

User Manual

DIAGRAMMES

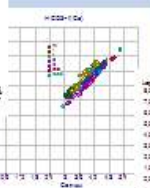
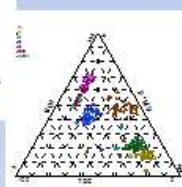
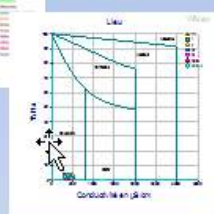


Tableau des coefficients de corrélation (logarithme)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	1																			
2	0.999 999 999 999 999	1																		
3	0.999 999 999 999 999	0.999 999 999 999 999	1																	
4	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	1																
5	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	1															
6	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	1														
7	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	1													
8	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	1												
9	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	1											
10	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	1										
11	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	1									
12	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	1								
13	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	1							
14	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	1						
15	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	1					
16	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	1				
17	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	1			
18	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	1		
19	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	1	
20	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	0.999 999 999 999 999	1

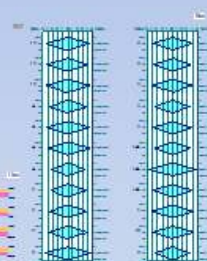


Tableau des données de l'analyse

N°	Date	Libellé	Analyste	TAC	Ca	Mg	Na+K	Cl	SO4	CO3	HCO3	pH	Temp	Conduct	Residu	Alcalinité	Alcalinité	Alcalinité	Alcalinité	Alcalinité	Alcalinité
1	25/05/2011	CA	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
2	27/10/1999	CA	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
3	24/03/2004	CA	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
4	16/09/2005	CA	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
5	07/09/2010	CA	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
6	02/10/1989	CA	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
7	29/10/2003	CA	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
8	23/11/2011	CA	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
9	05/05/2005	CA	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
10	14/01/1996	CA	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
11	23/06/2000	CA	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
12	11/09/2005	CA	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
13	15/02/2012	CA	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
14	16/06/2006	CA	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na

Roland SIMLER¹
Laboratoire d'hydrogéologie d'Avignon

Software overview

From data imported from a spreadsheet, creation of diagrams specific to hydrogeology and validation of analytical data.

Summary

Presentation of the software	2
2- Minimum options and contextual help	4
2-1 Options menu	5
2-2 Languages.....	6
Additional columns.....	10
Extract, calculation.....	11
Clipboard.....	13
Data recording	14
4- Notion of group	15
5- Banner of icons	17
6- Labels of the samples.....	18
8- Constants.....	20
Phreeqc (http://wwwbrr.cr.usgs.gov).....	21
List of saturation indices to be extracted from Phreeqc.....	22
List of additional items to send to Phreeq.....	23
Piper's Diagram.....	24
Ternary diagrams.....	26
Schoeller-Berkalov.....	32
Stable.....	34
Korjinski diagrams or stability diagrams.....	35
Binary diagrams.....	36
Riverside / Wilcox.....	37
Statistics.....	38
Dosing simulation.....	39
C14.....	40
Axonometric, millimetric grids.....	41
ppt tips.....	42

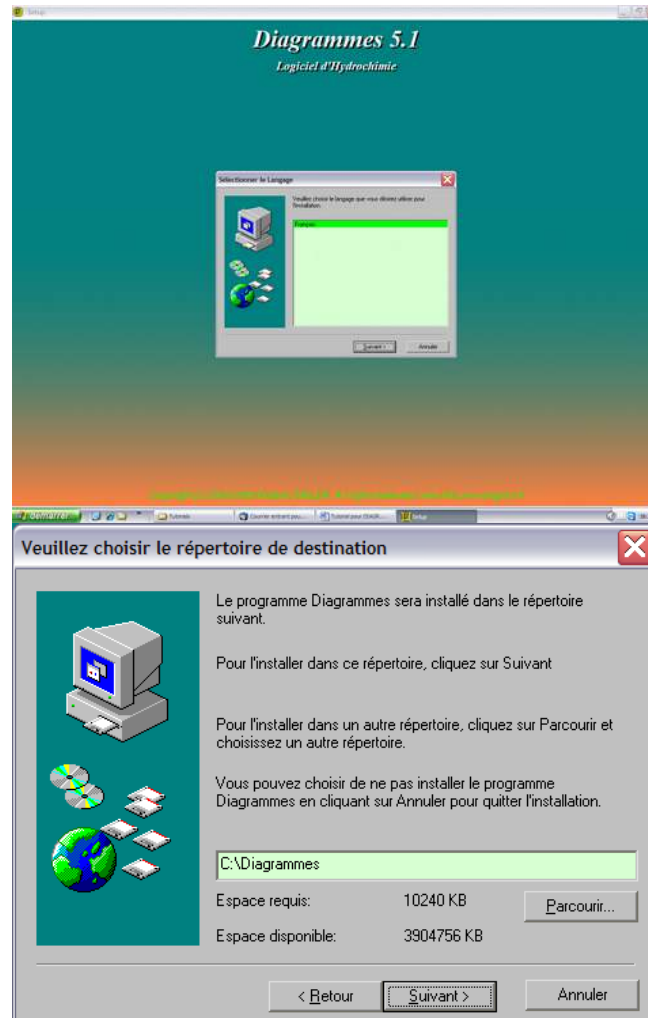
1- Setup

Run the installation of the most recent version retrieved from the laboratory site:

<http://www.lha.univ-avignon.fr/>



Setup_Diagrams.exe



Under Vista or Windows 7, it is advisable to keep the C:\Diagrams directory rather than possibly C:\Programs Files\Diagrams because this directory seems "overprotected" and sometimes prevents the software from working properly. Just click on the button " Next ".

Note: a new installation does not require uninstalling the old one, it overwrites the old one without affecting the data.

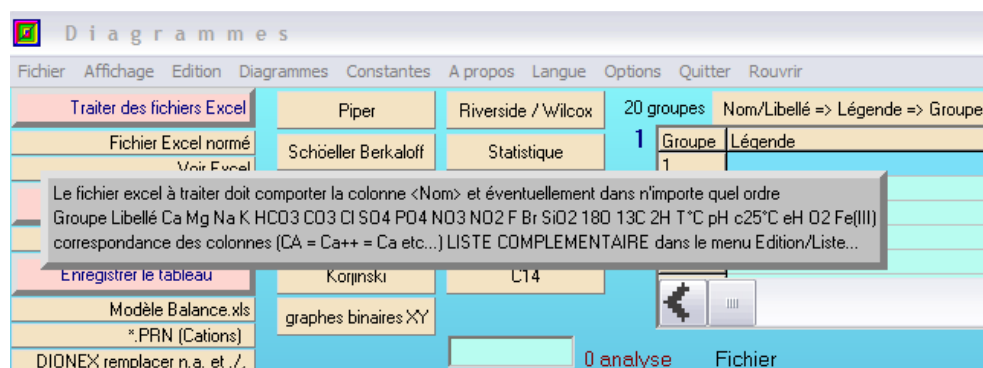
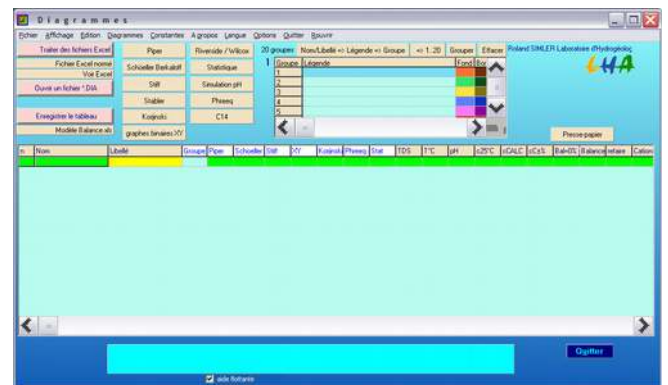
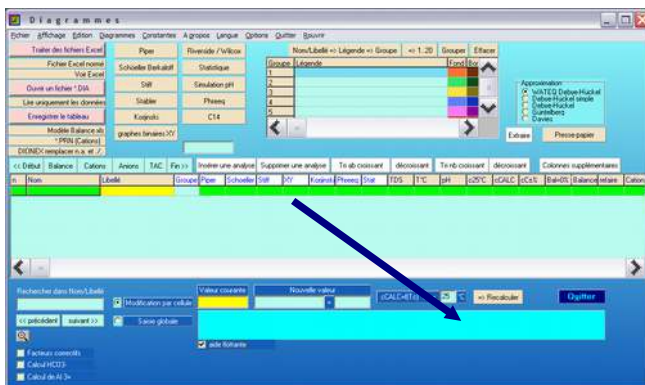
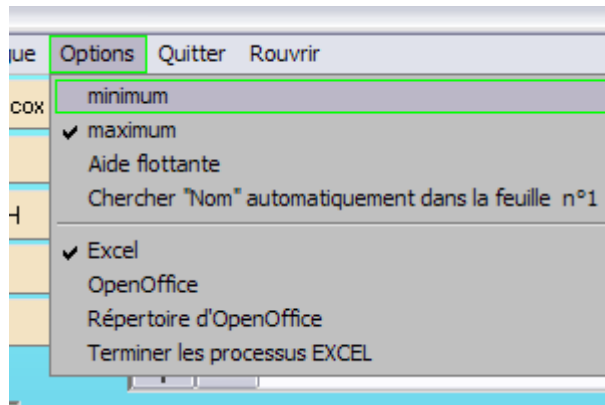


This icon is placed on the desktop, and the extension *.dia is associated with files records from DIAGRAMS. The associated icon is

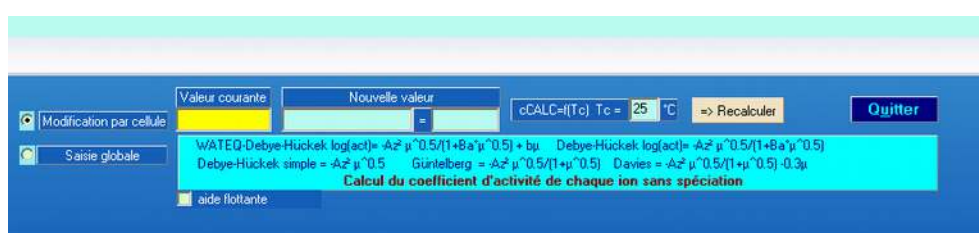


2- Minimum options and contextual help

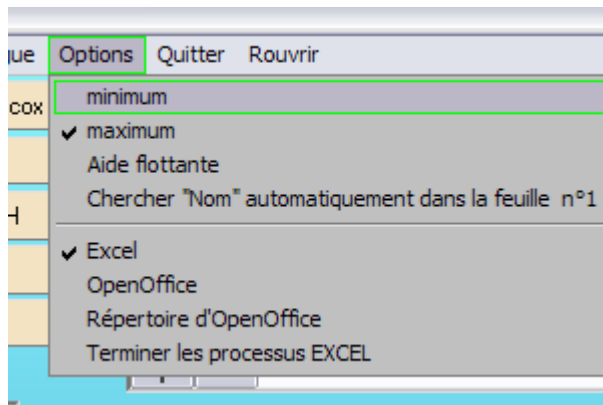
This option is used to lighten the main window. Note that the help is constantly updated depending on where the mouse cursor is. The information is updated in the blue box at the bottom of the screen or in a "floating" help.



- L'**floating aid** allows you to view the content of the blue frame on a gray background next to the mouse echo, this allows you to quickly "scrutinize" the potentials of the working window.



2-1 Option menu

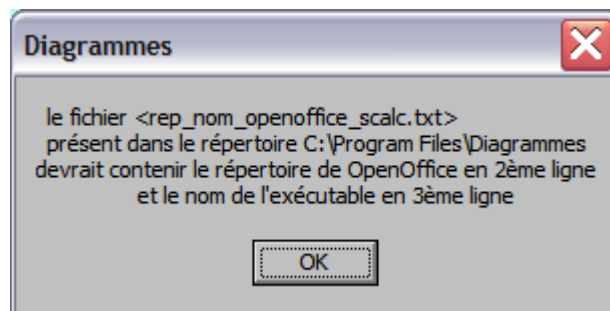


- **Search "Name" automatically in sheet n°1**(or Name or Sample)

This makes it possible to systematically skip the step of choosing the sheet containing the data as well as the unit of measurement (mg/L, meq/L, mmol/L)

- choice of the type of data files to import: **Excel or Open Office**

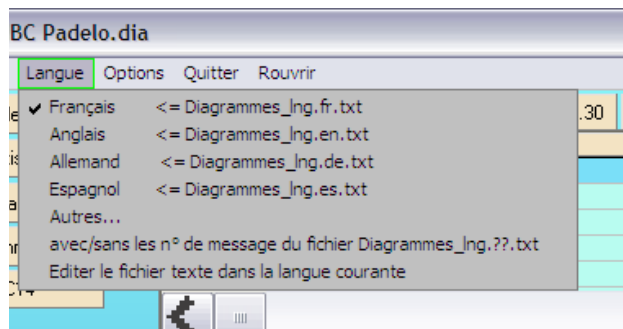
- **OpenOffice Directory** and program name. Depending on the version, these may change. It is in a text file that these two pieces of information are found.



- **End EXCEL processes**

In some cases, a reading problem may appear and this makes it possible to count the Excel processes in progress which are not necessarily visible and which run in the background and sometimes disturb the application. DIAGRAMS may possibly be the source of these closed name processes.

