or Batch number
4.2.6 First and last date of sample receipt at the laboratory's facility
4.2.7 Field sample numbers
4.2.8 Laboratory sample numbers
4.2.9 Sample location
4.2.10 Date and time of sample collection
4.2.11 Date of data report
4.2.12 Laboratory Quality Assurance Officer's name and signature
4.2.13 Laboratory Manager's name and signature

4.3 Table of Contents - List on this table list, with a page reference, all topic headings in Sections 4.0 through 13.0 of this Appendix.

4.4 External and Internal Chain of Custody Forms and Shipping Documentation Forms

4.4.1 External and internal laboratory chain of custody documents are required for all data reports submitted to the State. DEP Form-095 (with Shipping Container) is used for samples submitted by all State agencies. The sampler/Responsible Party is required to complete all sections pertaining to sample collection. The Contractor/Laboratory must properly complete the laboratory portions of these forms. Include all air waybills for each SDG, miscellaneous shipping and receiving records.

4.4.2 When chain of custody documentation is missing or contains errors, immediately notify the NJDEP/other State agency/Responsible Party submitting the samples.

4.4.3 For every canister, a NJDEP-LLTO-15 Field Test Data Sheet (FTDS) must be initiated by the Contractor/Laboratory and accompany the canister to the field. The FTDS is completed by the sampler/Responsible Party and returned to the Contractor/Laboratory with the canister.

4.4.4 The Combined External Chain of Custody Record/Field Test Data Sheet (NJDEP Form-95D) can be used in place of the separate External Chain of Custody Record and the NJDEP–LLTO-15 Field Test Data Sheet.

4.4.5 The Contractor must document the internal chain of custody using DEP Form-077 for all State agencies. Full name and signatures are required. All signatures must be legible. The printed name must be the full name of the Contractor's employee

and it must be legible. Illegible chain of custody documentation will result in data rejection.

4.4.6 For Responsible Party Laboratories, in accordance with N.J.A.C 7:26E Technical Requirements for Site Remediation Appendix A Section C, the Internal Chain of Custody is to remain with the samples at all times and bear the name of the person assuming responsibility of the samples and the date. Full names and signatures are required. All signatures must be legible. The printed name must be the full name of the Laboratory's employee and it must be legible. Illegible chain of custody documentation will result in data rejection.

4.4.7 Each sample submitted consists of a canister. Document the internal chain of custody for each canister for this method. Internal chain of custody documentation for all samples may be listed on one (1) form for any given case (group) of samples submitted.

4.4.8 Indicate on the internal chain of custody document all movements of the canister through the laboratory. Show the date and time of relinquishing and accepting of the sample by each individual who handled the sample materials. The chain of custody is terminated only when the sample analysis is complete or the canister is depleted.

4.5 Shipping Documentation

The Contractor/Laboratory must provide all the original shipping documents including, but are not limited to, the following documents:

4.5.1 Air Bills

Include the original air bill in the extended data report. If the air bill was not received, then include a hardcopy receipt requested from the shipping company or a printout of the shipping company's electronic tracking information.

4.5.2 Sample Receipt and Log-In Checklist for Ambient Air Samples

This form is used to document the receipt and inspection of sample containers and samples. One original checklist is required for each sampling event of twenty samples or less (only the hardcopy form is required). The form must contain the information in 4.5.2.1 and 4.5.2.2 below. The Contractor/Laboratory can add additional fields at their discretion. If more than 20 samples are received at one time, multiple Sample Delivery Groups can be listed on the form and copies included in each data report.

4.5.2.1 Required top of page information:

- Laboratory name
- Form name
- Client's name
- Sample delivery group number
- Project name or number
- Date and time received
- Received by (name of person receiving samples)
- Log in date
- Name and signature of staff member who logged in samples

- Signature of project manager
- Date signed by project manager
- Number of shipping containers received
- Samples delivered by (company or person who delivered)
- Listing of air bill numbers

4.5.2.2 The following information must be included in the body of the form. The information must include a yes, no or non-applicable and a comment field for each requirement. The sections are:

Shipping Container Information:

- There is no evidence to indicate tampering
- Custody seals are present and intact
- Custody seals numbers are present
- List of custody seal numbers are present

Sample Condition:

- Sample containers were received intact

Chain of Custody (COC): COC is present and includes the following information for each container:

- Sample ID/Sample Description
- Date of sample collection
- Time of sample collection
- Identification of sampler
- Requested test method(s)
- Necessary signatures
- Internal Chain of Custody (ICOC) required (answer is always yes)

Sample Integrity Usability:

- The sample container matches the COC
- Samples were received within holding time

Anomalies or Non Conformance Summary (Comment section)

4.6 Gas Standards Traceability Certificates

Copies of the Gas Standards Traceability Certificates or Certificates of Analysis for the standard lots supplied by the Commercial Gas Supplier must be provided. The certificates must be in lot number order by increasing number and by method.

4.7 Methodology Review

Indicate by Method and Revision number, the analyses that were conducted on the samples. Use NJDEP Form A-4 - Ambient Air Analysis (10/2006).

4.8 Case Narrative -Use NJDEP Form A -1C or a laboratory facsimile.

4.8.1 The document shall contain in narrative form any item not conforming to the requirements of this contract and/or method, including, but not limited to the discussing of failed Quality Assurance or Quality Control criteria, sample matrix effects on the analysis, sample dilutions, and reanalyses. The Contractor's/Laboratory's document shall include any technical and administrative problems, corrective actions and resolutions.

4.8.2 The Contractor/Laboratory shall document in the narrative all instances of manual integrations and an explanation of all flagged edits (e.g. manual edit) on the quantitation reports. The manual integrations can be documented on a separate printout attached to the case narrative.

4.8.3 The Contractor/Laboratory must certify that gas standards were used in the sample analysis. The commercial supplier of the primary and secondary gas standard must be listed.

4.8.4 For the tentatively identified compounds (TICs) that are being reported, the listing of each alkane and alkene compound with retention time and estimated quantitations are a required part of the case narrative. The alkane and alkene compounds can be documented on a separate printout attached to the case narrative.

4.8.5 The Contractor/Laboratory must document all GC columns used for analysis. List the GC column identifier—brand name, the internal diameter (in mm), the length (in meters), packing/coating material and film thickness. The trap used for volatile analysis must be described here. List the trap name (when denoted by the manufacturer) and its composition (packing material/brand name, amount of packing material, in length, cm). Priority statements on the composition of any part of the column or trap are not acceptable.

4.8.6 The case narrative shall contain the following statement, verbatim: ***"I certify that this data package is in compliance with the terms and conditions of this contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer–readable data submitted on CD/diskette and by electronic mail has been authorized by the laboratory manager or his/her designee, as verified by the following signature."***

4.8.7 This statement shall be directly followed by an original signature of the laboratory manager or his/her designee, with a typed line below it containing the signer's name and title, and date of signature.

