NJDEP
Review and Validation of Vapor Intrusion Data

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Types of Data

- Primary Focus is Methods TO-15 and TO-17
- Other TO methods and EPA methods

Procedures

- 1St Step Certification Check
- 2nd Step Electronic Deliverables
- 3rd Step Completeness Check of Data Package
- 4th Step Validation

Laboratory Certification

Certification offered by NJDEP Office of Quality Assurance

- Contact Dr. (Zbigneiw) Bernie Wilk at (609) 292-3950
- OQA website http://www.nj.gov/dep/oqa/labcert.html
  - Part III of the Application provides the full list of certified methods and parameters (128 pages)
- General Atmospheric Parameters Types
  - Inorganic Parameters metals
  - Inorganic Parameters nonmetals
  - Organic Parameters
  - Radionuclides

Laboratory Certification

- Soil Gas Oxygen Determination
- Draeger Tube – no certification
- Certification Required for:
  - field GC instrumentation
  - Offsite/Mobile Laboratory Certification for USEPA Method 3C.

Laboratory Certification

- Once OQA certifies a method and the parameter your need is not listed, the following procedures are required.
- If the laboratory is **currently certified** for the method
  - Your **Certified Laboratory** must contact Dr. Wilk at OQA and determine if the compound has recently been added to the list.
  - If not, the laboratory must make the formal request to add the parameter, submit all the required documentation and pay the appropriate fees.
  - OQA will review all documentation, request additional information if necessary and make the determination if certification can be granted

Laboratory Certification

- If the laboratory is **not currently certified** for the method
  - The laboratory must contact Dr. Wilk at OQA and determine if the compound has recently been added to the list.
  - The laboratory must make formal application to OQA for certification for the method and parameter, submit all the required documentation and pay the appropriate fees.
  - An onsite laboratory audit must be conducted by OQA prior to certification being issued.
- Time frame on approvals will vary

Electronic Deliverables

Electronic Deliverables

- Hazresult file
  - File from Laboratory
  - File from Consultant
- Microsoft™ Excel File
- Sample.Txt File

Electronic Deliverables

- Hazresult Deliverables consists of the field sampling information and laboratory information. Required additional fields
  - 2 Additional fields required as specified in Deliverable format
  - UNCCONC" "uncorrected" result value numeric with decimal point
  - UNCUNIT" and will be used for the "uncorrected" results unit value “ppbv
  - "QAQC“populated with the Sample Delivery Group number or analytical batch number

Microsoft™ Excel File

- All data results reported on worksheets
- Nothing is to be revised or changed
- Embedded equations
- Additional compounds are always added at the end must include CAS Number
- No Tentatively Identified Compounds
- Headers are to be completed

Sample.Txt File

- Sample information used by Office of Data Quality
- Tracking purposes
- The sample.txt file and Excel™ spreadsheet files can be included on one diskette or CD-ROM
- Data not accepted for review until electronics are properly submitted

Review/Validation of Data

- Field Test Data Sheets for TO-15 and TO-17 **(new)**
- Completeness Check of Deliverables
- Validation of Data

TO-15 Field Test Data Sheet

- Laboratory initiates the data sheet and assigns flow controller to a canister.
- Sampler required to complete entries in
  - General information
  - Sampling information
  - Temperature, pressure, sampling period, canister pressure start and stop
- Laboratory finalizes the data sheet upon receipt of the canisters.

TO-17 Field Test Data Sheet

- Entire Form completed by the sampling personnel
- Site information and sampling locations
- Adsorbent Tube information
- Field Audit Check
- Pump model and serial number
- Sampling information
  - Ambient temperature, pressure
  - Flow rate, sampling period

Completeness Check

- Follow Deliverable format for TO-15 or TO-17
- For all other methods full deliverables required. Follow style of the two standardized formats
- Bound package, prefer single sided original data package.
- Easier to validate

Common Problems

- Missing pages
- Poor photocopy
- Chain of Custody (external and internal)
- Clean Canister Certification
- Addition of Make up air to canister upon receipt to over pressurize the canister

  Causes " Non Detects" to be above the required reporting limits
- Inability to meet Reporting Limits based on Method Detection Limit Studies

Common Problems

- Dilutions documentation
- NJDEP requires documentation of dilutions by 2 analytical runs
  - Based on screening results
  - To meet reporting limits will need to do undiluted and diluted .
  - Grossly contaminated samples will require dilution at the proper dilution level and a more concentrated dilution

Why not call the Lab??

- Burden of correction should not fall on laboratory if consultant's error.
- Laboratory not informed that sampling is being conducted in NJ causing the following:
  - Deliverable format deficiencies
  - Dilution documentation deficiencies
- Consultant reorganizes data package, recopies and loses pages.
- Additional costs incurred to comply with NJDEP requirements.

Data Validation TO-15 & TO-17

- Most data is from Method TO-15
- No formal SOPs
- Certified method requirements
- Follow NJDEP contract requirements
- Guidance document requirements

Validation

- Canister Documentation (out and back)
- Clean Canister Certification
- GC/MS tuning
- Calibration sequence
- Calibration criteria
- Method blanks, instrument blanks
- Laboratory control samples

Validation

- Sample data review
- Chromatograms, quantitation reports, mass spectra
- Recalculation of results
- Preparation of report

Other TO Methods and EPA Methods

- Laboratory Certification Status
- Does MDL/RL meets needs of NJDEP
- Method Requirements
- Laboratory's SOP approved by OQA

Other Methods

- Sampling procedures will vary
  - New procedures
  - Old procedures
- Full Deliverables
  - Eliminates requests for more information
  - Laboratory's SOP submittal
- Validation against method and SOP

Future Changes

Method TO- 15 Changes

- Development of Low Level Method Requirements for most compounds of RL of 0.2 ppbv December 2005
- Laboratories notified March 2006 with Certification Application cycle
- Revised Deliverable format May 2006
- New Certification effective July 2006
- Guidance Document changes Summer 2006