



Configuration over customization

SOUTHEAST EQUIS™ USER GROUP

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Agenda

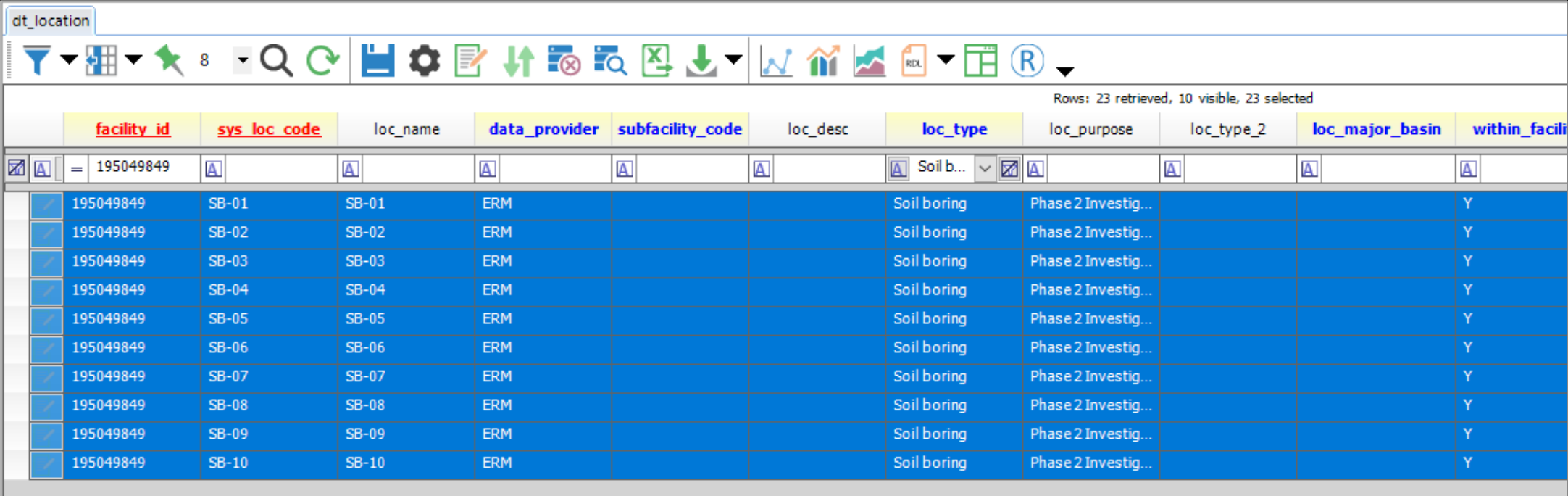
- 1 Data safety moment
- 2 Background and rationale
- 3 Report design process
- 4 Reports developed
- 5 Report flexibility
- 6 Challenges
- 7 Questions

Data safety moment

Caution with keyboard shortcuts in EQuIS™

A user encountered an issue when applying a filter to a data table and subsequently pressed CTRL + A to select filtered rows.

In EQuIS™, the keyboard shortcut selected all rows in the data table. Consequently, when the user proceeded with the next step, intending to delete only the filtered rows, all rows in the entire data table were inadvertently deleted.



The screenshot shows a data table interface with a toolbar and a table of data. The toolbar includes icons for filtering, sorting, and other data manipulation functions. The table has columns for facility_id, sys_loc_code, loc_name, data_provider, subfacility_code, loc_desc, loc_type, loc_purpose, loc_type_2, loc_major_basin, and within_facility. The facility_id column is filtered to show only the value 195049849. All rows in the table are highlighted in blue, indicating they are selected.

