2016

ACQUIRING SUPERFUND ANALYTICAL SERVICES IN EPA REGION 6

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Introduction & Welcome
Raymond Flores

CLP Analytical Services

- Routine Analytical Services (RAS)
- Modified Analyses (MA's)
- Reports
  - Electronic Data Deliverables (EDD)
  - Archival

Routine Analytical Services (RAS)

- Combined Analytical Services Contract (CASC)
  - Analysis of Organic Compounds in Soils and Waters (SOM02.3)
  - Analysis of Inorganics in Soils and Waters (ISM02.3)
- High Resolution Superfund Methods (HRSM01.2)
  - Analysis of Chlorinated Dibenzo-P-Dioxins & Chlorinated Dibenzofurans, Multi-media, Multi-Conc. (DLM02.2)
  - Analysis of Chlorinated Biphenyl Congeners, Multi-media, Multi-Concentration (CBC01.2)

RAS - SOM02.3

Methods for Analysis of Organic Compounds in Soils and Waters

- Target Compounds – 51 Volatiles, 68 Semivolatiles, 21 Pesticides, & 9 Aroclors
- TCLP/SPLP leachates (new)
- Turn Around Times (TATs): 7, 14, & 21 days
- Preliminary Results (PRs)
  - VOA – 48 hours
  - SV, Pesticides, Aroclors – 72 hours

RAS – SOM02.3

CRQLs – (Contract Required Quantitation Limits)

- Aqueous (Drinking Water) VOA: 0.5 ppb by Trace
- Aqueous (Ground Water) VOA: 5 ppb*
- Solids VOA: 5 ppb by CSV/core, 250 ppb by MeOH
- Aqueous SVOA: 5 ppb by low*, 0.1 ppb by SIM
- Solids SVOA: 170 ppb by low, 5000 ppb by medium, 3.3 ppb by SIM
- Aqueous Pesticides: 0.05 – 0.10 ppb*
- Solids Pesticides: 1.7 – 3.3 ppb
- Aqueous Aroclors: 1.0 ppb
- Solids Aroclors: 33 ppb

- * - TCLP CRQLs are converted to mg/L (ppm)
- SPLP – use the low water reporting limits for VOA, SVOA

RAS – SOM02.3

CRQLs – (Contract Required Quantitation Limits)

- Solids VOA: 5 ppb by core or CSV (closed system vial)
- SW-846, Method 5035A
  - Core (Encore)
  - Closed System Vial (pre-weighed VOA vial)
    - Tared VOA vial with stir bar
    - Weight Table in SCRIBE – unique identifier for each CSV
  - Freezing allowed – note on TR/COC

- Air Matrix - FEO

RAS - ISM02.3

Analysis (ICP/AES) of Metals in Soils and Waters

- Target Compounds – 22 Metals by ICP/AES for water, soil, sediment, wipes, SPLP. 7 Metals for TCLP.
- Hardness in mg/L (ppm).
- Turn Around Times (TATs): 7, 14, & 21 days
- Preliminary Results (PRs) – 48 hours TATs for all
- AES CRQLs in Aqueous Matrix: 5 – 5000 ppb*
- AES CRQLs in Solid Matrix: 0.5 – 500 ppm

- * - SPLP CRQLs
- TCLP metals CRQLs specified in SOW in mg/L for ICP/AES & Hg (to be corrected)

RAS - ISM02.3

Analysis (ICP/MS) of Metals in Soils and Waters

- Target Compounds – 22 Metals for aqueous matrix. 16 Metals for solid matrix.
- Turn Around Times (TATs): 7, 14, & 21 days
- Preliminary Results (PRs) – 48 hours TATs for all
- MS CRQLs in Aqueous Matrix: 1 – 500 ppb
- MS CRQLs in Solid Matrix: 0.5 – 5 ppm

RAS - ISM02.3

Analysis of Hg in Soils and Waters

- Hg by CVAA
- Matrices: water, soil, sediment, TCLP/SPLP.
- Turn Around Times (TATs): 7, 14, & 21 days
- Preliminary Results (PRs) – 48 hours TATs for all
- Hg CRQL in Aqueous Matrix: 0.2 ug/L*
- Hg CRQL in Solid Matrix: 0.1 mg/kg

- * - SPLP CRQL
- TCLP CRQL – 0.0002 mg/L

RAS - ISM02.3

Analysis of Cyanide in Soils and Waters

- Cyanide analysis by spectrophotometric
- Matrices: water, soil, sediment, SPLP.
- Turn Around Times (TATs): 7, 14, & 21 days
- Preliminary Results (PRs) – 48 hours TATs for all
- CN CRQLs in Aqueous Matrix: 10 ppb*
- CN CRQLs in Solid Matrix: 0.5 ppm

- * - SPLP CRQL

High Resolution Superfund Method (HRSM01.2)

- Analysis of Dioxin/Furan in Soils and Waters using a HRGC/HRMS (DLM02.2)
- Analysis of Chlorinated Biphenyl Congeners (CBC) in Soils and Waters using a HRGC/HRMS (CBC01.2)

