



www.onlims.com

Online LIMS

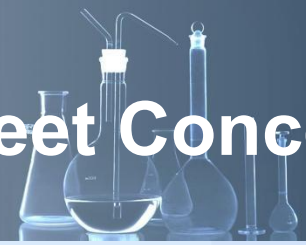
- *A specialized LIMS for mining labs*
- *Very fast data access and queries*
- *Very easy to learn, Excel-like spreadsheet*
- *Color coded “real time” work status*
- *Integrated with an advanced QA/QC system*



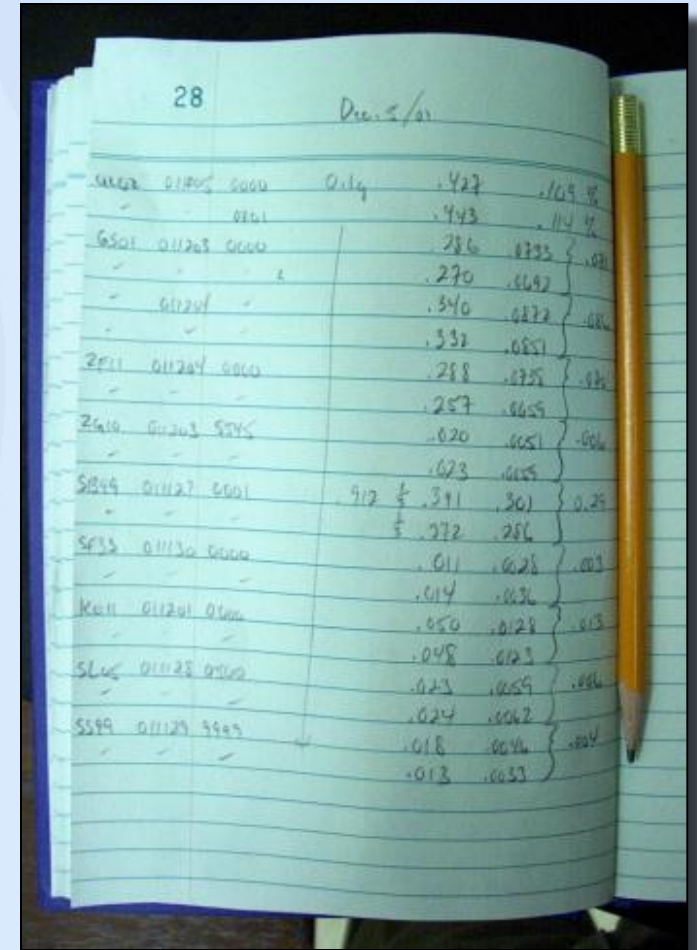
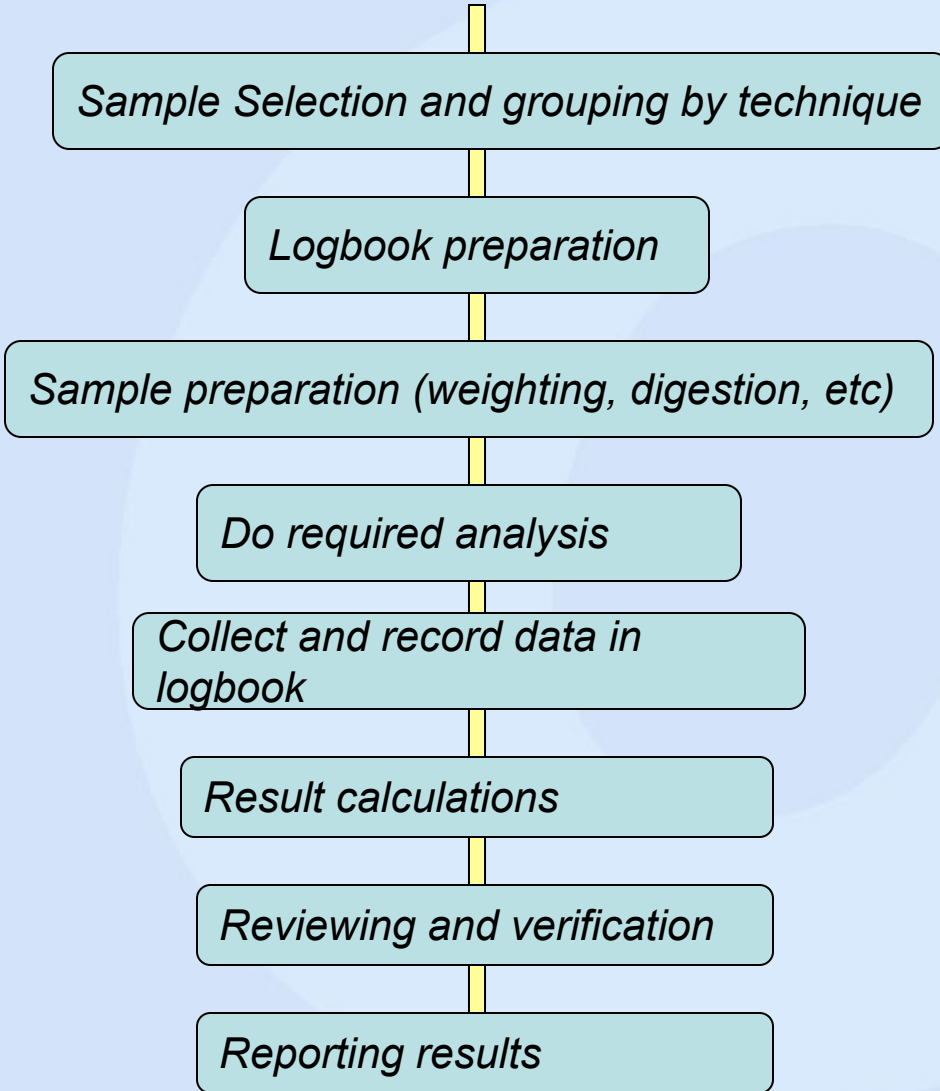
Online LIMS implementation

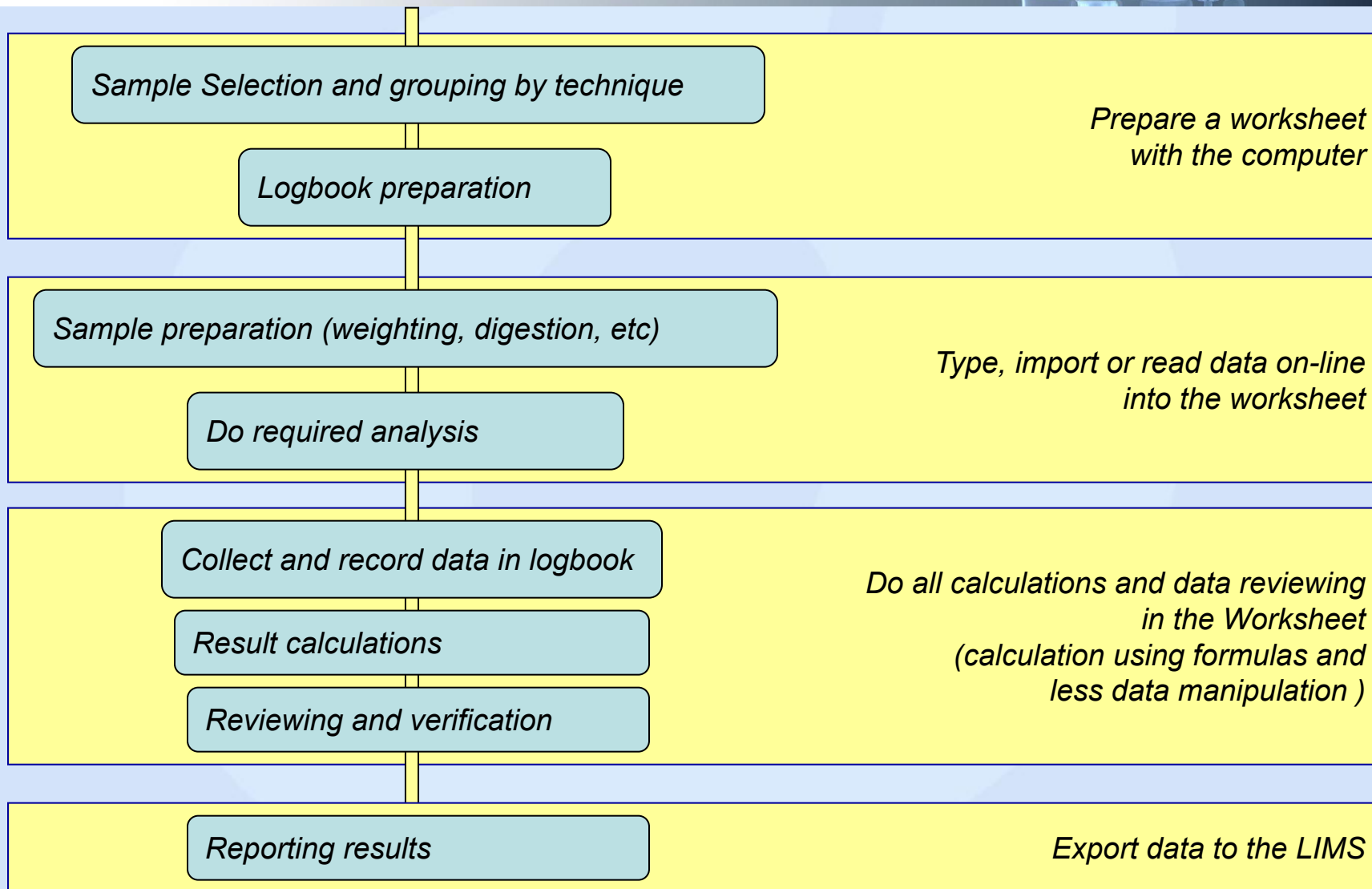
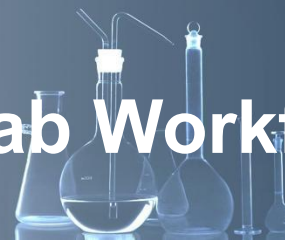
1th stage implementation: Online Worksheet

2nd stage implementation: OnLab (full LIMS)



OnWSH is an advanced interface between one or more instruments and the LIMS database. Its concept is based on the technician's logbook.





OnLINK.EXE

Handles serial communication between the instrument and OnWSH. This small application should be active on the taskbar for On-line reading.

OnLQC.EXE

Quality control module. Manages all control and standard samples and QC statistics.

OnSETUP.EXE

Manages all LIMS configuration tables like the user list, Analysis library, instrument database, etc.

