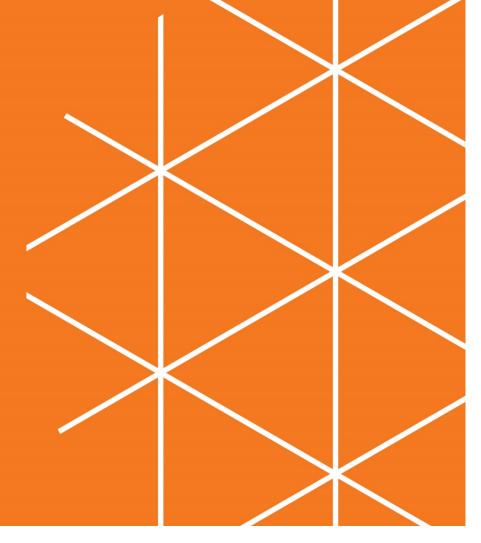# Challenges and Solutions With Managing Electronic Deliverables from Multiple Laboratories

ERIC STROUT
Senior Technical Manager

The importance of
PLANNING

ECOCHEM
Data Quality

IT'S THE Little THINGS THAT COUNT

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Field ID Translation Issues

5 or an S

0 or O

6 or G

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1-07/F14-1/2.5/SC/11/27

LAAS43-B0613-S187M1806T1D-15D

HSW4_CR1D149A_B0801_T_1136_W5_3GO_0531

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Analyte Name Issues

A rose by any other name would smell as sweet…

Synonyms/cinnamon?

Tetrachloroethylene/tetrachloroethene/
perchloroethylene/perc/PCE

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Analytes Without CAS Numbers

TOC

GRO/DRO/RRO

Lipids

Benzo(b+k)fluoranthene

Hardness

Percent solids

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Analytes Without CAS Numbers

Sample XYZ   Lead (CAS # 7439-92-1)   3 U

Sample XYZ   Lead (CAS # 7439-92-1)   2 J

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PCB Congeners

2,2',3,3',4,4',5,6-Octachlorobiphenyl (CAS # 52663-78-2)

2,2',3,3',4,4',5,5'-Octachlorobiphenyl (CAS # 35694-08-7)

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PCB Congeners

2,2',3,3',4,4',5,6-Octachlorobiphenyl (CAS # 52663-78-2)

➡ PCB 195

2,2',3,3',4,4',5,5'-Octachlorobiphenyl (CAS # 35694-08-7)

➡ PCB 194

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Compound Co-Elutions

PCB 110 + PCB 115 (or PCB 110/115)

Benzo(b+k)fluoranthene (or Total Benzofluoranthenes)

Benzo(b)fluoranthene, benzo(k)fluoranthene, and… benzo(j)fluoranthene

Dibenz(a,h)anthracene and dibenz(a,c)anthracene

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2,2',3,3',4,4',5,5'-Octachlorobiphenyl (CAS # 35694-08-7)

2,2´,3,3´,4,4´,5,5´-Octachlorobiphenyl (CAS # 35694-08-7)

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Data Quality

2,2',3,3',4,4',5,5'-Octachlorobiphenyl (CAS # 35694-08-7)

2,2ˊ,3,3ˊ,4,4ˊ,5,5ˊ-Octachlorobiphenyl (CAS # 35694-08-7)

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Data Quality

2,2',3,3',4,4',5,5'-Octachlorobiphenyl (CAS # 35694-08-7)

2,2´,3,3´,4,4´,5,5´-Octachlorobiphenyl (CAS # 35694-08-7)

13b(H),17a(H)-20S-Ethyldiacholestane

13b(H),17a(H)-20R-Ethyldiacholestane

TRUNCATION

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PCB Congeners

2,2',3,3',4,5',6,6'-

2,2',3,3',4,4',5,5'-

2,2',3,3',4,5,5',6,6

2,2',3,3',4,4',5,6,6

2,2',3,3',4,4',5,5',

PCB Congeners

2,2',3,3',4,5',6,6'-	PCB 201
2,2',3,3',4,4',5,5'-	PCB 194
2,2',3,3',4,5,5',6,6	PCB 208
2,2',3,3',4,4',5,6,6	PCB 207
2,2',3,3',4,4',5,5',	PCB 206

Method Names

Polynuclear Aromatic Hydrocarbons by 8270M, SOP O-365.3, Rev 2

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ISSUES WITH UNITS

Units

Incorrect Units (like µg/L for soils)

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Units

Incorrect Units (like µg/L for soils)

Inconsistent units between field results and lab QC results

Units

Incorrect Units (like µg/L for soils)

Inconsistent units between field results and lab QC results

Inappropriate units (like HRMS data reported in PPM)

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Data Quality

Units

Incorrect Units (like µg/L for soils)

Inconsistent units between field results and lab QC results

Inappropriate units (like HRMS data reported in PPM)

–5070 PPT reported as 0.00507 PPM

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Data Quality

Units

Incorrect Units (like µg/L for soils)

Inconsistent units between field results and lab QC results

Inappropriate units (like HRMS data reported in PPM)

–5070 PPT reported as 0.00507 PPM
–5 PPT reported as 0.000005 PPM

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A FEW OTHER ISSUES

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Non-standard Matrices

Product vs oil vs waste vs…

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Non-standard Matrices

Product vs oil vs waste vs…

Solid vs sludge vs SPME vs filter vs vegetation vs…

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Non-standard Matrices

Product vs oil vs waste vs…

Solid vs sludge vs SPME vs filter vs vegetation vs…

'Tissue' vs muscle/liver/fillet

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A Few More Issues…

Significant figures

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Data Quality

A Few More Issues…

Significant figures

Text vs numbers

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Data Quality

A Few More Issues…

Significant figures

Text vs numbers

Mixed fields – numbers and 'ND' or '<'

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A Few More Issues…

Significant figures

Text vs numbers

Mixed fields – numbers and 'ND' or '<'

How are non-detects reported?

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A Few More Issues…

Significant figures

Text vs numbers

Mixed fields – numbers and 'ND' or '<'

How are non-detects reported?

How are detection limits handled?

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A Few More Issues…

Significant figures

Text vs numbers

Mixed fields – numbers and 'ND' or '<'

How are non-detects reported?

How are detection limits handled?

How are multiple results (dilutions/reanalyses) reported?

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A Few More Issues…

Significant figures

Text vs numbers

Mixed fields – numbers and 'ND' or '<'

How are non-detects reported?

How are detection limits handled?

How are multiple results (dilutions/reanalyses) reported?

Blanks vs nulls

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SO HOW CAN I AVOID PROBLEMS?

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Strategies for Success

Know what the data users need

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Strategies for Success

Know what the data users need

Know the data path

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Data Quality

Strategies for Success

Know what the data users need

Know the data path

Identify Control Points

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Strategies for Success

Know what the data users need

Know the data path

Identify Control Points

Set up communication pathways

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Strategies for Success

Know what the data users need

Know the data path

Identify Control Points

Set up communication pathways

Build project-specific lookup tables

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Strategies for Success

Know what the data users need

Know the data path

Identify Control Points

Set up communication pathways

Build project-specific lookup tables

Check, check, and check again

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Strategies for Success

Know what the data users need

Know the data path

Identify Control Points

Set up communication pathways

Build project-specific lookup tables

Check, check, and check again

Have a knowledgeable person review the checks

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There is never time or budget to do it right, but always time and budget to do it over

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QUESTIONS?

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