4.8.8 Hard Copies of the Excel Data sheets for each sample (field sample, dilutions, RLLCS and blanks) in the format specified by Section 2.7.1 NJDEP-SRP Air Methods Data Summary Table must be provided at the end of the Case Narrative. The order of the excel data sheets should follow the order of the electronic data.

4.8.9 The laboratory must clearly annotate the laboratory practices employed (both routinely and job specifically) with respect to the volume of standards injected, the volume of sample injected, the volume of makeup air used routinely and the volume of makeup air used for dilutions. The Department must be able to historically regenerate the data from the documentation submitted. Each sample, standard and blank analyzed is to include all volume information such that calculations can be easily performed and checked. At a minimum, the routinely employed

amounts/volumes are to be noted in the case narrative and job specific sample, standard and blank amounts/volumes are to be noted in the applicable analysis summary sheets or the run logs and pressure gauge readings sheets.

4.9 Method Detection Limit Summary

The annual method detection limit (MDL) study as required by the NJDEP LLTO-15 method and the NJDEP Laboratory Certification Regulations N.J.A.C 7:18 Sections 5.5(c) 10 & 11 must be submitted. The Method Detection Limit Summary submitted by the laboratory must contain the following information for each compound in a tabular format. All information except for signatures must be computer generated or typed. The order sequence shall be chronological and by instrument if more than one instrument is used.

The required format of the Summary is as follows:

4.9.1 Laboratory Name
4.9.2 Laboratory Location
4.9.3 Matrix Type
4.9.4 Effective Date/Expiration date of MDL Study
4.9.5 Instrument ID and Column ID
4.9.6 Indication if the Instrument is used for Clean Canister Certification Analysis
4.9.7 Compound name
4.9.8 Data for seven replicates
4.9.9 Mean value
4.9.10 True Value
4.9.11 Percent recovery
4.9.12 Standard deviation
4.9.13 Method Detection Limit (ppbv)
4.9.14 Reporting Limit (ppbv)
4.9.15 True Value/MDL
4.9.16 Analyst name and date analyzed
4.9.17 Supervisor name and date (who reviewed study)
4.9.18 Report preparer's name and date prepared
4.9.19 QA Officer name and date signed

4.10 Method Detection Limit Verification Summary (MDLV)

The Verified Method Detection Limit Verification Summary (MDLV Summary) must be submitted with the Method Detection Limit Study (Section 4.9). All information except for signatures must be computer generated or typed. The order sequence shall be chronological and by instrument if more than one instrument is used

The required format of the Summary is as follows:

4.10.1 Top of Page Information

- Instrument Identification
- Date of verification study
- Analysis method
- Cleanup method (if applicable)
- Study identification file name
- Matrix
- Analysis level

- Analyst name
- QA Officer name and date signed

4.10.2 Required Columns

- Analyte name
- CAS number
- MDLV source
- Source study (Laboratory File Identification)
- Source instrument
- Source analysis date
- MDLV concentration (ppbv)
- Reporting Limit (ppbv)
- RL/MDLV ratio
-

5.0 QUALITY CONTROL DATA SUMMARY

5.1 Reporting Limit Laboratory Control Sample (RLLCS) Summary

5.1.1 Record the RLLCS sample data on a laboratory-generated form.

5.1.2 If more than one form is necessary, forms shall be arranged in chronological order by date of analysis.

5.1.3 The reporting form must comply with the requirements of Sections 2.4.4 and 2.4.5 of this Appendix.

5.1.4 The method required control limits must be provided. The percent recovery is to be calculated for each compound to the nearest whole percent. All Percent Recoveries outside of Quality Control (QC) Limits are to be flagged with an asterisk "*" in the QC Limit column.

5.1.5 The following columns are required on the form for each compound:

- Amount added (ppbv)
- Amount recovered (ppbv)
- Percent recovery
- QC limits

5.2 Method Blank Summary

5.2.1 Record the method blank summary on a laboratory-generated form. Record all samples, dilutions, reanalyses, RLLCSs and any other QC samples analyzed with the method blank.

5.2.2 If more than one form is necessary, forms shall be arranged in chronological order by date of analysis.

5.2.3 The reporting form must comply with the requirements of Sections 2.4.4 and 2.4.5 of this Appendix.

5.2.4 The GC column and the internal diameter must be listed on the form or noted elsewhere in the data package.

5.2.5 The following columns are required on the form. The samples, dilutions, reanalyses, RLLCS and any other QC samples associated with the method blank are to be listed in this section.

- Field sample identification number
- Laboratory sample identification number
- Time and date of analysis

Note: The actual analytical results for the method blank are reported in another section.

5.3 Instrument Performance Check Summary

5.3.1 Report the Instrument Performance Check data on a laboratory-generated form. Include in the listing all calibrations, samples and QC samples associated with each tune. (Identification number, date and time of each injection must be listed.

5.3.2 If more than one form is necessary, forms shall be arranged in chronological order by date of analysis.

5.3.3 The reporting form must comply with the requirements of Sections 2.4.4 and 2.4.5 of this Appendix.

5.3.4 The GC column and internal diameter must be listed on the form or noted elsewhere in the data package.

5.3.5 The time and date of the injection of the Instrument Performance Check standard.

5.3.6 For each required ion, enter the percent relative abundance in the right hand column of the top table. All relative abundances must be reported as a number. If the relative abundance is zero enter ”0” not a “-“ (dash) or other non-numeric character. Where calculations are required such as a % of a particular ion as the reporting for certain mass, both numbers must be provided with the calculated number in parentheses.

5.3.7 In the lower table, list all the samples (including dilutions and reanalyses), standards, blanks and RLLCS samples analyzed under that instrument performance check. The following fields must be included in the lower table and completed for each acquisition:

- Field Sample Number
- Lab Sample Number
- Date Analyzed
- Time Analyzed

5.3.8 All of summary forms listing samples (including dilutions and reanalyses), standards, blanks and RLLCS samples, must contain either an initial calibration sequence or an opening continuing calibration verification standard. A Closing continuing calibration verification standard must be listed on all forms.

5.4 Internal Standard and RT Summary

5.4.1 Record internal standard responses and retention times of the internal standards on a laboratory-generated form. The upper and lower limits as required by the method must be provided on the form. The retention time difference must be reported from the latest daily 24-hour calibration standard or mean retention time over the initial calibration range.

5.4.2 If more than one form is necessary, forms shall be arranged in chronological order by date of analysis. Each valid calibration is required to have a separate form.

5.4.3 The reporting form must comply with the requirements of Sections 2.4.4 and 2.4.5 of this Appendix.

5.4.4 Enter the date and time of the most recent valid calibration. If the most recent valid calibration is an initial calibration, internal standard area response and retention times in the 10 ppbv standard are used for evaluation against the samples.

5.4.5 For each internal standard used list the internal area response and calculate the upper and lower limits for each internal area response and the retention time.

5.4.6 The retention time limits are $\pm$ 20 seconds ($\pm$ 0.33 minutes) from the most recent valid calibration as defined in NJDEP-LLTO-15 Method Section 22 or the mean retention time over the initial calibration range.