facility_id	sys_loc_code	loc_name	data_provider	subfacility_code	loc_desc	loc_type	loc_purpose	loc_type_2	loc_major_basin	within_facility
195049849	SB-01	SB-01	ERM			Soil boring	Phase 2 Investig...			Y
195049849	SB-02	SB-02	ERM			Soil boring	Phase 2 Investig...			Y
195049849	SB-03	SB-03	ERM			Soil boring	Phase 2 Investig...			Y
195049849	SB-04	SB-04	ERM			Soil boring	Phase 2 Investig...			Y
195049849	SB-05	SB-05	ERM			Soil boring	Phase 2 Investig...			Y
195049849	SB-06	SB-06	ERM			Soil boring	Phase 2 Investig...			Y
195049849	SB-07	SB-07	ERM			Soil boring	Phase 2 Investig...			Y
195049849	SB-08	SB-08	ERM			Soil boring	Phase 2 Investig...			Y
195049849	SB-09	SB-09	ERM			Soil boring	Phase 2 Investig...			Y
195049849	SB-10	SB-10	ERM			Soil boring	Phase 2 Investig...			Y

Background and rationale

Configuration over customization

Using EQUIS™ standard reports: configure a globally consistent set of reporting tools that align with ERM's global data governance requirements.

Background:

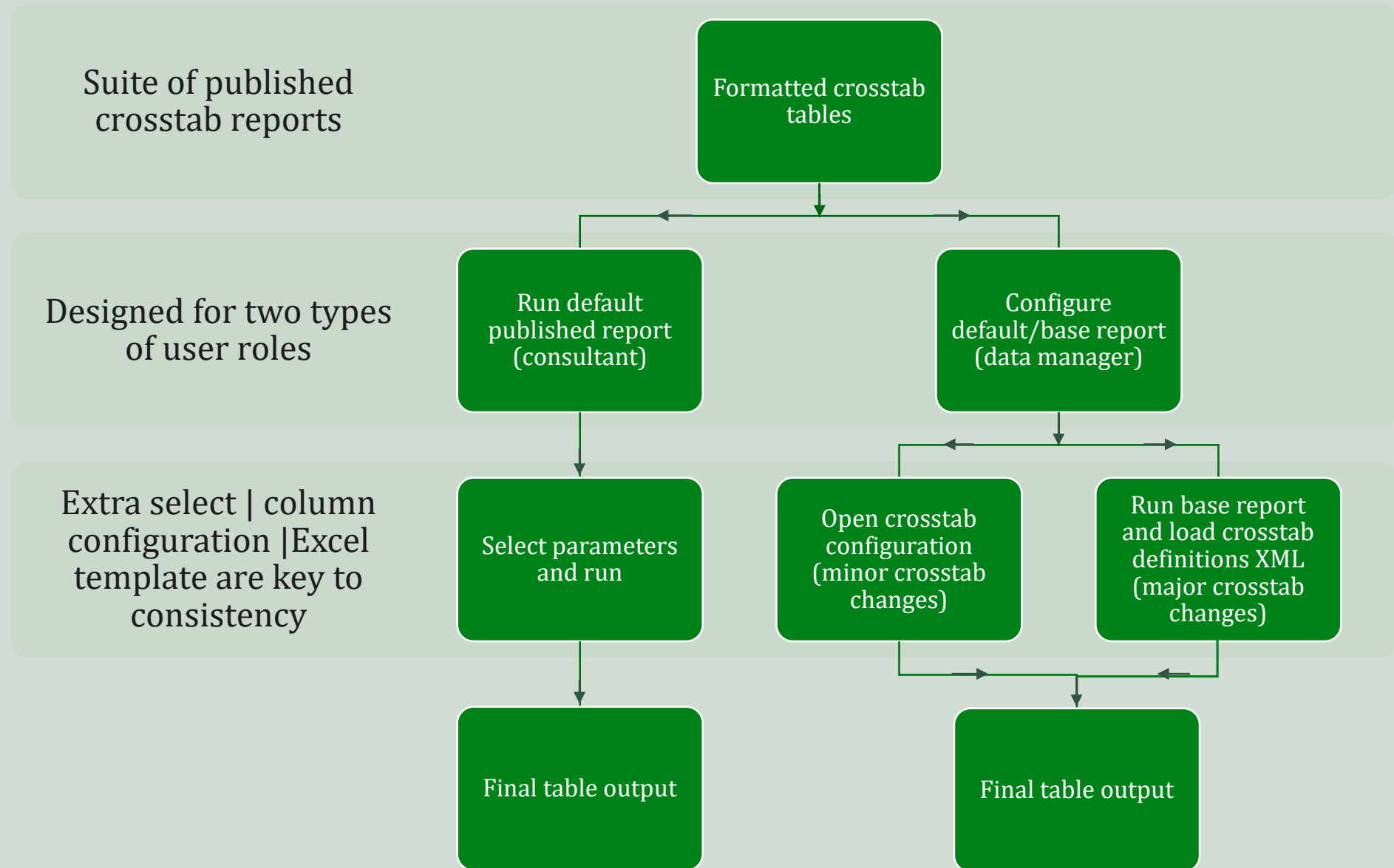
“ERM R” reports were class reports developed for ERM by EarthSoft to meet the reporting needs of the business. The functionality included in the reports was not available in EQUIS™ standard reports at the time they were developed.