2-2 Languages



10 analyse 2 fichier															
TAC	34 Fin >>	7 Insérer une analyse	29 Supprimer une analyse	42 Tri ab croissant	44 décroissant	43 Tri nb croissant	45 décroissant								
14	TOC	180	13C	a_C14	2H	eH	densité	O2	Débit	TAC	dureté*	Mg/Ca	Sr/Ca	Ca/Mg	N
00	14.13										2	1.438		0.695	18
50	19.96										2	1.842		0.543	16
00	14.03										3	1.843		0.543	27
60	12.12										2	1.816		0.551	24
30	12.89										10	0.370		2.705	16
10	17.77										4	0.781		1.281	4.8
30	24.00										4	1.492		0.670	30

Diagramme_lng.fr.txt - Bloc-notes

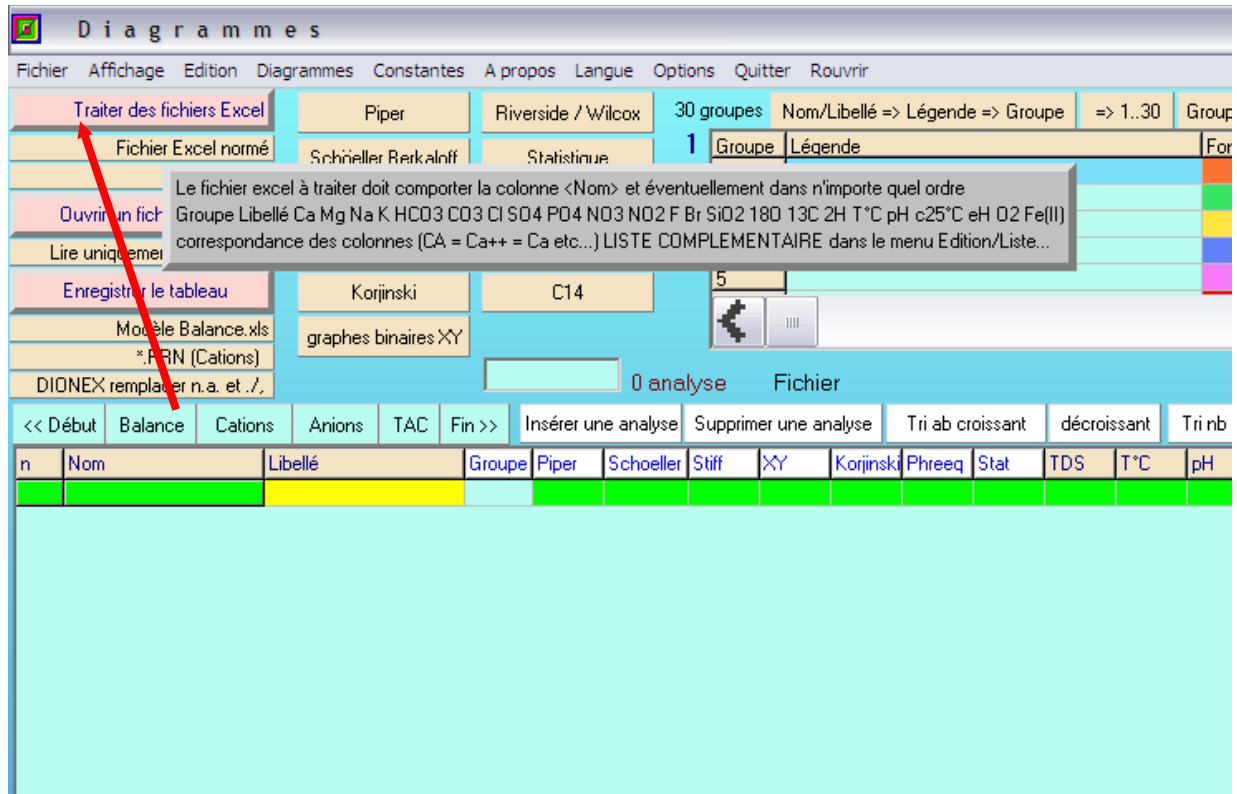
Fichier Edition Format Affichage ?

' Fichier des messages en français
' les lignes débutant par ', seront ignorées
' pour générer un nouveau langage, il faut respecter l'ordre indiqué,
' le numéro de ligne + un espace au moins + texte traduit
' Pour tester en cours, il suffit de charger le fichier dans Langue/Autres.
' si certains messages sont inadéquats, valider l'option Langue/avec les n°
Diagrammes_lng.??,txt
' de façon à cibler le bon message à modifier
1 0 analyse
' ligne de remarques
2 Fichier
3 Roland SIMLER Laboratoire d'Hydrogéologie d'Avignon
4 xx groupes
5 &Rouvrir

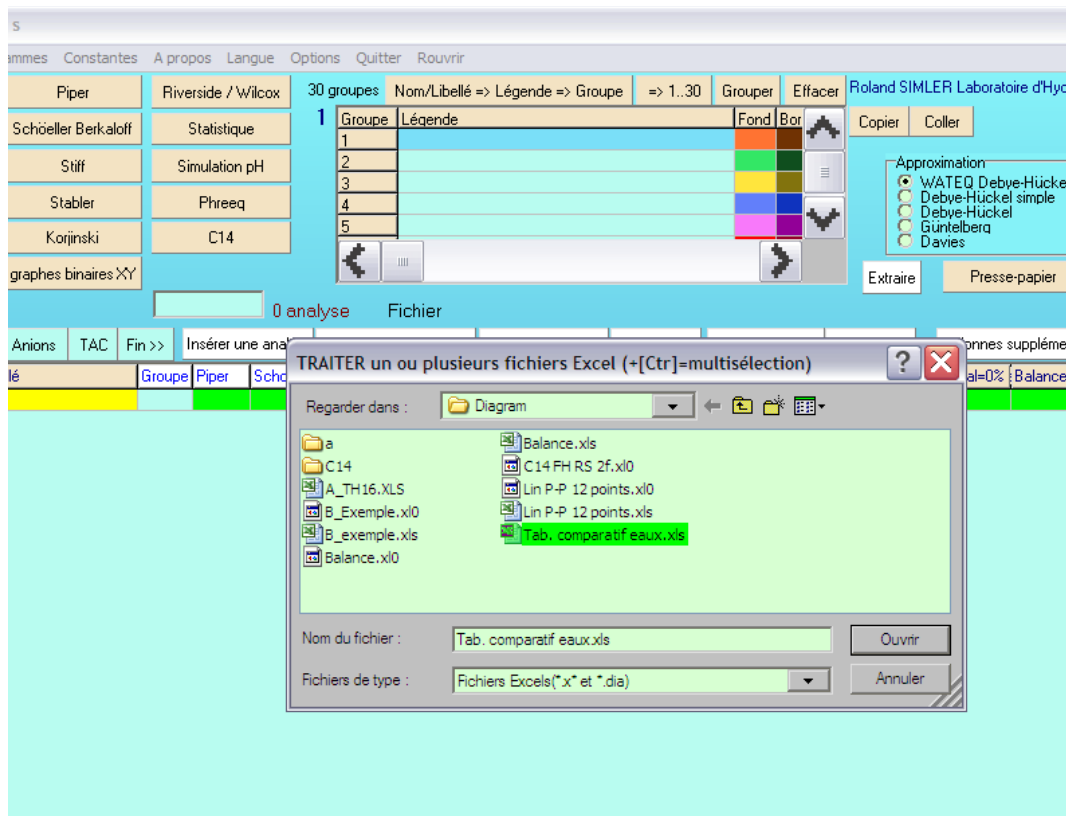
0 analysis																	File	
t >>		Insert an analysis			delete an analysis			Sort ab increasing		decreasing		Sort nb increasing		decreasing		Colonnes supplémentaires		
180	13C	a_C14	2H	eH	densité	O2	Débit	TAC	dureté*	Mg/Ca	Sr/Ca	Ca/Mg	Na/K	Ca+Mg	Na+K	Cl/Mg		
									2	1.438		0.695	18.220	0.485	1.202	1.05		
									2	1.842		0.543	16.200	0.427	1.110	1.05		
									3	1.843		0.543	27.500	0.617	1.383	1.15		
									2	1.816		0.551	24.370	0.413	1.246	1.15		

3- Importing data from a spreadsheet. Excel (Microsoft) or Scalc (Open Office)

Launch DIAGRAMS

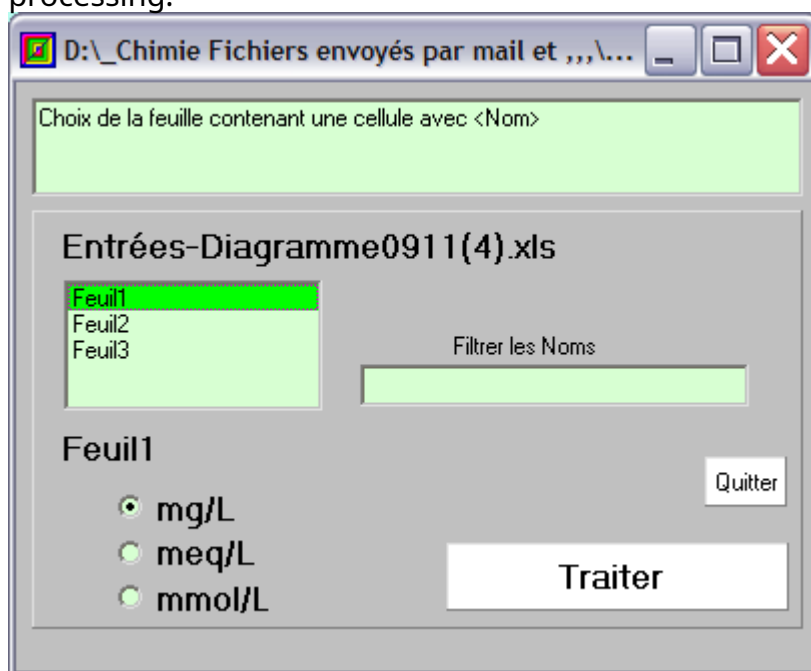


Click on the "Process Excel files" button



Choose one or more similar files to process and click on "Open"

Then select the sheet with the original cell containing "Name" then start processing.

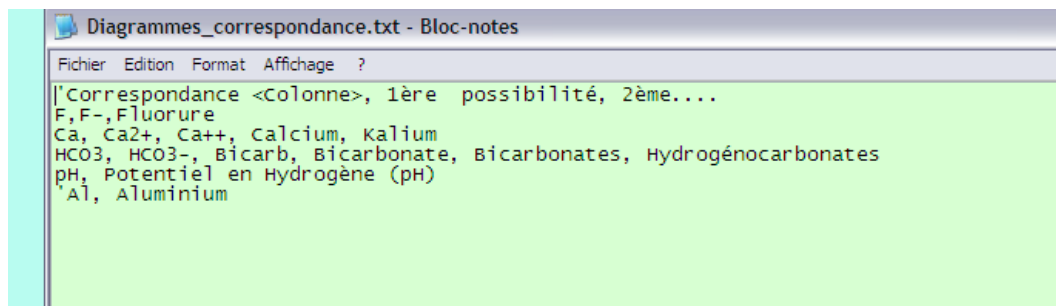


The file to be processed must contain a cell containing the word "**name**" on the sheet you are about to select. It is from this original cell that the search for values will be done on each line, as long as the "name" column is not empty.

The values sought are named "Group", "Label" in a fixed way and others such as calcium for example "Ca" or "Ca++" or "Calcium".

We can optionally filter the names with a single value,

	A	B	C	D	E	F	G
		Nom	Ca2+	Mg2+	Na+	K+	HCO3
1							
2							
3							
4							
5							
6	1	AIX (73) RAPHY-ST-S	83.5	23.4	3.1	1.1	
7	2	ALET (11)	66.0	22.7	13.0	1.8	
8	3	AMELIE LA REINE (38)	390.0	27.5	45.0	2.8	1
9	4	ARCENS (07)	28.5	38.5	429.5	7.7	1
10	5	ARVIE (63)	170.0	92.0	650.0	130.0	2
11	6	BADOIT (42)	190.0	85.0	150.0	10.0	1
12	7	CELTIQUE (67) NIEDERBRONN	8.8	2.6	2.5	4.4	
13	8	CESAR (42) ST-ALBAN	220.0	70.0	350.0	46.0	2
14	9	CHANTEMERLE (07) MEYRAS	42.0	9.8	12.9	1.5	
15	10	CHARRIER (03) LAPRUGNE	2.4	0.4	4.3	0.4	
16	11	CHATEAUNEUF LES BAINS (63)	152.0	36.0	651.0	40.0	1
17	12	CHATELDON (63) SERGENTALE	383.0	49.0	240.0	35.0	2
18	13	CONTREXEVILLE (88) PAVILLON	486.0	84.0	9.1	3.2	
19	14	COUZAN-BRAULT (42) SAIL-SOUS COUZAN	82.6	60.1	634.0	143.6	2
20	15	DIDIER (972) MARTINIQUE	189.0	111.0	146.0	14.6	1
21	16	LE BOULOU (66) JANETTE	305.0	125.0	1400.0	61.2	4
22	17	DAX-ELVINA (40)	128.0	30.4	130.0	21.6	
23	18	EVIAN (74) CACHAT	78.0	24.0	5.0	1.0	
24	19	GEYSER (42) MONTROND	14.4	6.1	630.0	4.5	1
25	20	HAMEL (42) SAIL-LES-BAINS	22.1	2.2	77.0	5.4	



les données

tableau

Balance.xls

1 (Cations)

r.n.a. et ./.

