

SEDD

Everything You Wanted to Know

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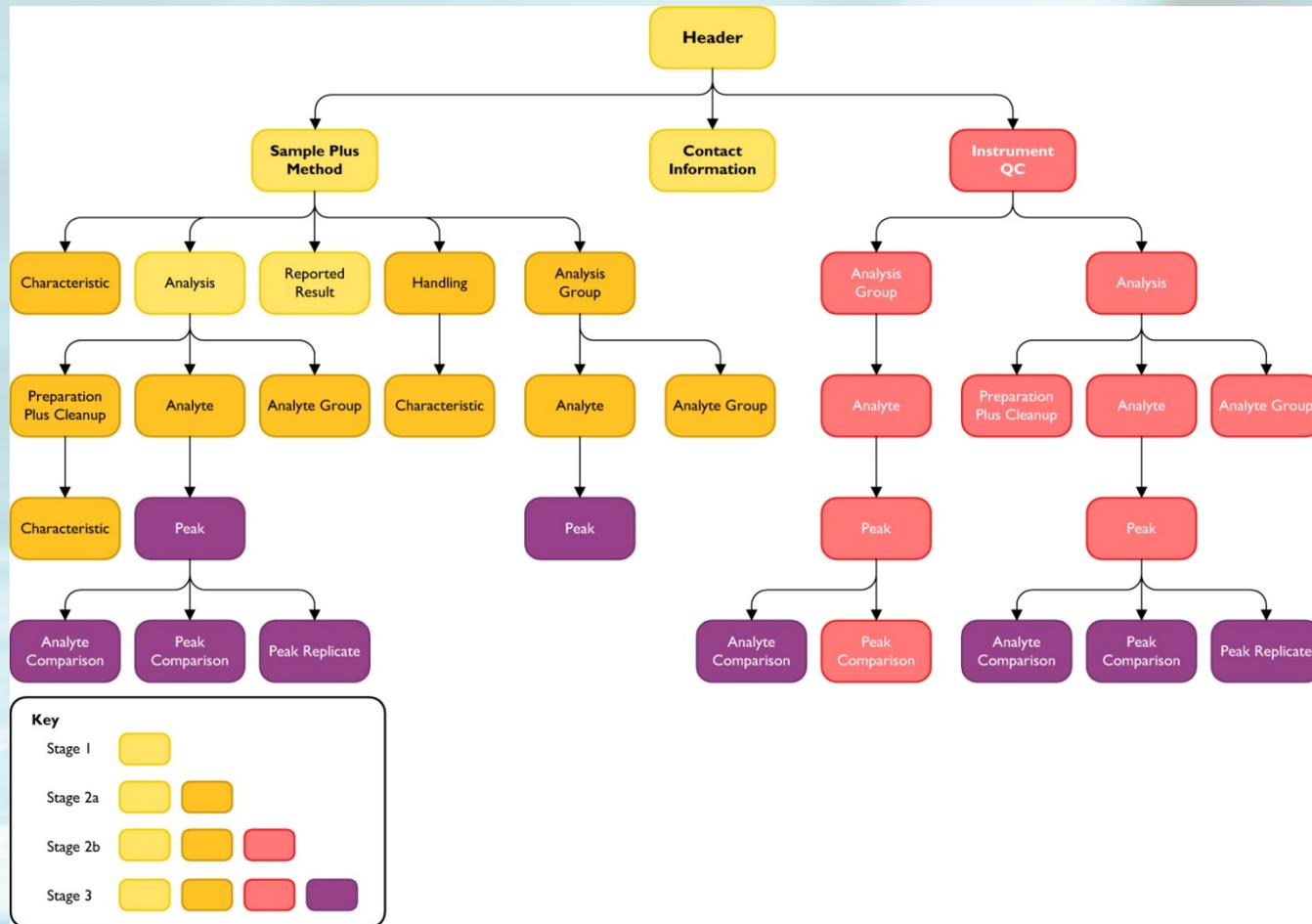


Staged Electronic Data Deliverable (SEDD)



- The 4 Stages of SEDD
- SEDD Linkages and Relationships
- The Risks of Doing Nothing
- The PDF Option?
- Challenges and Solutions
- New Collaborations
- Next Steps

SEDD Structure



- Stage 1
 - Contains the minimum number of analytical data elements to convey results-only data to the user.
 - Benefit: A simple way to receive, assimilate and post data electronically. Valid values can be used that are based on national and international standards.