Rationale:

- “ERM R” report upgrade and maintenance is costly and time intensive; redundant effort to keep up with features and functionality available in EQUIS™ standard reports.
- “ERM R” report maintenance required vendor support and/or ERM coding specialist.
- Fully utilize the latest features and functionalities supported by EQUIS™ standard reports.
- Accommodate a diverse range of data tables while preserving standardization.



Reports design process



Reports developed

General layout

Reports:

- ERM Water Levels II
- ERM AR II
- ERM ALE II

Features:

- Meets format requirements of ERM's visual brand identity.
- Project-specific additional fields (i.e., geologic_unit_code, data fields from dt_water_level) can be added to standard data output.
- Ability for data manager to use the underlying tools configure project-specific tables using the same tools used to develop standard tables.

Table 1
Summary of Water Level Elevations
White House Demo
Washington, DC, Virginia

Well	Measurement Date	Measuring Point Reference Elevation (ft)
WHMW-01	02/22/2017	35.41
WHMW-02	02/22/2017	36.45
WHMW-03	02/22/2017	36.13
WHMW-04	02/22/2017	35.87
WHMW-05	02/22/2017	36.72
WHMW-06	02/22/2017	38.15
WHMW-07	02/22/2017	35.51
WHMW-08	02/22/2017	36.59
WHMW-09	02/22/2017	34.61
WHMW-10	02/22/2017	34.55

Table 1
Summary of Water Level Elevations
White House Demo
Washington, DC, Virginia

Well	WHMW-01	WHMW-02
Measurement Date	02/22/2017	02/22/2017
Measuring Point Reference Elevation (ft)	35.41	36.45
Depth to Water (ft)	6.49	7.00
Groundwater Elevation (ft)	28.92	29.45
Dry Indicator	N	N
LNAPL Depth (ft)		
Remark		

Table 1
Analytical Summary Table
White House Demo
Washington, DC, Virginia

Chemical Name	Oxidation-Reduction Potential, Field	pH, Field			
Units	millivolts	pH units			
Location	Sample Date	Sample Type	Depth		
WHMW-01	05/05/2015	N	5 - 15 ft	60.5	6.56
WHMW-02	05/05/2015	N	5 - 15 ft	-78.3	6.12
WHMW-03	05/07/2015	N	5 - 15 ft	-112.6	6.2
WHMW-03	05/07/2015	FD	5 - 15 ft	NA	NA
WHMW-04	05/07/2015	N	10 - 15 ft	-69.8	6.59
WHMW-05	05/07/2015	N	10 - 15 ft	-20.9	6.09
WHMW-06	05/05/2015	N	10 - 15 ft	-115.3	7.1
WHMW-07	05/05/2015	N	15 - 20 ft	-145.6	6.4
WHMW-08	05/06/2015	N	15 - 20 ft	25.9	6.68
WHMW-09	05/05/2015	N	15 - 20 ft	-103.9	6.94
WHMW-10	05/07/2015	N	15 - 20 ft	-55.9	6.29