statuer

Korjinski

C14

graphes binaires XY

4

5

←

☐

→

Debye-Hückel

Guntelberg

Davies

Extraire

Presse-papier

57 analyses

C:\...\Tab. comparatif eaux.xls

Cations

Anions

TAC

Fin >>

Insérer une analyse

Supprimer une analyse

Tri ab croissant

décroissant

Tri nb croissant

décroissant

Colonnes supplémentaires

Libellé	Groupe	Piper	Schoeller	Stiff	XY	Korjinski	Phreeq	Stat	TDS	T°C	pH	c25°C	cCALC	cCa%	Bal=0%	Balance	refaire	Ce
1	1				oui	oui	oui	oui	492				556		339	13 +0%		8.
2	1				oui	oui	oui	oui	473				537		305	13 -2%		5.
3	1				oui	oui	oui	oui	1917				1835		1370	11 +0%		23
4																		23
5																		47
6																		23
7																		0.
8																		33
9																		3.
10																		0.
11																		39
12																		34
13																		31
14																		40
15																		25
16																		87
17																		15
18					oui	oui	oui	oui	505				550		349	12 -1%		6.
19					oui	oui	oui	oui	2387				2560		1710	11 +1%		28
20					oui	oui	oui	oui	434				500		206	12 -2%		4.
21					oui	oui	oui	oui	2694				2987		355	12 +0%		39
22					oui	oui	oui	oui	9739				9477		6687	12 +0%		12
23					oui	oui	oui	oui	3390				4910		231	12 +0%		53
24					oui	oui	oui	oui	4172				4825		216	12 +0%		61
25					oui	oui	oui	oui	29				31		1	1 -14%		0.
26					oui	oui	oui	oui	360				481		181	11 +0%		4.

erreur_log.txt - Bloc-notes

Fichier Edition Format Affichage ?

liste des valeurs à problème => le n° de groupe sera vidé pour faciliter le tri ultérieur

échantillon n° 34 : S04 = vide

is	Anions	TAC	Fin >>	Insérer une analyse	Supprimer une analyse	Tri ab croissant	décroissant	Tri nb croissant	déci				
Ca					Mg	Na	K	Fe(II)	Mn	Sr	Li+	Al	NH
80.62	14.02300	0.68753	1.38300	1.32	14.31	1.71	0.83						
84.03	14.19310	0.68760	1.44160	1.38	12.6	1.59	0.86						
72.6	13.62280	0.69415	1.25740	1.19	17.58	1.57	0.73						
70.75	13.66010	0.68710	1.42210	1.18	17.54	1.46	0.66						
7	en mg/L : la saisie peut se faire en mmol/L en rajoutant "m" ex: 14.25m												
8	de plus les opérateurs [/ * + -] sont autorisés												
8	En étirant la colonne => mg/L ; meq/L ; coefficient d'activité ; activité en mmol/L ; facteur de concentration												
94.15	14.70010	0.68431	1.60660	1.34	7.32	1.32	0.63						
77	13.84230	0.69331	1.33200	1.26	14.33	3.09	2.58						

Additional columns

colonne analyse

Anions TAC Fin >> Insérer une analyse Supprimer une analyse Tri ab croissant décroissant Tri nb croissant décroissant Colonnes supplémentaires

lé Groupe Piper Schoeller Stiff XY Korjinski Phreeq Stat TDS T°C pH c25°C cCALC cC±% Bal=0% Balance refaire C

colonnes_supplementaires.txt - Bloc-notes

Fichier Edition Format Affichage ?

Pour rajouter une colonne supplémentaire dans Diagrammes,
 écrire son intitulé sur une nouvelle ligne sans apostrophe en début de ligne.
 Les lignes commençant par une apostrophe sont ignorées
 il faut relancer l'application pour bénéficier des nouvelles colonnes

Soufre
 Débit [m3/s]
 Azote
 Absorbance
 Dirvent
 Rvent
 Ag1vent
 Ag2vent
 _HCO3
 _Ca
 _T
 c13o
 density
 As
 As(+3)
 Be
 distance
 3H
 tritium

<< Début Balance Cations Anions TAC Fin >> Insérer une analyse

n	Nom	Libellé	Groupe	Piper	Schoeller
1	VER 02-09	Verlenque	1		
2	BAS 02-09	Bastide	1		
3	CAY 02-09	Cayrac	1		
4	TAN 02-09	Tantayrou	1		
5	SEG 02-09	Ségala	1		
6	BUZ 02-09	Buzareingues	1		
7	MAY 02-09	Mayrinhac	1		
8	ESP 02-09	Esparse	1		
9	GLA 02-09	Glassac	1		
10	LES 02-09	Lestang	1		
11	COU 02-09	Courtinaux	1		
12	DUC 02-09	Duc	1		
13	SER 02-09	Serre	1		
14	ROQ 02-09	Roquaizou	1		
15	BEL 02-09	Beldoire	1		
16	ROU 02-09	Rouveyrol	1		
17	MAS 02-09	Mas de Lafont	1		
18	VER 02-10	Verlenque	2		
19	BAS 02-10	Bastide	2		
20	CAY 02-10	Cayrac	2		
21	TAN 02-10	Tantayrou	2		
22	SEG 02-10	Ségala	2		
23	BUZ 02-10	Buzareingues	2		
24	MAY 02-10	Mayrinhac	2		
25	ESP 02-10	Esparse	2		
26	GLA 02-10	Glassac	2		
27	LES 02-10	Lestang	2		
28	COU 02-10	Courtinaux	2		
29	DUC 02-10	Duc	2		
30	SER 02-10	Serre	2		

Extract, calculation

Option to calculate or extract from an array of data of the type **monthly follow-up** of 17 water points, for example a statistical summary (minimum-maximum average-standard deviation, etc.).

Either for the entire batch of analysis or by separate groups. The number of decimals can be set.

Mini - maxi
☒ Moyenne - écart type

Toutes les analyses confondues
☐ Par Groupe séparé

tout décocher Colonnes à traiter (x)

TDS	T°C	pH	c25°C	cCALC	cC±%	Bal=0%	Bal=0%	Balance	refaire	Cations	Anions	Ca	Mg	Na	K

Calcul

☒ précision -> 5 décimales 2

Extraire le caractère T°C pour l'ensemble des Groupes

Extraire

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
1	n	Nom	Libellé	n			TDS			T°C			pH			c25°C			Na			K
2	1	VER 02-09	Verlenque	1	-	188	436	-	513	9.9	-	13.6	6.74	-	7.45	417	-	534	1.716	-	5.709	
3	2	BAS 02-09	Bastide	2	-	189	397	-	491	9.8	-	12	6.8	-	7.55	350	-	498	1.169	-	6.078	
4	3	CAY 02-09	Cayrac	3	-	190	391	-	471	10	-	12.5	7.1	-	7.73	356	-	492	1.477	-	2.1	
5	4	TAN 02-09	Tantayrou	4	-	191	374	-	445	11.5	-	13.5	7.2	-	7.6	348	-	499	1.167	-	1.893	
6	5	SEG 02-09	Ségala	5	-	192	379	-	474	8.9	-	12.4	7.44	-	8.07	359	-	523	1.193	-	1.74	
7	6	BUZ 02-09	Buzareingues	6	-	193	446	-	538	9.3	-	11.9	7.28	-	7.66	397	-	581	1.410	-	2.185	
8	7	MAY 02-09	Mayrinhac	7	-	194	415	-	516	9.9	-	12.7	7.24	-	7.68	387	-	548	1.246	-	1.682	
9	8	ESP 02-09	Esparse	8	-	195	425	-	535	10.5	-	13	7.11	-	7.49	387	-	582	1.325	-	1.5	
10	9	GLA 02-09	Glassac	9	-	196	361	-	587	5.9	-	19.1	7.42	-	8.37	367	-	609	2.470	-	4.885	
11	10	LES 02-09	Lestang	10	-	197	423	-	524	8.8	-	13.2	6.8	-	7.81	368	-	538	1.318	-	1.56	
12	11	COU 02-09	Courtinaud	11	-	198	407	-	584	9.4	-	13.5	7.38	-	8.04	473	-	650	2.174	-	10.54	

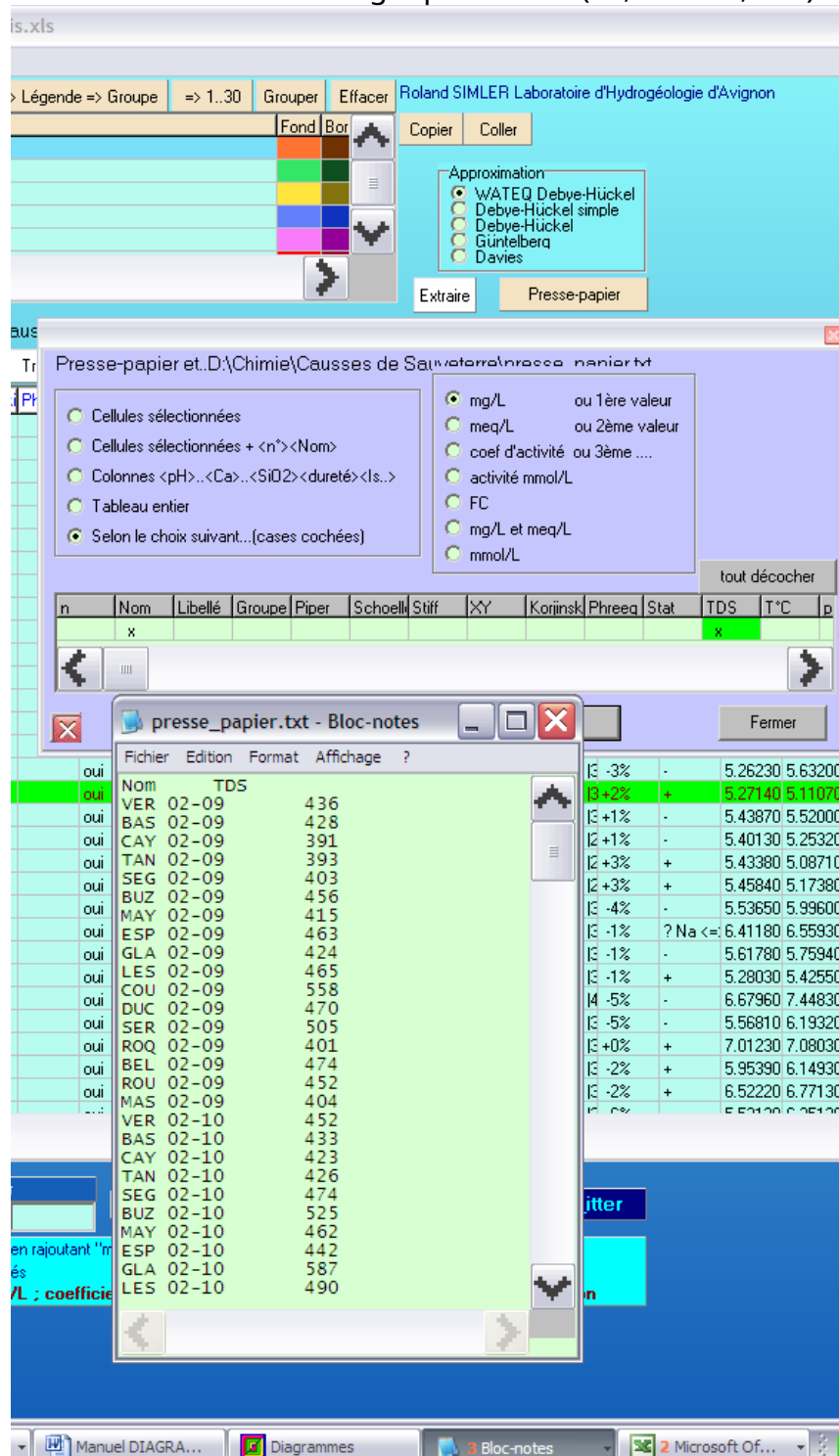
Second option: extraction of a character for all the data.

