

Using Excel as a Data Checker for Batches

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NEMC 08/02/2012

or
Find you Errors Before
your Errors find you.

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After you finish your analytical run,
what do you do?

- Look for a violation or out of control using specifications?
- Look at each entry on the screen?
- Hope you didn't make a mistake, and entered everything correctly?

Several years ago I was inspecting a contract laboratory.

- LIMS used a Microsoft SQL database.
- Some how they checked if analysis were done within holding times by using a export to Microsoft Excel.
- While Playing around with Excel one day I found the answer

Minimum Requirements

- Your data must be in a database
 - Access
 - SQL
 - Oracle
- You must understand where your data is stored.
 - What fields are in what tables
 - How are your tables linked or key fields
- You need a safe user ID with read only access

If your unsure about your database

- Make an Microsoft Access ODBC to your LIMS database
 - Look around for the fields you want
 - Remember you can't get the "data" out if it's not "in" first.
 - If all else fails
 - Ask your DBA or LIMS vendor for help
- DBA = Data Base Administrator

Now, on with the show

- It looks like this:
- In a perfect world.

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Workbook Views

Ruler Formula Bar

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Zoom 100% Zoom to Selection

New Window Arrange All Freeze Panes Unhide

Split View Side by Side Synchronous Scrolling Reset Window Position

Window

Save Workspace Switch Windows

Macros

	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AM	AN	AQ
	Temperature	Numeric Result	Result < MDL	Field Blank	I or U	Holding Time	I	Receive before Sample	Analysis before Sample	Analysis before Receive	Analysis after Now	Q not needed	U or I not needed	U not needed	Temp Chec	In Control	LWKS Violation	
1																		
2	1.4	2.2	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
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5	1.4	2.2	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
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7	1.4	1.2	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
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Summary Output QC Output Hold Times All Data QC Data Pivot Tables Sheet1 Notes

Ready 100%

Batch_beta_QC_TNI.xlsm - Microsoft Excel

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Save Workspace Switch Windows

Macros

A2 fx 72192

	A	B	C	D	E	F	G	H	I	J	K	L	N	O	P
1	BATNUMB	SAMPNO	LOCCODE	LOGBATCH	COLDATE	SUBDATE	ACODE	ANALYTER	RESULT	QUAL	MDL	DILFACTOR	ASDATE	AMPLE_TYF	SSTATUS
2	72192	AC82060	REDSP2	120400151	4/18/12 8:55	4/18/12 13:05	\$CHLOR	Chlorophy	2.2		0.5	1.00	5/1/12 9:30	SAMP	B
3	72192	AC82060	REDSP2	120400151	4/18/12 8:55	4/18/12 13:05	\$CHLOR	Pheophyt	1.3	I	0.5	1.00	5/1/12 9:30	SAMP	B
4	72192	AC82061	REDSP5	120400187	4/23/12 9:21	4/23/12 12:13	\$CHLOR	Chlorophy	0.5		0.5	1.00	5/1/12 9:30	SAMP	B
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6	72192	AC82062	REDSP6	120400187	4/23/12 10:24	4/23/12 12:13	\$CHLOR	Chlorophy	0.9	I	0.5	1.00	5/1/12 9:30	SAMP	B
7	72192	AC82062	REDSP6	120400187	4/23/12 10:24	4/23/12 12:13	\$CHLOR	Pheophyt	1.2	I	0.5	1.00	5/1/12 9:30	SAMP	B
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17	72192	AC82194	47A-28GR	120400187	4/23/12 10:24	4/23/12 12:13	\$CHLOR	Pheophyt	1.8	I	0.5	1.00	5/1/12 9:30	SAMP	I
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32	72192	AC82210	EB-RANDOM	120400190	4/23/12 12:30	4/23/12 14:18	\$CHLOR	Chlorophy	1.0	I	0.5	1.00	5/1/12 9:30	SAMP	B
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Enter Parameter Value

Enter Batch Number

Use this value/reference for future refreshes

Refresh automatically when cell value changes

OK Cancel

Batch_beta_QC_TNI.xlsm - Microsoft Excel

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Show/Hide

Zoom 100% Zoom to Selection

New Window Arrange All Freeze Panes Unhide

Split View Side by Side Synchronous Scrolling Reset Window Position

Window

Save Workspace Switch Windows

Macros

	A	B	C	D	E	F	G	H	I	J	K	L	N	O	P
	BATNUMB	SAMPNO	LOCCODE	LOGBATCH	COLDATE	SUBDATE	ACODE	ANALYTER	RESULT	QUAL	MDL	DILFACTOR	ASDATE	AMPLE_TYF	SSTATUS
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2	72192	AC82060	REDSP2	120400151	4/18/12 8:55	4/18/12 13:05	\$CHLOR	Chlorophy	2.2		0.5	1.00	5/1/12 9:30	SAMP	B
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7	72192	AC82062	REDSP6	120400187	4/23/12 10:24	4/23/12 12:13	\$CHLOR	Pheophyt	1.2	I	0.5	1.00	5/1/12 9:30	SAMP	B
8	72192	AC82063	REDSP10	120400190	4/23/12 10:50	4/23/12 14:18	\$CHLOR	Chlorophy	0.5	U	0.5	1.00	5/1/12 9:30	SAMP	B
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17	72192	AC82194	47A-28GR	120400187	4/23/12 10:24	4/23/12 12:13	\$CHLOR	Pheophyt	1.8	I	0.5	1.00	5/1/12 9:30	SAMP	I
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19	72192	AC82195	47A-15GR	120400187	4/23/12 10:41	4/23/12 12:13	\$CHLOR	Pheophyt	1.4	I	0.5	1.00	5/1/12 9:30	SAMP	I
20	72192	AC82196	47A-4GR	120400187	4/23/12 10:57	4/23/12 12:13	\$CHLOR	Chlorophy	0.8	I	0.5	1.00	5/1/12 9:30	SAMP	I
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22	72192	AC82198	46B-9GR	120400187	4/23/12 11:36	4/23/12 12:13	\$CHLOR	Chlorophy	0.9	I	0.5	1.00	5/1/12 9:30	SAMP	I
23	72192	AC82198	46B-9GR	120400187	4/23/12 11:36	4/23/12 12:13	\$CHLOR	Pheophyt	1.6	I	0.5	1.00	5/1/12 9:30	SAMP	I
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Enter Parameter Value

Enter Batch Number

72225

Use this value/reference for future refreshes

Refresh automatically when cell value changes

OK Cancel

Summary Output QC Output Hold Times All Data QC Data Pivot Tables Sheet1 Notes

Enter

100%

Start Batch_beta_QC... Microsoft PowerPoi... Inbox - Microsoft O... ELAB Kwitag Custo... MS Office 2:03 PM

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	Temperature	Numeric Result	Result < MDL	Field Blank	I or U	Holding Time	I	Receive before Sample	Analysis before Sample	Analysis before Receive	Analysis after Now	Q not needed	U or I not needed	U not needed	Temp Chec	In Control	LWKS Violation	
1																		
2	0.5	1.1	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
3	0.5	1.5	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
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10	0.5	0.14	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
11	0.5	0.5	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
12	0.5	2	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
13	0.5	1.5	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
14	0.5	1.4	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
15	0.5	0.05	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
16	1.6	7.3	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
17	1.6	4.4	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
18	1.6	4.2	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
19	1.6	3.9	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
20	1.6	9.1	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
21	1.6	0.05	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
22	1.1	4.6	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
23	1.1	4.3	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
24	1.1	3.2	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
25	1.1	2.4	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
26	1.1	1	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
27	1.1	0.05	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
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29																		
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34																		

Summary Output QC Output Hold Times All_Data QC Data Pivot Tables Sheet1 Notes

Ready 100%



And now for some less
than perfect data:

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Workbook Views

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Show/Hide

Zoom 100% Zoom to Selection

New Window Arrange All Freeze Panes Unhide

Split View Side by Side Synchronous Scrolling Reset Window Position

Window

Save Workspace Switch Windows

Macros

	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AM	AN	AQ
	Temperature	Numeric Result	Result < MDL	Field Blank	I or U	Holding Time	I	Receive before Sample	Analysis before Sample	Analysis before Receive	Analysis after Now	Q not needed	U or I not needed	U not needed	Temp Chec	In Control	LWKS Violation	
1	3.6	5	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
2	3.1	1.6	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
3	3.1	1	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
4	3.1	0.45	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
5	3.1	0.53	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
6	3.1	0.84	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
7	3.1	0.82	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
8	3.1	0.05	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
9	3.1	0.05	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
10	1.2	0.45	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
11	1.2	0.56	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
12	1.2	0.56	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
13	1.2	0.53	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
14	1.2	0.54	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
15	1.2	0.27	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
16	1.2	0.25	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
17	1.2	0.47	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
18	0.4	0.41	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
19	0.4	0.42	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
20	0.4	0.42	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
21	0.4	0.52	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
22	0.4	0.52	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
23	0.4	0.52	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
24	0.4	0.44	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
25	0.4	0.05	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
26	1.5	4.4	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
27	1.5	4.5	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
28	1.5	4.7	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
29																		
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Split View Side by Side Synchronous Scrolling Reset Window Position