Table 1
Analytical Summary Table
White House Demo
Washington, DC, Virginia

Chemical Name	Units	WHMW-01	WHMW-02	WHMW-03	
		05/05/2015	05/05/2015	05/07/2015	05/07/2015
Sample Date	Sample Type	N	N	N	FD
Depth		5 - 15 ft	5 - 15 ft	5 - 15 ft	5 - 15 ft
FIELD					
Oxidation-Reduction Potential, Field	millivolts	60.5	-78.3	-112.6	NA
pH, Field	pH units	6.56	6.12	6.2	NA
Specific Conductivity	mS/cm	279	1398	752	NA
Temperature, Field	deg C	16.87	18.9	17.94	NA
Dissolved Oxygen, Field	mg/L	0.53	0.31	0.29	NA
SW8260B					
cis-1,2-Dichloroethene	ug/L	< 1.0	24500	< 1.0	< 1.0
1,3-Dichloropropane	ug/L	< 1.0	< 200	< 1.0	< 1.0
Ethylene dibromide	ug/L	< 1.0	< 200	< 1.0	< 1.0
Bromobenzene	ug/L	< 1.0	< 200	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	ug/L	< 1.0	< 200	< 1.0	< 1.0
1,1-Dichloropropene	ug/L	< 1.0	< 200	< 1.0	< 1.0
2-Hexanone	ug/L	< 10	< 2000	< 10	< 10
2,2-Dichloropropane	ug/L	< 1.0	< 200	< 1.0	< 1.0
2-Butanone (Methyl ethyl ketone)	ug/L	< 10	< 2000	< 10	< 10
1,2,3-Trichloropropane	ug/L	< 2.0	< 400	< 2.0	< 2.0
Carbon disulfide	ug/L	< 1.0	< 200	< 1.0	< 1.0
Dichlorodifluoromethane (Freon 12)	ug/L	< 1.0	< 200	< 1.0	< 1.0
Dibromomethane	ug/L	< 1.0	< 200	< 1.0	< 1.0
Chlorobromomethane	ug/L	< 1.0	< 200	< 1.0	< 1.0
Acetone	ug/L	< 20	< 4000	< 20	< 20
Chloroform	ug/L	< 1.0	< 200	< 1.0	< 1.0



Report flexibility

Key features

- Reports configured for different user base (consultant | data manager).
- Configurable by ERM data managers; no hidden code or highly advanced coding skill required to meet project-specific reporting requirements.
- Notes are automatically derived from the data contained within the dataset; indicates when report is unable to define the note.
- Data managers with higher skill levels (vba | SQL) can further configure reports to meet project-specific requirements that involve major changes.

Parameter Files for this report: (None Available) | User Reports: (None Available)

Individual(s):
 Group(s): **0_LPMRDDA_ALL_ANALYTES**
 Exclude Analyte(s): **None (default)**

Unit:
 Type(s): **TRG|TIC**
 Detect Flag(s):
 Non-Detect Multiplier: **1**
 Non-Detect Symbol: **< ?**
 Non-Detect Qualifier:
 Reportable: **Y|Yes**
 Validated:
 Reporting Limit: **reporting_detection_limit**

Format Results
 Format Code:
 Additional Fields: {"TableName": "RL1", "JoinCondition": " LEFT OUTER
 Extra Selects: **IsNull(IsNull(Cast(Round(equis.to_number(start_depth),**