For each group, all values of the character are searched and listed on one line.

extrait.txt - Bloc-notes													
Fichier Edition Format Affichage ?													
T°C													
1	Verlenque	10.95	11.00	10.35	10.50	10.40	9.90	13.10	13.60	11.60	10.30	12.00	11.30
2	Bastide	10.55	10.50	10.25	10.30	10.20	9.80	12.00	12.00	11.90	11.10	11.00	11.20
3	Cayrac	10.90	10.70	10.50	10.55	10.20	10.00	11.40	12.50	12.40	12.50	11.00	12.00
4	Tantayrou	12.80	12.80	12.50	12.65	12.20	11.50	13.40	13.50	13.30	12.20	12.20	13.00
5	Ségala	9.95	10.20	10.15	10.00	10.10	8.90	10.90	12.10	12.40	9.50	11.00	10.90
6	Buzareingues	10.95	11.10	10.80	10.50	9.80	9.30	11.50	11.90	11.80	10.30	10.70	11.30
7	Mayrinhac	12.00	11.90	11.10	11.20	11.00	9.90	11.60	12.70	12.40	11.40	12.50	12.50
8	Esparse	11.90	11.80	11.15	11.25	11.30	10.50	11.90	12.50	12.20	11.30	11.70	13.00
9	Glassac	14.00	11.80	10.55	9.35	8.40	5.90	9.20	13.40	13.80	19.10	19.00	18.30
10	Lestang	10.95	10.60	10.35	10.25	10.00	8.80	10.70	11.20	11.30	10.40	13.20	11.90
11	Courtinaux	10.85	10.90	10.80	10.30	9.90	9.40	10.90	13.50	11.55	10.20	10.50	11.40
12	Duc	10.75	10.40	10.25	10.25	9.90	9.30	9.90	9.40	12.30	12.10	14.70	11.60
13	Serre	10.05	10.10	10.00	10.05	9.80	9.20	9.70	9.30	11.50	12.10	12.20	11.60
14	Roquaizou	10.00	9.90	10.00	9.80	9.60	9.10	9.10	11.00	11.30	10.20	10.10	10.50
15	Fontmaure	12.50	12.60	10.95	10.85	10.80	10.40	10.40	11.70	13.40	10.80		
16	Pas de Soucy	11.85	11.90	11.55	11.45	11.40	11.00	11.60					
17	Beldoire	11.90	11.90	11.60	11.45	11.30	10.50	11.90	12.40	12.50	11.30	12.10	12.20
18	Rouveyrol	11.35	11.30	10.95	10.95	10.90	10.60	11.80	12.00	12.70	10.70	10.80	11.80
19	Mas de Lafont	11.10	11.30	11.15	11.05	11.00	10.50	11.70	12.80	12.70	10.40	10.80	11.60
20	Tarn							12.50	15.60	21.20	19.00	19.30	

Clipboard

To extract the different values via the clipboard, choose by checking the correct option. As some table cells contain several numeric values separated by the | you must also indicate the target parameter (1^{er}, second, etc.)



is.xls

> Légende => Groupe => 1..30 Grouper Effacer Roland SIMLER Laboratoire d'Hydrogéologie d'Avignon

Fond Bor Copier Coller

Approximation

- ☒ WATEQ Debye-Hückel
- ☐ Debye-Hückel simple
- ☐ Debye-Hückel
- ☐ Güntelberg
- ☐ Davies

Extraire Presse-papier

Presse-papier et...D:\Chimie\Causses de Sauveterre\reseau_napier.txt

Cellules sélectionnées

Cellules sélectionnées + <n°><Nom>

Colonnes <pH>...<Ca>...<SiO2><dureté><ls...>

Tableau entier

Selon le choix suivant...(cases cochées)

mg/L ou 1ère valeur

meq/L ou 2ème valeur

coef d'activité ou 3ème

activité mmol/L

FC

mg/L et meq/L

mmol/L

tout décocher

n	Nom	Libellé	Groupe	Piper	Schoell	Stiff	XY	Koriinsk	Phreeq	Stat	TDS	T°C	p
x											x		

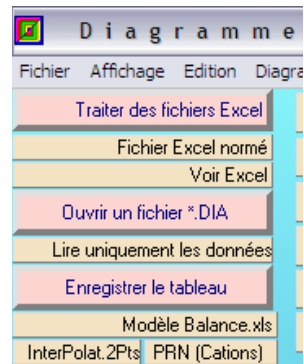
presse_papier.txt - Bloc-notes

Fichier Edition Format Affichage ?

Nom	TDS	
VER 02-09	436	5.26230 5.63200
BAS 02-09	428	5.27140 5.11070
CAY 02-09	391	5.43870 5.52000
TAN 02-09	393	5.40130 5.25320
SEG 02-09	403	5.43380 5.08710
BUZ 02-09	456	5.45840 5.17380
MAY 02-09	415	5.53650 5.99600
ESP 02-09	463	5.61780 5.75940
GLA 02-09	424	5.28030 5.42550
LES 02-09	465	6.67960 7.44830
COU 02-09	558	5.56810 6.19320
DUC 02-09	470	7.01230 7.08030
SER 02-09	505	5.95390 6.14930
ROQ 02-09	401	6.52220 6.77130
BEL 02-09	474	5.53120 6.25120
ROU 02-09	452	
MAS 02-09	404	
VER 02-10	452	
BAS 02-10	433	
CAY 02-10	423	
TAN 02-10	426	
SEG 02-10	474	
BUZ 02-10	525	
MAY 02-10	462	
ESP 02-10	442	
GLA 02-10	587	
LES 02-10	490	

Manuel DIAGRA... Diagrammes 3 Bloc-notes 2 Microsoft Of...

Data recording



oui	496	10.4	552	547	+0%	327	-2%	+	5.95390	6.14930	98.43	10.9	2.06	2.16			
oui	528	10.1	593	592	+0%	361	-2%	+	6.52220	6.77130	85.33	24.84	4.18	1.49			
...	404	9.8	510	500	-2%	287	-6%		5.53120	5.25120	82.2	14.47	2.68	0.88			

III

Libellé

Modification par cellule

Valeur courante

Nouvelle valeur

85.33

42

=

cCALC=(Tc) Tc = 25 °C => Recalculer

Quitter

Saisie globale

Option pour saisir de nouvelles valeurs après la colonne [XY]
(saisie en mmole avec "m" final + Entrée) et [/ " + -] autorisés

aide flottante

Check the "global entry to modify globally

4- Notion of group

All of the samples in a file can be separated into different batches relating to one or more particularities. Each batch will be represented by a "Group" containing 0, 1 or more individuals. **Each group** is assigned to a number **1 to 30** at most, at one

2010-09-13 IKEA 12-7-10 Lauron 12-7-10+-.xls

ntes A propos Langue Options Quitter Rouvrir

Riverside / Wilcox 30 groupes Nom/Libellé => Légende => Groupe => 1..30 Grouper Effacer Roland SIMLER Laboratoire

Statistique Simulation pH Phreeq C14

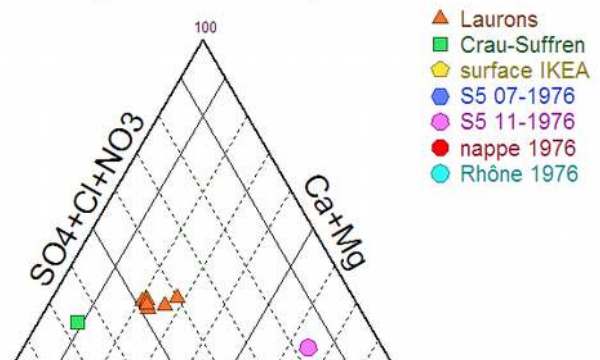
XY

LIEU : MODEL 12 analyses C:\...2010-09-13 IKEA 12-7-10 Lauron

Fin >> Insérer une analyse Supprimer une analyse Tri ab croissant décroissant

Groupe	Piper	Schoeller	Stiff	XY	Korjinski	Phreeq	Stat	TDS
3				oui	oui	oui	oui	621
1				oui	oui		oui	525
1				oui	oui		oui	529
1				oui	oui		oui	549
1				oui	oui		oui	592
1				oui	oui		oui	581
1				oui	oui		oui	593
2				oui	oui		oui	576
				oui	oui		oui	437
5				oui	oui		oui	1027
				oui	oui		oui	n

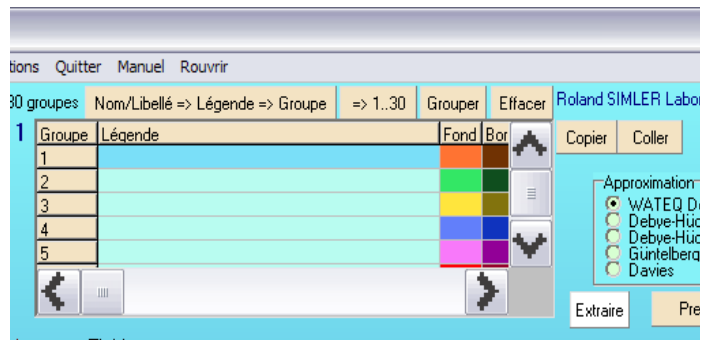
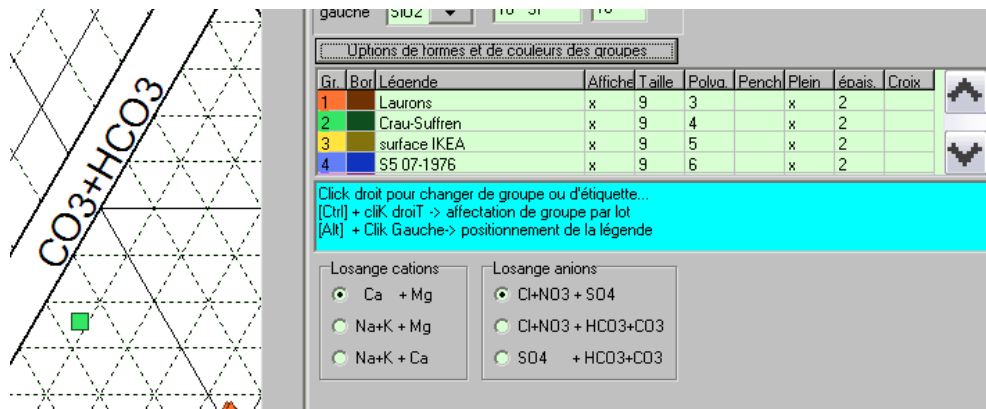
Diagramme de Piper



		Mesures terrain						
Nom échantillons	Date	Groupe	T°C	pH	χ25°C	% O2	pH	HCO3
IKEA roubine	12/07/2010	3		6.57	750			325
Lauron 1	12/07/2010	1		7.1	944			217
S5	01/11/1976	5						120
Nappe 76		6						
Rhône 76		7						
		Laurons						
		Crau-Suffren						
		surface IKEA						
		S5 07-1976						
		S5 11-1976						
		nappe 1976						
		Rhône 1976						

List of group names can also be copied **in and from** the clipboard.

res and Riverside



Grouper les échantillons

légendes multiples séparées par la virgule ex: D, B, A ☒ majuscule = minuscule

en fonction des... ☒ Noms ☐ Libellés

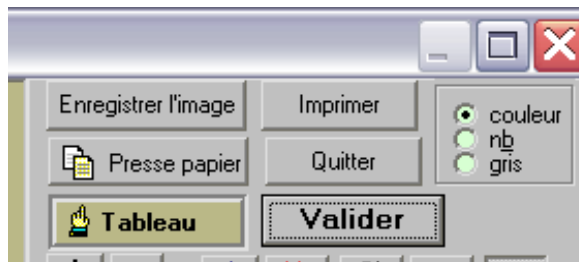
cible ☒ tous les échantillons ☐ non affectés à un groupe

comparaison ☒ égalité complète ☐ égalité partielle du début ☐ légende du groupe inclu dans le nom/libellé

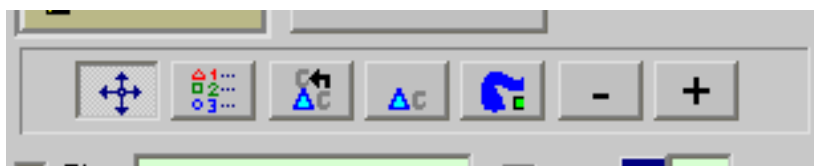
désaffecter tout (groupe=vide)

Traiter Annuler la dernière modification

5- Icon banner

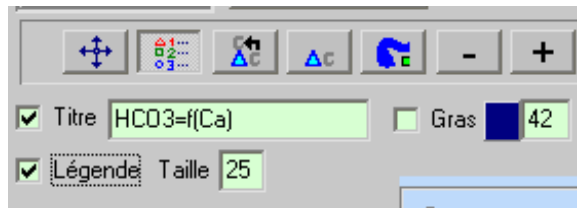


Before continuing, it is necessary to know the icon
anointed on the main window.
is important to validate x
display choices that we



er and Binaries it goes

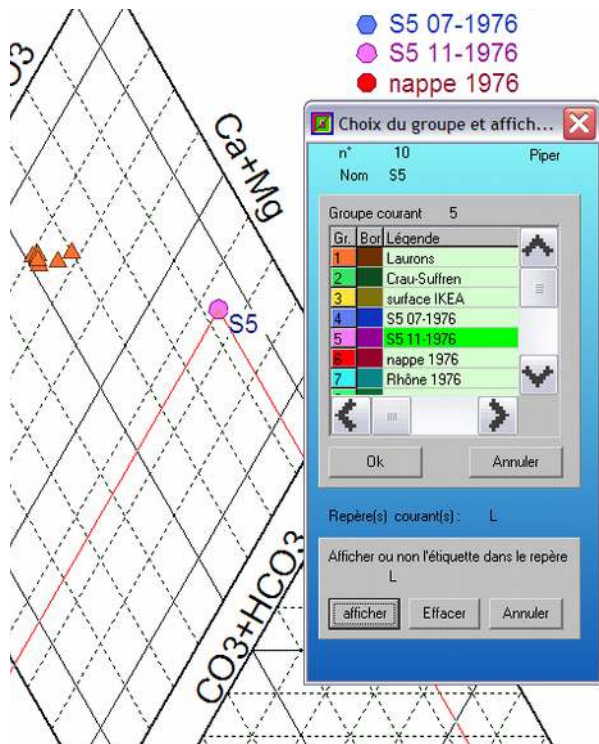
sets the displacement of the
wave drawing to the last two res
options.



nde groups where it is
"left click" redraws the
legend's height.