OnWSH.EXE

The Online Worksheet is an advanced link between then instruments and the database.

DLL – dynamic link libraries

This are shared programs that the LIMS uses

BIN folder

Name	Size	Type
Dll		File Folder
Tools		File Folder
OnLINK.exe	224 KB	Application
OnLQC.exe	332 KB	Application
OnSetup.exe	224 KB	Application
OnWsh.exe	484 KB	Application
crpaig32.dll	225 KB	Application Extension
crpe32.dll	5,662 KB	Application Extension
implode.dll	18 KB	Application Extension
LimsCR.dll	64 KB	Application Extension
LimsExpo.dll	116 KB	Application Extension
LimsLib.dll	508 KB	Application Extension
og702as.dll	1,336 KB	Application Extension
p2sodbc.dll	229 KB	Application Extension
u2lbcodes.dll	44 KB	Application Extension
vpes32.dll	247 KB	Application Extension
formula.cnt	9 KB	CNT File
OnWSH.chm	243 KB	Compiled HTML Help...
FORMULA.GTD	38 KB	GTD File



OnLINK.exe OnLQC.exe OnSetup... OnWsh.exe

The worksheet Browser



Full file name

Selected work group

Header data

Browser pane with short file names

Worksheet - ONREPO

View Help

AAS

AAS0197-SEP05

applebyh

Chem list prep Heather A; Bill; lkd Ryan
Notes PILOT PLANT; ; Pb - AMMONIUM ACETATE
Method Low Metal Preparation. Aqua-regia, HF; Method No. 9.8.52; Final Matrix 2C
Created 15 Sep 2005 17:16
Finished ** OPEN **
Statistic 2 (1+1) - 2

File list CA01495-SEP05
Inst list ZnAApulp; PbAApulp;

OT0001	OT0002	AG0001	AG0002	SP0001	SP0002	SP0003	SP0004	SP0005	SP0006	SP0007	SP0008
SP0009	SP0010	SP0011	SP0012	SP0013	SP0014	SP0015	SP0016	SP0017	SP0018	SP0019	SP0020
SP0021	SP0022	SP0023	SP0024	SP0025	SP0026	SP0027	SP0028	SP0029	SP0030	SP0031	SP0032
SP0033	SP0034	SP0035	SP0036	SP0037	SP0038	SP0039	SP0040	SP0041	SP0042	SP0043	SP0044
SP0045	SP0046	SP0047	SP0048	SP0049	SP0050	SP0051	SP0052	SP0053	SP0054	SP0055	SP0056
SP0057	SP0058	SP0059	SP0060	SP0061	SP0062	SP0063	SP0064	SP0065	SP0066	SP0067	SP0068
SP0069	SP0070	SP0071	SP0072	SP0073	SP0074	SP0075	SP0076	SP0077	SP0078	SP0079	SP0080
SP0081	SP0082	SP0083	SP0084	SP0085	SP0086	SP0087	SP0088	SP0089	SP0090	SP0091	SP0092
SP0093	SP0094	SP0095	SP0096	SP0097	SP0098	SP0099	SP0100	SP0101	SP0102	SP0103	SP0104
SP0105	SP0106	SP0107	SP0108	SP0109	SP0110	SP0111	SP0112	SP0113	SP0114	SP0115	SP0116
SP0117	SP0118	SP0119	SP0120	SP0121	SP0122	SP0123	SP0124	SP0125	SP0126	SP0127	SP0128
SP0129	SP0130	SP0131	SP0132	SP0133	SP0134	SP0135	SP0136	SP0137	SP0138	SP0139	SP0140
SP0141	SP0142	SP0143	SP0144	SP0145	SP0146	SP0147	SP0148	SP0149	SP0150	SP0151	SP0152
SP0153	SP0154	SP0155	SP0156	SP0157	SP0158	SP0159	SP0160	SP0161	SP0162	SP0163	SP0164
SP0165	SP0166	SP0167	SP0168	SP0169	SP0170	SP0171	SP0172	SP0173	SP0174	SP0175	SP0176
SP0177	SP0178	SP0179	SP0180	SP0181	SP0182	SP0183	SP0184	SP0185	SP0186	SP0187	SP0188
SP0189	SP0190	SP0191	SP0192	SP0193	SP0194	SP0195	SP0196	SP0197	SP0198	SP0199	SP0200
SP0201	SP0202	SP0203	SP0204	SP0205	SP0206	SP0207	SP0208	SP0209	SP0210	SP0211	SP0212
SP0213	SP0214	SP0215	SP0216	SP0217	SP0218	SP0219	SP0220	SP0221	SP0222	SP0223	SP0224
SP0225	SP0226	SP0227	SP0228	SP0229	SP0230	SP0231	SP0232	SP0233	SP0234	SP0235	SP0236
SP0237	SP0238	SP0239	SP0240	SP0241	SP0242	SP0243	SP0244	SP0245	SP0246	SP0247	SP0248
SP0249	SP0250	SP0251	SP0252	SP0253	SP0254	SP0255	SP0256	SP0257	SP0258	SP0259	SP0260

Ready 01-Nov-04 <-> 30-Nov-07 [NOV-07] 202 / 3114

OnWSH browser provides color coded worksheet status information:

- **RED** for pending worksheets
- **GREEN** for completed worksheets
- **BLUE** for not linked worksheets

Each of those colors is highlighted (bright color) when work is locked or approved.



Browser Toolbar menu

Open selected WSH (DBL CLK) or 'V' to View

Delete selected WSH

Jump to specific WSH (Space or 'J')

Service (Work) Group Pick List



Create New WSH

Launch Template Explorer

WSH Name Format

Refresh List

Select WSH list

Find a Sample

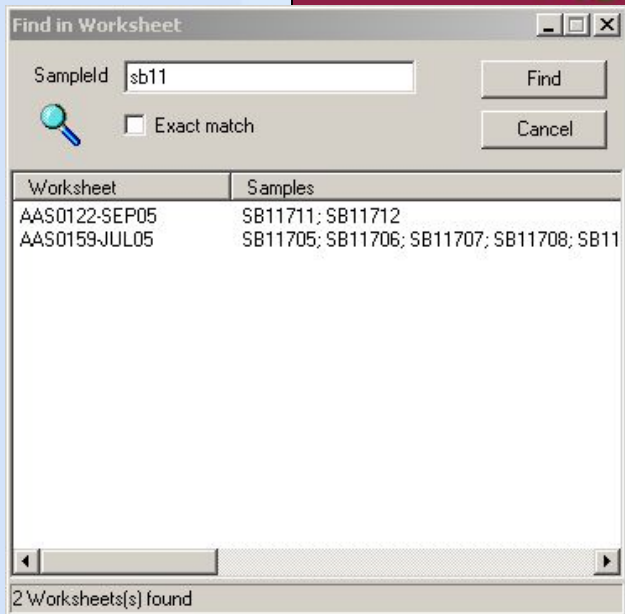
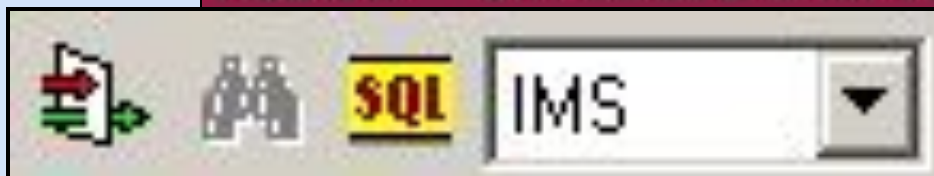


Filtering

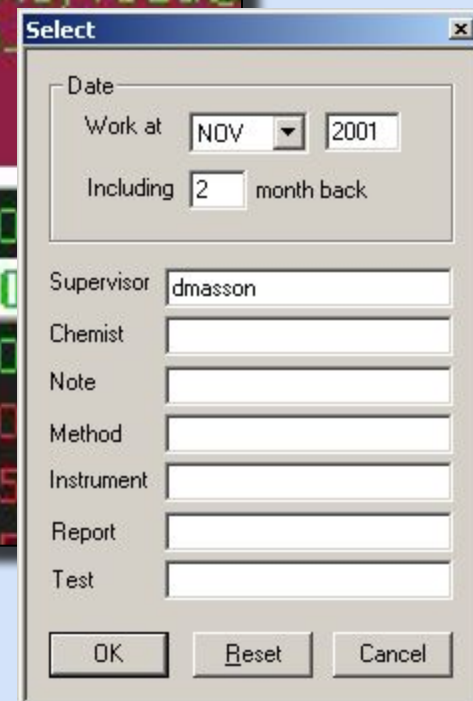
Select filter selects a group of worksheets

The select filter starts with the date criteria. Simply select the work month and how many months back should be included.

You do not need to enter the whole name to search. For example for "dmasson" simple type "masson" or "dmas"



Selected work group (Service group) folder



Find a sample tool



Refresh WSH browser pane.
 Helps keep the WSH list updated when WSH are created or deleted by other users in other computers

Jump to a WSH

Jump to

Open

OK Cancel

Browser file name format. Three formats are available:

1. 5014 (Number only)
2. NV5014 (Month and Number)
3. IMS5014-NOV01 (Workgroup, Number, Month and Year)

Type the WSH ID you want to jump to. You can type several formats like NOV21 to go to NV0021.

```
0029 0030
0048 0038
5013 5014
```

```
NV0022 NV0023
NV0036 NV0037
NV0050 NV0051
```

```
IMS0021-NOV01 IMS0022-NOV01
IMS0029-NOV01 IMS0030-NOV01
IMS0036-NOV01 IMS0037-NOV01
IMS0044-NOV01 IMS0045-NOV01
```

