

# Environmental Data Exchange and Standardization

GCAL

From the Commercial Laboratory Perspective

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# GCAL

- Commercial laboratory in Baton Rouge, LA.
- One of the largest single-site laboratories in the US with 70 employees.
- Certifications include ELAP, NELAC, ISO, certified and accepted in an additional 32 states.
- Primary Laboratory for Gulf Oil Spill and Katrina Spill for EPA and Private Contractors.

# EDD Capabilities

- Current Electronic Deliverables capabilities include over 150 different formats...and growing daily.
- Major formats include ERPIMS 5.0, EQuIS (EPA R3, EPA R4, EPA R5, EZEDD, EFWEDD, EQEDD) SEDD, NEDD, ERIS, ADAPT, ADR, MAF RCRA, LDEQ
- Client specific EDDs and Modifications of specific formats account for remainder.

# Electronic Deliverables Then and Now

- For years typical projects requested a paper report and at most one EDD.
- Currently many projects require two EDDs.
- EDDs are being used for data validation and for input into databases.
- Laboratories are expected to purchase EDD checkers, and submit certification that the EDD “passed”.
- But...multiple EDDs can often lead to discrepancies between the EDDs and the hardcopy.

# Contract Requirements

- Deliverables are described in the project contract.
- Typically contracts have penalties for late deliverables and non-performance.
- Vast majority of contracts require that the EDD match the hardcopy report.
- Some require signature of QA Director testifying that the deliverables match.
- Lab required to submit checker report with deliverable.

# Multiple EDDs and Discrepancies

- Flagging,
- Units,
- Significant Figures,
- Handling multiple dilutions,
- Reporting limits,
- How all of this relates to the report hard copy.

# Multiple EDD - Example

## Client EDD – Multiple Dilutions

- The lowest dilution is the native sample.
- Subsequent dilutions append “DL”.
- In the case of three or more runs, append DL, DL<sub>1</sub>, DL<sub>2</sub>, etc. in the order of lowest to highest dilution.
- Which convention should the hardcopy follow?

## ERPIMS – Multiple Dilutions

- First run is the native sample.
- Append DL, DL<sub>1</sub>, DL<sub>2</sub>, etc. in order of run date/time.

# Multiple EDD Requests – Recent Contract

- Electronic data deliverables will be delivered to CLIENT X by the laboratory in three formats. The first is an EQuIS 5.0 4 File format, the second is an ADR .a1, and .a3 format, and the third is an ERPIMS format. The CLIENT X specified EQuIS format files, valid value files, and the ADR library files will be delivered to the laboratory for use prior to data collection.
- EPA Region 4 requires that all Electronic Data Deliverables (EDDs) be formatted in accordance with: Environmental Data Submission Guidance (SESDGUID-106-Ro). CLIENT X will produce this deliverable once the data are validated and finalized.



# Consequences to the Laboratory

- Investment in IT – what does all of this cost?
  - Current cost ~ 1.5 FTEs.
- Training issues – who has to be an expert?
  - IT, Project Management, Report Validation, QA Director, Technical Director.
- And the big one – where is data quality?
  - The perception exists that data quality is equal to matching deliverables. Consistency is important but does not guarantee defensible data.