Add additional select statements to the report output
 Extra Selects:

```

  IsNull(IsNull(Cast(Round(equis.to_number(start_depth), 2) as varchar(20)), Cast(Round(equis.to_number(
  + IsNull(IsNull(Cast(Round(equis.to_number(end_depth), 2) as varchar(20)), Cast(Round(equis.to_number(
  + equis.to_number(depth, unit, dt_well_segment, depth, or dt) as ERM_sample_interval, IsNull(IsNull(For
  dt_well_segment, start_depth), 2) as ERM_START_DEPTH, IsNull(IsNull(Round(equis.to_number(end
  dt_well_segment, end_depth), 2) as ERM_END_DEPTH, 2) as ERM_DETECTED, CASE WHEN result_
  (INTERPRETED_QUALIFIERS.LAB_QUALIFIERS) IS < 0 THEN NULL WHEN result_unit NOT like 'p%'
  ERM_DETECTED_FLAG CONVERT(date, sample_date) AS SAMPLE_DATE, Y|W|HDD, CASE WHEN FR
  FRACTION = 0 THEN UPPER(ANALYTIC_METHOD) + ' DISSOLVED' WHEN FRACTION = 'SPL' THEN
  'G' THEN UPPER(ANALYTIC_METHOD) + ' TCLP' WHEN FRACTION = 'I' THEN UPPER(ANALYTIC_METH
  FRACTION = ' ' + FRACTION END AS Meth_Frac CASE WHEN result_unit like 'p%' and VALIDATED
  Coalesce(result_error_delta, 0) + ' ' + report_reporting_limit + ' ' + Coalesce(LAS_QUALIFIERS
  THEN Coalesce(report_result_text, ' ') + ' ' + Coalesce(result_error_delta, 0) + ' ' + report_reportin
  WHEN result_unit NOT like 'p%' and VALIDATED IN = 'Y' THEN REPORT_RESULT_TEXT + ' ' + Co
  REPORT_RESULT_TEXT + ' ' + Coalesce(LAS_QUALIFIERS, ' ') END AS ERM_VALUE QUALIFIER
  
```

Table #
Table Title
Project Name
Project Location

Heading 1	Issue	Date Issue Observed	D
Content	Content 2		
			Sub-Header
Content	Content 2		
Content			
Content			

Table 1
Analytical Summary Table
White House Demo
Washington, DC, Virginia

Notes:
 FD = Field Duplicate Sample
 N = Normal Environmental Sample
 deg C = degrees Celsius

Table Number:

Table Title:

Project Name:

Project Location:

Date Format:

Right section footer - Project:

Page Order:

Paper Orientation:

Paper Size:

1st Column Header:

Not analyzed cells label:

Report flexibility

Consultant – default published report

- Steps:
 - Navigate to EQuIS™ Enterprise dashboard.
 - Find the report EZView widget on reporting dashboard.
 - Click the gear icon to select parameters and hit 'Download'
- Self-service portal tailored for consultants (non-data managers).
- Captions and visibility modified to improve user experience and provide clarity.
- Enables quick generation of consistently formatted tables.

Name*

ERM AR II (Locations in Rows) [andrea.brazell 3/5/2024, 7:42:24 AM]

DOWNLOAD **VIEW**

WHITE HOUSE DEMO

▼ *Analytical Results*

▼ *Location*

Individual(s):
Group(s): 195049849-PBI-LOCATIONS
Use DT_GEOGRAPHY for coordinate data false

▼ *Sample*

Type(s): N|FD

▶ *Date Range*

Matrix(es):
Task(s): 20140513-GWMonitor|20150507-GWMonitor|...
Task_Code_2(s):
Field SDG(s):

▶ *Depth*

DQM Status:

▶ *Test*

▼ *Result*

▼ *Analyte*

Individual(s):
Group(s): 0_LPMRDDA_ALL_ANALYTES
Exclude Analyte(s): None (default)

Unit:

0_LPMRDDA_ALL_ANALYTES X

method_analyte_group_code
0_LPMRDDA_ALL_ANALYTES
195049849-FieldParams
195049849-Key-cVOCs
AK_8015M(Glycol)_SO
AK_8015M(Glycols)_SO
AK_AK101(GRO)/E624(BTEX)_W
AK_AK101(GRO)/SW8021B(BTEX)_SO
AK_AK101(GRO)/SW8021B(BTEX)_W
AK_AK101(GRO)/SW8260B(BTEX)_W
AK_AK101(GRO)/SW8260C(BTEX)_SO
AK_AK101(GRO)/SW8260C(BTEX)_W