Online Worksheet - DNREPO

File Edit Format Data Instrument View Window Help

AAS0120-SEP05 applebyh

Chem list
Notes
Method

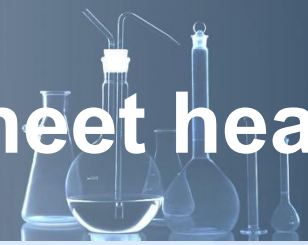
File list
Test list

Sample ID	*J Co mg/L	*K Dil	*L read@CuA Apulp g/t	*M Cu mg/L	*N Dil	*O read@PbA Apulp g/t	*P Pb mg/L	*Q Dil
3 Nt3 Solids SEP10 11:00	---	---	9.98	0.4640	1	1.48	0.0098	1
4 Nt3 Solids SEP10 11:00	---	---	9.66	0.4815	1	1.49	0.0101	1
5 PC44 Pre Cleaner Tail	---	---	616.03	6.5806	1	---	---	---
6 PC44 Bulk Ro Tail	---	---	288.46	3.2427	1	---	---	---
7 PC45 Pre Cleaner Tail	---	---	1648.49	3.3983	5	---	---	---
8 PC45 Bulk Ro Tail	---	---	330.18	3.6970	1	---	---	---
9 PC45 Bulk Ro Tail	---	---	336.38	3.7417	1	---	---	---
10 Box 4-C21	---	---	50386.24	5.0334	100	---	---	---
11 Box 4-C22	---	---	41738.24	4.1760	100	---	---	---
12 Box 4-C23	---	---	24376.90	2.4586	100	---	---	---
13 Box 4-C28	---	---	89357.11	3.5651	250	---	---	---
14 Box 4-C29	---	---	52994.77	5.3383	100	---	---	---
15 Box 4-C30	---	---	117921.99	4.6854	250	---	---	---
16 Box 5-C31	---	---	128145.76	5.1653	250	---	---	---
17 Box 5-C32	---	---	55674.21	5.5657	100	---	---	---
18 Box 5-C33	---	---	108498.85	4.3684	250	---	---	---
19 Box 5-C34	---	---	117335.55	4.6668	250	---	---	---
20 Box 5-C36	---	---	59740.81	5.9612	100	---	---	---
21 Lch Cake SEP10 Day	---	---	---	---	---	47.01	0.4627	1
22 SU-1a AAS	3.6250	1	9382.13	3.7885	25	58.98	0.5881	1
23 MP-2 AAS	0.0557	1	836.25	8.7806	1	426.46	4.2768	1
24 Low Metal 9-9-56 Blank	-0.0036	1	0.00	0.3846	1	0.00	-0.0049	1
25 ACF SEP10 16:00	---	---	---	---	---	26.75	0.2698	1
26 ACD SEP10 16:00	---	---	---	---	---	53.57	0.5405	1
27 AAS inst blk	0.0045	1	0.00	0.0029	1	0.00	0.0018	1
28 QCS-19 & QCS-7	5.0158	20	96.20	3.8482	25	100.05	10.0053	10
29 AAS inst blk	-0.0029	1	0.00	-0.0023	1	-0.01	-0.0088	1
30 QCS-19 & QCS-7	4.9698	20	96.04	3.8415	25	100.83	10.0633	10

Ready *Bain-2 r= u= sd= d= n=? 0.4969 [2]

Head Sheet Test Sample Pad Instrument

Open the worksheet by double clicking on the selected file. A window with six tabs represent each one of the worksheet areas



MSH AAS0120-SEP05

ONLINE LIMS

Date: Create: 10-Sep-2005 Finish: ** OPEN **

Status: Published

Statistic: Cols=17, Param=5 Rows=30, Smp=21, Dup=2, Std=2 Read=74, Pendi=0

Chemist list: prep Heather A, kim, lkd Ryan

Supervisor: [Dropdown]

Notes: Pb - NEEDS AMMONIUM ACETATE-LIMS # 01208 & 01307

Method: Low Metal Preparation, Aqua-regia, HF
Method No. 9.8.52
Final Matrix 20% HCl v/v

Log status: 12-Sep-05 11:36 - johnstonr : Modified
11-Sep-05 18:25 - cirtwillk : Modified
11-Sep-05 18:25 - cirtwillk : imported FAA-6 < L:\CHEM\WARIAN\W220 FAA6\SEP11-120-122CU.PRN
11-Sep-05 18:23 - cirtwillk : Modified
11-Sep-05 18:22 - cirtwillk : imported FAA-6 < L:\CHEM\WARIAN\W220 FAA6\SEP11-120-122CU.PRN
11-Sep-05 17:00 - cirtwillk : imported FAA-6 < L:\CHEM\WARIAN\W220 FAA6\SEP11-120NI.PRN
11-Sep-05 16:58 - cirtwillk : imported FAA-6 < L:\CHEM\WARIAN\W220 FAA6\SEP11-120NI.PRN
11-Sep-05 16:42 - cirtwillk : imported FAA-6 < L:\CHEM\WARIAN\W220 FAA6\SEP11-120PB.PRN
11-Sep-05 16:32 - cirtwillk : imported FAA-6 < L:\CHEM\WARIAN\W220 FAA6\SEP11-120CD.PRN
11-Sep-05 16:23 - cirtwillk : imported FAA-6 < L:\CHEM\WARIAN\W220 FAA6\SEP11-120ZN.PRN
11-Sep-05 16:22 - cirtwillk : imported FAA-6 < L:\CHEM\WARIAN\W220 FAA6\SEP11-129ZN.PRN

Linked job list: CA01308-SEP05, CA01307-SEP05, CA00092-SEP05, CA03007-AUG05, CA01305-SEP05, CA01304-SEP05

Head | Sheet | Test | Sample | Pad | Instrument

Worksheet statistics

Supervisor

Notes for whatever...

Analysis method description

Log status who did what or who messed it up...

Click here to activate the worksheet header

The header tab stores all relevant worksheet header data.



Online LIMS - Online Worksheet

File Edit Format Data Instrument View Window Help

Sample ID	A a)PICP mg/L	*B P31 ppb	*C prep blk corr	*D a)CuICP mg/L	E Cu63* ppb	F Cu65 ppb	*G a)ZnICF mg/L	
1 E008-5	-0.00011	-0.114		0.00001	0.00605	0.00736	0.000	
2 \$STD-Env Blank	0.00000			0.00002	0.0203	0.0242	0.000	
3 jun7640-60	0.00550			0.00006	1.76	1.77	0.006	
4 jun7640-61	--			0.00007	1.07	1.09	0.002	
5 jun7640-63	--			0.00296	2.96	3.02	0.008	
6 jun7640-5	0.00270	13.9	11.2	0.00114	1.14	1.14	0.002	
7 jun7640-7	=(B7-C7)/1000	11.6	11.2	0.00106	1.06	1.09	0.002	
8 jun7640-9	=(B8-C8)/1000	15.3	11.2	0.00556	5.56	5.62	0.004	
9 jun7640-11	0.00170	12.9	11.2	0.00569	5.69	5.75	0.003	
10 jun7640-13	-0.00157	9.63	11.2	0.00238	2.38			
11 jun7640-15	38 : 0.09940 diff=-0.10097 %err = -101.57948							
12 jun7640-17	-0.00394	7.26	11.2	0.00109				
13 jun7640-19	0.00200	13.2	11.2	0.00148	1.48			
14 jun7640-21	-0.00090	10.3	11.2	0.01340	13.4	14	0.003	
15 jun7640-24	-0.00010	11	11.2	Error!	CHECK	19.4	0.015	
16 jun7640-26	-0.00002	0	0	0.01150	11.5	12	0.002	
17 blk 2	-0.00002	0	0	0.00002	0.0246	0.143	0.000	
18 10ppb delta multi std	0.00000	0	0	0.00995	9.95	10.1	0.009	
19 100ppb delta P std	0.10400	0	0	0.00003	0.0294	0.0578	0.000	
20 blk 3	-0.00136	-1.36	0	0.00002	0.0184	0.0481	0.000	
21 jun7640-29	0.00140	13.6	11.2	0.00000	0.0	10.2	0.002	

38 : 0.09940 diff=-0.10097 %err = -101.57948

Head Sheet Test Sample Pad Instrument

38 : 0.09940 diff=-0.10097 %err = -101.57948

ISB

Excel-like formulas

Type your comments

Automatic Dups popup

LIM0004-DEC01.WSH

Sample ID	A Pb@L %	B Factor	C Pb1 %	D wt gr	E vol ml	F Pb2 %	G wt gr	H vol ml
1 Pb Proof 1	AVG =	0.0100732	0.01009	0.1776	17.6	---	---	---
2 Pb Proof 2	---	---	0.01005	0.206	20.5	---	---	---
3 Pb Proof 3	---	---	0.01008	0.2389	23.7	---	---	---
4 Arm 003	42.55	0.01007	41.54	0.4000	16.5	43.55	0.4000	17.3
5 Sr72 011020 1785	42.55	0.01007	41.54	0.4000	16.5	43.55	0.4000	17.3
6 SR72 011020 1820	43.11	0.01007	43.93	0.4000	17.45	42.29	0.4000	16.8
7 SR72 011020 1821	42.11	0.01007	42.17	0.4000	16.75	42.04	0.4000	16.7
8 SR72 011020 1822	48.52	0.01007	41.92	0.4000	16.65	55.13	0.4000	21.90
9 SR72 011020 1823	54.57	0.01007	53.62	0.4000	21.30	55.51	0.4000	22.05
10 SR72 011020 1824	50.98	0.01007	50.98	0.4000	20.25	50.98	0.4000	20.25

Head Sheet Test Sample Pad Instrument

Example of an Lead template from Lory, Teck

Test (analysis) tab



Repo-Tag : Sample	A Weight	B Volume	C Dilution	D a)AgICP g/t	E Ag 328.068 mg/L
19 AUG9166.R00-78 :	0.2498	100			
20 AUG9166.R00-79 :	nss	nss			

This tab is used to configure the **column header (=analysis)** in the OnWSH sheet. Each analysis can have many parameters and the relationship between them is given by the formula.

	*	Column ID	Unit	Technician	Note	Source	Dec
1	*	Weight		Ricardo	calibrated		
2	*	Volume					
3	*	Dilution					
4	●	a)AgICP	g/t			c*B/A	4
5	*	Ag 328.068	mg/L				
6	●	a)AlICP	g/t			c*B/A	4
7	*	Al 396.152	mg/L				
8	●	a)AsICP	g/t			c*C*B/A	4
9	*	As3 197.197	mg/L				
10	*	As2 193.696	mg/L				
11	*	As 188.979	mg/L				
12	●	a)BaICP	g/t			a*C*B/A	
13	*	Ba 233.527	mg/L				
14	●	a)BeICP	g/t			b*C*B/A	
15	*	Be2	mg/L				
16	*	Be 313.107	mg/L				

Decimal precision

Technician who locked this column
Can't be modified here.

Result column

Parameter column

Test formula
Lowercase is relative to the result column and uppercase is absolute, like Excel.