5.4.7 The internal standard area response limits are $\pm$ 40 % between the sample, blank, or QC samples and the valid calibration used.

5.4.8 For each valid calibration list in a table format each internal standard, the area response and retention time report and the upper and lower control limits for both the area response and retention time.

5.4.9 In a table below the valid calibration internal standard area response information, list each sample, including dilutions, reanalyses, blanks, RLLCS samples or other QC samples for that given valid calibration. The Field Sample Identification number should be used to identify each field sample. All entries must have the internal area response and the retention time for each internal standard listed. If either the internal area response or the retention time for a particular internal standard exceed the specified limits an asterisk "*" must be place next to the number being reported as a superscript to the right of the number.

6.0 SAMPLE DATA SUMMARY

The laboratory shall place sample packages in order of increasing sample number considering both letters and numbers.

6.1 Record quantitative results, UNCORRECTED for blank and method detection limits on a laboratory-generated form in accordance with the requirements listed below.

6.1.1 Report all data to two (2) significant figures on the summary form. For example, (i.e., if 0.53 ppbv, report 0.53 ppbv; if the value is 9.7 ppbv, report 9.7 ppbv; if the value is 10.3 ppbv, report 10 ppbv; if the value is 116 ppbv report 120

ppbv). The results reported on the summary form should be the same number as the calculated amount (ppbv) from the quantitation report.

6.1.2 The laboratory shall use the calculated amount (ppbv) from the quantitation report in Section 3.1.2 corrected for any dilutions and preparation factors, for the calculation of the ug/m3 results. After the result is converted to ug/m3, the rounding rules in Section 2.7.1.22 are to be used for the reporting of the ug/m3 data on the NJDEP-SRWM Air Methods Data Summary Table.

6.2 Report all data in ppbv concentration units. Do not report data in ug/m3 on this form. (Conversion of data to ug/m3 will occur on NJDEP-SRP Air Methods Data Summary Table.)

6.3 Do not report values less than the reporting limits for a compound. Data cannot be reported down to the MDL for any compound. If the compound is detected by the instrument at less than the Reporting Limit, the sample data for that compound is to be reported at the required reporting limit with the "U" qualifier (Example 0.20 U ppbv).

6.4 Do not report any data using the Method Detection Limit as the Reporting Limit for any compound.

6.5 Record sample data on a laboratory-generated form. A separate form must be provided for each acquisition.

6.6 Compounds that exceed the upper limit of the initial calibration are to be reported with an "E" qualifier as defined in Section 14.0.

6.7 Each diluted sample must be reported on a separate form.

6.7.1 Compounds whose concentrations that exceeded the upper limit of the initial calibration in the initial analysis and then after dilution are within the calibration range are to be reported with a "D" qualifier as defined in Section 14.0.

6.7.2 Compounds that are reported in the diluted sample that did not require dilution shall be reported down to the adjusted reporting limit with the "D" qualifier applied.

6.7.3 Compounds that are reported in the diluted sample and not reported in the undiluted sample must be reported without a "D" qualifier. Instead qualify the data with the laboratory defined qualifier "X". See Section 14.0 for additional information.

6.8 The following information, at a minimum, is required to be on each form, in addition to the requirements of Sections 2.4.4 and 2.4.5 of this Appendix.

6.8.1 Matrix type (Air)
6.8.2 Sample volume (ml)
6.8.3 Laboratory sample identification number
6.8.4 Laboratory file identification number
6.8.5 GC Column type and internal diameter (may be noted elsewhere)
6.8.6 Date received
6.8.7 Date analyzed
6.8.8 Dilution factor
6.8.9 The table summarizing the compound results information must contain the following:

- CAS Number for all target compounds
- Compound name
- Concentration units (ppbv)
- Concentration reported
- Laboratory qualifier applied

6.9 The quantitation reports, associated chromatograms and mass spectra must be provided for each sample acquisition including each dilution. These documents must immediately follow the Sample Data Summary Form. The chromatograms, mass spectra and data system reports must comply with Section 3.0.

6.10 Sample Mass Spectra

6.10.1 The mass spectra must comply with section 3.3 of this Appendix.

6.10.2 Copies of raw spectra and copies of background-subtracted mass spectra of volatile compounds listed in the method that are identified in the sample and corresponding background-subtracted target compound standard mass spectra must be provided.

6.10.3 Spectra must be labeled with sample ID number, lab file identifier, date and time of analysis. The GC/MS instrument identifier and compound names shall be clearly marked on all spectra.

6.10.4 Negative Proof: Submit a copy of the standard mass spectrum and a copy of the non-confirmed mass spectrum in the data report when GC/MS analysis indicates the presence of a target list compound at a concentration greater than the reporting limit (RL) but examination of the standard mass spectrum and corresponding mass spectrum do not confirm the presence of the compound in the sample.

6.11 Tentatively Identified Compounds (TICs)

The laboratory shall report any Tentatively Identified Compounds for all samples, blanks and clean canister certification data. The following is required. The TIC compounds are the non-target compounds not listed in the NJDEP-LLTO-15-3/2007 Method.

6.11.1 Tentatively Identified Compounds are to be reported on a laboratory-generated form. A separate form must be provided for each acquisition (including all reanalyses and blanks). The form must be reported even if no TICs are found.

6.11.2 The sample specific Tentatively Identified Compounds Summary form must follow the sample data summary form for each sample.

6.11.3 Any diluted sample must be reported on a separate form.

6.11.4 Report all data in ppbv concentration units. Do not report data in ug/m3 on this form. (Conversion of data to ug/m3 will occur on NJDEP-SRWM Air Methods Data Summary Table.)

6.11.5 The following information is required to be on each form, in addition to the requirement of Sections 2.4.4 and 2.4.5 of this Appendix.

6.11.5.1 Matrix type (Air)
6.11.5.2 Sample volume (ml)
6.11.5.3 Laboratory sample ID
6.11.5.4 Laboratory file ID
6.11.5.5 GC Column and ID
6.11.5.6 Date received
6.11.5.7 Date analyzed
6.11.5.8 Dilution factor
6.11.5.9 The table summarizing the non target compound results information must contain the following:

- CAS Number (if available)
- Compound name
- Retention time
- Estimated concentration units (ppbv)
- Laboratory qualifier applied

6.11.6 Up to 30 non-alkane and non-alkene tentatively identified compounds (TICs) of greatest apparent concentration shall be reported on TIC form.

6.11.7 Peaks that are tentatively identified as straight-chain, branched, or cyclic alkanes, and are alone or part of an alkane series, shall be reported as "total alkanes" on the TIC Reporting form. An alkane is defined as any hydrocarbon with the generic formula CnH2n+2 (straight-chain or branched) or CnH2n (cyclic) that contains only C-H and C-C single bonds. The concentrations of each of the alkanes are to be summed and reported as a single result for the "total alkanes". Peaks that are tentatively identified as straight-chain, branched, or cyclic alkenes, and are alone or part of an alkene series, shall be reported as "total alkenes" on the TIC Reporting form. The concentrations of each of the alkenes are to be summed and reported as a single result for the "total alkenes". Documentation for the tentative identification of each alkane and each alkene shall be supplied in the hard copy deliverable packages. The alkanes and alkenes are not to be counted as part of the 30 compounds individually reported as TICs on the TIC Form. A listing of the alkane and alkene compounds, with retention time and estimated concentrations are part of the case narrative of the data report or a summary report my be included in the with the detailed estimated concentrations and retention times included in a separate section of the TIC section of the data package..