Window

Save Workspace Switch Windows

Macros

	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AM	AN	AQ
	Temperature	Numeric Result	Result < MDL	Field Blank	I or U	Holding Time	I	Receive before Sample	Analysis before Sample	Analysis before Receive	Analysis after Now	Q not needed	U or I not needed	U not needed	Temp Chec	In Control	LWKS Violation	
1																		
2	4.3	4.2	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
3	4.3	4.1	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
4	4.3	3.5	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
5	4.3	3.3	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
6	4.3	3	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
7	4.3	2.9	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
8	4.3	4.4	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
9	4.3	4.7	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
10	4.3	3.7	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
11	4.3	1	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
12	1.1	19	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
13	1.1	15	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
14	1.1	12	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
15	1.1	11	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
16	1.1	3.9	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
17	1.1	1	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
18	27.3	1	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	eck for cool	OK	OK	
19	27.8	1	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	eck for cool	OK	OK	
20	26.1	1	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	eck for cool	OK	OK	
21	1.2	3.3	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
22	1.2	4.2	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
23	1.2	4	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
24	1.2	2.6	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
25	1.2	4.6	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
26	1.2	1	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
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Summary Output QC Output Hold Times All Data QC Data Pivot Tables Sheet1 Notes

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Workbook Views

Ruler Formula Bar

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New Window Arrange All Freeze Panes Hide Unhide

Split View Side by Side Synchronous Scrolling Reset Window Position

Window

Save Workspace Switch Windows

Macros

	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB
	VIOLTYPE	VIOLVALUE	LSPEC	LWARN	UWARN	USPEC	Analysis before Sample	Analysis before Receive	Analysis after Now	LabWorks or Method Violation	In Control	Low Limit	High limit			
10						0.05	OK	OK	OK	OK	OK	-0.248472166	0.201165568			
11	0					110	OK	OK	OK	OK	OK	85.00367968	113.9259452			
12	0		90			110	OK	OK	OK	OK	OK	83.1231742	115.8910561			
13	0		90			25	OK	OK	OK	OK	OK	0	22.57215573			
14	0		0			110	OK	OK	OK	OK	OK	81.11522118	118.6193196			
15	0		90													
16																
17																
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Summary Output QC Output Hold Times All_Data QC Data Pivot Tables Sheet1 Notes

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Show/Hide

Zoom 100% Zoom to Selection

New Window Arrange All Freeze Panes Unhide

Split View Side by Side Synchronous Scrolling Reset Window Position

Window

Save Workspace Switch Windows

Macros

SAMPNO												
A	B	C	D	E	F	G	H	I	J	K	L	M
1	SAMPNO	ACODE	Loc Code	RESULT	Any Errors?	In Control	LWKS Violation	Batch #	CLOSE	COMMENTS		
2	AC81976	TKN	WHISGR50	5.0	OK	OOC	OK					
3	AC81984	TKN	20A-19GR	1.6	OK	OK	OK					
4	AC81985	TKN	GATRGR91	1.0	OK	OK	OK					
5	AC81986	TKN	GATRGR60	0.45	OK	OK	OK					
6	AC81987	TKN	GATRGR30	0.53	OK	OK	OK					
7	AC81988	TKN	BURNTS	0.84	OK	OK	OK					
8	AC81990	TKN	16-3GR	0.82	OK	OK	OK					
9	AC81991	TKN	WSEQB	0.05	OK	OK	OK					
10	AC81992	TKN	EB-01	0.45	OK	OK	OK					
11	AC81993	TKN	EB-02	0.56	OK	OK	OK					
12	AC81994	TKN	EB-03	0.56	OK	OK	OK					
13	AC81995	TKN	EB-04	0.53	OK	OK	OK					
14	AC81996	TKN	EB-05	0.54	OK	OK	OK					
15	AC81997	TKN	EB-06	0.27	OK	OK	OK					
16	AC81998	TKN	EB-07	0.25	OK	OK	OK					
17	AC81999	TKN	EB-08	0.47	OK	OK	OK					
18	AC82000	TKN	EB-09	0.41	OK	OK	OK					
19	AC82001	TKN	EB-10	0.42	OK	OK	OK					
20	AC82002	TKN	EB-11	0.42	OK	OK	OK					
21	AC82003	TKN	EB-12	0.52	OK	OK	OK					
22	AC82004	TKN	EB-13	0.52	OK	OK	OK					
23	AC82005	TKN	EB-14	0.44	OK	OK	OK					
24	AC82006	TKN	EB-BLANK	0.05	OK	OK	OK					
25	AC82020	TKN	RAMP-A	4.4	OK	OK	OK					
26	AC82021	TKN	RAMP-B	4.5	OK	OOC	OK					
27	AC82022	TKN	RAMP-C	4.7	OK	OOC	OK					
28												
29												
30												

Three Easy Steps:

- Get your data
- Write your formulas
- Automate with a macro

Step One

- Get your data

Microsoft Excel

Home Insert Page Layout Formulas **Data** Review View

From Access From Web From Text From Other Sources Existing Connections Refresh All Properties Edit Links Connections Sort Filter Clear Reapply Advanced Text to Columns Remove Duplicates Data Validation Consolidate What-If Analysis Group Ungroup Subtotal Data Analysis

From SQL Server
Create a connection to a SQL Server table. Import data into Excel as a Table or PivotTable report.

From Analysis Services
Create a connection to a SQL Server Analysis Services cube. Import data into Excel as a Table or PivotTable report.

From XML Data Import
Open or map a XML file into Excel.

From Data Connection Wizard
Import data for an unlisted format by using the Data Connection Wizard and OLEDB.

From Microsoft Query
Import data for an unlisted format by using the Microsoft Query Wizard and ODBC.

Book1

A1

A H I J K L M N O P Q

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Sheet1 Sheet2 Sheet3

Ready 100%

start LoggerNet LABWORK... Inbox - Mi... Microsoft ... Microsoft ... Microsoft ... MS Office 2:20 PM

Microsoft Excel

Home Insert Page Layout Formulas Data Review View

From Access From Web From Text Get External Data

From Other Sources Existing Connections Refresh All Properties Edit Links Connections

Sort Filter Clear Reapply Advanced Sort & Filter

Text to Columns Remove Duplicates Data Validation Consolidate What-If Analysis Data Tools

Group Ungroup Subtotal Outline

Data Analysis Analysis

A1

Book1

A B C D E F G H I J K L M N O P Q

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27

Sheet1 Sheet2 Sheet3

Ready 100% 2:21 PM

start Logger... LABW... Inbox -... Microso... Microso... Microso... Microso... MS Office >>

Choose Data Source

Databases Queries OLAP Cubes

- <New Data Source>
- dBASE Files*
- Excel Files*
- Labworks5*
- labworks6b
- MS Access Database*
- test

Use the Query Wizard to create/edit queries

OK Cancel Browse... Options... Delete

Microsoft Excel

Home Insert Page Layout Formulas Data Review View

From Access From Web From Text Get External Data

From Other Sources Existing Connections Refresh All Properties Edit Links Connections

Sort Filter Clear Reapply Advanced Sort & Filter

Text to Columns Remove Duplicates Data Validation Consolidate What-If Analysis Data Tools

Group Ungroup Subtotal Outline

Data Analysis Analysis

A1

Book1

Connecting to data source...

SQL Server Login

Data Source: Labworks5 OK

Use Trusted Connection Cancel

Login ID: readonly Help

Password: ***** Options >>

Sheet1 Sheet2 Sheet3

Ready 100% 2:22 PM

Microsoft Excel

Home Insert Page Layout Formulas Data Review View

From Access From Web From Text Get External Data

Connections Refresh All Properties Edit Links

Sort Filter Clear Reapply Advanced

Text to Columns Remove Duplicates Data Validation Consolidate What-If Analysis

Group Ungroup Subtotal Outline Analysis

A1

Book1

Query Wizard - Choose Columns

What columns of data do you want to include in your query?

Available tables and columns: Columns in your query:

- SAMPLE
 - SAMPNO
 - OWNER
 - SSTATUS
 - LOCCODE
 - LOCDESCR
 - INGRATCH

Preview of data in selected column:

Preview Now Options... < Back Next > Cancel

Sheet1 Sheet2 Sheet3

Ready 100% 2:25 PM

Microsoft Excel

Home Insert Page Layout Formulas **Data** Review View

From Access From Web From Text Get External Data

Connections Refresh All Properties Edit Links

Sort Filter Clear Reapply Advanced

Text to Columns Remove Duplicates Data Validation Consolidate What-If Analysis

Group Ungroup Subtotal Outline Analysis

A1

Book1

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
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Sheet1 Sheet2 Sheet3

Query Wizard - Choose Columns

What columns of data do you want to include in your query?

Available tables and columns:

- SAMPLE
 - OWNER
 - SSTATUS
 - LOCDESCR
 - LOGUSER**
 - SUBDATE
 - SAMPNO

Columns in your query:

- SAMPNO
- LOCCODE
- LOGBATCH

Preview of data in selected column:

Preview Now Options... < Back Next > Cancel

Microsoft Excel

Home Insert Page Layout Formulas Data Review View

From Access From Web From Text Get External Data

Connections Refresh All Properties Edit Links

Sort Filter Clear Reapply Advanced

Text to Columns Remove Duplicates Data Validation Consolidate What-If Analysis

Group Ungroup Subtotal Outline Analysis

A1

Book1

Query Wizard - Choose Columns

Microsoft Query

Do you want to continue editing this query in Microsoft Query?