Sample ID

Sequence ID:
Link with the
instrument

LIM0004-DEC01.WSH

Sample ID
1 Pb Proof 1
2 Pb Proof 2
3 Pb Proof 3
4 Arm 003
5 Sr72 011020 1785
6 SR72 011020 1820
7 SR72 011020 1821
8 SR72 011020 1822
9 SR72 011020 1823
10 SR72 011020 1824
11 E005-4.1
12 E008-5

LIM0004-DEC01.WSH

	*	Sample ID	R.Num	R.Tag	Sequence	Type	Qc File	Note	Pre
1		Pb Proof 1				SMP			
2		Pb Proof 2				SMP			
3		Pb Proof 3				SMP			
4		Arm 003			As sq 1	SMP		QC ARM	
5		Sr72 011020 1785	*	2	As sq 2	SMP			
6		SR72 011020 1820	*	3	As sq 3	SMP			
7		SR72 011020 1821	*	4	As sq 4	SMP			
8		SR72 011020 1822	*	5	As sq 5	SMP			
9		SR72 011020 1823	*	6	As sq 6	SMP			
10		SR72 011020 1824	*	7	As sq 7	SMP			
11		E005-4.1			As sq 8	STD	E005-4.1	LIMS QC test	
12		E008-5				STD	E008-5	QC TEST	

QC file

Report number &
tag: link with the
LIMS

The sample tab stores all sample related data.
Used to configure the **Row Header** in the WSH Sheet.



```
Online LIMS - Online Worksheet
File Window Help
[Printer Icon] [Help Icon]
** Online LIMS **

@[===== Online Instrument =====]

> Inst : Balance
> Date : 05 Mar 01  20:01
> Chem : fabiola
> Test : lec@OXCa

@[002-001]  +  0.2502 g
@[002-001]  +  0.2504 g
@[002-003]  +  0.2532 g
@[002-002]  +  0.2518 g
@[002-004]  +  0.2560 g

> END Balance

[Navigation Buttons] Head | Sheet | Test | Sample | Pa
Ready [Status Bar] ISB
```

This represents the [Column-Row] where the data was stored in the WSH sheet



For auditing purposes, all instrument information, including calibration data is recorded in the WSH log file.

The log file data is read only and can't be modified.

For the login of a NEW worksheet four basic steps are necessary:

1. Sample login (ROWS)
2. Analysis setup (COLUMNS)
3. Formulas (SHEET)
4. Formatting (SHEET)

1) Sample login (ROWS)

Job Link

WSH LAB0005-OCT07

	*	Sample ID	Type	File	Tag	Sequence
1	●	MR 107046-A	SMP	MR01	*	
2	●	MR 107046-B	SMP	MR01	*	
3	●	MR 107047-A	SMP	MR01	*	
4	●	MR 107047-B	SMP	MR01	*	
5	●	MR 107048-A	SMP	MR01	*	
6	●	MR 107048-B	SMP	MR01	*	
7	●	MR 107049-A	SMP	MR01	*	
8	●	MR 107049-B	SMP	MR01	*	
9	⊕	CALSTD2 High Vol-E340	STD	CALSTD2 High Vol-E3	9	E3402 Air Filters
10	●	MR 2XXXXX-1,A,B	SMP	MR02	Formating error MR 2_	

QC sample pick list

S.Group: [] Created on or after: 15-Jul-1989

Qc Type: Standard

Lqc ID	Notes
\$FurnaceXRF	LIMS - Check Min-Max error problem
\$House	---
\$STD ECRM 328-1	---
\$STD-RTS-1	SAMPLE RUN STANDARD
\$STD_BOD_SEE...	Uncorrected Value (Day 5-Day 0)
\$TVX-B	---
E005-4.1	LIMS QC test
E006-1.3	Qc with outlayer !
E007-10	QC test
E008-5	QC TEST
HP QCS-19&QCS-7	AAS SEC STD s "A" & "B" 20%HCL matrix
MuReautu	Mu Reautu

Select the standard ID

<CTRL>+
<ENTER>
over the
'FILE' cell

This field is needed only when importing data from an instrument file.
- like the auto sampler

The first step is to login all sample Id information and configure all duplicates and Standard for this batch of samples.

2) Test login (COLUMNS)



AA50002-NOV00.WSH

	*	Column ID	Unit	Technician	Note	Source	Dec
1	●	rd@MoGRAV1	%		Gravimetric	(.2613*b/a)*100-.40	2
2	*	wt Smp	gr				---
3	*	wt Cal	gr				---
4	●	rd@MoAAS	ppm		AAS	a*b/c	2
5	*	AAS	mg/L				---
6	*	Vol	ml				---
7	*	wt					---

AA50002-NOV00.WSH

Sample ID	A rd@MoGRAV1 %	B wt Smp gr	C wt Cal gr	D rd@MoAAS ppm	E AAS mg/L	F Vol ml	G wt gr
1 LOT MAD/AND	48.45	0.2603	0.4866	121.96	2.98	20	0.4887
2 LOT LR N° 252	53.71	0.2586	0.5355	69.39	1.85	20	0.5332
3 LOT LR N° 253	53.74	0.2607	0.5402	50.76	1.36	20	0.5359
4 LOT LR N° 254	53.84	0.2576	0.5347	45.46	1.22	20	0.5367
5 LOT LR N° 255	53.24	0.2591	0.5319	61.38	1.65	20	0.5376
6 LOT LR N° 256	53.13	0.2606	0.5339	55.56	1.46	20	0.5256
7 LOT LR N° 266	52.00	0.2600	0.5214	57.98	1.51	20	0.5209
8 CMR-101	49.27	0.2609	0.4959	---	---	20	0.4900

The second step is to login all required analysis (Test) and parameters. The red columns are the Test or result columns, this can be picked from the report or typed in. Result column data is usually populated using the formula for that column. Parameter columns data can be either instrument or manually entered data.

Formulas

	*	Column ID	Unit	Technician	Note	Source	Dec
1	●	rd@MoGRAV1	%			(.2613*b/a)*100-.40	2
2	*	wt Smp	gr				---
3	*	wt Cal	gr				---
4	●	rd@MoAAS	ppm			a*b/c	2
5	*	AAS	mg/L				---
6	*	Vol	ml				---
7	*	wt	gr				---

Sample ID	A rd@MoGRAV1 %	B wt Smp gr	C wt Cal gr	D rd@MoAAS ppm	E AAS mg/L	F Vol ml	G wt gr
AD/AND				=E1*F1/G1	2.98	20	0.4887
N° 252				=E2*F2/G2	1.85	20	0.5332
N° 253				=E3*F3/G3	1.36	20	0.5359
N° 254				=E4*F4/G4	1.22	20	0.5367
N° 255				=E5*F5/G5	1.65	20	0.5376
N° 256				=E6*F6/G6	1.46	20	0.5256
N° 266				=E7*F7/G7	1.51	20	0.5209
8 CMR-101				---	---	20	0.49

Calculate selected cells

Formula: [.2613*b/a)*100-.40

Decimals: 2 enter [-1] for no truncation

OK Cancel

The LIMS formula (1) is converted (2) into an "excel like" formula.

Lowercase characters are RELATIVE to the result column.

UPPERCASE characters are ABSOLUTE to the first sheet column.

Sample ID	A rd@MoGRAV1 %	B wt Smp gr	C wt Cal gr	D rd@MoAAS ppm	E AAS mg/L	F Vol ml	G wt gr
1 LOT MAD/AND N° 149	< 50	0.2603	0.4866	121.96	2.98	20	0.4887
2 LOT LR N° 252	53.71	0.2586	0.5355	69.39	1.85	20	0.5332
3 LOT LR N° 253	53.74	0.2607	0.5402	50.76	1.36	20	0.5359
4 LOT LR N° 254	53.84	0.2576	0.5347	45.46	1.22	20	0.5367
5 LOT LR N° 255	53.24	0.2591	0.5319	61.38	1.65	20	0.5376
6 LOT LR N° 256	53.13	0.2606	0.5339	55.56	1.46	20	0.5256
7 LOT LR N° 266	52.00	0.2600	0.5214	57.98	1.51	20	0.5209
8 CMR-101	< 50	0.2609	0.4959	---	---	20	0.4900

4) Formatting (SHEET)

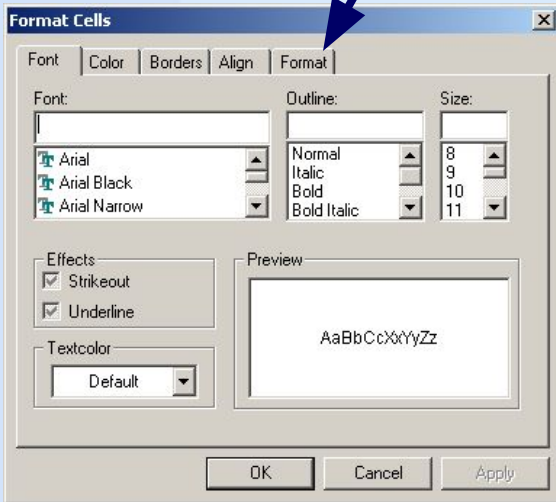
025	0.00089	10-J
037	0.00047	10-J
028	0.00110	10-J
050	0.00028	

Cell highlighter

Protects a cells so that it can not be modify

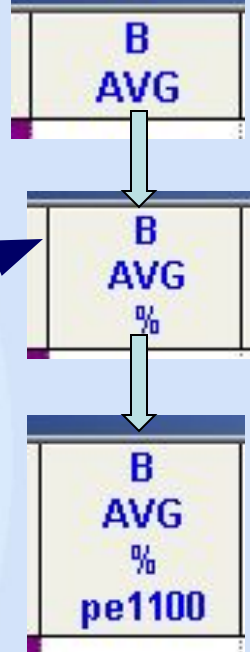


Open cell format dialog



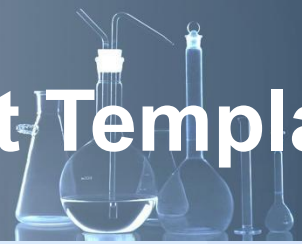
Increases or decreases the amount of decimals displayed in a cell

Toggle to display the amount of data in the column header



Sample ID	A a)C %	B AVG %	C ID	D Weight g	E Carbon %	F Sulfur %	G Date
15 264-4	3.7	3.6667					
16			"229-05-3"	0.8036	0.00025	0.00146	10-Jun-99 10:12:00
17			"229-04-3"	0.8342	0.00025	0.00089	10-Jun-99 10:06:00
18			"229-05-1"	0.8250	0.00037	0.00047	10-Jun-99 10:09:00
19			"229-04-2"	0.8221	0.00028	0.00110	10-Jun-99 10:05:00
20			"264-05-5"	0.8249	0.00050	0.00028	16-Nov-99 15:09:00
21			"264-05-6"	0.8018	0.00049	0.00061	16-Nov-99 15:10:00
22 264-5	8.0	8.0167					
23			"229-04-1"	0.8100	0.00032	0.00074	10-Jun-99 10:03:00
24			"229-03-4"	0.8083	0.00026	0.00062	10-Jun-99 10:02:00
25 264-6	6.8	6.8000					
26							
27	s1	3.5					
28	AVG	5.8					
29	Cat Com	2					
30	Cat Limp	3					
31	S final	6.4					
32 QUIMICO:	IRMA						