6.11.8 Carbon dioxide and compounds with responses less than 10% of the internal standard area from which they are to be quantified (as determined by inspection of the peak areas or height) are not to be reported (nor are they to be counted as part of the 30 compounds that are to be reported).

6.11.9 TICs shall be reported in chronological order for blank contaminants. TICs shall be reported in chronological order with respect to Retention Times. Report the concentration to two significant figures. Retention times shall be reported in minutes and decimal minutes, **not** seconds or minutes:seconds. Two significant figures are required for the decimal minutes.

7.0 STANDARDS DATA SECTION

7.1 Initial Calibration Form Summary and Raw Data

7.1.1 The data summary for the Initial Calibrations must be recorded on a laboratory-generated form.

7.1.2 The order sequence shall be chronological and by instrument if more than one instrument is used.

7.1.3 The Initial Calibration Data Summary report, in addition to the requirements of Sections 2.4.4 and 2.4.5 of this Appendix, must contain the following information at the top of the page of the form:

- Calibration file names
- Instrument identification
- Column type and name (may be noted elsewhere)

The start and end calibration dates and times should be included in this section. However, as a substitute, individual calibration time and date standard information included in the respective quantitation reports of the standards may be noted.

The table summarizing the calibration information must contain the following:

- Calibration file name or identifier by level established in the calibration file name above
- Name of compound (Truncated names are only allowed if the truncated name is referenced to the full name of the compound listed elsewhere in the data package.)
- Relative Response Factor of Standard analyzed
- Average Relative Response Factor
- % Relative Standard Deviation

(A list of the associated samples is to be included either in this section or elsewhere in the data package.)

7.1.4 The quantitation reports and chromatograms for each of the calibration standards associated with the initial calibration must immediately follow the initial calibration summary form. Spectra are required only for compounds that undergo manual integration.

7.2 Initial Calibration Verification Sample Standard Form Summary and Raw Data

7.2.1 The data summary for the Initial Calibration Verification Sample Standard must be recorded on a laboratory-generated form.

7.2.2 The order sequence shall be chronological and by instrument if more than one instrument is used.

7.2.3 The form must comply with the requirements of Sections 2.4.4 and 2.4.5 of this Appendix.

7.2.4 The method required control limits must be provided. The percent recovery is to be calculated for each compound to the nearest whole percent (two significant figures). All Percent Recoveries outside of Quality Control (QC) Limits are to be flagged with an asterisk "*" in the QC Limit column.

7.2.5 The following columns are required on the form for each compound:

- Amount added (ppbv)
- Amount recovered (ppbv)
- Percent recovery
- QC limits

7.2.6 The quantitation report and chromatograms for each ICV Sample Standard must immediately follow that ICV Sample Standard summary form. Spectra are required only for compounds that undergo manual integration.

7.2.7 The volumes used/injected must be noted.

7.3 Continuing Calibration Form Summary and Raw Data (Opening and Closing)

7.3.1 The data summary for all the Continuing Calibrations must be recorded on a laboratory-generated form.

7.3.2 The order sequence shall be chronological and by instrument if more than one instrument is used.

7.3.3 The Continuing Calibration Data Summary report, in addition to the requirements of Sections 2.4.4 and 2.4.5 of this Appendix, must contain the following information in the header of the form.

- Laboratory file ID
- Calibration date and time
- Instrument identification
- Column type and name (may be noted elsewhere)

Start and end times of the initial calibration dates and times are to be included in this section. However, as a substitute, individual calibration time and date standard information included in the respective quantitation reports of the standards may be noted.

The table summarizing the calibration information must contain the following:

- Name of compound (Truncated names are only allowed if the truncated name is referenced to the full name of the compound listed elsewhere in the data package.)
- Relative Response Factor of standard analyzed
- Average Relative Response Factor
- % Difference
- Maximum % Difference allowed by method

(A list of the associated samples is to be included either in this section or elsewhere in the data package.)

7.3.4 The quantitation report and chromatogram for each calibration standard associated with the continuing calibration standard must immediately follow each continuing (opening or closing) calibration summary form. Spectra are required only for compounds that undergo manual integration.

7.3.5 The volumes used/injected must be noted.

8.0 RAW QC DATA PACKAGE

8.1 Instrument Performance Data

The following information is required:

8.1.1 Instrument Performance Data shall be arranged in chronological order by instrument for each 24-hour period, for each GC/MS system utilized. Table 3 of USEPA Method TO-15 lists the required BFB key ions and ion abundance criteria. If different criteria are used, it must have been pre-approved by the NJDEP Office of Quality Assurance.

8.1.2 Bar graph spectrum must be labeled as per section 3.0 of this Appendix.

8.1.3 Mass listing, labeled as per Section 3.0 of this Appendix.

8.1.4 Reconstructed total ion chromatogram, labeled as per Section 3.0 of this Appendix.

8.1.5 The reporting form must comply with the requirements of Sections 2.4.4 and 2.4.5 of this Appendix.

8.2 Blank Data (includes Method Blanks and any Instrument Blanks)

8.2.1 Blank data shall be arranged by type of blank (method blanks, instrument blanks) and shall be in chronological order by instrument and date of analysis.

8.2.2 The Blank Data Summary must be reported as per the requirements of Sections 2.4.4 and 2.4.5 of this Appendix.

8.2.3 Tabulated results must be provided on a laboratory-generated form for the target compounds that is the same form used for the sample data.

8.2.4 The quantitation reports associated chromatograms and mass spectra must be provided for each sample acquisition including dilutions. For each acquisition, these documents must immediately follow the Sample Data Summary form for the method blank. The chromatograms, mass spectra and data reports must be labeled as required by Section 3.0 of this Appendix.

8.2.5 Do not report values less than the reporting limits for a compound. Data is not to be reported down to the MDL for any compound. If the compound is detected by the instrument at less than the Reporting Limit, the sample data for that compound is to be reported at the method required reporting limit with the “U” qualifier (Example 0.2 U ppbv).

8.2.6 The Blank Data summary must comply with Section 6.0 of this Appendix.

8.2.7 Tentatively Identified Compounds detected in any blank must be reported in accordance with Section 6.0 of this Appendix.

8.3 Reporting Limit Laboratory Control Samples

The following information is required.

8.3.1 Reporting Limit Laboratory Control Sample (RLLCS) data shall be arranged in chronological order by instrument and date of analysis.

8.3.2 The reporting form must comply with the requirements of Sections 2.4.4 and 2.4.5 of this Appendix.

8.3.3 Tabulated results on a laboratory-generated form for the target compounds (the same form used for the sample data) as required by Section 6.0 of this Appendix.