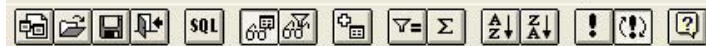
Yes No

Preview of data in selected column:

Preview Now Options... < Back Next > Cancel

Sheet1 Sheet2 Sheet3

Ready 100% 2:27 PM



Query from Labworks5

- SAMPLE
- * BILLRATE
- COLDATE
- COMTMASK
- CURRENT_ST
- DCOPY

SAMPNO	LOCCODE	LOGBATCH
AA00003	WR	
AA00004	WR	
AA00005	WR	
AA00006	WR	
AA00007	WR	
AA00008	WR	
AA00009	WR	
AA00010	WR	
AA00011	WR	
AA00012	WR	
AA00013	WR	
AA00014	WR	
AA00015	WR	
AA00016	WR	
AA00017	WR	
AA00018	WR	
AA00019	WR	
AA00020	WR	
AA00021	WR	
AA00022	WR	
AA00023	WR	
AA00024	WR	
AA00025	WR	
AA00026	WR	
AA00027	WR	
AA00028	WR	
AA00029	WR	

Record: 1

Select View Criteria to show/edit criteria limiting records shown



Query from Labworks5

- SAMPLE
- BILLRATE
- COLDATE
- COMTMASK
- CURRENT_ST
- DCOPY

SAMPNO	LOCCODE	LOGBATCH
AA00003	WR	
AA00004	WR	
AA00005	WR	
AA00006	WR	
AA00007	WR	
AA00008	WR	
AA00009	WR	
AA00010	WR	
AA00011	WR	
AA00012	WR	
AA00013	WR	
AA00014	WR	
AA00015	WR	
AA00016	WR	
AA00017	WR	
AA00018	WR	
AA00019	WR	
AA00020	WR	
AA00021	WR	
AA00022	WR	
AA00023	WR	
AA00024	WR	
AA00025	WR	
AA00026	WR	
AA00027	WR	
AA00028	WR	
AA00029	WR	

Record: 1

Add criteria to limit the records in the result set

Microsoft Query

File Edit View Format Table Criteria Records Window Help



Query from Labworks5

SAMPLE	
*	
BILLRATE	
COLDATE	
COMTMASK	
CURRENT_ST	
DCOPY	

Criteria Field:								
Value:								
or:								

SAMPNO	LOCCODE	LOGBATCH	
▶ AA00003	WR		
AA00004	WR		
AA00005	WR		
AA00006	WR		
AA00007	WR		
AA00008	WR		
AA00009	WR		
AA00010	WR		
AA00011	WR		
AA00012	WR		
AA00013	WR		
AA00014	WR		
AA00015	WR		
AA00016	WR		
AA00017	WR		
AA00018	WR		
AA00019	WR		
AA00020	WR		
AA00021	WR		
AA00022	WR		
AA00023	WR		

Record: 1



- Add Tables...
- Remove Table
- Joins...

Query from Labwo

SAMPLE
BILLRATE
COLDATE
COMTMASK
CURRENT_ST
DCOPY

Criteria Field:							
Value:							
or:							

SAMPNO	LOCCODE	LOGBATCH	
AA00003	WR		
AA00004	WR		
AA00005	WR		
AA00006	WR		
AA00007	WR		
AA00008	WR		
AA00009	WR		
AA00010	WR		
AA00011	WR		
AA00012	WR		
AA00013	WR		
AA00014	WR		
AA00015	WR		
AA00016	WR		
AA00017	WR		
AA00018	WR		
AA00019	WR		
AA00020	WR		
AA00021	WR		
AA00022	WR		
AA00023	WR		

Record: 1



Query from Labworks5

SAMPLE
BILLRATE
COLDATE
COMTMASK
CURRENT_ST
DCOPY

Criteria Field:
Value:
or:

SAMPNO	LOCCODE	LOGBATCH
AA00003	WR	
AA00004	WR	
AA00005	WR	
AA00006	WR	
AA00007	WR	
AA00008	WR	
AA00009	WR	
AA00010	WR	
AA00011	WR	
AA00012	WR	
AA00013	WR	
AA00014	WR	
AA00015	WR	
AA00016	WR	
AA00017	WR	
AA00018	WR	
AA00019	WR	
AA00020	WR	
AA00021	WR	
AA00022	WR	
AA00023	WR	

Add Tables

Table:

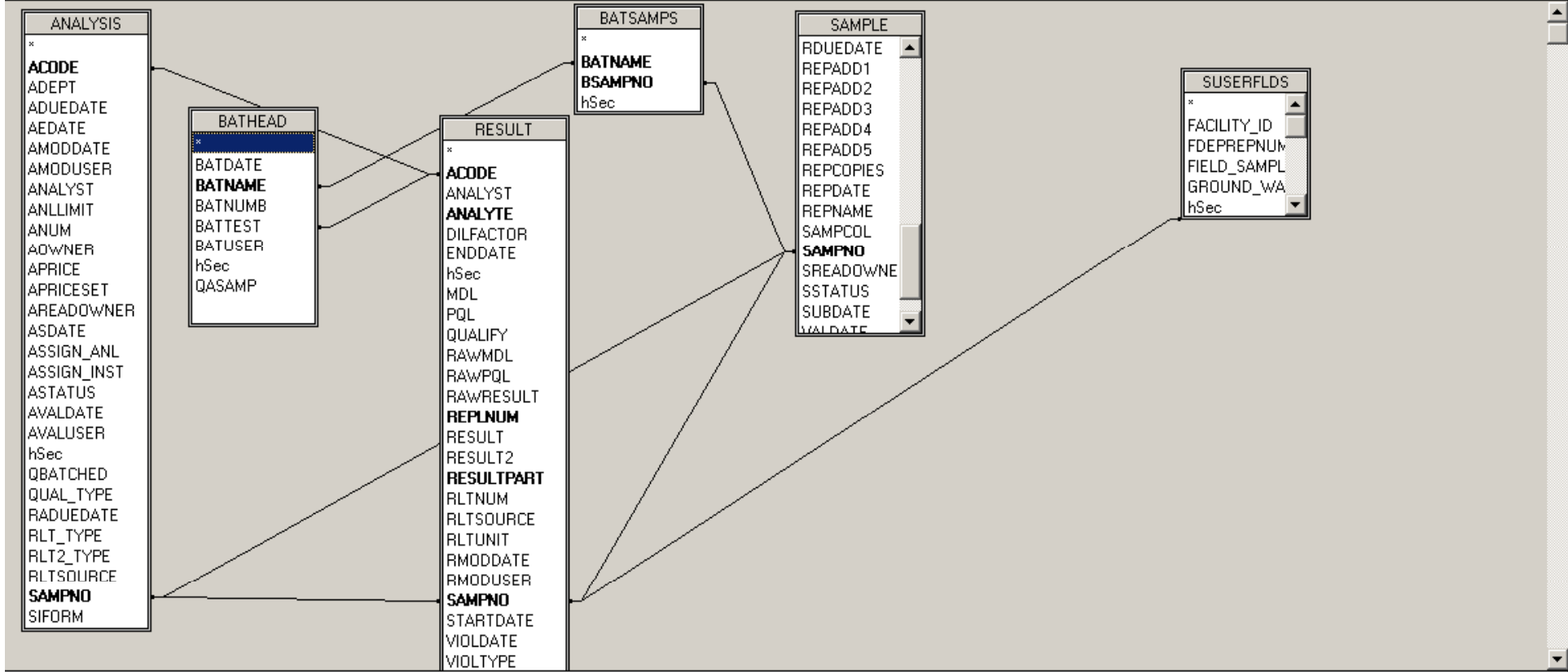
- REASONMASTER
- RESULT**
- RESULTPHEO
- RLDEFANL
- RLDEFHED
- RLSMPANL
- RLSMPHED
- RLTSPECS
- SAMPLE

Owner: <All>

Database: LABWORKS5

Buttons: Add, Close, Options...

Record: 1



Criteria Field: BATNUMB

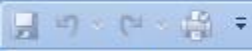
Value: [Enter Batch Number]

or:

Choose Query Now to run the query and display results



From Access From Web From Text From Other Sources Existing Connections Refresh All Connections Properties Edit Links Sort Filter Clear Reapply Advanced Text to Columns Remove Duplicates Data Validation Consolidate What-If Analysis Group Ungroup Subto Outline



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Import Data

Select how you want to view this data in your workbook.

- Table
- PivotTable Report
- PivotChart and PivotTable Report
- Only Create Connection

Where do you want to put the data?