HRSM01.2 - DLM02.2

Analysis of Dioxin/Furan in Soils and Waters

- Target Compounds – Seventeen 2,3,7,8-substituted tetra through octachlorinated dibenzo-p-dioxins (CDDs) and chlorinated dibenzofurans (CDFs)
- Matrices: water, soil, sediment, sludge, animal tissue, oil, ash, etc.
- TAT – 35 days
- CRQLs in Aqueous Matrix: 10 – 100 pg/L (ppq)
- CRQLs in Solid Matrix: 1.0 – 10 ng/kg (ppt)
- TEQ – Toxic Equivalent Summary (Does not include EMPC, EDL or MDL)

HRSM01.2 - CBC01.2

Analysis of CBCs in Soils and Waters

- Target Compounds –12 WHO toxic CBCs, or all 209 CBCs
- Matrices: water, soil, sediment, sludge, animal tissue, oil, ash, etc.
- TAT – 35 days
- CRQLs in Aqueous Matrix: 20 pg/L (ppq)
- CRQLs in Solid Matrix: 2.0 ng/kg (ppt)
- TEQ – Toxic Equivalent Summary(does not include EMPC, EDL or MDL)

Modified Analyses (MA's)

- Applies to ISM02.3, SOM02.3, DLM02.2, and CBC01.2
  - Focus on 3-4 COPC – pick your poison
- Allows for the request of minor changes
  - Examples: Lowered CRQLs, additional analytes, different matrices, different preparation procedures, faster TATs
  - Instrumentation will not change, all else may be modified
- Clients use the "Request for Laboratory Sample Analysis Form"
  - Requires 2 – 3 weeks lead time
    - Goes out for solicitation

CLP Modified Analyses Requests

Examples:

- MacMillan Ring Free Oil (SOM2.2) – Gasoline, Diesel, & Oil Range Organics. Analysis by GC/MS or GC/FID.

- EVR-Wood Treating/Evangeline Refining Company (ISM02.3) - Sequential ICP/AES, MS analyses for metals in solids. Requested a lower CRQL for arsenic, selenium, and vanadium.

CLP Modified Analyses Requests

Examples:

- Donna Reservoir (CBC01.2) – Requested the laboratory to fillet fish for edible portions and homogenize. Analysis performed on aliquot of homogenized fillets.

- East 67th Street Groundwater Plume (SOM02.3) – Requested a holding time of five days and lower CRQLs for LMVOA analysis of water samples.

CLP Modified Analyses Requests

Examples:

- Arkwood, Inc. (DLM02.2)– Requested the laboratory to perform Incremental Sampling Methodology for analytical subsampling.

- Future MA's: Use collision/reaction cell technology for lower CRQLs for 22 metals. Dual Quadrapole (MS/MS) for organics.

Validated Reports

- Laboratory data are unvalidated data for which the result usability is unknown.
- Independent data review validates the laboratory data and determines the result usability.
- Only validated data can be used with confidence, and the result usability is clearly indicated by the data review qualifiers.

REGION 6 CLP
DATA REVIEW REPORT COMPONENTS

1. MEMORANDUM
2. DATA ASSESSMENT PAGE
3. REPORT NARRATIVE
4. DEFINITION SHEETS
5. DATA SUMMARY TABLE
6. CSF INVENTORY CHECKLIST
7. RESUBMISSION REQUESTS
8. TRAFFIC REPORT/CHAIN OF CUSTODY RECORDS

ELECTRONIC DATA DELIVERABLE

- SOM02.3 & ISM0.23 – Data captured in XML format (SEDD).

- EDM – EXES Data Manager is used to electronically validate portions of the laboratory data producing CCS, NFG and Superset reports.

DATA SUMMARY TABLE (DST)

- For SOM02.3, only one result per compound is reported for each sample on the Lab Result Superset and Superset Deliverables from EDM.

- In the Region 6 data review report, the results for all analyses (DL, RE, RX, etc.) are reported for each sample on the DST. The results with best QC performance are designated for use. The results not designated for use are "*" – flagged.

Upload CLP Data to OneDrive

- Data reviewer will upload CLP data to OneDrive (cloud) folder and provide view rights to the EPA Site Manager and designated Site Field Contractors.
- Hardcopy's are archived to the Federal Records Center. Use Case_SDG_ARC to retrieve hardcopy's
- All CLP documents are to be uploaded to include:

  PDF of CLP lab data, Scanned Data Validation Report that includes Regional version of the TR/COC, Data Summary Table, CADRE report, CCS Defect Reports/Responses, Laboratory Resubmission Reports/Responses, Updated DSTs, Case_SDG ARC, etc.

CLP Data Delivery Time Line

(Calendar Days)

- 21 Day Lab Data TAT – due 21 days after VTSR of last sample in SDG at Region 6 Laboratory
- Day 24-25 – unvalidated data is emailed to client
- Day 31-35 – validated data is emailed to client
- Day 45-90 – client receives link to OneDrive archived electronic data

Review and Questions
Raymond Flores

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