Leco 300 Custom template Online LIMS



LIM0001-NOV01.WSH

Sample ID	A Count	B Hole #	C Ore Wt. g	D H2O mls	E Floc mls	F Aliquot Wt. g	G NaOH mls	H B2O3 %	I Smp Wt g
1	grams of standard boric acid:				1.0033	Standard Factor =		2.09517	
2	mL of standard NaOH to titrate standard boric				26.96	Normality, NaOH =		0.60189	
3									
Sample #	Count	Hole #	Ore Wt.	mls H2O	mls Floc	Aliquot Wt.	mls NaOH	% B2O3	Smp Wt
4 Sample # 1									
5 Sample # 2	1	123	100	425	10	5	9.96	19.696	
6 Sample # 3	2	124	100	425	10	5	9.96	19.696	
7 Sample # 4	3	125	100	425	10	5	9.96	19.696	
8 Sample # 5	4	126	100	425	10	5	9.96	19.696	
9 Sample # 6	5	127	100	425	10	5	9.96	19.696	
10 Sample # 7	6	128	100	425	10	5	9.96	19.696	
11 Sample # 8	7	129	100	425	10	5	9.96	19.696	
12 Sample # 9	8	130	100	425	10	5	9.96	19.696	
13 Sample # 10	9	131	100	425	10	5	9.96	19.696	
14 Sample # 11	10	132	100	425	10	5	9.96	19.696	
15 Sample # 12	11	133	100	425	10	5	9.96	19.696	
16 Sample # 13	12	134	100	425	10	5	9.96	19.696	

Select a template and create a new worksheet

Create a new Work Sheet

Create new WorkSheet from

* CREATE NEW *

Template	Method	Date
* CREATE NEW *	Create a new WorkSheet	
+ LAB0425-MAY07	Create a copy	
<		
AC.GRADO A, MEN - SEM		02 Nov 2005
AC.GRADO A-DIARIO		14 Nov 2005
AC.GRADO C-DIARIO		08 Nov 2005
AC.SEMANAL EFLUENTES		14 Dec 2005
ANODOS		07 Sep 2005
BALANCE DIA NORMAL	ANALISIS POR AA - VOL ...	07 Sep 2005
CARACTERIZACION ACID...		15 Feb 2006
COMP.SEMANAL NORMAL	ANALISIS POR AA - VOL ...	07 Sep 2005
CONCENTRADO FAENAS		07 Aug 2005
CUARZOS - A. QUIMICOS		14 Nov 2005
ESPE		21 Nov 2005
GRANULM S.PEDRO	IR - Humedad	13 Sep 2005
GRANULM. GRED		12 Dec 2005
GRANULM. MIGRIN	IR - Humedad	13 Sep 2005
MUESTRO ESCORIAL	Cu y Fe por AA	19 Aug 2005
NVO TEMPLE PLOVOS		28 Dec 2005
P.MOLDEO - REFINO	AA - IR (LECO)	01 Dec 2005
PIRITA	AA,IR.	21 Nov 2005
POLVOS		08 Sep 2005
PROQIMIN		18 Jan 2006
SEMAMAL POND SIMPLE	ANALISIS POR AA - VOL ...	08 Sep 2005

Work Sheet

LAB0001-NOV07

0001	0011	0021	0031	0041
0002	0012	0022	0032	0042
0003	0013	0023	0033	0043
0004	0014	0024	0034	0044
0005	0015	0025	0035	0045
0006	0016	0026	0036	0046
0007	0017	0027	0037	0047
0008	0018	0028	0038	0048
0009	0019	0029	0039	0049
0010	0020	0030	0040	0050

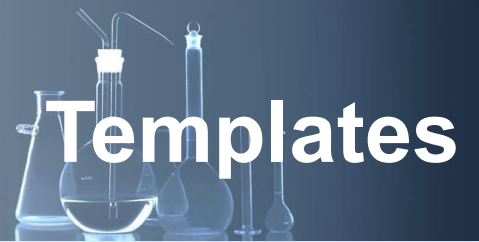
Start number:

Create date:

LAB :

Create Cancel

Templates are used to save a lot of time when creating routine worksheets. Templates are created as a worksheet and then saved as a template and stored in the workgroup folder root directory.



Templates

Select **NEW** to create an empty new WSH

Select **>COPY XXXX<** to make a copy of the selected WSH

Select a template to create a WSH from a template

Template list
Shows all files with WSH extension located in the Service Group root folder

Create a new Work Sheet

Create new WorkSheet from

*** CREATE NEW ***

Template	Method	Date
* CREATE NEW *	Create a new WorkSheet	
+ LAB0425-MAY07	Create a copy	
<		
AC.GRADO A, MEN - SEM		02 Nov 2005
AC.GRADO A-DIARIO		14 Nov 2005
AC.GRADO C-DIARIO		08 Nov 2005
AC.SEMANAL EFLUENTES		14 Dec 2005
ANODOS		07 Sep 2005
BALANCE DIA NORMAL	ANALISIS POR AA - VOL ...	07 Sep 2005
CARACTERIZACIÓN ACID...		15 Feb 2006
COMP.SEMANAL NORMAL	ANALISIS POR AA - VOL ...	07 Sep 2005
CONCENTRADO FAENAS		07 Aug 2005
CUARZOS - A. QUIMICOS		14 Nov 2005
ESPE		21 Nov 2005
GRANULM S.PEDRO	IR - Humedad	13 Sep 2005
GRANULM. GREDA		12 Dec 2005
GRANULM. MIGRIN	IR - Humedad	13 Sep 2005
MUESTREO ESCORIAL	Cu y Fe por AA	19 Aug 2005
NVO TEMPLE PLOVOS		28 Dec 2005
P.MOLDEO - REFINO	AA - IR (LECO)	01 Dec 2005
PIRITA	AA,IR,	21 Nov 2005
POLVOS		08 Sep 2005
PROQIMIN		18 Jan 2006
SEMANAL POND SIMPLE	ANALISIS POR AA - VOL ...	08 Sep 2005


Work Sheet

LAB0001-NOV07

0001	0011	0021	0031	0041
0002	0012	0022	0032	0042
0003	0013	0023	0033	0043
0004	0014	0024	0034	0044
0005	0015	0025	0035	0045
0006	0016	0026	0036	0046
0007	0017	0027	0037	0047
0008	0018	0028	0038	0048
0009	0019	0029	0039	0049
0010	0020	0030	0040	0050

Start number:

Create date:

LAB : 

Create Cancel

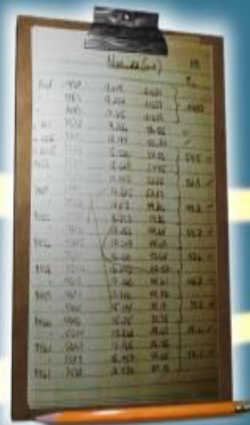
The selected WSH file name for the new worksheet.

These are all the available WSH numbers for this service group

Select the desired start number to look for the next available number

This menu is used for the creation of new worksheets.

Be sure to have the right "service group", "Month" and "year" selected



- Worksheet
- **Instrument**
- QA & Validation
- Exporting
- QA/QC



ONLINE INSTRUMENTS

Balances
LECO
AAS

Mainly single element
instruments

Uses a cable to
connect to the PC

*Online instruments
are connected through
a RS232 (serial cable)
to the computer.*

*Import Instruments
are instruments that at
the end of a analysis
session generates an
file with the analyte
data. This file is
imported and parsed
by OnWSH.*

IMPORT INSTRUMENTS

ICP
PLASMA
XRF
OES

Mainly multi element
Instruments

Uses a file to
be imported to the PC



Instrument ID

On-line Instruments allows you to read data directly from the instrument into the worksheet.

Instrument driver

To open the 'on-line instrument' setup dialog select the menu : Instrument->Setup

Online Instrument setup

Instrument

Inst ID: BALA1

Driver: OnLINK

Rad Cmd: \bP\r\n

Log file

Path: C:\TEMP\

File: OnLinklog.csv

OK

1. *Pick up the instrument driver*
2. *Select the instrument ID for the attached instrument. This data should be already in the Instrument database (OnSETUP).*
3. *Enter any read command if required*

The instrument log file is generated by the instrument. The log file is usually stored in the local drive and can be used to recover readings after a power failure or a system crash.

Rx terminal to see incoming data

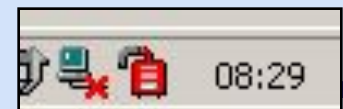
Current port configuration

This string can be sent to the instrument. Used for bi-directional communication

The serial port configuration is launched with the setup button. Please refer to the instrument documentation for serial communication settings for the instrument.

OnLINK should be active on the taskbar

OnLINK is a application that handles the serial communication between the instrument and OnWSH. This is a module that stays resident in memory (stays always open in the Windows Taskbar).




```

@ [001] QCA,7,A1,394.407,mg/L,5.06646991,0.9820010726,3/17/01,9:26:07 AM,
@ [001] QCA,7,A1,396.156,mg/L,4.875939406,0.8149905072,3/17/01,9:26:07 AM,
@ [001] QCA,7,As,197.197,mg/L,4.969305633,1.443804132,3/17/01,9:26:15 AM,
@ [001] QCA,7,As,193.694,mg/L,4.904255797,1.575324959,3/17/01,9:26:15 AM,
@ [001] QCA,7,As,188.978,mg/L,5.061482923,0.1914401474,3/17/01,9:26:15 AM,
@ [001] QCA,7,B,182.5 mg/L,5.128514699,0.3744635591,3/17/01,9:26:15 AM,
  
```

1

2

The lines try to explain how data is parsed from the instrument file into the worksheet.