- Existing worksheet:
=A\$1
- New worksheet

Properties... OK Cancel

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Workbook Views

Ruler Formula Bar

Gridlines Headings

Message Bar

Show/Hide

Zoom 100% Zoom to Selection

New Window Arrange All Freeze Panes Hide Unhide

Split View Side by Side Synchronous Scrolling Reset Window Position

Window

Save Workspace Switch Windows

Macros

A7 71937

	A	B	C	D	E	F	G	H	I	J	K	L	N	O	P
1	BATNUMB	SAMPNO	LOCCODE	LOGBATCH	COLDATE	SUBDATE	ACODE	ANALYTERESULT	QUAL	MDL	DILFACTOR	ASDATE	SAMPLE_TYF	SSTATUS	
2	71937	AC81976	WHISGR50	120400129	4/16/12 9:05	4/16/12 12:42	TKN	Nitrogen, 5.0	J1	0.05	1.00	4/23/12 9:45	SAMP	I	
3	71937	AC81984	20A-19GR	120400131	4/17/12 8:23	4/17/12 12:13	TKN	Nitrogen, 1.6		0.05	1.00	4/23/12 9:45	SAMP	B	
4	71937	AC81985	GATRGR91	120400131	4/17/12 8:41	4/17/12 12:13	TKN	Nitrogen, 1.0		0.05	1.00	4/23/12 9:45	SAMP	B	
5	71937	AC81986	GATRGR60	120400131	4/17/12 9:27	4/17/12 12:13	TKN	Nitrogen, 0.45		0.05	1.00	4/23/12 9:45	SAMP	B	
6	71937	AC81987	GATRGR30	120400131	4/17/12 10:02	4/17/12 12:13	TKN	Nitrogen, 0.53		0.05	1.00	4/23/12 9:45	SAMP	B	
7	71937	AC81988	BURNTS	120400131	4/17/12 10:24	4/17/12 12:13	TKN	Nitrogen, 0.84		0.05	1.00	4/23/12 9:45	SAMP	B	
8	71937	AC81990	16-3GR	120400131	4/17/12 11:30	4/17/12 12:13	TKN	Nitrogen, 0.82		0.05	1.00	4/23/12 9:45	SAMP	B	
9	71937	AC81991	WSEQB	120400131	4/17/12 10:30	4/17/12 12:13	TKN	Nitrogen, 0.05	U	0.05	1.00	4/23/12 9:45	FCEB	B	
10	71937	AC81992	EB-01	120400132	4/16/12 9:28	4/16/12 12:49	TKN	Nitrogen, 0.45		0.05	1.00	4/23/12 9:45	SAMP	B	
11	71937	AC81993	EB-02	120400132	4/16/12 9:47	4/16/12 12:49	TKN	Nitrogen, 0.56		0.05	1.00	4/23/12 9:45	SAMP	B	
12	71937	AC81994	EB-03	120400132	4/16/12 10:06	4/16/12 12:49	TKN	Nitrogen, 0.56		0.05	1.00	4/23/12 9:45	SAMP	B	
13	71937	AC81995	EB-04	120400132	4/16/12 10:40	4/16/12 12:49	TKN	Nitrogen, 0.53		0.05	1.00	4/23/12 9:45	SAMP	B	
14	71937	AC81996	EB-05	120400132	4/16/12 11:51	4/16/12 12:49	TKN	Nitrogen, 0.54		0.05	1.00	4/23/12 9:45	SAMP	B	
15	71937	AC81997	EB-06	120400132	4/16/12 10:21	4/16/12 12:49	TKN	Nitrogen, 0.27		0.05	1.00	4/23/12 9:45	SAMP	B	
16	71937	AC81998	EB-07	120400132	4/16/12 11:03	4/16/12 12:49	TKN	Nitrogen, 0.25		0.05	1.00	4/23/12 9:45	SAMP	B	
17	71937	AC81999	EB-08	120400132	4/16/12 11:21	4/16/12 12:49	TKN	Nitrogen, 0.47		0.05	1.00	4/23/12 9:45	SAMP	B	
18	71937	AC82000	EB-09	120400132	4/17/12 10:56	4/17/12 13:22	TKN	Nitrogen, 0.41		0.05	1.00	4/23/12 9:45	SAMP	B	
19	71937	AC82001	EB-10	120400132	4/17/12 10:33	4/17/12 13:22	TKN	Nitrogen, 0.42		0.05	1.00	4/23/12 9:45	SAMP	B	
20	71937	AC82002	EB-11	120400132	4/17/12 10:00	4/17/12 13:22	TKN	Nitrogen, 0.42		0.05	1.00	4/23/12 9:45	SAMP	B	
21	71937	AC82003	EB-12	120400132	4/17/12 11:26	4/17/12 13:22	TKN	Nitrogen, 0.52		0.05	1.00	4/23/12 9:45	SAMP	B	
22	71937	AC82004	EB-13	120400132	4/17/12 11:53	4/17/12 13:22	TKN	Nitrogen, 0.52	J4	0.05	1.00	4/23/12 9:45	SAMP	B	
23	71937	AC82005	EB-14	120400132	4/17/12 12:05	4/17/12 13:22	TKN	Nitrogen, 0.44		0.05	1.00	4/23/12 9:45	SAMP	B	
24	71937	AC82006	EB-BLANK	120400132	4/17/12 10:08	4/17/12 13:22	TKN	Nitrogen, 0.05	U	0.05	1.00	4/23/12 9:45	FB	B	
25	71937	AC82020	RAMP-A	120400141	4/18/12 11:50	4/18/12 14:00	TKN	Nitrogen, 4.4		0.05	1.00	4/23/12 9:45	SAMP	I	
26	71937	AC82021	RAMP-B	120400141	4/18/12 11:50	4/18/12 14:00	TKN	Nitrogen, 4.5		0.05	1.00	4/23/12 9:45	SAMP	I	
27	71937	AC82022	RAMP-C	120400141	4/18/12 11:50	4/18/12 14:00	TKN	Nitrogen, 4.7		0.05	1.00	4/23/12 9:45	SAMP	I	
28															
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Summary Output QC Output Hold Times All Data QC Data Pivot Tables Sheet1 Notes

Ready 100%

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Ruler Formula Bar Gridlines Headings Message Bar Show/Hide

Zoom 100% Zoom to Selection

New Window Arrange All Freeze Panes Unhide

Split View Side by Side Synchronous Scrolling Reset Window Position

Window

Save Workspace Switch Windows Macros

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	A	B	C	D	E	F	G	H	I	J	K	L	N	O	P
1	BATNUMB	SAMPNO	LOCCODE	LOGBATC	COLDATE	SUBDATE	ACODE	ANALYTER	RESULT	QUAL	MDL	DILFACTOR	ASDATE	SAMPLE_TYF	SSTATUS
2	71937	AC81976	WHISCR50	120400129	4/16/12 9:05	4/16/12 12:42	TKN	Nitrogen,	5.0	J1	0.05	1.00	4/23/12 9:45	SAMP	I
3	71937	AC81976	WHISCR50	120400131	4/17/12 8:23	4/17/12 12:13	TKN	Nitrogen,	1.6		0.05	1.00	4/23/12 9:45	SAMP	B
4	71937	AC81976	WHISCR50	120400131	4/17/12 8:41	4/17/12 12:13	TKN	Nitrogen,	1.0		0.05	1.00	4/23/12 9:45	SAMP	B
5	71937	AC81976	WHISCR50	120400131	4/17/12 9:27	4/17/12 12:13	TKN	Nitrogen,	0.45		0.05	1.00	4/23/12 9:45	SAMP	B
6	71937	AC81987	CATCR20	120400131	4/17/12 10:02	4/17/12 12:13	TKN	Nitrogen,	0.53		0.05	1.00	4/23/12 9:45	SAMP	B
7	71937	AC81987	CATCR20	120400131	4/17/12 10:24	4/17/12 12:13	TKN	Nitrogen,	0.84		0.05	1.00	4/23/12 9:45	SAMP	B
8	71937	AC81987	CATCR20	120400131	4/17/12 11:30	4/17/12 12:13	TKN	Nitrogen,	0.82		0.05	1.00	4/23/12 9:45	SAMP	B
9	71937	AC81987	CATCR20	120400131	4/17/12 10:30	4/17/12 12:13	TKN	Nitrogen,	0.05	U	0.05	1.00	4/23/12 9:45	FCEB	B
10	71937	AC81987	CATCR20	120400132	4/16/12 9:28	4/16/12 12:49	TKN	Nitrogen,	0.45		0.05	1.00	4/23/12 9:45	SAMP	B
11	71937	AC81987	CATCR20	120400132	4/16/12 9:47	4/16/12 12:49	TKN	Nitrogen,	0.56		0.05	1.00	4/23/12 9:45	SAMP	B
12	71937	AC81987	CATCR20	120400132	4/16/12 10:06	4/16/12 12:49	TKN	Nitrogen,	0.56		0.05	1.00	4/23/12 9:45	SAMP	B
13	71937	AC81987	CATCR20	120400132	4/16/12 10:40	4/16/12 12:49	TKN	Nitrogen,	0.53		0.05	1.00	4/23/12 9:45	SAMP	B
14	71937	AC81987	CATCR20	120400132	4/16/12 11:51	4/16/12 12:49	TKN	Nitrogen,	0.54		0.05	1.00	4/23/12 9:45	SAMP	B
15	71937	AC81987	CATCR20	120400132	4/16/12 10:21	4/16/12 12:49	TKN	Nitrogen,	0.27		0.05	1.00	4/23/12 9:45	SAMP	B
16	71937	AC81987	CATCR20	120400132	4/16/12 11:03	4/16/12 12:49	TKN	Nitrogen,	0.25		0.05	1.00	4/23/12 9:45	SAMP	B
17	71937	AC81987	CATCR20	120400132	4/16/12 11:21	4/16/12 12:49	TKN	Nitrogen,	0.47		0.05	1.00	4/23/12 9:45	SAMP	B
18	71937	AC81987	CATCR20	120400132	4/17/12 10:56	4/17/12 13:22	TKN	Nitrogen,	0.41		0.05	1.00	4/23/12 9:45	SAMP	B
19	71937	AC81987	CATCR20	120400132	4/17/12 10:33	4/17/12 13:22	TKN	Nitrogen,	0.42		0.05	1.00	4/23/12 9:45	SAMP	B
20	71937	AC81987	CATCR20	120400132	4/17/12 10:00	4/17/12 13:22	TKN	Nitrogen,	0.42		0.05	1.00	4/23/12 9:45	SAMP	B
21	71937	AC81987	CATCR20	120400132	4/17/12 11:26	4/17/12 13:22	TKN	Nitrogen,	0.52		0.05	1.00	4/23/12 9:45	SAMP	B
22	71937	AC81987	CATCR20	120400132	4/17/12 11:53	4/17/12 13:22	TKN	Nitrogen,	0.52	J4	0.05	1.00	4/23/12 9:45	SAMP	B
23	71937	AC81987	CATCR20	120400132	4/17/12 12:05	4/17/12 13:22	TKN	Nitrogen,	0.44		0.05	1.00	4/23/12 9:45	SAMP	B
24	71937	AC81987	CATCR20	120400132	4/17/12 10:08	4/17/12 13:22	TKN	Nitrogen,	0.05	U	0.05	1.00	4/23/12 9:45	FB	B
25	71937	AC81987	CATCR20	120400141	4/18/12 11:50	4/18/12 14:00	TKN	Nitrogen,	4.4		0.05	1.00	4/23/12 9:45	SAMP	I
26	71937	AC81987	CATCR20	120400141	4/18/12 11:50	4/18/12 14:00	TKN	Nitrogen,	4.5		0.05	1.00	4/23/12 9:45	SAMP	I
27	71937	AC82022	RAMP-C	120400141	4/18/12 11:50	4/18/12 14:00	TKN	Nitrogen,	4.7		0.05	1.00	4/23/12 9:45	SAMP	I
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Summary Output QC Output Hold Times All Data QC Data Pivot Tables Sheet1 Notes