1 of 46

Report flexibility

Data Manager - minor crosstab changes

- Steps:
 - In EQUIS™ Professional, navigate to the folder that stores the generic published crosstab reports.
 - Select parameters and run. Review the output.
 - (Optional) Make minor adjustment by 'Open xtab configuration'.
 - (Optional) Publish it as a new xtab report and save a user report.
- Eliminates the need for developing site-specific Excel template.
- Empowers data managers to develop tables for their projects.
- Promotes data governance and ensures consistency across all projects.

ERM AR II (Locations in Columns)

Parameter Files for this report: (None Available) | User Reports: (None Available)

Analytical Results

- Location
 - Individual(s):
 - Group(s): **195049849-PBI-LOCATIONS**
 - Use DT_GEOGRAPHY for coordinate data: **False**
- Sample
 - Type(s): **NJFD**
- Date Range
 - Start: **12/14/1998**
 - End: **5/4/2018**
 - Most Recent Sampling: **False**
 - Use Date Range in Finding Most Recent Sampling: **False**
- Matrix(es):
- Task(s): **20140513-GWMonitor|20150507-GWMonitor|20160514-**
- Task_Code_2(s):
- Field SDG(s):
- Depth:

Please select one or more analytes

View | Clear Selected

0_LPMRDDA_ALL_ANALYTES
195049849-FieldParams
195049849-Key-cVOCs
AK_8015M(Glycol)_SO
AK_8015M(Glycols)_SO
AK_AK101(GRO)/E624(BTEX)_W
AK_AK101(GRO)/SW8021B(BTEX)_S
AK_AK101(GRO)/SW8021B(BTEX)_W
AK_AK101(GRO)/SW8260B(BTEX)_W
AK_AK101(GRO)/SW8260C(BTEX)_S
AK_AK101(GRO)/SW8260C(BTEX)_W
AK_AK101(GRO)/SW8260D(BTEX)_S
AK_AK101(GRO)/SW8260D(BTEX)_W
AK_AK101(GRO)/SW8260D(VOCs)_S
AK_AK101(GRO)_SO

ERM AR II (Locations in Columns)-1

Options:

- Separate tabbed columns
- Combine tabbed columns
- Separate tables by each unique: ANALYSIS_DATE
- Limit columns per page to: 0
- Use Excel template:
 - ERM_LPMRDDA_RPT_TEMPLATE.xltn
- Row aggregates last
- Show duplicates only

Column	Caption	Sort	Display	Hide	Display (Non-Detect)
GROUP_DESC		Asc	Merge	<input type="checkbox"/>	
loc_report_order		Asc	Default	<input checked="" type="checkbox"/>	
LOC_GROUP_CODE		Asc	Default	<input type="checkbox"/>	Default
sys_loc_code	Location	Asc	Default	<input type="checkbox"/>	
SAMPLE_DATE_yyyy/MM/dd	Sample Date	Asc	Default	<input type="checkbox"/>	Default
ERM_START_DEPTH		Asc	Default	<input checked="" type="checkbox"/>	Default
SAMPLE_TYPE_CODE	Sample Type	Desc	Default	<input type="checkbox"/>	Default
ERM_sample_interval	Depth	Asc	Default	<input type="checkbox"/>	Default
STATE_NAME			Default	<input checked="" type="checkbox"/>	Default
SAMPLE_TYPE_DESC			Default	<input type="checkbox"/>	Default
SYS_SAMPLE_CODE			Default	<input checked="" type="checkbox"/>	Default

Add additional column header with no required changes to Excel template

Report flexibility

Data Manager - major crosstab changes

- Steps:
 - In EQuIS™ Professional, locate the base report.
 - Select parameters and run. Review the data grid.
 - Load the default crosstab configuration or create your own crosstab configuration.
 - (Optional) Publish it as a new crosstab report and save a user report.
- Facilitates the creation of more complex tables.
- Encourages creativity and out-of-the box thinking.
- Motivates users to explore standard functionalities and deepen their understanding of reporting options in EQuIS™.