samples if option ment
to label



e be the
m, be the
lon. This
was in the
and

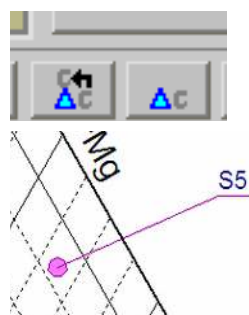
by Piper on
or not
ntillon in

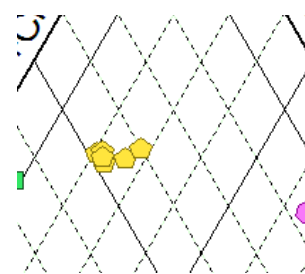
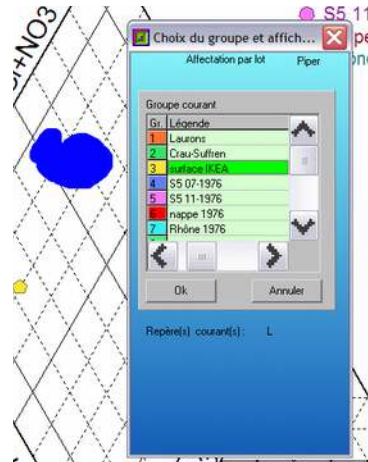
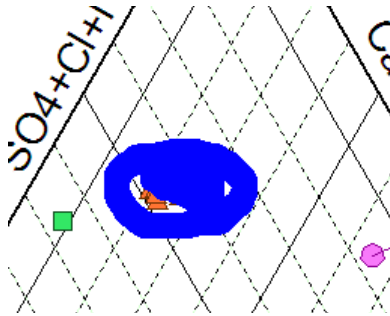
angle of
anions,
positions.
right ution
as one
very of
and several

st point to
we can

desire

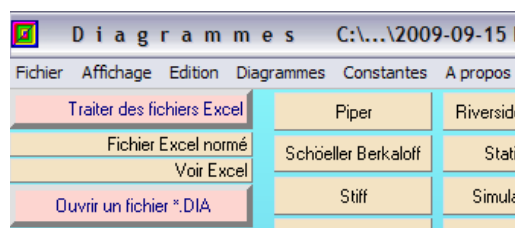
the mouse





8- Constants

Menu/ Constant



Constantes et équations

Cond. Mol. à 20°C (μS/cm/meq) **signe décimal=<point>**

espèce	g/Mol	charge	Cond Mol.	R(nm)	coef-b
Cl	35.453	-1	68	5	0.05
F	18.998403	-1	55.4	3.5	0.0
Br	79.904	-1	78.1	4	0.0
SO4	96.0576	-2	76	16	-0.04
PO4	94.97136	-3	57	5	0.0
NO3	62.0049	-1	71.44	2.5	0.0
NO2	46.0055	-1	72	2.5	0.0
NH4	18.0383	+1	73.4	2.5	0
Ca	40.08	+2	56	5	0.165

Balance ionique = (cations - anions) / (cations + anions) * 100 en meq/L

Calcul des coef. d'activité par la loi de DEBYE-HUCKEL
 $A = 1820000 * \text{puissance}(80.3^{\circ}\text{Tk}, -3/2);$
 $B = 50.3 * \text{puissance}(80.3^{\circ}\text{Tk}, -0.5);$

Force ionique FI = Somme sur i (Ci [mol/L] x Zi²) / 2

selon WATEQ Debye-Hückel (voir l'aide dans Phreeq pour Windows)
 $\text{Log(Activité)} = [- A * \text{charge}^2 * \text{rac(FI)}] / [1 + B * \text{cste}_i * \text{rac(FI)} + b.FI]$

Constantes physiques Tableau périodique (masse...) Tableau périodique noir et blanc PDF Tableau périodique en couleur PDF % d'isotopes par élément C14 : formules PDF

692 Tableau périodique perso N interpolations entre 2 valeurs $\log(K) = A + B.Tk + C/Tk + D.\log(Tk) + E/Tk^2$ T [°C]= Calcul

Constantes WATEQ 692 Constantes d'équilibre de wateq4f.dat Chercher suivant précédent Début Fin

n°	minéral_ions	équilibre	cste	Log(K(T))	Log(K(25))	K(T)	dH(kcal/Mol)	A	B	C	D	E
1	Carbone	H2O + CO2 <=> H2CO3	K0	-1.4679	-1.47	0.03404553	-4.776	108.3865	0.01985076	-6919.53	-40.45154	669365.0
2	Carbone	H2CO3 + H2O <=> H3O+ + HCO3-	K1	-6.3519	-6.35	0.00000044	2.247	-356.3094	-0.06091960	21834.37	126.8339	-1684915.0
3	Carbone	HCO3- + H2O <=> H3O+ + CO3--	K2	-10.3281	-10.33	0.00000000	3.561	-107.8871	-0.03252849	5151.79	38.92561	-563713.9
4	H+	H+ = H+	KH+	0	0.0	1						
5	e-	e- = e-	Ke-	0	0.0	1						

Phreeqc (<http://wwwbrr.cr.usgs.gov>)

Allows you to send part or all of the preselected data to the Phreeqc software installed at the same time as Diagrams by putting "yes" in the "Phreeqc" column.

Options Quitter Rouvrir

0 groupes Nom/Libellé => Légende => Groupe => 1..30 Grouper Effacer Roland SIMLER L

Groupe	Légende	Fond	Bor
1	Tre Padule West		
2	Tre Padule Major		
3	Tre Padule East		
4	Tre Padule Center		
5	Padulu		

Approxima
WATE
Debye
Debye
Güntel
Davies

Extraire

Analyses C:\...2009-09-15 BC Padelo.dia

Supprimer une analyse Tri ab croissant décroissant Tri nb croissant décroissant Col

Stiff	XY	Kojinski	Phreeq	Stat	TDS	T°C	pH	c25°C	cCALC	cC±%
1	oui	oui		oui	132		7.45	230	214	-4%
2	oui	oui		oui	114		7.38	211	194	-4%
3	oui	oui	oui	oui	148		7.27	271	252	-4%
4	oui	oui	oui	oui	133		7.25	232	216	-4%
5	oui	oui	oui	oui	314		7.33	472	443	-3%
6	oui	oui	oui	oui	115		6.81	183	178	-3%
7	oui	oui		oui	176		7.49	353	325	-4%
8	oui	oui		oui	346		7.35	622	573	-4%

envoi vers PHREEQ

Voulez-vous traiter l'ensemble des échantillons marqués par (oui) dans la colonne [Phreeq] ?

WinPhreeq Phreeq Annuler

Options Quitter Rouvrir

30 groupes Nom/Libellé => Légende => Groupe => 1..30 Grouper Effacer Roland SIMLER Laboratoire d'Hydrogéologie d'Avignon

Phreeq

☐ Indices de saturation directement copiés dans le presse-papier

☒ Ouverture des trois fichiers

Création de trois fichiers texte

1-fichier de sortie de Phreeqc

2-fichier résumé

3-fichier des indices de saturation copié dans le presse-papier

la liste des indices exportés est modifiable dans Menu[Edition/Liste ...]

Traiter

Colonne supplémentaire

Col	Stiff	XY	Kojinski	Phreeq	Stat	TDS	T°C	pH	c25°C	cCALC	cC±%	Bal=0%	Bal=
1	oui	oui		oui		132		7.45	230	214	-4%	20	-7%

Diagrammes Constantes A propos Langue Options Quitter Rouvrir

Piper Riverside / Wilcox 30 groupes Nom/Libellé => Légende => Groupe => 1..30 Grouper Effacer Roland SIMLER Laboratoire d'Hydrogéologie d'Avignon

Schöeller Berkaloif Statistique

1 Groupe Légende

1 Tre Padule West

Copier Coller

out.pqo - Bloc-notes

Fichier Edition Format Affichage ?

Input file: C:\DIAGRA-1\in.pqi

Output file: C:\DIAGRA-1\out.pqo

Database file: C:\DIAGRA-1\phreeqc.dat

Reading data base.

SOLUTION_MASTER_SPECIES

SOLUTION_SPECIES

1 resume.pq - Bloc-notes

Fichier Edition Format Affichage ?

Initial solution 3. TrePaduleEast

3. TrePaduleEast-----Solution composition-----

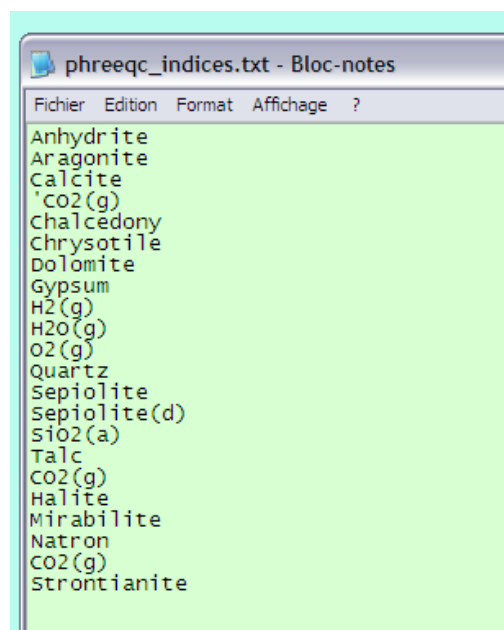
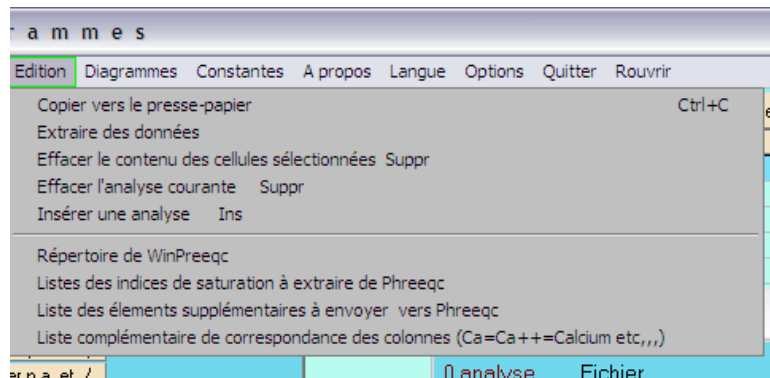
Elements	Molality	Moles
Alkalinity	4.799e-004	4.799e-004
Br	3.100e-006	3.100e-006
Ca	1.086e-004	1.086e-004
Cl	1.596e-003	1.596e-003
F	3.232e-006	3.232e-006
K	4.852e-005	4.852e-005

indices.txt - Bloc-notes

Fichier Edition Format Affichage ?

nom[phreeqc.dat]	Anhydrite	Aragonite	calcite	chalcedony	Chrysotile	Dolomite
Gypsum	H2(g)	H2O(g)	O2(g)	Quartz	Sepiolite	Sepiolite(d)
Natron	CO2(g)	Strontianite				
TrePaduleEast	-3.93	-2.13	-1.99	-0.32	-7.71	-3.58
-8.78	-1.16	-4.65	-2.80	-7.30		-2.80
TrePaduleCenter	-4.09	-2.35	-2.21	-0.23	-8.17	-4.02
-8.94	-1.07	-4.92	-2.81	-7.42		-2.81
Padulellu	-3.91	-2.15	-2.01	-0.53	-11.17	-4.00
-11.44	-1.37	-8.53	-2.18	-7.91		-2.18

List of saturation indices to extract from Phreeqc



phreeqc_elements.txt - Bloc-notes

Fichier Edition Format Affichage ?

```
l'liste des éléments à envoyer vers phreeqc in.txt  
Be
```

indices.txt - Bloc-notes

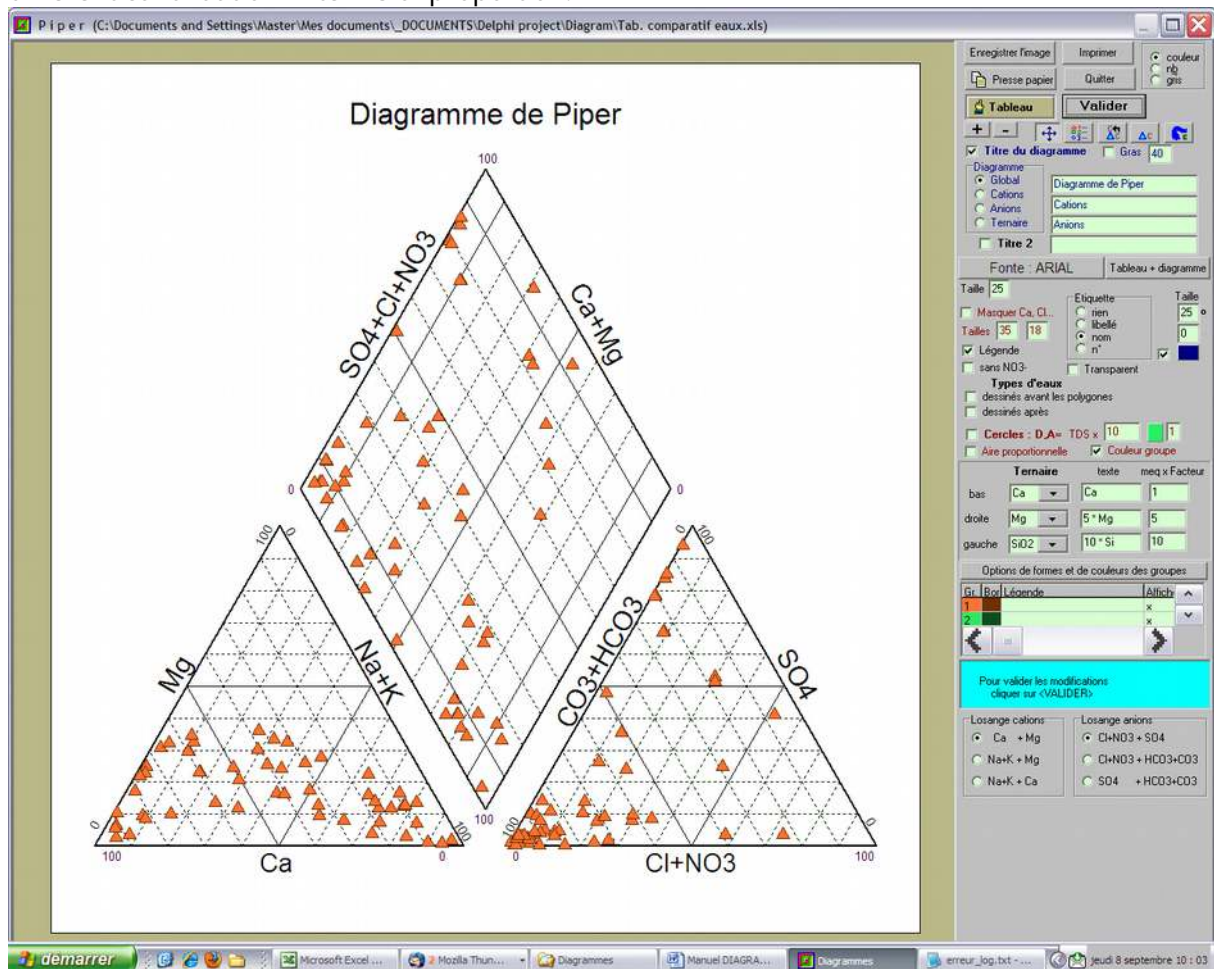
Fichier Edition Format Affichage ?