Because this is very hard to understand and harder to explain it, we better follow the lines

	*	Column ID	Unit	Technician	Note	Source
1	●	AI@ICP		Ricardo		b
2	*	AI 394.4	mg/L			
3	*	AI 396.1	mg/L			
4	*	As 197.1	mg/L			
5	*	As 193.6	mg/L			
6	*	As 188.9	mg/L			

	*	Sample ID	R.Num	R.Tag	Sequence	Type	Qc Fil
1		QCA	*		QCA	SMP	
2		QCB	*		QCB	SMP	
3		0-1	*		0-1	SMP	
4		6077-8	*		6077-8	SMP	
5		6077-9	*		6077-9	SMP	
6		0-2	*		0-2	SMP	
7		6077-110	*		6077-110	SMP	
8		6077-107	*		6077-107	SMP	
9		6027-107	*		6027-107	SMP	

Sample ID	*A AI@ICP	B AI 394.4 mg/L	C AI 396.1 mg/L	D As 197.1 mg/L
1 QCA	4.88	5.0665	4.8759	4.9693
2 QCB	0.10	0.0099	0.0990	-0.0158
3 0-1	0.00	0.0008	0.0005	0.0148
4 6077-8	0.00	0.0007	0.0001	0.0072
5 6077-9	0.19	0.1906	0.1912	0.2831
6 0-2	-0.01	-0.0060	-0.0074	-0.0042
7 6077-11	0.02	0.0029	0.0237	-0.0077

Import diagram 1

Import diagram 2



The instrument **“Sample ID”** must match the **“Sequence”** column in the worksheet and the Instrument **“Analysis Id”** must match the **“Test Id”** column in the worksheet. This is very important in order to correctly link the instrument data with the worksheet.

The Sample ID how the Client names it.

Sequence must match Instrument’s “Sample ID” as entered in the instrument auto-sampler table

	*	Column ID	Unit	Technician
1	●	AI@ICP		Ricardo
2	*	AI 394.4	mg/L	
3	*	AI 396.1	mg/L	
4	*	As 197.1	mg/L	
5	*	As 193.6	mg/L	
6	*	As 188.9	mg/L	
7	*	B 182.5	mg/L	
8	*	B 208.8	mg/L	
9	*	B 249.7	mg/L	

“Test Id” in worksheet must match the “Test Id” on the instrument

	*	Sample ID	R.Num	R.Ta	Sequence	Type
1	●	QCA	*		QCA	SMP
2	●	QCB	*		QCB	SMP
3	●	0-1	*		0-1	SMP
4	●	6077-8	*		6077-8	SMP
5	●	6077-9	*		6077-9	SMP
6	●	0-2	*		0-2	SMP
7	●	6077-110	*		6077-110	SMP
8	●	6077-107	*		6077-107	SMP
9	●	6027-107	*		6027-107	SMP

This is used to link the worksheet with the LIMS. More on this later...

	*	A	B	C	D	E
Sample ID		AI@ICP	AI 394.4 mg/L	AI 396.1 mg/L	As 197.1 mg/L	As 193.6 mg/L
1 QCA		4.88	5.0665	4.8759	4.9693	4.9043
2 QCB		0.18	0.0099	0.0990	-0.0158	0.0040
3 0-1		0.00	0.0008	0.0005	0.0148	0.0038
4 6077-8		0.00	0.0007	0.0001	0.0072	-0.0039
5 6077-9		0.19	0.1906	0.1912	0.2831	0.2387
6 0-2		-0.01	-0.0060	-0.0074	-0.0042	-0.0007
7 6077-11		0.02	0.0029	0.0237	-0.0077	-0.0067
8 6077-10		0.02	-0.0018	0.0187	-0.0026	-0.0080
9 6027-10		0.01	0.0077	0.0147	0.0078	-0.0026
10 6024-10		0.01	0.0091	0.0149	-0.0003	0.0082
11 5510-10		0.02	0.0068	0.0166	-0.0069	-0.0084
12 6021-10		0.27	0.2549	0.2732	0.0058	0.0094
13 6021-10		0.01	0.0051	0.0145	0.0056	-0.0030



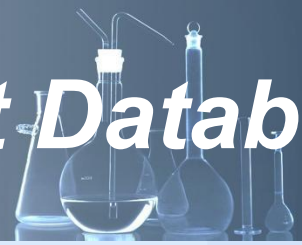
The screenshot shows the OnLIMS Instrument Database interface. On the left is a navigation tree with categories like Clients, Test Library, User List, and Templates. The main area displays a table of instrument records with columns for InstId, Type, Model, and SerialNu. An 'Instrument properties' dialog box is open, showing details for instrument BALN-34, including its Type (Balance), Model (Denver Inst. XS-210), Serial # (121212-321), Link (Balance com1: bd=2400 even), and Area (GAA). The dialog also includes 'Dates' for Calibration (28-Jan-2001) and Service (01-Jun-2001), with their respective Expiration dates (30-Nov-2001 and 31-Dec-2001). A 'Service' field contains the text 'Never serviced !!!!!' and a 'Notes' field contains 'Rush please !!!!'. Buttons for 'New', 'OK', and 'Cancel' are at the bottom of the dialog.

Use this field to document the instruments communication properties.

The main purpose of the instrument database is to track the calibration and service dates. If one of this dates expired, the Worksheet will warn the user by displaying the instrument properties window.

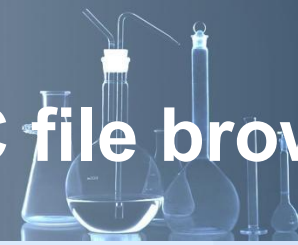
Additional fields are available to store pertinent information.

The instrument database is maintained using the OnSETUP module.



- *Worksheet*
- *Instrument*
- ***QC & Validation***
- *Exporting*





The screenshot shows the 'Online LIMS QA/QC' application window. The interface is divided into several panes:

- QC file (index) pane:** A tree view on the left side of the window listing various file groups such as '\$D.1AU', '\$ASIS4', '\$Balance Weight', '\$FurnaceXRF', '\$House', '\$STD ECRM 328-1', '\$STD-RT5-1', '\$STD_BOD_SEEDBLK', '\$TVX-B', 'E005-4.1', 'E006-1.3', 'E007-1D', 'E008-5', 'HP QCS-19&QCS-7', 'MyBeauty', 'SQ3', 'STD CCU1b', 'STD CZN-1', 'STD WQB-1', and 'STDFe1'. 'STD CCU1b' is currently selected.
- QC Header pane:** A central area containing metadata for the selected file. It includes a logo for 'ONLINE LIMS', a 'Notes' field with the value 'CCRMP Copper Concentrate', a 'Location' field with 'Fireassay room', a 'Reference' field with 'CCU1B', and a 'Status' field with a log of user actions: '15-Nov-01 13:32 - Ricardo : Unlocked', '08 Oct 00 10:12 - daniel : Qc Data load(Update 0, Added', and '10 Sep 00 09:14 - Ricardo : Unlocked'. Below this is a form with fields for 'Lqc Id' (STD CCU1b), 'Created' (28 October 1994), 'Updated' (15 November 2001), and 'Chemist' (donald).
- QC Test pane:** A table at the bottom of the window displaying test results. The table has columns for Test Id, Elem, Unit, SGroup, Cert Val, Cert Min, Cert Max, Count, and Notes.

Test Id	Elem	Unit	SGroup	Cert Val	Cert Min	Cert Max	Count	Notes
AgAAPulp	Ag	g/t	AAS	178	169.1	186.9	1	
AgFA	Ag	g/t	FAS	178	169.1	186.9	8	
AgGFAA	Ag	g/t	AAS	178	160.2	195.8	1	
Al2O3AA	Al2O3	%	AAS	0.100000	0.095000	0.105000	21	
AlAA	Al	%	AAS	0.100000	0.095000	0.105000	46	
AlAApulp	Al	%	AAS	0.100000	0.095000	0.105000	51	
AlICP	Al	g/t	ICP	0.098999	0.089099	0.108899	3	

QC file
(index)
pane

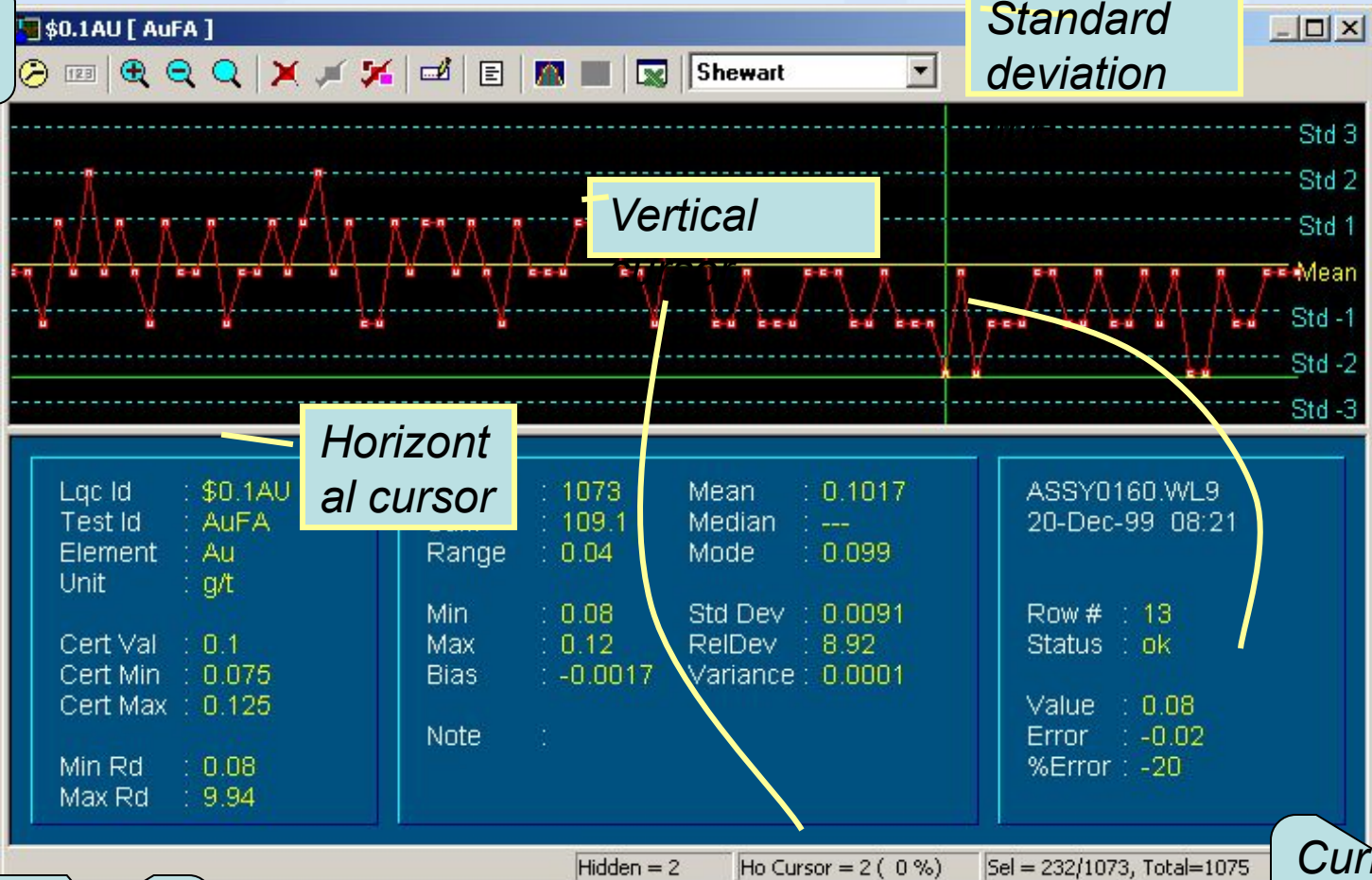
QC
Header
pane

QC
Test
pane

The OnLQC browser helps to navigate through all QC files and to edit QC data. QC files are made up by tree groups: QC Header data, QC Test data and QC Raw data (the only one not accessed by the browser). The browser is divided by tree panes