LPMRDDA ARII and ALEII Base Report

Parameter Files for this report: (None Available) | User Reports: (None Available)

Individual(s):

Group(s): **No_Member_MAG_Reporting**

Exclude Analyte(s): **None (default)**

Unit:

Type(s): **TRG|TIC**

Detect Flag(s):

Non-Detect Multiplier: **1**

Non-Detect Symbol: **< ?**

Non-Detect Qualifier:

Reportable: **Y|Yes**

Validated:

Reporting Limit: **reporting_detection_limit**

▼ **Format Results**

LPMRDDA ARII and ALEII Base Report Crosstab

Options:

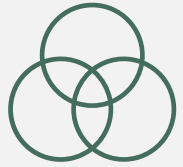
- Separate tabbed columns
- Combine tabbed columns
- Separate tables by each unique: ANALYSIS_DATE
- Limit columns per page to: 0
- Use Excel template: ERM_LPMRDDA_RPT_TEMPLATE.xltm
- Row aggregates last
- Show duplicates only

Column	Caption	Sort	Display	Hide	Display(Non-D)
GROUP_DESC		Asc	Merge	<input type="checkbox"/>	
loc_report_order		Asc	Default	<input checked="" type="checkbox"/>	
LOC_GROUP_CODE		Asc	Default	<input type="checkbox"/>	Default
sys_loc_code	Location	Asc	Default	<input type="checkbox"/>	
SAMPLE_DATE_yyyy/MM/dd	Sample Date	Asc	Default	<input type="checkbox"/>	Default
ERM_START_DEPTH		Asc	Default	<input checked="" type="checkbox"/>	Default
SAMPLE_TYPE_CODE	Sample Type	Desc	Default	<input type="checkbox"/>	Default
ERM_sample_interval	Depth	Asc	Default	<input type="checkbox"/>	Default
STATE_NAME			Default	<input checked="" type="checkbox"/>	Default
SAMPLE_TYPE_DESC			Default	<input type="checkbox"/>	Default

Column	Caption	Aggregate	Sort	Display	Hide	Display(Non-Detect)
MAG_REPORT_ORDER			Asc	Default	<input checked="" type="checkbox"/>	Default
GRPBYHEADER			Asc	Default	<input type="checkbox"/>	Default
REPORT_ORDER			Asc	Default	<input checked="" type="checkbox"/>	Default
CHEMICAL_NAME	Chemical Name			Default	<input type="checkbox"/>	Default
REPORT_RESULT_UNIT	Units			Default	<input type="checkbox"/>	Default

Column	Caption	Aggregate	Referenced Aggregate	Format	Null
ERM_VALUE_QUAL					
LQ_LOOKUP_DESC	QUALIFIER_DESC				

Challenges



Data Governance

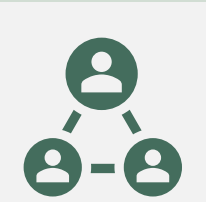
- Establishing and maintaining data governance provides sustainable reporting opportunities long-term; this is challenging in a data system that has been in operation for 20 years.
- Changes in data governance to account for changes in vendor software.



Known issues | Feature requests

Software limitations:

- Published crosstab is unable to handle differing number of action levels.
- Non-detect formatting is not working as described in vendor documentation.
- Underlying class report structure varies across EQUIS™ standard reports (e.g. location groups are treated differently in Analytical Results II vs. when adding as additional fields in Water Level II reports).



Change Management

- Adoption of new tools is challenging in any organization. Establishing well defined change management practices is important.
- Provide training and support.
 - Gather and respond to feedback.
 - Continued process and tool improvement.

Questions



Thank you