8.3.4 RLLCS reconstructed ion chromatograms and data system reports for each QC sample. Mass spectra are not required unless manual integration has been conducted on a compound.

8.3.5 The chromatograms, data system reports and mass spectra (if applicable) must be labeled as required by Section 3.0 of this Appendix.

8.3.6 All results for the RLLCS that are less than the required reporting limits must be reported in addition to the results that are above the required reporting limits.

9.0 CLEAN CANISTER CERTIFICATION DATA

The laboratory must submit the following QC summary information supporting the verification that the canister used to certify the batch of canisters as clean. The format must comply with Sections 2.4.4 and 2.4.5 of this Appendix. If more than one set of clean canisters are needed for a sample delivery group, all sets of data shall be arranged in chronological order by date of analysis.

9.1 Summary QC Data

9.1.1 Reporting Limit Laboratory Control Sample Summary

See Section 5.1 of this Appendix for reporting requirements.

9.1.2 Method Blank Summary Data Report

See Sections 5.2 and 8.2 of this Appendix for reporting requirements.

9.1.3 Instrument Performance Check Summary

See Section 5.3 of this Appendix for reporting requirements.

9.1.4 Internal Standard and RT Summary

See Section 5.4 of this Appendix for reporting requirements

9.1.5 Initial Calibration Summary

Report the initial calibration information in compliance with Sections 7.1.1 through 7.1.3 of this Appendix.

9.1.6 Initial Calibration Verification Sample Standard Summary

Report the initial calibration information in compliance with Sections 7.2.1 through 7.2.4 of this Appendix.

9.1.7 Continuing Calibration Summary (opening and closing)

Report the continuing calibration information in compliance with Sections 7.3.1 through 7.3.3 of this Appendix.

9.2 Clean Canister Data

9.2.1 The actual clean canister data shall consist of the following. If more than one canister is used to certify all the canisters in the SDG are clean, the Contactor shall place sample packages in order of increasing sample number considering both letters and numbers.

9.2.2 The Clean Canister Data must be reported as per the requirements of Sections 2.4.4 and 2.4.5 of this Appendix.

9.2.3 The quantitation reports, associated chromatograms and mass spectra must be provided for each clean canister sample acquisition including dilutions. For each acquisition, these documents must immediately follow the Sample Data Summary Form. The chromatograms, mass spectra and data system reports must comply with Section 3.0.

9.2.4 The data reporting format must comply with Section 6.0 of this Appendix.

9.2.5 Do not report values less than the reporting limits for a compound. Data cannot be reported down to the MDL for any compound. If the compound is detected by the instrument at less than the Reporting Limit, the sample data for that compound is to be reported at the method required reporting limit with the "U" qualifier (Example 0.2 U ppbv).

9.2.6 In the extended data report, the Clean Canister Data can be submitted after the other summary reporting form or can be submitted following the Internal Standard Area and Retention Time Summary (9.1.4) and be prior to the Initial Calibration Summary (9.1.5). This is the same order as the Table 2 format.

10.0 INSTRUMENT RUN LOG

The field samples instrument run log is to be presented first, followed by the clean canister instrument run log.

10.1 Copies of the actual logbook page(s) must be provided.

10.2 The Instrument run log for the associated initial calibration must be included.

10.3 The Instrument run log for the continuing calibration must start with the injection of the opening continuing calibration verification standard and end with the closing calibration verification standard.

10.4 If manual integration is conducted on an acquisition, then it must be noted in the comment section.

10.5 The following information must be included at the top of the page of the instrument run log page:

- Laboratory name
- Instrument identification
- Column
- Date(s) of analyses
- Analyst name and signature
- Supervisor name and signature
- Sample Delivery Group Number (Project Identification No)
- Target directory for files
- Initial calibration date

The columns of the table must be labeled as follows:

- Injection order number (must be chronological)
- Laboratory sample ID number.
- Preparation batch ID number
- Sequence name/batch
- Dilution factor
- QC Check (indicating that the sample passed Quality Control)
- Analyst initials
- Comments
- Injection volume
- Volume of make-up air added to canister (if applicable)
- Volume of make-up air added for dilution (if applicable)

11.0 PRESSURE GAUGE READINGS

Copies of the actual logbook pages on which the initial and final pressure gauge readings are recorded must be provided for all analyses. This includes all pressures before and after make-up gas may have been added as a function of routine procedures or dilutions.

12.0 CANISTER DILUTION CALCULATIONS

The laboratory must submit the following information in a table format:

- Laboratory name
- Laboratory Sample Number or Field Sample Number
- Initial pressure (“Hg”)
- Initial atmosphere
- Initial psia
- Initial volume of canister (L)
- Dilution factor
- Final pressure (“Hg)
- Final psia
- Final atmosphere
- Final volume of canister (L)
- Required footnotes must be defined in chart
- x”Hg” =
- Atm =

- Psia=
- Psig=

13.0 SCREENING DATA

If the laboratory screens the samples prior to analysis, all screening data must be included in this section. Include all instrument outputs, including strip charts from screening activities.

14.0 DATA REPORTING QUALIFIERS

The method does not specify the use of data qualifiers. However, NJDEP has identified the data qualifiers that must be used to report the data.

U- This flag indicates the compounds was analyzed for but not reported. The RL shall be adjusted if dilutions are required.

B- This flag is used when an analyte is found in the associated method blank as well as the sample. It indicates probable blank contamination and warns the data user to take appropriate action. The combination of flags "BU" or "UB" is expressly prohibited. Blank contaminants are flagged "B" only when they are detected in a sample above the Reporting Limit.

E- This flag indicates a compound whose concentration exceeds the upper calibration level of the calibration range of the instrument for that specific analysis. If one or more compounds have a response greater than the upper level of the calibration range, the sample shall be diluted and reanalyzed according to the requirements of the method. All compounds with a response greater than the upper level of the calibration range shall have the concentration flagged with an "E" on the Sample Data Summary Reporting Form.

D- If a sample is reanalyzed at a higher dilution factor, for example when the concentration of an analyte exceeds the upper calibration range, the DL suffix is appended to the sample number on the Sample Data Summary Reporting Form for the more diluted sample, and all reported concentrations on that form are flagged with a "D" flag. This flag alerts data users that any discrepancies between the reported concentrations maybe due to dilution of the sample.

Note 1: The "D" flag is not applied to compounds that are not detected in the original sample analysis.

Note 2: Separate Sample Data Summary Reporting Forms are required for reporting the original analysis and the more diluted sample analysis. The results **cannot be combined** on a single reporting form. Results are to be combined only in the electronic (excel) LL TO15 Conversion Tables.

J- This flag indicates an estimated concentration for Tentatively Identified Compounds (TICs) where a 1:1 response is assumed.

N- This flag indicates presumptive evidence of a compound. This flag is used only for Tentatively Identified Compounds, where the identification is based on a mass spectral library search and must be used in combination with the "J" flag. It is applied to all

Tentatively Identified Compounds results. For generic characterization of a TIC, such as chlorinated hydrocarbon, or for an "unknown" (no matches $\geq$ 85%), the "N" flag is not used.