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Show/Hide

Zoom 100% Zoom to Selection

Zoom

New Window Arrange All Freeze Panes Unhide

Split Hide

View Side by Side Synchronous Scrolling Reset Window Position

Window

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	A	B	C	D	E	F	G	H	I	J	K	L	
1	BATNUMB	SAMPNO	LOCCODE	LOGBATC	SOLDDATE	SUBDATE	ACCODE	ANALYTE	RESULT	QUAL	MDL	DILFACTOR	AST
2	71937	AC81976	WHISGR50	12040012						J4	0.05	1.00	4/23/
3	71937	AC81984	20A-19GR	12040013							0.05	1.00	4/23/
4	71937	AC81985	GATRGR91	12040013							0.05	1.00	4/23/
5	71937	AC81986	GATRGR60	12040013							0.05	1.00	4/23/
6	71937	AC81987	GATRGR30	12040013							0.05	1.00	4/23/
7	71937	AC81988	BURNTS	12040013							0.05	1.00	4/23/
8	71937	AC81990	16-3GR	12040013							0.05	1.00	4/23/
9	71937	AC81991	WSEQB	12040013						U	0.05	1.00	4/23/
10	71937	AC81992	EB-01	12040013							0.05	1.00	4/23/
11	71937	AC81993	EB-02	12040013							0.05	1.00	4/23/
12	71937	AC81994	EB-03	12040013							0.05	1.00	4/23/
13	71937	AC81995	EB-04	12040013							0.05	1.00	4/23/
14	71937	AC81996	EB-05	12040013							0.05	1.00	4/23/
15	71937	AC81997	EB-06	12040013							0.05	1.00	4/23/
16	71937	AC81998	EB-07	12040013							0.05	1.00	4/23/
17	71937	AC81999	EB-08	12040013							0.05	1.00	4/23/
18	71937	AC82000	EB-09	12040013							0.05	1.00	4/23/
19	71937	AC82001	EB-10	12040013							0.05	1.00	4/23/
20	71937	AC82002	EB-11	12040013							0.05	1.00	4/23/
21	71937	AC82003	EB-12	12040013							0.05	1.00	4/23/
22	71937	AC82004	EB-13	12040013						J4	0.05	1.00	4/23/
23	71937	AC82005	EB-14	12040013							0.05	1.00	4/23/
24	71937	AC82006	EB-BLANK	12040013						U	0.05	1.00	4/23/
25	71937	AC82020	RAMP-A	12040014							0.05	1.00	4/23/
26	71937	AC82021	RAMP-B	12040014							0.05	1.00	4/23/
27	71937	AC82022	RAMP-C	12040014							0.05	1.00	4/23/
28													
29													
30													

External Data Range Properties

Name: Batch

Query definition

Save query definition

Save password

Refresh control

Enable background refresh

Refresh every 60 minutes

Refresh data when opening the file

Remove external data from worksheet before closing

Data formatting and layout

Include field names Preserve column sort/filter/layout

Include row numbers Preserve cell formatting

Adjust column width

If the number of rows in the data range changes upon refresh:

Insert cells for new data, delete unused cells

Insert entire rows for new data, clear unused cells

Overwrite existing cells with new data, clear unused cells

Fill down formulas in columns adjacent to data

OK Cancel

External Data Range Properties



Name:

Query definition

- Save query definition
- Save password

Refresh control

- Enable background refresh
- Refresh every minutes
- Refresh data when opening the file
 - Remove external data from worksheet before closing

Data formatting and layout

- Include field names
- Preserve column sort/filter/layout
- Include row numbers
- Preserve cell formatting
- Adjust column width

If the number of rows in the data range changes upon refresh:

- Insert cells for new data, delete unused cells
 - Insert entire rows for new data, clear unused cells
 - Overwrite existing cells with new data, clear unused cells
- Fill down formulas in columns adjacent to data

OK

Cancel

Step One B

- Ok, I was less than truthful about 3 steps
- Get more data if needed for other sheets
 - I have Sheet Named “All Data”, it brings in recent historical data by site for the batched Analyte of interest .
 - One more sheet brings in the historical QA data for the Analyte.

Step One C

- Add any needed information you can't pull from the database.
 - I have Sheet Named "Holding times", in addition to holding times it also contains information like: can the result be a text, is it a field parameter, does it have a PQL, and preservation temperature.

Step Two

- Organize Data
 - Pivot Tables
- Write your Formulas
 - Is analysis start time < sample collect time
 - Nested "if statements"
 - If a logical statement is true do this, if not do that
 - VLookup
- Format your results
 - Conditional Formatting

Pivot Tables

- Pivot Tables are your friend.

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Show/Hide

Zoom 100% Zoom to Selection

New Window Arrange All Freeze Panes

Split Hide

View Side by Side Synchronous Scrolling Reset Window Position

Window

Save Workspace Switch Windows

Macros

A2 AC27677

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	SAMPNO	LOCCODE	ACODE	RESULT	QUALIFY	result_number										
2	AC27677	10MIFM01	TOC	10.0		10										
3	AC21553	10MIFM01	TOC	10.1		10.1										
4	AC20534	10MIFM01	TOC	10.3		10.3										
5	AC23986	10MIFM01	TOC	10.3		10.3										
6	AC10696	10MIFM01	TOC	10.4		10.4										
7	AC22857	10MIFM01	TOC	10.4		10.4										
8	AC17933	10MIFM01	TOC	10.6		10.6										
9	AC54557	10MIFM01	TOC	11		11										
10	AC55675	10MIFM01	TOC	11		11										
11	AC70986	10MIFM01	TOC	11		11										
12	AC66834	10MIFM01	TOC	11	J4	11										
13	AC13924	10MIFM01	TOC	11.0		11										
14	AC02471	10MIFM01	TOC	11.1		11.1										
15	AC04028	10MIFM01	TOC	11.2		11.2										
16	AC36712	10MIFM01	TOC	11.2		11.2										
17	AC40271	10MIFM01	TOC	11.4		11.4										
18	AC37819	10MIFM01	TOC	11.5		11.5										
19	AC44096	10MIFM01	TOC	11.5		11.5										
20	AB95101	10MIFM01	TOC	11.7		11.7										
21	AC34889	10MIFM01	TOC	11.8		11.8										
22	AC48916	10MIFM01	TOC	12		12										
23	AC56679	10MIFM01	TOC	12		12										
24	AC59188	10MIFM01	TOC	12		12										
25	AC61440	10MIFM01	TOC	12		12										
26	AC63830	10MIFM01	TOC	12		12										
27	AC64853	10MIFM01	TOC	12		12										
28	AC67890	10MIFM01	TOC	12		12										
29	AC68814	10MIFM01	TOC	12		12										
30	AC70031	10MIFM01	TOC	12		12										
31	AC74149	10MIFM01	TOC	12		12										
32	AC38784	10MIFM01	TOC	12.0		12										
33	AC07463	10MIFM01	TOC	12.2		12.2										
34	AC16418	10MIFM01	TOC	12.4		12.4										
35	AC19300	10MIFM01	TOC	12.4		12.4										
36	AC31127	10MIFM01	TOC	12.4		12.4										