Data Chart

Standard deviation



Reference material panel

Overall statistic panel

Status bar information

Current point panel



A	read@AuFA	g/t
		0.03
		0.12
		0.16
		0.03
		0.04

lock and validate

Column ID: read@AuFA
 Unit: g/t
 Source: G/F*H

Validation

Note: AAS Calibrated
 Technician: Ricardo
 Lock ID: **
 Lock Date: 14-Nov-2001

OK Cancel

*A	read@AuFA	g/t
		0.03
		0.12

When an error is found in a QC cell, the cell is highlighted in RED. Errors could be caused by having the wrong Test Id, the cell value is out of specs for the QC

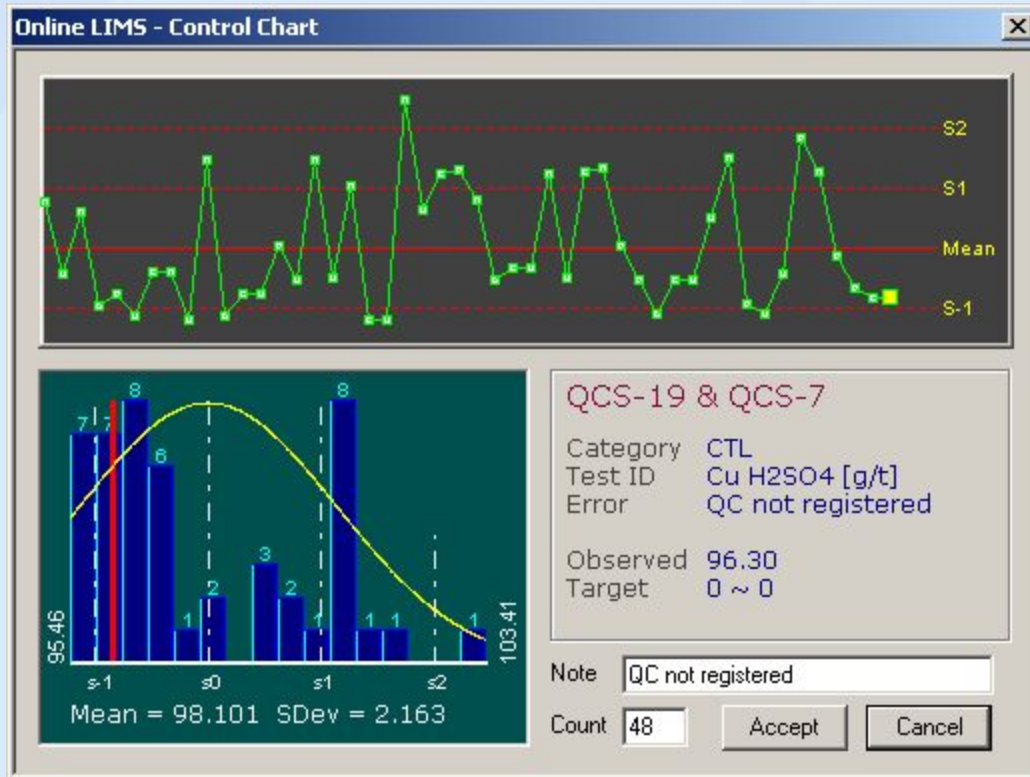
After validating a column (locking the column), the column header becomes GREEN and the cell data becomes read-only

14 Met 10	0.03
15 Polymet Au Pt Pd	1.55
16 FASBLK	0.01



Plots only last 40 values as a reference. However statistic are based on the whole population.

Certified value, Min & Max allowed



Mean

Additional control is supported by control limits.

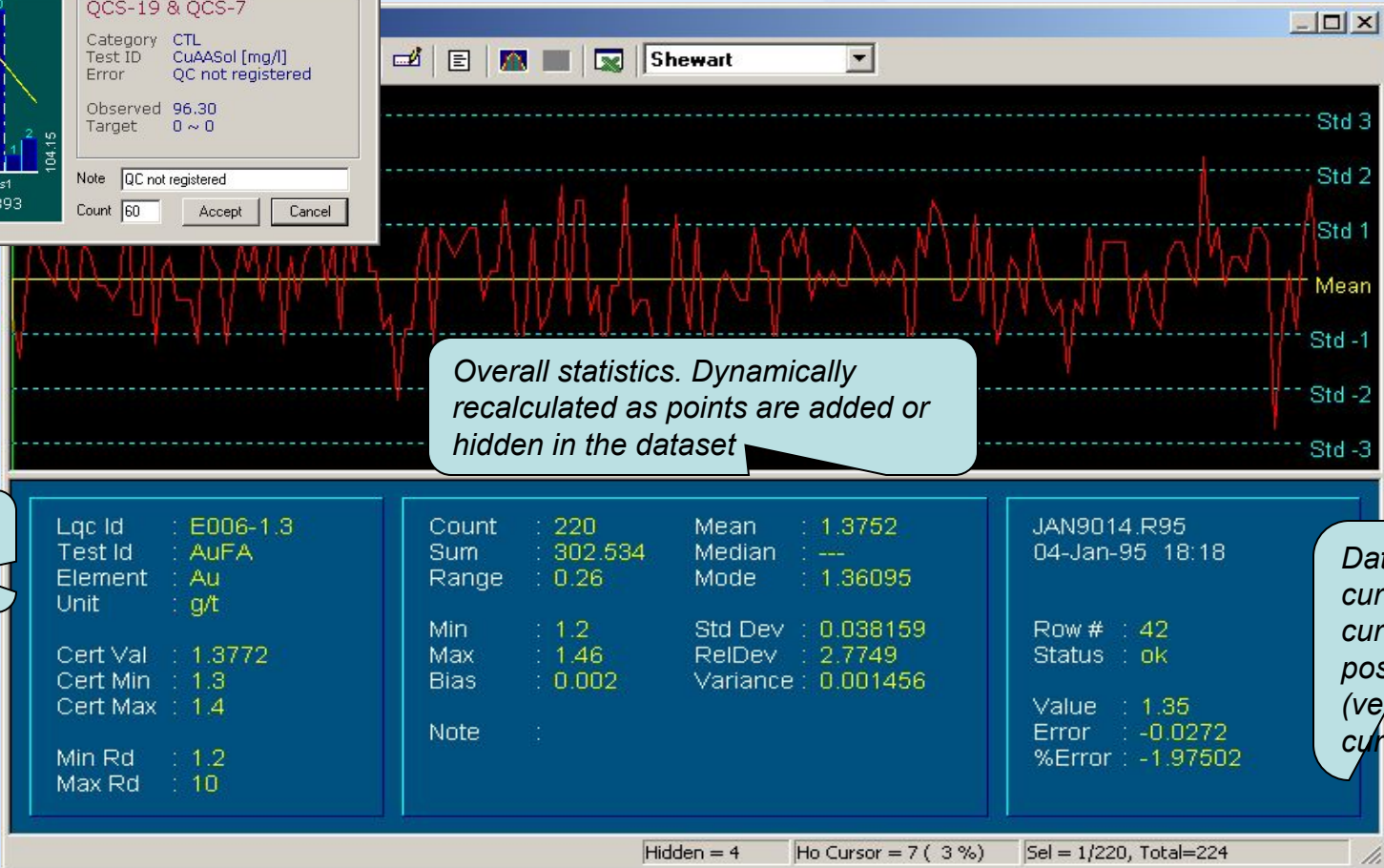
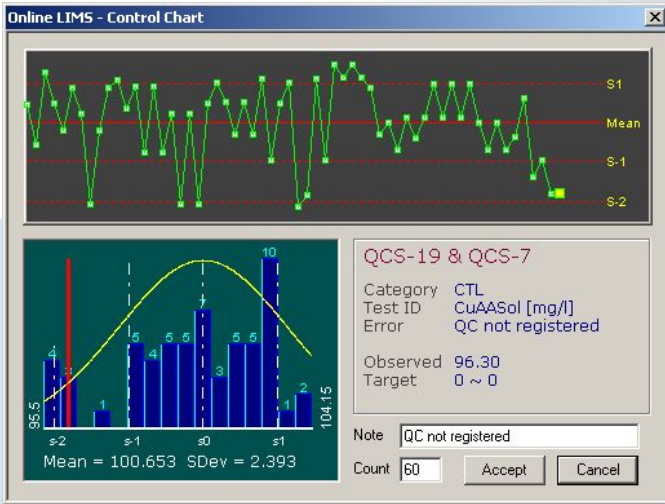
A note can be typed for this point to document the type of error or warning.

When performing data validation in the worksheet and a QC value is found to be outside the certified range for the QC then the "QC statistic" window is open.

51	4906	1.31	1.31
52	STD-2 BUZON	0.64	0.64
53	STD-4 BUZON	1.65	1.65
54	STD-5 GEO	2.04	2.04

QC Check 2

40



Reference data

Lqc Id	: E006-1.3
Test Id	: AuFA
Element	: Au
Unit	: g/t
Cert Val	: 1.3772
Cert Min	: 1.3
Cert Max	: 1.4
Min Rd	: 1.2
Max Rd	: 10

Count	: 220	Mean	: 1.3752
Sum	: 302.534	Median	: ---
Range	: 0.26	Mode	: 1.36095
Min	: 1.2	Std Dev	: 0.038159
Max	: 1.46	RelDev	: 2.7749
Bias	: 0.002	Variance	: 0.001456
Note	:		

JAN9014.R95	04-Jan-95 18:18
Row #	: 42
Status	: ok
Value	: 1.35
Error	: -0.0272
%Error	: -1.97502

Data for current cursor position (vertical cursor)

Only the last 40 values are displayed in the QC validation window. To view the whole population, use the OnLQC module. However, the statistics shown are for whole population, including the last data as 'live data'. If <accept> is pressed, the data point and the note, if any, are sent to the QC database.