X- Other specific flags may be required to properly define the results. If used the flags shall be fully described with the description in the case narrative. Begin by using “X”. If more than one flag is required, use “Y” and “Z” as needed. If more than five qualifiers are required for a sample result, use the X flag to represent a combination of several flags. The laboratory-defined flags are limited to “X”, “Y”, and “Z”.

15.0 FORMS AND TABLES

Note: No page numbers exist for this section.

Table 1 List of Required Compounds, Molecular Weights and CAS Numbers

Table 2 Extended Data Package Hierarchal Bookmark Structure

Internal Chain of Custody Form (NJDEP Form-95C)

External Chain of Custody Form (NJDEP Form-77)

Internal Chain of Custody Form (NJDEP Form-95C)

Combined External Chain of Custody Record/Field Test Data Sheet (NJDEP Form-95D)

NJDEP LLTO-15 Field Test Data Sheet (NJDEP Form-95E)

Title Page – NJDEP Form A-1A

Case Narrative - NJDEP Form A -1C

Methodology Summary NJDEP Form A-4 - NJDEP-LLTO-15 Method-3/2007

NJDEP LLTO-15 QA Form 2006 No Calculations (The file here is example only, the actual reporting format is provided as a separate excel file)

TABLE 1

LIST OF REQUIRED COMPOUNDS, MOLECULAR WEIGHTS AND CAS NUMBERS

This Table contains the required compounds and their associated molecular weights and CAS numbers. The information in this table must be used for the reporting of the analytical data to NJDEP. Changes to the compound names, CAS numbers and molecular weights are not allowed for reporting of the data to the State of New Jersey.

Compound Name	*CAS Number*	*Molecular Weight*
Acetone	67-64-1	58.08
Allyl chloride	107-05-1	76.53
Benzene	71-43-2	78.11
Bromodichloromethane	75-27-4	163.8
Bromoform	75-25-2	252.8
Bromomethane	74-83-9	94.94
1,3-Butadiene	106-99-0	54.09
Chlorobenzene	108-90-7	112.6
Chloroethane	75-00-3	64.52
Chloroform	67-66-3	119.4
Chloromethane	74-87-3	50.49
Carbon disulfide	75-15-0	76.14
Carbon tetrachloride	56-23-5	153.8
2-Chlorotoluene	95-49-8	126.6
Cyclohexane	110-82-7	84.16
Dibromochloromethane	124-48-1	208.3
1,2-Dibromoethane	106-93-4	187.9
1,2-Dichlorobenzene	95-50-1	147.0
1,3-Dichlorobenzene	541-73-1	147.0
1,4-Dichlorobenzene	106-46-7	147.0
Dichlorodifluoromethane	75-71-8	120.9
1,1-Dichloroethane	75-34-3	98.96
1,2-Dichloroethane	107-06-2	98.96
1,1-Dichloroethene	75-35-4	96.94
1,2-Dichloroethene (cis)	156-59-2	96.94
1,2-Dichloroethene (trans)	156-60-5	96.94
1,2-Dichloropropane	78-87-5	113.0
1,3-Dichloropropene (cis)	10061-01-5	111.0
1,3-Dichloropropene (trans)	10061-02-6	111.0
1,2-Dichlorotetrafluoroethane	76-14-2	170.9
1,4-Dioxane	123-91-1	88.12
Ethanol	64-17-5	46.07
Ethylbenzene	100-41-4	106.2

Compound Name	*CAS Number*	*Molecular Weight*
4-Ethyltoluene	622-96-8	120.2
n-Heptane	142-82-5	100.2
1,3-Hexachlorobutadiene	87-68-3	260.8
n-Hexane	110-54-3	86.17
Isopropanol	67-63-0	60.10
Methylene chloride	75-09-2	84.94
Methyl ethyl ketone	78-93-3	72.11
Methyl isobutyl ketone	108-10-1	100.2
Methyl methacrylate	80-62-6	100.12
Methyl tert-butyl ether	1634-04-4	88.15
Styrene	100-42-5	104.1
Tert-butyl alcohol	75-65-0	74.12
1,1,2,2-Tetrachloroethane	79-34-5	167.9
Tetrachloroethene	127-18-4	165.8
Tetrahydrofuran	109-99-9	72.11
Toluene	108-88-3	92.14
1,2,4-Trichlorobenzene	120-82-1	181.5
1,1,1-Trichloroethane	71-55-6	133.4
1,1,2-Trichloroethane	79-00-5	133.4
Trichloroethene	79-01-6	131.4
Trichlorofluoromethane	75-69-4	137.4
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	187.4
1,2,4-Trimethylbenzene	95-63-6	120.2
1,3,5-Trimethylbenzene	108-67-8	120.2
2,2,4-Trimethylpentane	540-84-1	114.2
Vinyl bromide	593-60-2	106.9
Vinyl chloride	75-01-4	62.50
Xylenes (m&p)	179601-23-1	106.2
Xylenes (o)	95-47-6	106.2

TABLE 2

EXTENDED DATA PACKAGE HIERARCHAL BOOKMARK STRUCTURE

Parent Bookmark	Child Bookmark
Title Page	
Table of Contents	
External Chain of Custody or External Chain of Custody/ Field Test Data Sheet	
Internal Chain of Custody	
Field Test Data Sheet (if applicable)	
Shipping Documentation	Air bills (If Applicable)
	Sample Receipt and Log In Check List
Copies of Traceability Certificates from Commercial Gas Standard Suppliers- Certificates of Analysis	
Methodology Review	
Case Narrative	Case Narrative
	Manual Integration Documentation
	TIC—alkane/alkene Identification Documentation
	Data Sheets in Excel - Copies of the Microsoft Excel Reporting Sheets
Method Detection Limit Studies	Method Detection Limit Study Summary
	Verified MDL Summary
QC Summary Data	Reporting Limit Laboratory Control Sample Summary
	Method Blank Summary
	Instrument Performance Check
	Internal Standard and RT Summary
Sample Data	Samples by increasing alphanumeric field sample number order (with supporting raw data).
Standards Data	Initial Calibration
	Initial Calibration Verification Sample Standard Summary
	Continuing Calibration Summary(ies) including Closing CCV
	Chromatograms and Data System Printouts (See note below)
Raw QC Data	GC/MS Tune Performance Data
	Blank Data (method and Instrument blanks)
	Reporting Limit Laboratory Control Sample Data
Clean Canister Certification Data In chronological date order for each clean canister	Laboratory Control Sample Summary
	Method Blank Summary and Data Report
	Instrument Performance Check
	Internal Standard Area and RT Summary
	Clean Canister Data by increasing alphanumeric laboratory sample number Order (with supporting raw data).
	Initial Calibration Summary

	Initial Calibration Verification Sample Standard Summary
	Continuing Calibration Summary(ies) including Closing CCV
Sample Preparation	Instrument Run Logs (sample data run logs)
	Instrument Run Logs (clean canister run logs)
	Pressure Gauge Readings
	Canister Dilution Calculation (If Applicable)
	Screening Data
Last Page of Document	

Note: The quantitation reports and chromatograms for each of the calibration standards associated with the initial calibration must immediately follow the initial calibration summary form. Spectra are only required for compounds that undergo manual integration.