hom[phreeqc.dat]	Anhydrite	Aragonite	Calcite	Chalcedony	Chrysotile	Dolomite	Gyp						
TrePadulewest	-4.11	-1.90	-1.76	-0.37	-7.16	-3.22	-3.89	-22.90	-1.51	-37.32	0.05	-8.51	-8.51
TrePaduleMajor	-4.22	-2.13	-1.99	-0.74	-8.35	-3.58	-4.00	-22.76	-1.51	-37.60	-0.31	-9.92	-9.92
TrePaduleEast	-3.93	-2.13	-1.99	-0.32	-7.71	-3.58	-3.71	-22.54	-1.51	-38.04	0.11	-8.78	-8.78
TrePaduleCenter	-4.09	-2.35	-2.21	-0.23	-8.17	-4.02	-3.87	-22.50	-1.51	-38.12	0.20	-8.94	-8.94
Padulu	-3.10	-0.69	-0.55	0.06	-6.32	-1.39	-2.88	-22.66	-1.51	-37.80	0.49	-7.23	-7.23
Padullellu	-3.91	-2.15	-2.01	-0.53	-11.17	-4.00	-3.69	-21.62	-1.51	-39.88	-0.10	-11.44	-11.44
Fracellia	-3.61	-1.72	-1.58	-1.29	-8.19	-2.85	-3.39	-22.98	-1.51	-37.16	-0.86	-10.72	-10.72
Maredellvida	-2.72	-1.19	-1.04	0.14	-4.66	-1.77	-2.50	-22.70	-1.51	-37.72	0.57	-5.99	-5.99
Kenovo	-0.70	-0.35	-0.21	-0.55	-4.56	0.22	-0.50	-21.94	-1.52	-39.25	-0.12	-7.08	-7.08
seawater	-0.84	0.59	0.74	-0.34	3.65	2.39	-0.64	-24.40	-1.52	-34.34	0.09	-1.26	-1.26

Piper diagram

Click on the "Piper" button to access this type of representation, "Table" to return and "Validate" to redraw the graph after a modification.

This diagram does not take into account the quantities but the proportions of the different elements. This implies that sea water and local spray-laden rain are positioned in the same place. It is only by displaying circles relative to the TDS that a difference will be observed. Be careful, an increasing concentration of chloride, for example, can be masked by a completely different contribution in terms of proportion.



Checking “Types of water” displays the following texts.



Ternary diagrams

Since version 5.6, it is possible to generate ternary diagrams whose different characteristics are saved in a text file specific to each type of diagram. Different automatic assignment zones can be configured. However, any manual correction is still possible.

For example, we are going to generate step by step a ternary diagram with 4 allocation zones from 3 straight lines. Click on the button **ternaries** Then on **New**.

Choose the **3 sizes**, 25°C , HCO_3 and index_T

Indicate the **text** partner, the **factor** multiplicative and the **desired numerical value** if in the column coexist several values separated by the character |

conductivity, **1,1**

HCO₃, **1,2** (we want **meq/L**)

index_T, **1,1**

The DIVISOR value allows switching to a different unit in the Ex diagram:
from ppm to mmol, DIVISOR= molar mass

note: If the quantity does not exist in the table, it is possible to generate it using the <Additional columns> option.

Indicate the number of lines, **3**

number of elementary surfaces, **5**

number of desired zones, **4**

The triangle is redrawn with the text. It is now a matter of drawing the straight lines using the mouse. Choose the line to be defined in the table (highlighted in red) then on the triangle while pressing the [Ctrl] key, a right click then a left click determines the 2 points.

note: we can help ourselves with dotted lines by unchecking <without scale>

Select the second line of the table of straight lines and repeat the same.

The third line will start on the second line and not on the edge of the triangle.

We get the following drawing. Save at this point, Demo then Enter.

Then <**Detect Surfaces**> we find the 5 announced with their coding in the bottom table. A sign +A indicates an area above line A and -A an area below this same line.

The groups are proposed, it is necessary to group the 3 and the

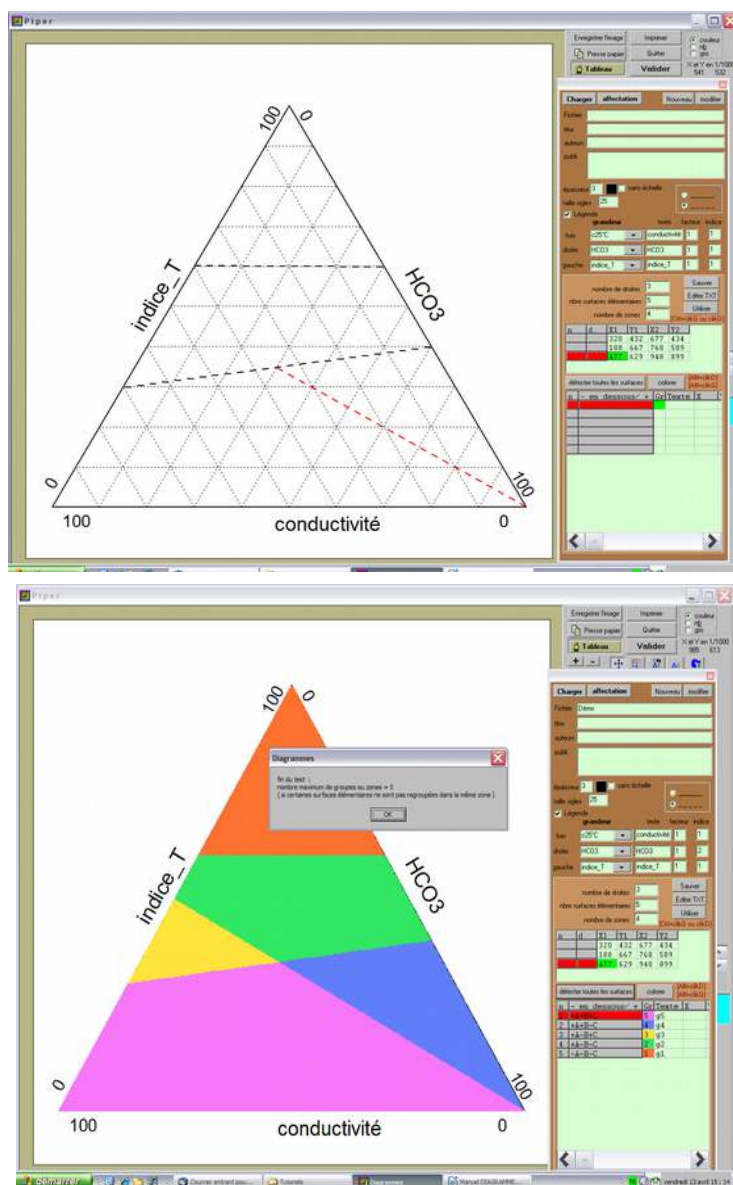
2 Which gives 4, 3, 2, 2, 1

and **vi4, jn3, vr2, vr2, or1** for the acronyms

To place the acronyms on the graph, the [Alt] key and left click is used to recognize and select the area, **the acronym turns red AND in the associated table, the corresponding line is automatically selected**. With the right click the acronym is repositioned. Save the diagram which will be reloaded in priority the next time.

Click on <Use> to close part of the working windows.

Then load data and play on the multiplicative factors to spread the scatter plots. Rest the <**Automatic assignment**> followed by a manual reassignment (right click).



Charger affectation Nouveau modifier

Fichier Démo

titre

auteurs

publi

épaisseur 3 ☒ sans échelle

taille sigles 25

☒ Légende

	grandeur	texte	facteur	indice
bas	c25°C	conductivité	1	1
droite	HCO3	HCO3	1	2
gauche	indice_T	indice_T	1	1

nombre de droites 3 Sauver

nbre surfaces élémentaires 5 Editer TXT

nombre de zones 4 Utiliser

[Ctrl+clkG ou clkD]

n	d.	X1	Y1	X2	Y2
		320	432	677	434
		188	667	768	589
		477	629	948	899

détecer toutes les surfaces colorer [Alt+clkD]
[Alt+clkG]

n	- en dessous/ +	Gr	Texte	X	Y
1	+A+B+C	4	vr1		
2	+A+B-C	3	jn3		
3	+A-B+C	2	vr2		
4	+A-B-C	2	vr2		
5	-A-B-C	1	or1		

Notes: By clicking on the brown window, you can slide it aside to access the group legends.

- The left/right symmetry option makes it possible to invert the graph and this option can be saved for the following times.

Content of the associated text file:

' Ternary diagram zone description file & title

Ca-Mg-SiO₂ [meq]

& authors

...

& publishing

...

#

& thickness

3

' the 3 sizes at the BOTTOM, on the RIGHT and on the LEFT

' they must be consistent with the file <columns_supplementaires.txt> & sizes

That

mg

SiO₂

' the name of these three sizes &

name

That

5*Mg

10*SiO₂

' multiplicative factor

& factor

1

5

10

' the index of these three quantities 1=mg/L 2=meq/L 3=mmol/L etc... &

index

1

1

1

'----- the number of lines, the number of zones, the number of elementary surfaces &

number

0

1

1

'-----the N pairs of points in thousandths for each SEGMENT of line, values separated by a comma
& dots
0,0,0,0,A

'----- the N elementary surfaces, the position in relation to the lines, the group and the coordinates of the text (1,2...)

' acronym on the graphic, X, Y, group name
,

& areas

1,-ABCDEFG,1 , 0.0

#

'--- scale (dashes)

& without scale

FALSE

'-- size of acronyms

& size

26

Schoeller-Berkalov

First of all, you have to choose the maximum 14 waters to represent by clicking on the right button on the "Schoeller" column

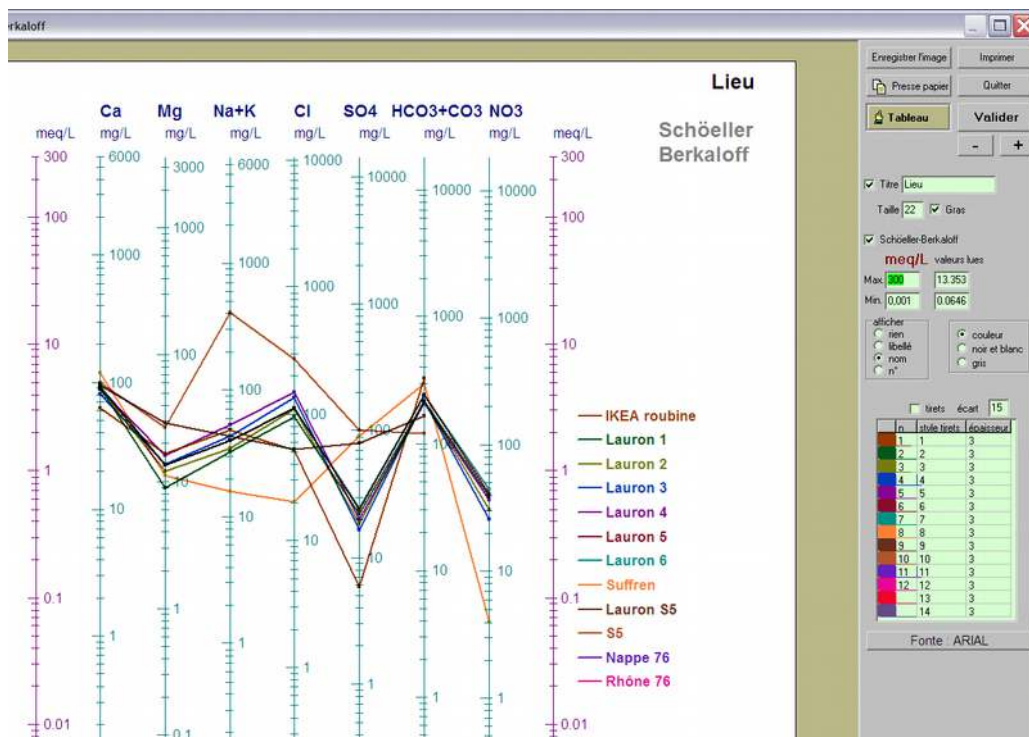
The assignment is made from the cursor.

It is also possible, by double-clicking on the cell, to assign the current number to

The screenshot shows the Schoeller-Berkaloff software interface. At the top, there's a menu bar with options like 'Riverside / Wilcox', 'Statistique', 'Simulation pH', 'Phreeq', and 'C14'. Below the menu is a table with columns for 'Groupe', 'Légende', 'Fond', and 'Bor'. The table lists 14 groups of water samples. A dialog box titled 'Colonne Schoeller' is open, asking for the selection of 14 waters for the Schoeller-Berkaloff diagram. The dialog has three buttons: 'Affecter', 'Désaffecter', and 'Annuler'.