Summary Output QC Output Hold Times All Data QC Data Pivot Tables Sheet1 Notes

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Batch_beta_QC_TNI.xlsm - Microsoft Excel

PivotTable Tools: Options, Design

Home Insert Page Layout Formulas Data Review View Options Design

Normal Page Layout Preview Custom Views Full Screen

Workbook Views: Ruler, Formula Bar, Gridlines, Headings, Message Bar

Show/Hide: Zoom 100%, Zoom to Selection

Window: New Window, Arrange All, Freeze Panes, Split, View Side by Side, Synchronous Scrolling, Reset Window Position, Save Workspace, Switch Windows, Macros

H5		C_TOC									
A	B	C	D	E	F	G	H	I	J	K	
1	do not delete row										
2	Average of result_number		StdDev of result_number		Count of result_number		Average of Value		StdDev of Value		
3	LOCCODE	Total	LOCCODE	Total	LOCCODE	Total	ACODE	Total	ACODE	Total	
4	10MIFM01	12.37513514	10MIFM01	1.770262919	10MIFM01	74	B_TOC	0.14956213	B_TOC	0.188475905	
5	10MIFM02	14.81917808	10MIFM02	2.105987333	10MIFM02	73	C_TOC	100.5102128	C_TOC	4.721570564	
6	10MIFM03	14.72465753	10MIFM03	1.967639648	10MIFM03	73	I_TOC	103.5238298	I_TOC	3.866526607	
7	10MIFM04	15.15972222	10MIFM04	5.534009059	10MIFM04	72	P_TOC	3.118201681	P_TOC	3.580159397	
8	10MIFM05	14.35970149	10MIFM05	1.900323713	10MIFM05	67	R_TOC	100.7605602	R_TOC	7.252486921	
9	10MIFM06	14.6609375	10MIFM06	2.221297861	10MIFM06	64					
10	10MIFM07	13.42	10MIFM07	1.64607108	10MIFM07	97					
11	10MIFMFB	1	10MIFMFB	#DIV/0!	10MIFMFB	1					
12	10MIFMWQ	1	10MIFMWQ	0	10MIFMWQ	2					
13	10MIFMWQB	0.044573529	10MIFMWQB	0.317264394	10MIFMWQB	68					
14	10MIGR10	Average of result_number Value: 0.914573529	10MIGR10	2.497992181	10MIGR10	99					
15	10MIGR14	Row: 10MIFMWQB	10MIGR14	1.399168309	10MIGR14	28					
16	10MIGR20	14.90821918	10MIGR20	1.672635431	10MIGR20	73					
17	10MIGR40	13.77410959	10MIGR40	1.775305792	10MIGR40	73					
18	10MIGR50	13.04630137	10MIGR50	1.501332285	10MIGR50	73					
19	10MIGR60	11.89191781	10MIGR60	1.321111335	10MIGR60	73					
20	10MIGR80	10.15070423	10MIGR80	1.319262049	10MIGR80	71					
21	10MIGR91	12.72573333	10MIGR91	10.28121801	10MIGR91	75					
22	10MIGREB	0.742655172	10MIGREB	0.276329678	10MIGREB	29					
23	CES01BOT	16.82	CES01BOT	3.87001292	CES01BOT	5					
24	CES01SUR	17.82297297	CES01SUR	4.4390406	CES01SUR	74					
25	CES03BOT	16.34	CES03BOT	2.758260321	CES03BOT	5					
26	CES03SUR	15.8491	CES03SUR	4.954221768	CES03SUR	100					
27	CES04BOT	15.3	CES04BOT	3.12409987	CES04BOT	5					
28	CES04SUR	15.22554054	CES04SUR	4.491057215	CES04SUR	74					
29	CES06BOT	11.698	CES06BOT	1.851221219	CES06BOT	5					
30	CES06SUR	11.48081081	CES06SUR	3.880403438	CES06SUR	74					
31	CES10SUR	7.835217391	CES10SUR	4.413309285	CES10SUR	69					
32	CESEB	0.788933333	CESEB	0.302965337	CESEB	30					
33	CESFBSUR	0.785714286	CESFBSUR	0.267261242	CESFBSUR	7					
34	CESFCEB	0.9	CESFCEB	0.223606798	CESFCEB	5					
35	CHNEP_RS	4.066312312	CHNEP_RS	2.409311118	CHNEP_RS	666					
36	CORRECTIVEPT	2.27	CORRECTIVEPT	#DIV/0!	CORRECTIVEPT	1					

Summary Output QC Output Hold Times All_Data QC Data Pivot Tables Sheet1 Notes

Ready 100%

Start Batch_beta_QC_TNI.x... Inbox - Microsoft Outlook Microsoft PowerPoint - [... MS Office 3:33 PM

Now we can start

- Formulas can be simple:
 - =IF(E2<D2,"ERROR", "OK")
- Formulas can be complicated:
 - =IF(AG2="QC","OK",IF(VLOOKUP(F2,'Hold Times'!A:F,6,FALSE)="Y","OK",IF(L2="FB",IF(LEFT(I2,1)="U","OK","Check for V1"),IF(L2="FCEB",IF(LEFT(I2,1)="U","OK","Check for V1"),"OK"))))

Things I can check for:

- Is the result a number?
 - pH = 7..2?
- Is the result < MDL?
- Should it be qualified as < LOD?
- Between LOD and LOQ?
- Was the test performed before the sample was collected or received.
- Was the test within hold time?
 - If so was it properly qualified?

Things I can check for:

- Was the test performed in the future?
- Was a qualifier used that was not necessary?
- Is the qualifier used on file or made up?
- Did sample meet proper thermal preservation?
- Was the result within 2 standard deviation units of the Historical mean?

Step Two B

- Add Color
- Use the Conditional formatting.