The quantitation report and chromatograms for each ICV Sample Standard must immediately follow that ICV Sample Standard summary form. Spectra are only required for compounds that undergo manual integration.

The quantitation report and chromatogram for each calibration standard associated with the continuing calibration standard must immediately follow each continuing (opening or closing) calibration summary form. Spectra are only required for compounds that undergo manual integration.

New Jersey Department of Environmental Protection

External Chain of Custody and Sample Analysis Request Form

(With Shipping Container)

Laboratory Information

Name of Laboratory: _____ *Individual Preparing Sample Bottles and Shipping Container(s)*

Address: _____ Name: _____

_____ Title: _____

Time/Date Sample Shipping Container Sealed: _____ Laboratory Affixed Seal Number: _____

NJDEP Information

Division: _____ Bureau: _____ Phone: ( ) _____ Job Number: _____

Requested Analysis

NJDEP Field Sample Number	Time/Date Sampling Start	Time/Date Sampling Stop	Parameter	Method	Preserv.	Container Volume	Container Quantity	Matrix

Preservative Added: (Check One) ☐ Laboratory ☐ Field ☐ Unpreserved

Contract Number: _____ Task Number: _____ Report Format: _____

External Chain of Custody

Relinquished	Received	Time/Date	Reason For Change of External Custody
XXXXXXXXXXXXXXXX			Break Seal/Sample

Individual Resealing Shipping Container: Name: _____ Title: _____

Time/Date Sample Shipping Container Resealed: _____ NJDEP Affixed Seal Number: _____

Time/Date Sample Shipping Container Opened: _____

Time/Date Internal Chain of Custody Initiated on NJDEP Form 077 (Internal Chain of Custody): _____

Distribution: ☐ – Original (Sent With Report) ☐ – Contractor Spare, Retain With Report File
☐ – Sample Custodian ☐ – NJDEP Sampling Personnel

New Jersey Department of Environmental Protection

Internal Chain of Custody

Instructions: Use 1 form for each 20 samples of aliquot.

Laboratory Person Breaking Field Seal on Sample Shuttle & Accepting Responsibility for Sample	
Laboratory: ______________________	Location: ______________________
Name: ______________________	Title: ______________________
Field Sample Seal No.: ______________ Date Broken: ____/____/____	Military Time Seal Broken: ______________
Case No.: ______________________	Analytical Parameter/Fraction: ______________________

Sample No.	Aliquot/Extract No.	Sample No.	Aliquot/Extract No.

Date	Time	Relinquished By	Received By	Purpose of Change of Custody
		SIGNATURE PRINTED NAME	SIGNATURE PRINTED NAME	
		SIGNATURE PRINTED NAME	SIGNATURE PRINTED NAME	
		SIGNATURE PRINTED NAME	SIGNATURE PRINTED NAME	
		SIGNATURE PRINTED NAME	SIGNATURE PRINTED NAME	
		SIGNATURE PRINTED NAME	SIGNATURE PRINTED NAME	
		SIGNATURE PRINTED NAME	SIGNATURE PRINTED NAME	
		SIGNATURE PRINTED NAME	SIGNATURE PRINTED NAME	
		SIGNATURE PRINTED NAME	SIGNATURE PRINTED NAME	
		SIGNATURE PRINTED NAME	SIGNATURE PRINTED NAME	

Distribution: White – Original (Sent With Report) Yellow – Contractor Archive Pink – Sample Custodian – Interim Copy

DEP-095D

Air Methods – External Chain of Custody Record/Field Test Data Sheet
New Jersey Department of Environmental Protection

December 2006

Laboratory Information

Laboratory Name: _____
Address: _____
City/State/Zip: _____
Phone: _____
FAX: _____

Individual Preparing Canister/Containers
Name: _____
Title: _____
Laboratory Affixed Seal Number: _____
Time/Date Sample Shipping Container Sealed: _____

NJDEP Information

Project Number: _____ **Bureau:** _____ **Contract Number:** _____ **Turnaround Time:**
Sampler's Name: _____ **Phone Number:** _____ **Division:** _____ ☐ 48 hours ☐ 7 days ☐ 14 days

Sample Identification	Sample Date(s)	Time Start (24 hr clock)	Time Stop (24 hr clock)	Canister Pressure In Field ("Hg) (Start)	Canister Pressure In Field ("Hg) (Stop)	Interior Temp. (F) (Start)	Interior Temp. (F) (Stop)	Outgoing Canister Pressure ("Hg) (Lab)	Incoming Canister Pressure ("Hg) (Lab)	Flow Reg. ID	Can ID	Can Size (L)	Flow Controller Readout (ml/min)	Can Cert ID	Analysis: NJDEP LLTO-15	Analysis: EPA 3C	Analysis: Method 25 C	Analysis: Other Specify	Matrix: Indoor/Ambient Air	Matrix: Soil Gas	Matrix: Landfill Vent/Other Specify

Barometric Pressure		Comments
Start		
Stop		

Laboratory Canister Certification

GC/MS Analyst Signature (NJDEP LLTO-15/25C): _____
GC Analyst Signature (3C): _____

External Chain of Custody

Relinquished	Received	Time/Date	Reason for Change of External Custody
XXXXXXXXXXXXXXXX			Break Seal/Sample

Individual Resealing Shipping Container Name: _____ **Title:** _____
Time/Date Sample Shipping Container Resealed: _____ **NJDEP Affixed Seal Number:** _____
Time/Date Sample Shipping Container Opened: _____ **Individual Opening Sample Shipping Container:** _____
Time/Date Internal Chain of Custody Initiated on NJDEP Form 077 (Internal Chain of Custody): _____

Distribution: White – Original (Sent With Report)
Pink – NJDEP Field Sampling Personnel
Yellow – Sampling Custodian Upon Receipt of Shipping Container from Field
Gold – Sample Custodian for Sample Preparation and Shipment

DEP-095E

NJDEP LLTO-15 Method
Canister Sampling Field Test Data Sheet

January 2007

General Information

Site Location: _____ **Job Number:** _____

Site Address: _____ **Size of Canister:** _____

Field ID No: _____ **Canister Serial No:** _____

Sampling Date(s): _____ **Flow Controller No:** _____

Shipping Date: _____

Sampling Information

AMBIENT READINGS (Outside)

	Temperature (ºF)	Barometric Pressure (inches of Hg)
Start		
Stop		

SAMPLING TIMES (24 hour clock)

	Local Times	Elapsed Time Meter Reading
Start		
Stop		

CANISTER PRESSURE (inches of Hg) From Gauge

Start	
Stop	

INTERIOR TEMPERATURE ºF

Start	
Stop	

_____

Signature/Title Investigator

Laboratory Information

FLOW RATES (ml/min) Flow Controller Readout

Shipping out from Lab _____ required (from lab record log) after return

Receiving in Lab _____ (if applicable only if changed)