- Stage 2
 - Builds on Stage 1 and adds method and instrument quality control (QC) data.
 - Stage 2a reports summary **method** QC data.
 - Stage 2b reports summary **instrument** QC data.
 - Benefit: Data can be electronically reviewed and readily made available to the user's database.

- Stage 3
 - Builds on Stage 2 and adds additional sample and measurement data to allow for the independent recalculation of reported results.
 - Uses corrected instrument data, such as peak areas or corrected intensity readings.
 - Reports sufficient data to populate all current EPA CLP laboratory forms.
 - Benefit: Reveals how the laboratory actually did the work.

- Stage 4
 - Builds on Stage 3 and adds the instrument data files. The merging of LIMS, lab, field and Instrument data into an all-electronic report.
 - Status: A functional prototype has been successfully demonstrated. Collaboration between the SEDD and AnIML efforts is underway.
 - Benefit: Entire data package can now be electronic.

SEDD Linkages – Reporting of Final Results (1)



- Linking of the final result to a single analysis
 - The results from a method can be from an original analysis or a diluted analysis.
 - Thus, the result from a single method can be from multiple analyses where multiple analytes are involved.
 - These results can be linked using the LabAnalysisID data element.

SEDD Linkages – Reporting of Final Results (2)



- Linking of the final result to a group of analyses
 - An average result can be reported from the results of multiple analyses.
 - This average result can be linked to the individual analytical result using the AnalysisGroupID data element.

SEDD Linkages – Reporting of Final Results (3)



- Linking of a nonmeasured final result to one or more measured analytes
 - A result can now be reported for a non-measured analyte (such as Hardness) from separate measured analyses (Ca plus Mg).
 - This nonmeasured result (Hardness) can be linked to the measured analyses (Ca plus Mg) by the AnalyteGroupID data element.

- Continued issues with data exchange between programs/agencies.
- Loss of data that has already been generated and paid for.
- Inability to retrieve and review old data in proprietary formats if old hardware and software is not maintained and upgraded (could lead to re-sampling and reanalysis of the same sites).
- Increased costs associated with keeping old hardware and software to keep proprietary data accessible.

Is PDF an Option?



- Costs associated with conversion of paper copies to electronic PDF formats.
- Up until 2008, PDF was a proprietary format. ‘ISO 32000-1:2008 specifies a digital form for representing electronic documents to enable users to exchange and view electronic documents independent of the environment in which they were created or the environment in which they were viewed or printed.’
- A new Version named “PDF 2.0” is currently under development by ISO.
- PDF is a standard for ***documents***, not ***data***.

- NIH (Not Invented Here) Syndrome. Solution - Need to market common reporting formats to agencies/programs.
- Lack of tools for producing and reviewing a common electronic format. Solution - Expand availability of current EPA-use only tools.
- Lack of private sector participation. Solution - Promotion of SEDD Specification to contractors so that they require SEDD as data output format.
- Managing the growth of SEDD. Solution - A SEDD Change Control Board should be established.

- US Army Corps of Engineers (Baltimore, Albuquerque and Portland Districts).
- EarthScience Information Systems in Australia and the Pacific Rim countries.
- Laboratory Data Consultants (LDC) in California and their latest web-based automated data review (ADR.net) software.
- EPA's Forum on Environmental Measurements to promote awareness of electronic data standard formats (SEDD) within EPA.
- ASTM and NIST for the development and demonstration of a SEDD Stage 4 prototype that included international members.
- International Instrument vendors.

Next Steps (1)



- Continue to work with AnIML to complete the fully electronic data package.
- Expand our outreach to other agencies/programs by offering more talks/courses on SEDD/AnIML (e.g. presentation at the DoD Environmental Monitoring and Data Quality (EMDQ) workshop which starts on 28 March 2011 in D.C.).
- Develop more and better tools to enhance SEDD usage (e.g., electronic file generation and electronic data review/validation).
- Expand SEDD to include other programs, field data and Chain-of-Custody electronic information. Develop apps for the i-Pad/Droid for Chain-of-Custody, well logs, etc.
- Require the reporting of SEDD Stage 4 in all new EPA Superfund contracts. Labs would then be required to have instrumentation capable of generating the AnIML exports.

Next Steps (2)



- Talk with the instrument vendors to further discuss the feasibility of these requirements and other related issues.
- A conference networking session, entitled 'How Can I Share My Data With Others', is scheduled on:
 - **Tuesday 15 March 2011**
 - **8:30-10:30 AM**
 - **Room 216B**
 - **Georgia World Congress Center**

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