Status

- 14-Nov-01 21:54 - Ricardo : read@AuFA unlocked
- 02-Nov-01 11:11 - ashfordd : Modified
- 02-Nov-01 11:11 - ashfordd : Exported to report

Instruments

- 02-Nov-01 11:09 - stonek : imported ICPO-4 <- L:\CHEM\vista\nov21

Head | Sheet | Test | Sample | Pad | Instr

Lock and validate

Column ID: read@AuFA

Unit: g/t

Source: G/F*H

Validation Note: AAS Calibrated

Technician: Ricardo

Lock ID: ***

Lock Date: 14-Nov-2001

OK Cancel

Cell properties

==== CELL PROPERTIES =====

Test = Al2O3

Cell [3,2] = 12.2

Value = 12.2

Source = ~Daniel

Log:

- 04-Nov-07 22:35 - Daniel : Locked
- 04-Nov-07 22:35 - Daniel : Unlocked
- 04-Nov-07 22:34 - Daniel : Locked

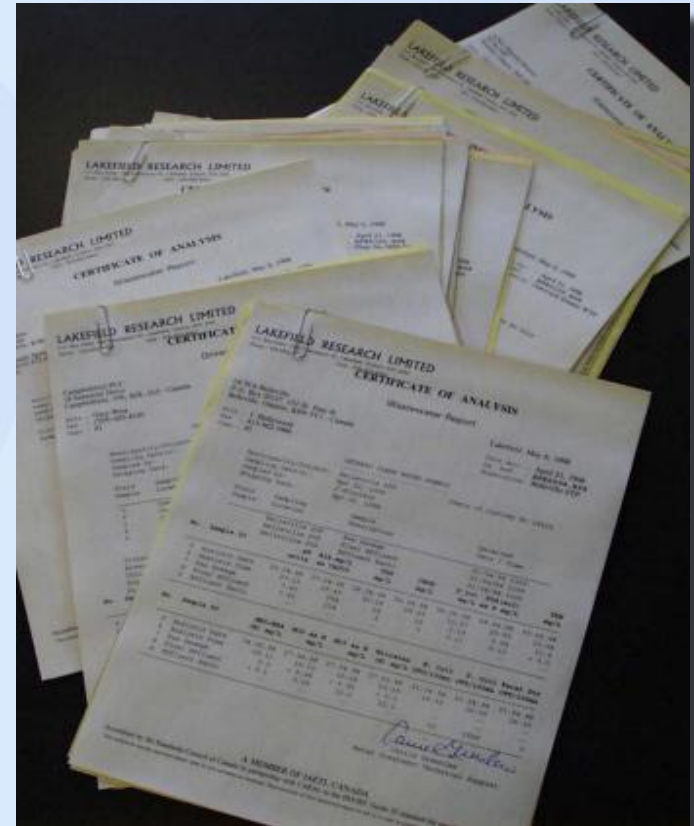
OK

0.00	0.6338	1
0.00	-0.0043	1
96.30	3.8522	25
0.00	-0.0025	1
00.74	3.0004	25

*FAA-6 r= u= sd= d= n=?

Each cell is audited

Once the data is validated (locked) with a password, it can only be modified by unlocking the column using the same password that was locked with or by using the super-password. Every time a column is lock or unlock the action is logged in the status field in the header tab.



- *Worksheet*
- *Instrument*
- *QC & Validation*
- ***Exporting***



Open the export dialog from the toolbar or the "DATA" menu

DATA

- Calculate <F9>
- Replicate Average
- QC Check <F12>
- Undo QC error
- Export** Shift+F7
- Load report dashes
- Lock column <F10>
- Properties

Yellow cells represent data that was successfully exported.

Cells not highlighted with yellow are cells that were not exported

Worksheet export to report

Sample ID	lec@CuVOL L	lec@CuVOL L1	lec@AsAA	lec@PbAA	lec@AgAA	lec@SbAA
1 AN0311-FEB01: LOTE Nº 1	30.1	30.2	0.23		84	
2 AN0311-FEB01: LOTE Nº 2	30.3	30.2	0.20		81	
3 AN0311-FEB01: LOTE Nº 3	30.2	30.2	0.19		83	
4 AN0311-FEB01: LOTE Nº 4	30.3	30.3	0.23		81	
5 AN0311-FEB01: LOTE Nº 5	30.4	30.4	0.22		81	
6 AN0311-FEB01: LOTE Nº 6	30.4	30.3	0.24		84	
7 AN0311-FEB01: LOTE Nº 7	30.5	30.4	0.25		84	
8 AN0311-FEB01: LOTE Nº 8	29.9	29.8	0.20		82	
9 AN0311-FEB01: LOTE Nº 9	30.4	30.5	0.27		84	
10 AN0311-FEB01: LOTE Nº 10	30.6	30.5	0.26		83	
11 AN0311-FEB01: LOTE Nº 11	30.5	30.6	0.27		84	
12 AN0311-FEB01: LOTE Nº 12	30.6	30.5	0.28		84	
13 AN0311-FEB01: LOTE Nº 13	30.6	30.7	0.28		85	
14 AN0311-FEB01: LOTE Nº 14	30.8	30.8	0.29		85	
15 AN0311-FEB01: LOTE Nº 15	30.8	30.7	0.29		84	

AN0311-FEB01

```

--- AN0311-FEB01 -----
lec@CuVOL = 11
lec@CuVOL1 = 26
lec@AsAA = 26
lec@AgAA = 0
lec@SbAA = 0
lec@AuAA = 0
    
```

Overwrite reading
 Export all

Export
Exit

View report

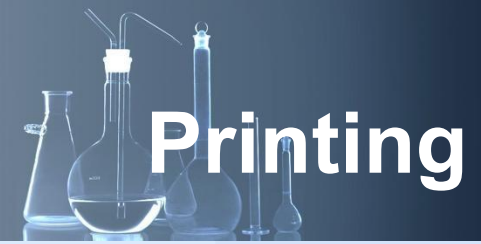
Repo: AN0311-FEB01 # Samples: 26
 # Test: 18

Client: Unidad Control Calidad
 Attn: Raul Cumsille
 Proj: EMBARQUE
 Refe: VENTANAS

Id. Muestra	FECHA Fecha	CuVOL CuVOL %	* lec %	* lec %	PI Pro
001 SMP: LOTE Nº 1	05-Feb-01	30.1	30.1	30.2	
002 SMP: LOTE Nº 2	05-Feb-01	30.3	30.3	30.2	
003 SMP: LOTE Nº 3	05-Feb-01	30.2	30.2	30.2	
004 SMP: LOTE Nº 4	05-Feb-01	30.3	30.3	30.3	
005 SMP: LOTE Nº 5	05-Feb-01	30.4	30.4	30.4	
006 SMP: LOTE Nº 6	05-Feb-01	Error!	30.4	30.3	
007 SMP: LOTE Nº 7	05-Feb-01	Error!	30.5	30.4	
008 SMP: LOTE Nº 8	05-Feb-01	Error!	29.9	29.8	
009 SMP: LOTE Nº 9	05-Feb-01	Error!	30.4	30.5	
010 SMP: LOTE Nº 10	05-Feb-01	Error!	30.6	30.5	
011 SMP: LOTE Nº 11	05-Feb-01	Error!	30.5	30.6	
012 SMP: LOTE Nº 12	05-Feb-01	Error!	30.6	30.5	
013 SMP: LOTE Nº 13	05-Feb-01	Error!	30.6	30.7	
014 SMP: LOTE Nº 14	05-Feb-01	Error!	30.8	30.8	

Data exporting feedback shows the Test and number of cell exported

The worksheet export (transfer) released data to the LIMS database. Some feedbacks are provided for the technician to ensure the transfer was done correctly



Online Worksheet - Cominco LIMS

08 November, 2001

Supervisor: rob
Chemist: RKJ, V specification sd33

Notes:
2, 10 ml aliquots with Chloroform and 0.1 M Guha.
Digestion vials were sealed with 10 ml of HNO3
Final matrix: 10 % HNO3
dup v. lms 0078

Sample ID	A Aliquots ml	B μ V spike Mg	C Final vol. ml	D μ V ng/L	E Y ng/L	F ng/L
1 V .02	0.02	0.02	50	0.020	0.0177	0.0024
2 V .05	0.05	0.05	50	0.047	0.0359	0.0089
3 V .10	0.10	0.10	50	0.100	0.0899	0.0240
4 V 0.50	0.50	0.50	50	0.515	0.5129	0.0222
5 V 1.00	1.00	1.00	50	0.989	0.9942	0.0058
6 V 2.00	2.00	2.00	50	0.993	1.9994	0.0058
7 V 5.00	5.00	5.00	50	1.743	3.6705	0.1720
8 AAS inst blk			50	-0.001	0.0001	-0.0011
9 QCS-19 & QCS-7			50	2.593	0.0581	0.0029
10 QCS-19 & QCS-7			50	2.470	0.0620	0.0100

Sample ID	G dil LN	H pH
1 V .02		1.1
2 V .05		1.1
3 V .10		1.1
4 V 0.50		1.1
5 V 1.00		1.1
6 V 2.00		1.1
7 V 5.00		1.1
8 AAS inst blk		1
9 QCS-19 & QCS-7		1
10 QCS-19 & QCS-7		1

08 December, 2001

Page 111

Ready [DEC-01] 47 / 92

Sample ID	A Aliquots ml	B μ V spike Mg	C Final vol. ml
1 V .02	0.02	0.02	50
2 V .05	0.05	0.05	50
3 V .10	0.10	0.10	50
4 V 0.50	0.50	0.50	50
5 V 1.00	1.00	1.00	50
6 V 2.00	2.00	2.00	50
7 V 5.00	5.00	5.00	50
8 AAS inst blk			50
9 QCS-19 & QCS-7			50
10 QCS-19 & QCS-7			50

Printing your worksheet from the head tab. Then write into the cells, like in your logbook



Thank you for your time