Step Three

- Automate the process with a Macro
- Use the Macro Recorder

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Window

Save Workspace Switch Windows

Macros

A6 71937

	A	B	C	D	E	F	G	H	I	J	K	L	N	O	P
1	BATNUMB	SAMPNO	LOCCODE	LOGBATCH	COLDATE	SUBDATE	ACODE	ANALYTERESULT	QUAL	MDL	DILFACTOR	ASDATE	SAMPLE_TYF	SSTATUS	
2	71937	AC81976	WHISGR50	120400129	4/16/12 9:05	4/16/12 12:42	TKN	Nitrogen, 5.0	J1	0.05	1.00	4/23/12 9:45	SAMP	I	
3	71937	AC81984	20A-19GR	120400131	4/17/12 8:23	4/17/12 12:13	TKN	Nitrogen, 1.6		0.05	1.00	4/23/12 9:45	SAMP	B	
4	71937	AC81985	GATRGR91	120400131	4/17/12 8:41	4/17/12 12:13	TKN	Nitrogen, 1.0		0.05	1.00	4/23/12 9:45	SAMP	B	
5	71937	AC81986	GATRGR60	120400131	4/17/12 9:27	4/17/12 12:13	TKN	Nitrogen, 0.45		0.05	1.00	4/23/12 9:45	SAMP	B	
6	71937	AC81987	GATRGR30	120400131	4/17/12 10:02	4/17/12 12:13	TKN	Nitrogen, 0.53		0.05	1.00	4/23/12 9:45	SAMP	B	
7	71937	AC81988	BURNTS	120400131	4/17/12 10:24	4/17/12 12:13	TKN	Nitrogen, 0.84		0.05	1.00	4/23/12 9:45	SAMP	B	
8	71937	AC81990	16-3GR	120400131	4/17/12 11:30	4/17/12 12:13	TKN	Nitrogen, 0.82		0.05	1.00	4/23/12 9:45	SAMP	B	
9	71937	AC81991	WSEQB	120400131	4/17/12 10:30	4/17/12 12:13	TKN	Nitrogen, 0.05	U	0.05	1.00	4/23/12 9:45	FCEB	B	
10	71937	AC81992	EB-01	120400132	4/16/12 9:28	4/16/12 12:49	TKN	Nitrogen, 0.45		0.05	1.00	4/23/12 9:45	SAMP	B	
11	71937	AC81993	EB-02	120400132	4/16/12 9:47	4/16/12 12:49	TKN	Nitrogen, 0.56		0.05	1.00	4/23/12 9:45	SAMP	B	
12	71937	AC81994	EB-03	120400132	4/16/12 10:06	4/16/12 12:49	TKN	Nitrogen, 0.56		0.05	1.00	4/23/12 9:45	SAMP	B	
13	71937	AC81995	EB-04	120400132	4/16/12 10:40	4/16/12 12:49	TKN	Nitrogen, 0.53		0.05	1.00	4/23/12 9:45	SAMP	B	
14	71937	AC81996	EB-05	120400132	4/16/12 11:51	4/16/12 12:49	TKN	Nitrogen, 0.54		0.05	1.00	4/23/12 9:45	SAMP	B	
15	71937	AC81997	EB-06	120400132	4/16/12 10:21	4/16/12 12:49	TKN	Nitrogen, 0.27		0.05	1.00	4/23/12 9:45	SAMP	B	
16	71937	AC81998	EB-07	120400132	4/16/12 11:03	4/16/12 12:49	TKN	Nitrogen, 0.25		0.05	1.00	4/23/12 9:45	SAMP	B	
17	71937	AC81999	EB-08	120400132	4/16/12 11:21	4/16/12 12:49	TKN	Nitrogen, 0.47		0.05	1.00	4/23/12 9:45	SAMP	B	
18	71937	AC82000	EB-09	120400132	4/17/12 10:56	4/17/12 13:22	TKN	Nitrogen, 0.41		0.05	1.00	4/23/12 9:45	SAMP	B	
19	71937	AC82001	EB-10	120400132	4/17/12 10:33	4/17/12 13:22	TKN	Nitrogen, 0.42		0.05	1.00	4/23/12 9:45	SAMP	B	
20	71937	AC82002	EB-11	120400132	4/17/12 10:00	4/17/12 13:22	TKN	Nitrogen, 0.42		0.05	1.00	4/23/12 9:45	SAMP	B	
21	71937	AC82003	EB-12	120400132	4/17/12 11:26	4/17/12 13:22	TKN	Nitrogen, 0.52		0.05	1.00	4/23/12 9:45	SAMP	B	
22	71937	AC82004	EB-13	120400132	4/17/12 11:53	4/17/12 13:22	TKN	Nitrogen, 0.52	J4	0.05	1.00	4/23/12 9:45	SAMP	B	
23	71937	AC82005	EB-14	120400132	4/17/12 12:05	4/17/12 13:22	TKN	Nitrogen, 0.44		0.05	1.00	4/23/12 9:45	SAMP	B	
24	71937	AC82006	EB-BLANK	120400132	4/17/12 10:08	4/17/12 13:22	TKN	Nitrogen, 0.05	U	0.05	1.00	4/23/12 9:45	FB	B	
25	71937	AC82020	RAMP-A	120400141	4/18/12 11:50	4/18/12 14:00	TKN	Nitrogen, 4.4		0.05	1.00	4/23/12 9:45	SAMP	I	
26	71937	AC82021	RAMP-B	120400141	4/18/12 11:50	4/18/12 14:00	TKN	Nitrogen, 4.5		0.05	1.00	4/23/12 9:45	SAMP	I	
27	71937	AC82022	RAMP-C	120400141	4/18/12 11:50	4/18/12 14:00	TKN	Nitrogen, 4.7		0.05	1.00	4/23/12 9:45	SAMP	I	
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	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
	BATNUMB	SAMPNO	LOCCODE	LOGBATCH	COLDATE	SUBDATE	ACODE	ANALYTERESULT	QUAL	MDL	DILFACTOR	ASDATE	AMPLE_TYF	SSTATUS		
1	71937	AC81976	WHISGR50	120400129	4/16/12 9:05	4/16/12 12:42	TKN	Nitrogen, 5.0	J4	0.05	1.00	4/23/12 9:45	SAMP	I		
2	71937	AC81984	20A-19GR	120400131	4/17/12 8:23	4/17/12 12:13	TKN	Nitrogen, 1.6		0.05	1.00	4/23/12 9:45	SAMP	B		
3	71937	AC81985	GATRGR91	120400131	4/17/12 8:41	4/17/12 12:13	TKN	Nitrogen, 1.0		0.05	1.00	4/23/12 9:45	SAMP	B		
4	71937	AC81986	GATRGR60	120400131	4/17/12 9:27	4/17/12 12:13	TKN	Nitrogen, 0.45		0.05	1.00	4/23/12 9:45	SAMP	B		
5	71937	AC81987	GATRGR30	120400131	4/17/12 10:02	4/17/12 12:13	TKN	Nitrogen, 0.53		0.05	1.00	4/23/12 9:45	SAMP	B		
6	71937	AC81988	BURNTS	120400131	4/17/12 10:24	4/17/12 12:13	TKN	Nitrogen, 0.84		0.05	1.00	4/23/12 9:45	SAMP	B		
7	71937	AC81990	16-3GR	120400131	4/17/12 11:30	4/17/12 12:13	TKN	Nitrogen, 0.82		0.05	1.00	4/23/12 9:45	SAMP	B		
8	71937	AC81991	WSEQB	120400131	4/17/12 10:30	4/17/12 12:13	TKN	Nitrogen, 0.05	U	0.05	1.00	4/23/12 9:45	FCEB	B		
9	71937	AC81992	EB-01	120400132	4/16/12 9:28	4/16/12 12:49	TKN	Nitrogen, 0.45		0.05	1.00	4/23/12 9:45	SAMP	B		
10	71937	AC81993	EB-02	120400132	4/16/12 9:47	4/16/12 12:49	TKN	Nitrogen, 0.56		0.05	1.00	4/23/12 9:45	SAMP	B		
11	71937	AC81994	EB-03	120400132	4/16/12 10:06	4/16/12 12:49	TKN	Nitrogen, 0.56		0.05	1.00	4/23/12 9:45	SAMP	B		
12	71937	AC81995	EB-04	120400132	4/16/12 10:40	4/16/12 12:49	TKN	Nitrogen, 0.53		0.05	1.00	4/23/12 9:45	SAMP	B		
13	71937	AC81996	EB-05	120400132	4/16/12 11:51	4/16/12 12:49	TKN	Nitrogen, 0.54		0.05	1.00	4/23/12 9:45	SAMP	B		
14	71937	AC81997	EB-06	120400132	4/16/12 10:21	4/16/12 12:49	TKN	Nitrogen, 0.27		0.05	1.00	4/23/12 9:45	SAMP	B		
15	71937	AC81998	EB-07	120400132	4/16/12 11:03	4/16/12 12:49	TKN	Nitrogen, 0.25		0.05	1.00	4/23/12 9:45	SAMP	B		
16	71937	AC81999	EB-08	120400132	4/16/12 11:21	4/16/12 12:49	TKN	Nitrogen, 0.47		0.05	1.00	4/23/12 9:45	SAMP	B		
17	71937	AC82000	EB-09	120400132	4/17/12 10:56	4/17/12 13:22	TKN	Nitrogen, 0.41		0.05	1.00	4/23/12 9:45	SAMP	B		
18	71937	AC82001	EB-10	120400132	4/17/12 10:33	4/17/12 13:22	TKN	Nitrogen, 0.42		0.05	1.00	4/23/12 9:45	SAMP	B		
19	71937	AC82002	EB-11	120400132	4/17/12 10:00	4/17/12 13:22	TKN	Nitrogen, 0.42		0.05	1.00	4/23/12 9:45	SAMP	B		
20	71937	AC82003	EB-12	120400132	4/17/12 11:26	4/17/12 13:22	TKN	Nitrogen, 0.52		0.05	1.00	4/23/12 9:45	SAMP	B		
21	71937	AC82004	EB-13	120400132	4/17/12 11:53	4/17/12 13:22	TKN	Nitrogen, 0.52	J4	0.05	1.00	4/23/12 9:45	SAMP	B		
22	71937	AC82005	EB-14	120400132	4/17/12 12:05	4/17/12 13:22	TKN	Nitrogen, 0.44		0.05	1.00	4/23/12 9:45	SAMP	B		
23	71937	AC82006	EB-BLANK	120400132	4/17/12 10:08	4/17/12 13:22	TKN	Nitrogen, 0.05	U	0.05	1.00	4/23/12 9:45	FB	B		
24	71937	AC82020	RAMP-A	120400141	4/18/12 11:50	4/18/12 14:00	TKN	Nitrogen, 4.4		0.05	1.00	4/23/12 9:45	SAMP	I		
25	71937	AC82021	RAMP-B	120400141	4/18/12 11:50	4/18/12 14:00	TKN	Nitrogen, 4.5		0.05	1.00	4/23/12 9:45	SAMP	I		
26	71937	AC82022	RAMP-C	120400141	4/18/12 11:50	4/18/12 14:00	TKN	Nitrogen, 4.7		0.05	1.00	4/23/12 9:45	SAMP	I		
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Window