CANISTER PRESSURE (inches of Hg)

Initial Pressure (to field) _____ required (from lab record log) after return

Final Pressure (from field) _____ required (from lab record log) after return

Data Shipped Out: _____

Date Received Back: _____

Individual Canister Certification (provide File #): _____

Batch Certification (provide Batch ID#): _____

_____

Signature/Title
GC/MS Analyst for NJDEP-LLTO-15

Title Page – NJDEP Form A-1A

ANALYTICAL DATA PACKAGE FOR THE NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION TRENTON NEW JERSEY 08625			
AGENCY/DIVISION		**BUREAU/OFFICE**	
PROJECT NO:		**CONTRACT NO:**	
LABORATORY NAME		**LABORATORY LOCATION**	
SDG:		**NJDEP CERTIFICATION #**	
DATE OF FIRST SAMPLE RECEIPT:		**DATE OF LAST SAMPLE RECEIPT**	
AGENCY SAMPLE NUMBER	**LABORATORY SAMPLE NUMBER**	**SAMPLE LOCATION**	**DATE/TIME OF COLLECTION**
I certify that this data package is in compliance with the terms and conditions of this contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer –readable data submitted on disk or electronically has been authorized by the laboratory manager or his/her designee, as verified by the following signature.			
LABORATORY MANAGER (TYPED)			**DATE**
LABORATORY MANAGER (SIGNATURE)			
QUALITY ASSURANCE OFFICER (TYPED)			**DATE**
QUALITY ASSURANCE OFFICER (SIGNATURE)			

Case Narrative - NJDEP Form A -1C

ANALYTICAL DATA PACKAGE FOR THE NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION TRENTON NEW JERSEY 08625	
AGENCY/DIVISION	**BUREAU/OFFICE**
PROJECT NO:	**CONTRACT NO:**
LABORATORY NAME	**LABORATORY LOCATION**
SDG OR BATCH NO:	**NJDEP CERTIFICATION #**
DATE OF FIRST SAMPLE RECEIPT:	**DATE OF LAST SAMPLE RECEIPT**

Methodology Summary NJDEP Form A-4 - NJDEP-LLTO-15 Method-3/2007

Laboratory:	**Project No:**
Location:	**SDG No:**

Name	Required Methodology	**Indicate Method**
Volatile Organics	NJDEP-LLTO-15	

Project:
Field ID Number:
Laboratory ID Number:

TARGET/NON TARGET ANALYTES – AIR RESULTS

Sampling Date:
Analysis Date:

Chemical	CAS Number	Molecular Weight	Lab Results	Q	Corrected Results	Retention Time NT Only	QAS Decision	Footnotes
Method TO-15			***ppbv***		***ug/m^3***			
Acetone	67-64-1	58.08						
Allyl chloride	107-05-1	76.53						
Benzene	71-43-2	78.11						
Bromodichloromethane	75-27-4	163.8						
Bromoform	75-25-2	252.8						
Bromomethane	74-83-9	94.94						
1,3-Butadiene	106-99-0	54.09						
Chlorobenzene	108-90-7	112.6						
Chloroethane	75-00-3	64.52						
Chloroform	67-66-3	119.4						
Chloromethane	74-87-3	50.49						
Carbon disulfide	75-15-0	76.14						
Carbon tetrachloride	56-23-5	153.8						
2-Chlorotoluene	95-49-8	126.6						
Cyclohexane	110-82-7	84.16						
Dibromochloromethane	124-48-1	208.3						
1,2-Dibromoethane	106-93-4	187.9						
1,2-Dichlorobenzene	95-50-1	147.0						
1,3-Dichlorobenzene	541-73-1	147.0						
1,4-Dichlorobenzene	106-46-7	147.0						
Dichlorodifluoromethane	75-71-8	120.9						
1,1-Dichloroethane	75-34-3	98.96						
1,2-Dichloroethane	107-06-2	98.96						
1,1-Dichloroethene	75-35-4	96.94						
1,2-Dichloroethene (cis)	156-59-2	96.94						
1,2-Dichloroethene (trans)	156-60-5	96.94						
1,2-Dichloropropane	78-87-5	113.0						
1,3-Dichloropropene (cis)	10061-01-5	111.0						
1,3-Dichloropropene (trans)	10061-02-6	111.0						
1,2-Dichlorotetrafluoroethane	76-14-2	170.9						
1,4-Dioxane	123-91-1	88.12						
Ethanol	64-17-5	46.07						
Ethylbenzene	100-41-4	106.2						
4-Ethyltoluene	622-96-8	120.2						
n-Heptane	142-82-5	100.2						
1,3-Hexachlorobutadiene	87-68-3	260.8						
n-Hexane	110-54-3	86.17						
Isopropanol	67-63-0	60.10						
Methylene chloride	75-09-2	84.94						
Methyl ethyl ketone	78-93-3	72.11						
Methyl isobutyl ketone	108-10-1	100.2						
Methyl methacrylate	80-62-6	100.1						
Methyl tert-butyl ether	1634-04-4	88.15						
Styrene	100-42-5	104.1						
Tert-butyl alcohol	75-65-0	74.12						

Project:
Field ID Number:
Laboratory ID Number:

TARGET/NON TARGET ANALYTES – AIR RESULTS

Sampling Date:
Analysis Date:

Chemical	CAS Number	Molecular Weight	Lab Results	Q	Corrected Results	Retention Time NT Only	QAS Decision	Footnotes
Method TO-15			***ppbv***		***ug/m^3***			
1,1,2,2-Tetrachloroethane	79-34-5	167.9						
Tetrachloroethene	127-18-4	165.8						
Tetrahydrofuran	109-99-9	72.11						
Toluene	108-88-3	92.14						
1,2,4-Trichlorobenzene	120-82-1	181.5						
1,1,1-Trichloroethane	71-55-6	133.4						
1,1,2-Trichloroethane	79-00-5	133.4						
Trichloroethene	79-01-6	131.4						
Trichlorofluoromethane	75-69-4	137.4						
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	187.4						
1,2,4-Trimethylbenzene	95-63-6	120.2						
1,3,5-Trimethylbenzene	108-67-8	120.2						
2,2,4-Trimethylpentane	540-84-1	114.2						
Vinyl bromide	593-60-2	106.9						
Vinyl chloride	75-01-4	62.50						
Xylenes (m&p)	179601-23-1	106.2						
Xylenes (o)	95-47-6	106.2						
Volatile Tentatively Identified Compounds (up to 30 compounds)								
USEPA Method 3C			***%(v/v)***					
Carbon Dioxide	124-38-9							
Methane	74-82-8							
Nitrogen	7727-37-9							
Oxygen	7782-44-7							
Carbon Monoxide	630-08-0							
USEPA Method 25C			***ppmC***					
Non Methane Organic Carbon	USEPA25C							