Groupe	Piper	Schoeller	Stil	XY	Kojinsk	Phreeq	Stat	TDS	T°C	pH	c25°C	cCALC	cC±%	Bal=0%
1								621	6.57	750	647	-7%	304	13
2								525	7.1	944	708	-14%	171	12
3								529	7.18	941	728	-13%	178	12
4								549	7.29	982	776	-12%	155	12
5								592	7.41	1074	855	-11%	177	12
6								581	7.26	1036	793	-13%	195	12
7								593	7.23	1040	802	-13%	183	12
8								576		757	632	-4%	304	13
9													663	11
10													01	
11													01	
12														
13														
14														

beer of



Extrait d'un logiciel de traitement de données. Le tableau ci-dessous résume les données affichées dans l'interface.

Groupe	Piper	Schoeller	Stiff	XY	Korjinski	Phreeq	Stat	TDS	T°C	pH	c25°C	cCALC	cC±%	Bal=0%
3		1	1	oui	oui		oui	621		6.57	750	647	-7%	304 K
3		2	2	oui	oui		oui	525		7.1	944	708	-14%	171 K
3		3	3	oui	oui		oui	529		7.18	941	728	-13%	178 K
3		4	4	oui	oui		oui	549		7.29	982	776	-12%	155 K
3		5	5	oui	oui		oui	592		7.41	1074	855	-11%	177 K
3		6	6	oui	oui		oui	581		7.26	1036	793	-13%	195 K
3		7	7	oui	oui		oui	593		7.23	1040	802	-13%	193 K
2		8	8	oui	oui		oui	576			757	692	-4%	304 K
		9	9											244 K
5	L	10												663 K
		11												0 K
		12												0 K

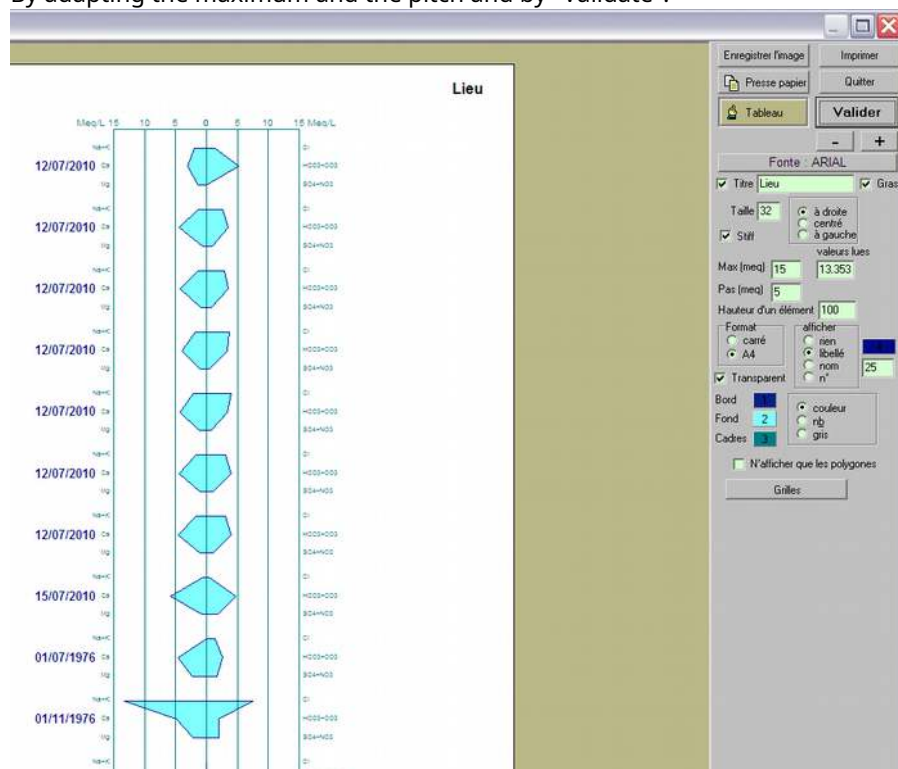
Une fenêtre contextuelle s'affiche au-dessus du tableau :

Colonne Stiff

Voulez-vous affecter les 40 échantillons suivants
au diagramme de STIFF
ou tous les désaffecter

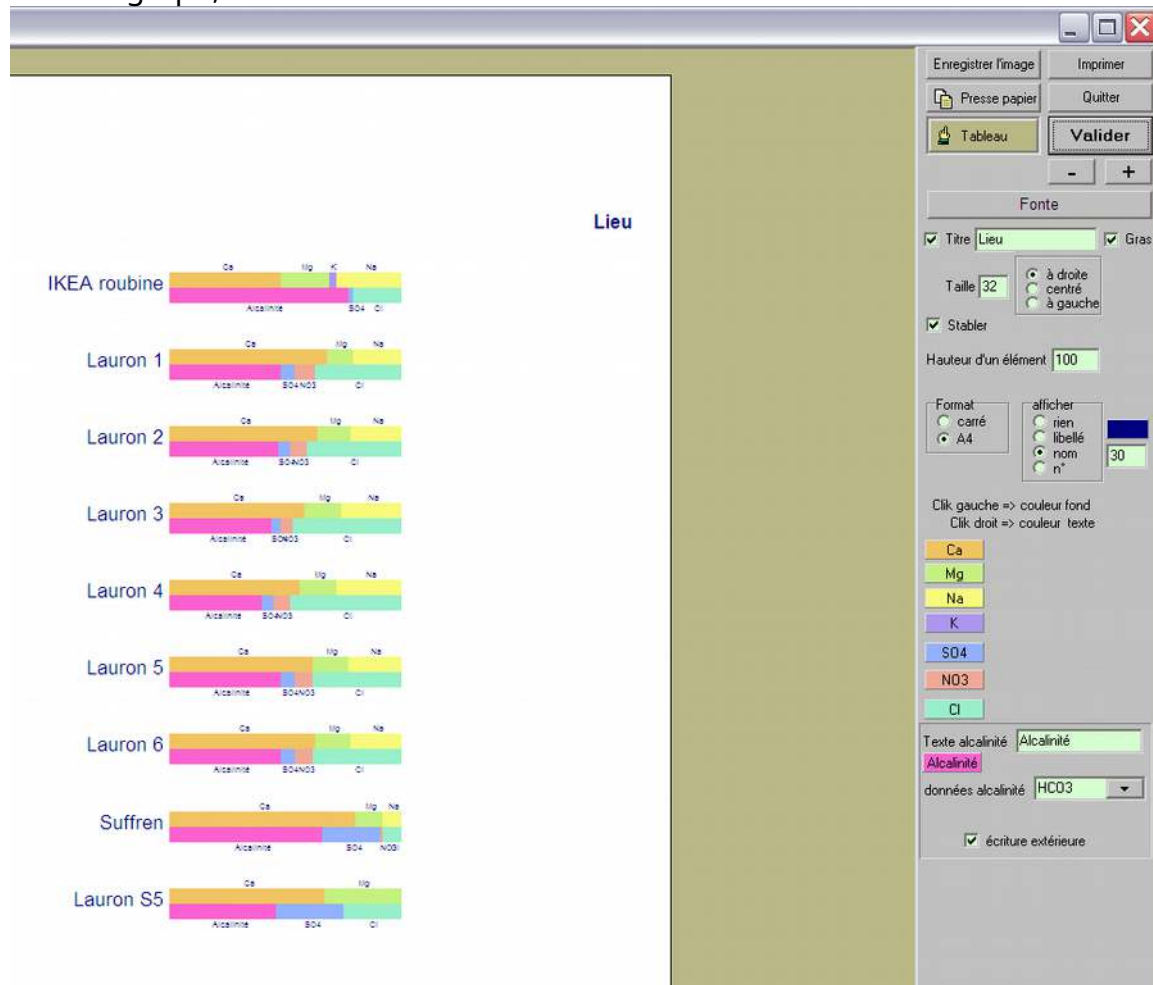
Buttons : **Affecter**, **Désaffecter**, **Annuler**

By adapting the maximum and the pitch and by "Validate":



Stable

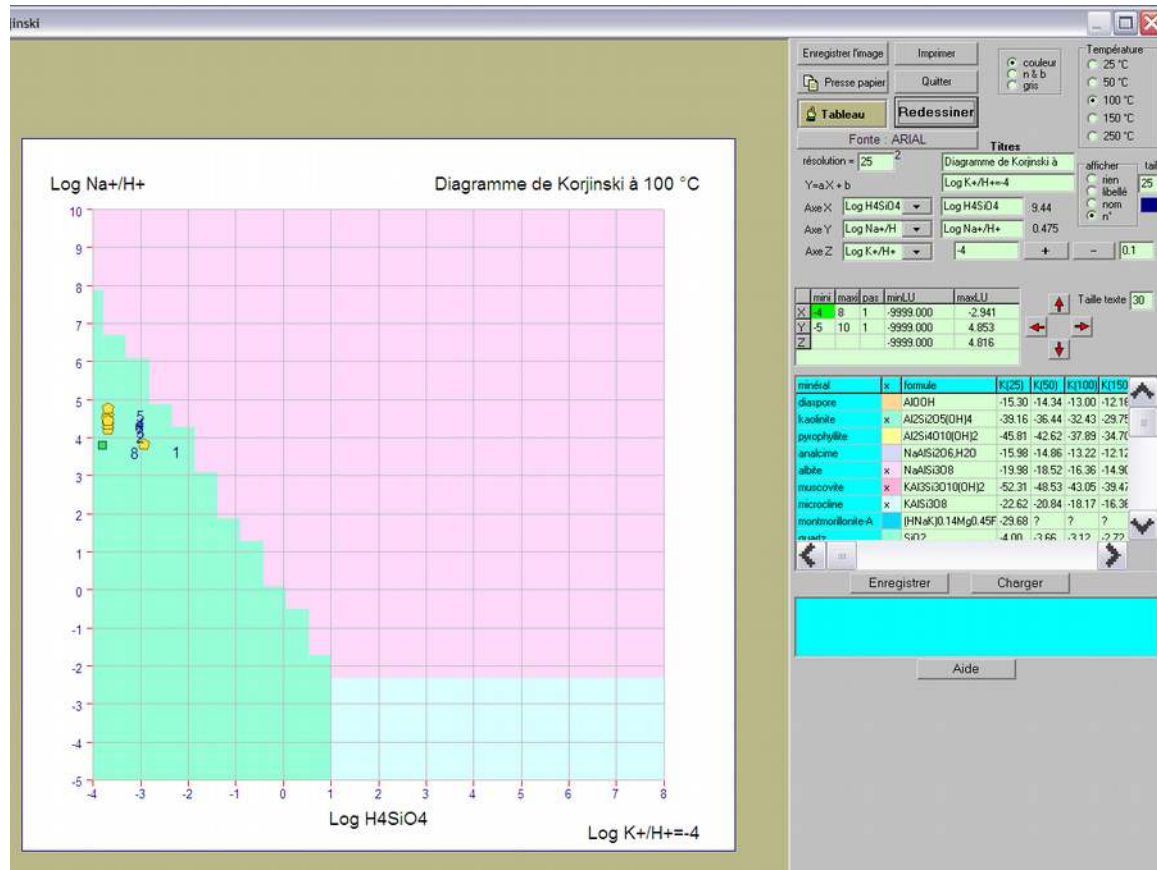
For this graph, we also use the order of the "Stiff" column of the main table.



Different options are to be discovered after pressing "Validate"

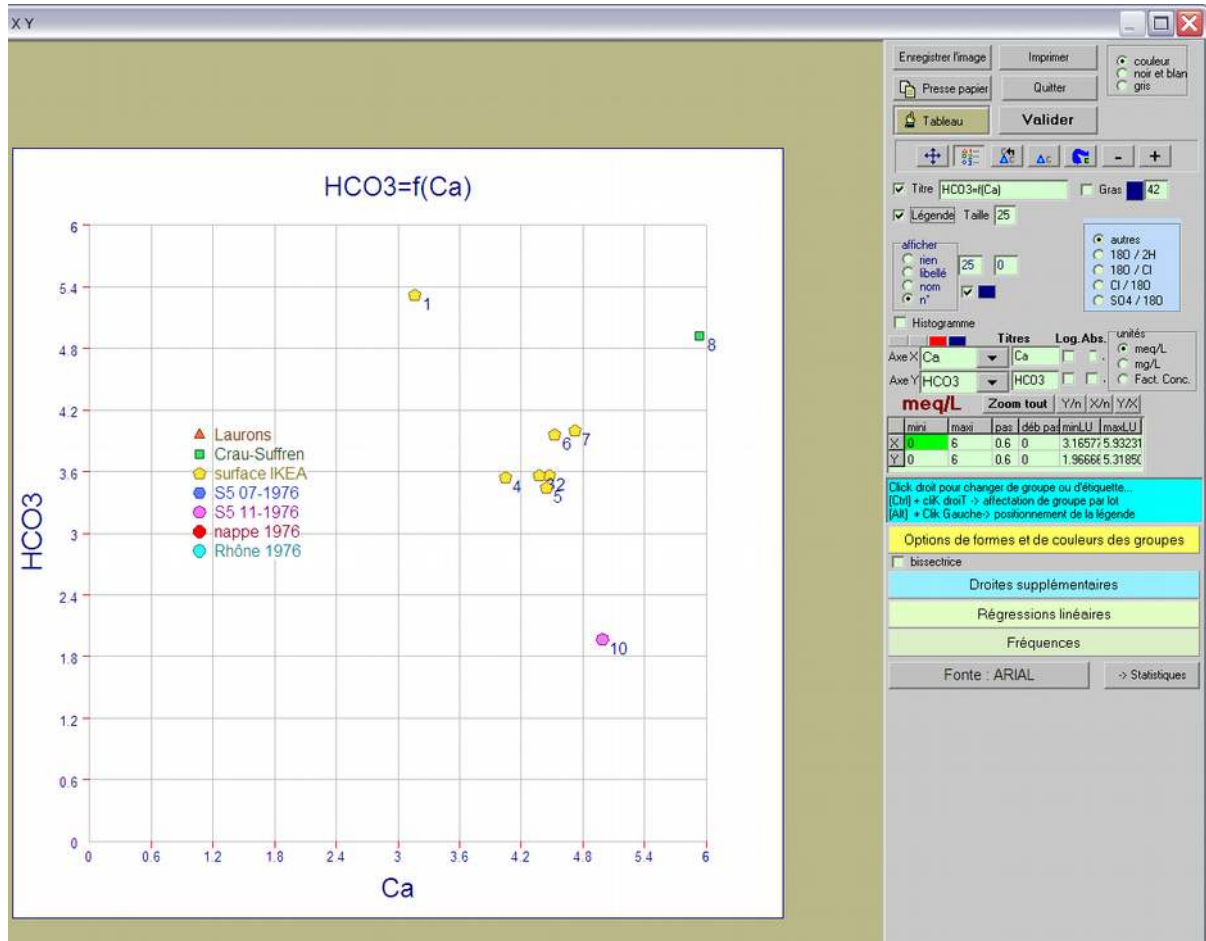
Korjinski diagrams or stability diagrams

The calculation of the various ionic products relating to the checked minerals is calculated for each square of the size defined by the resolution. The “highest rated” mineral will determine the color of the square. So a resolution of 25 requires 25x25= 625 calculations...