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	A	B	C	D	E	F	G	H	I	J	K	L	N	O	P
1	BATNUMB	SAMPNO	LOCCODE												
2	71937	AC81976	WHISGR50					ANALYTERESULT		QUAL	MDL	DILFACTOR	ASDATE	SAMPLE_TYF	SSTATUS
3	71937	AC81984	20A-19GR					Nitrogen, 5.0		J4	0.05	1.00	4/23/12 9:45	SAMP	I
4	71937	AC81985	GATRGR91					Nitrogen, 1.6			0.05	1.00	4/23/12 9:45	SAMP	B
5	71937	AC81986	GATRGR60					Nitrogen, 1.0			0.05	1.00	4/23/12 9:45	SAMP	B
6	71937	AC81987	GATRGR30					Nitrogen, 0.45			0.05	1.00	4/23/12 9:45	SAMP	B
7	71937	AC81988	BURNTS					Nitrogen, 0.53			0.05	1.00	4/23/12 9:45	SAMP	B
8	71937	AC81990	16-3GR					Nitrogen, 0.84			0.05	1.00	4/23/12 9:45	SAMP	B
9	71937	AC81991	WSEQB					Nitrogen, 0.82			0.05	1.00	4/23/12 9:45	SAMP	B
10	71937	AC81992	EB-01					Nitrogen, 0.05		U	0.05	1.00	4/23/12 9:45	FCEB	B
11	71937	AC81993	EB-02					Nitrogen, 0.45			0.05	1.00	4/23/12 9:45	SAMP	B
12	71937	AC81994	EB-03					Nitrogen, 0.56			0.05	1.00	4/23/12 9:45	SAMP	B
13	71937	AC81995	EB-04					Nitrogen, 0.56			0.05	1.00	4/23/12 9:45	SAMP	B
14	71937	AC81996	EB-05					Nitrogen, 0.53			0.05	1.00	4/23/12 9:45	SAMP	B
15	71937	AC81997	EB-06					Nitrogen, 0.54			0.05	1.00	4/23/12 9:45	SAMP	B
16	71937	AC81998	EB-07	120400132	4/16/12 11:03	4/16/12 12:49	TKN	Nitrogen, 0.25			0.05	1.00	4/23/12 9:45	SAMP	B
17	71937	AC81999	EB-08	120400132	4/16/12 11:21	4/16/12 12:49	TKN	Nitrogen, 0.47			0.05	1.00	4/23/12 9:45	SAMP	B
18	71937	AC82000	EB-09	120400132	4/17/12 10:56	4/17/12 13:22	TKN	Nitrogen, 0.41			0.05	1.00	4/23/12 9:45	SAMP	B
19	71937	AC82001	EB-10	120400132	4/17/12 10:33	4/17/12 13:22	TKN	Nitrogen, 0.42			0.05	1.00	4/23/12 9:45	SAMP	B
20	71937	AC82002	EB-11	120400132	4/17/12 10:00	4/17/12 13:22	TKN	Nitrogen, 0.42			0.05	1.00	4/23/12 9:45	SAMP	B
21	71937	AC82003	EB-12	120400132	4/17/12 11:26	4/17/12 13:22	TKN	Nitrogen, 0.52			0.05	1.00	4/23/12 9:45	SAMP	B
22	71937	AC82004	EB-13	120400132	4/17/12 11:53	4/17/12 13:22	TKN	Nitrogen, 0.52		J4	0.05	1.00	4/23/12 9:45	SAMP	B
23	71937	AC82005	EB-14	120400132	4/17/12 12:05	4/17/12 13:22	TKN	Nitrogen, 0.44			0.05	1.00	4/23/12 9:45	SAMP	B
24	71937	AC82006	EB-BLANK	120400132	4/17/12 10:08	4/17/12 13:22	TKN	Nitrogen, 0.05		U	0.05	1.00	4/23/12 9:45	FB	B
25	71937	AC82020	RAMP-A	120400141	4/18/12 11:50	4/18/12 14:00	TKN	Nitrogen, 4.4			0.05	1.00	4/23/12 9:45	SAMP	I
26	71937	AC82021	RAMP-B	120400141	4/18/12 11:50	4/18/12 14:00	TKN	Nitrogen, 4.5			0.05	1.00	4/23/12 9:45	SAMP	I
27	71937	AC82022	RAMP-C	120400141	4/18/12 11:50	4/18/12 14:00	TKN	Nitrogen, 4.7			0.05	1.00	4/23/12 9:45	SAMP	I
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Record Macro

Macro name:

Shortcut key:

Store macro in:

Description:

OK Cancel

Record Macro



Macro name:

Macro2

Shortcut key:

Ctrl+

Store macro in:

This Workbook



Description:

OK

Cancel

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Message Bar

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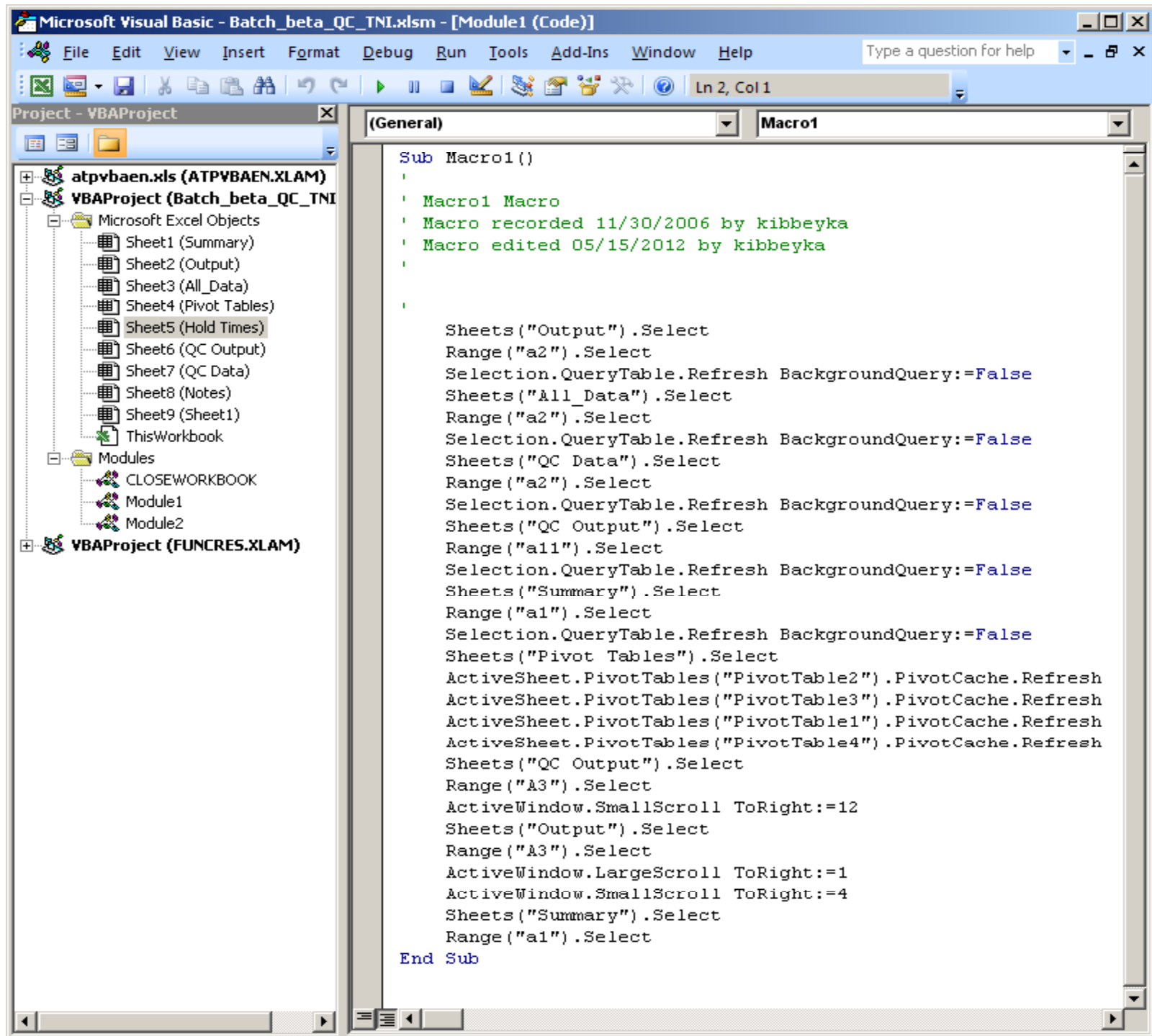
Macros

View Macros

Record Macro...

Use Relative References

	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM
	SSSTATUS	VIOLTYPE	VIOL/ALU	Numeric Result	Result < MDL	Field Blank	I or U	Holding Time	I	receive before sample	Analysis before Sample	Analysis before Receive	Analysis after Now	Q not needed	U or I not needed	Qualifier in report?	Sample Status	I on Micro			Collection Time	Has TDS or Z?	Temp Check	has cooling begun	
1	B	0		0.5	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	0.00
2	B	0		1.9	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	0.00
3	B	0		1.2	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	0.00
4	B	0		12.8	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	0.00
5	B	0		1.1	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	1.32
6	B	0		10.2	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	1.32
7	B	0		0.6	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	12.73
8	B	0		6.3	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	12.73
9	B	0		0.5	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	14.30
10	B	0		0.5	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	14.30
11	B	0		5.78	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	0.00
12	B	0		5	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	0.00
13	B	0		14.4	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	1.32
14	B	0		39.2	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	12.73
15	B	0		5	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	14.30
16	B	0		3.14	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	0.00
17	B	0		1.25	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	0.00
18	B	0		2.11	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	1.32
19	B	0		2.01	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	12.73
20	B	0		0.5	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	14.30
21	B	0		0.06	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	QC	OK	OK	OK	OK	OK	0.00
22	B	0		0.002	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	QC	OK	OK	OK	OK	OK	0.00
23	B	0		-0.03	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	QC	OK	OK	OK	OK	OK	0.00
24	B	0		-0	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	QC	OK	OK	OK	OK	OK	0.00
25	B	0		0.001	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	QC	OK	OK	OK	OK	OK	0.00
26	B	0		45.7	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	0.00
27	B	0		26.2	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	0.00
28	B	0		14	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	1.32
29	B	0		36.7	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	12.73
30	B	0		0.5	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	14.30
31	B	0		0.25	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	0.00
32	B	0		0.25	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	0.00
33	B	0																							



Questions?

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The logo for NEMC (Northwest Environmental Monitoring Center) features the letters 'NEMC' in a large, metallic, 3D font. The letters are set against a background of a blue sky and a blue sea, with a white horizon line.