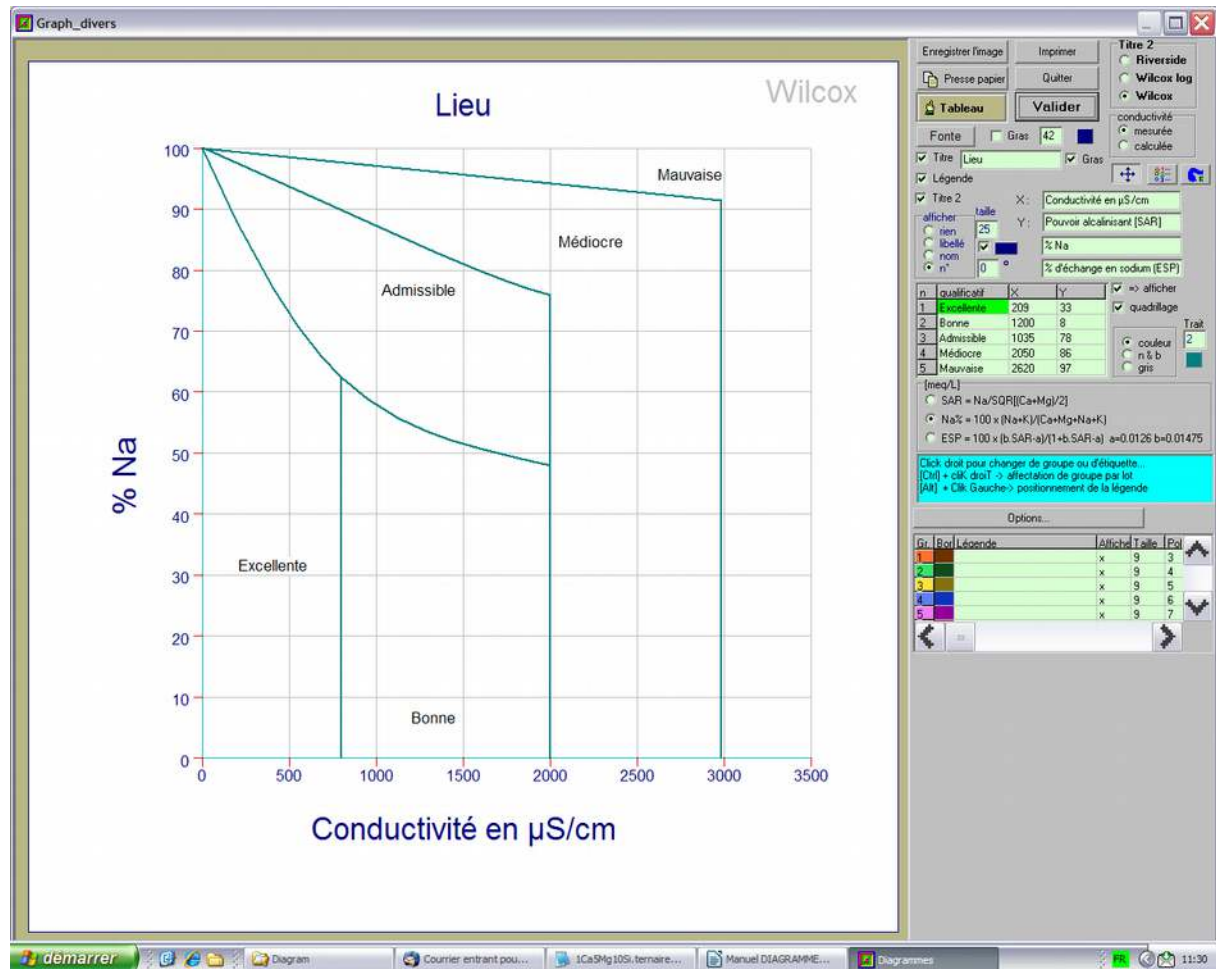


Binary diagrams

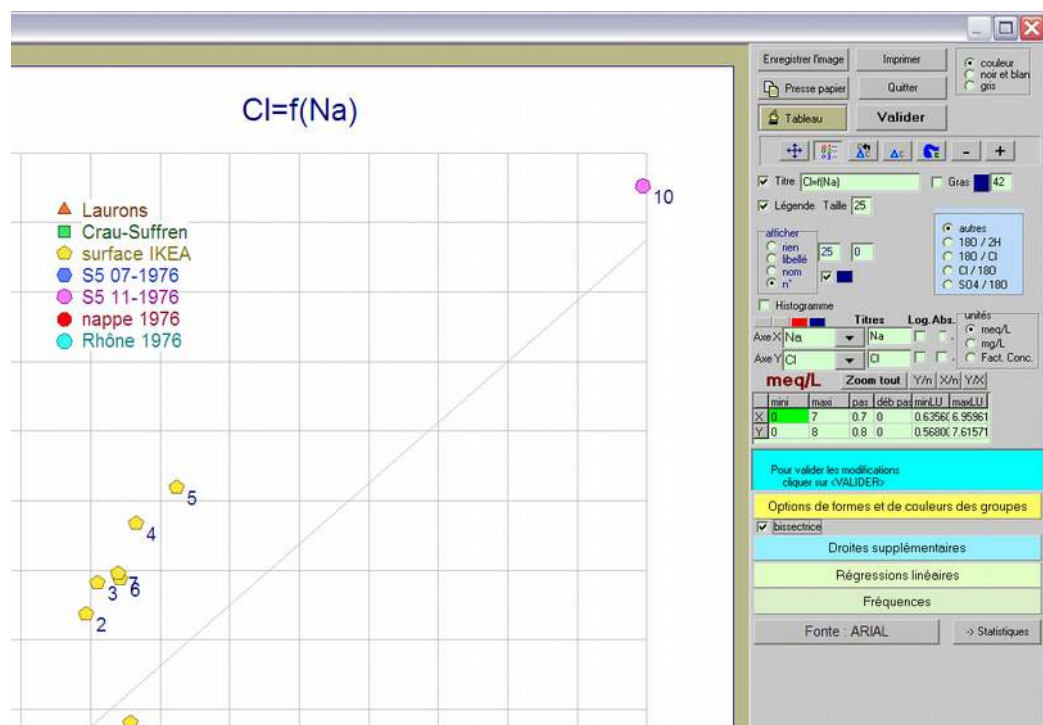
To see the effect of a modification, do not forget to "Validate" to redraw the graph.



Riverside/Wilcox

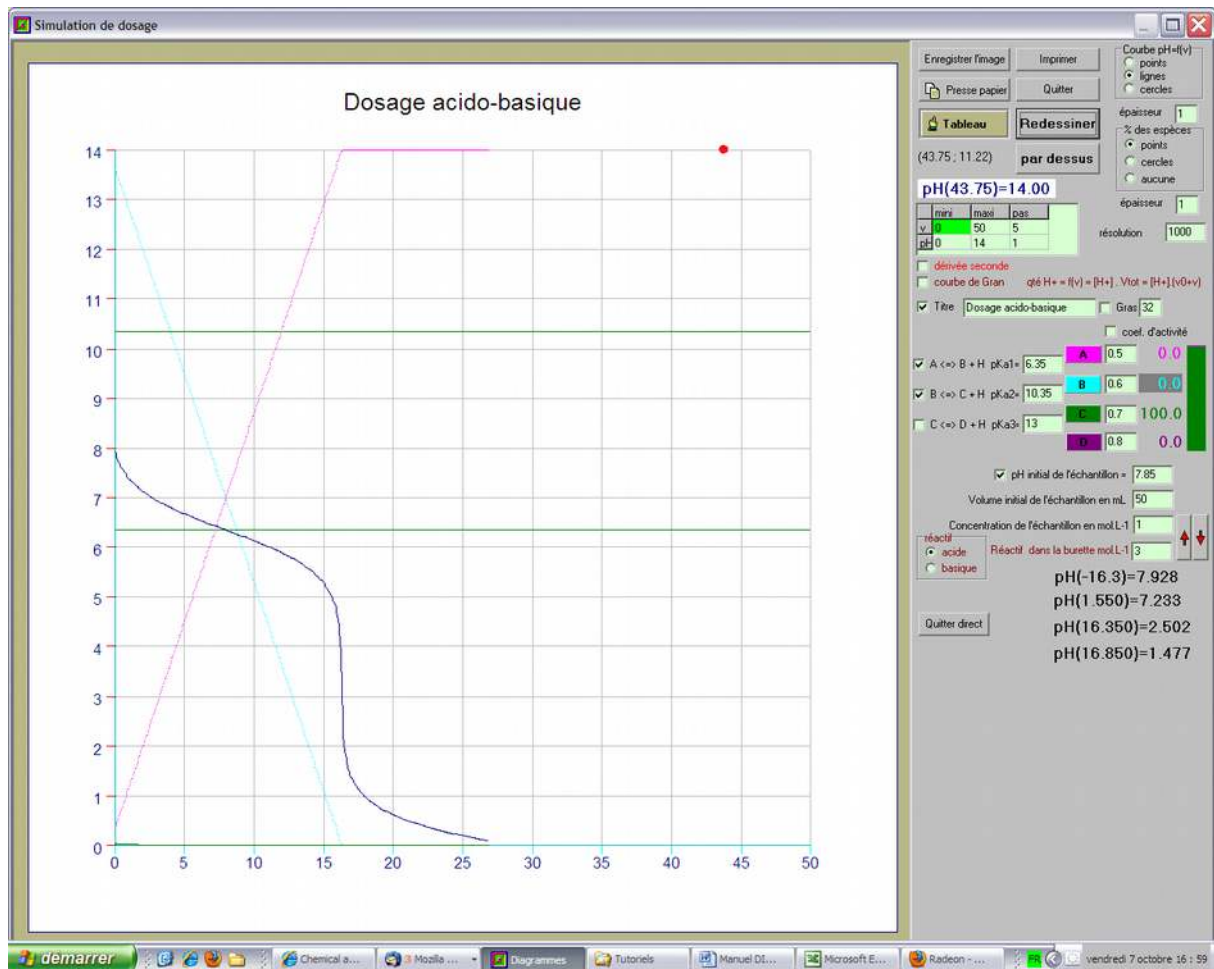


"see" the graphical representation by double-clicking at the crossroads of the two parameters or by clicking on "X/Y -> D binary" and return using the "Esc" key or the corresponding button "=> Statistics".



Dosing simulation

Allows discussion of certain balances, in particular calco-carbonic



C14

This spreadsheet offers age calculations from activity (a_C14) and other parameters.

Microsoft Excel - C14 FH RS 2f.xls

Échier Édition Affichage Insertion Format Outils Données Fenêtre ? Adobe PDF

Tapez une question

A11 fx Jomo

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
1																										
2	14C	T 1/2 =	5730		T1/2 / LN2=	8267																				
3	3H		12.32			17.8																				
4																										
5																										
6																										
7																										
8																										
9		Echantillon			TAC																					
10	Nom	Date	Aquifère	T°C	pH	mesure (mg/l)	A ¹⁴ C	Erreur	δ ¹³ C	CO ₂ du Sol	Matrice carbonatée	âge brut														
11	Jomo	18/11/1997	Miocène	20.7	7.66	4.00	5.7	0.3	-6.700	-21	100	2	0	23683	18351	15646	19245	46897	20783	19406	15209	14877	16663	eg_c	d13Ceq	13C CMTD calc ouvert
12	Tre Pz	12/09/2007	Test		7.45	0.58		0.3		-21	100	0	0													
13	Tre Pz	12/09/2007	Test		7.38	0.52		0.3		-21	100	0	0													
14	Tre Pz	13/09/2007	Test		7.27	0.48		0.3		-21	100	0	0													
15	Tre Padule Center				7.25	0.44				-21	100	0	0													
16	Padulu				7.33	1.92				-21	100	0	0													
17	Padulellu				6.81	0.68				-21	100	0	0													
18	Fracelli A				7.49	0.54				-21	100	0	0													
19	Mare dell vida				7.35	0.84				-21	100	0	0													
20	Kenovo				6.97	2.56				-21	100	0	0													
21	sea water				8.2	2.3272				-21	100	0	0													
22																										
23																										
24																										
25																										
26																										
27																										
28																										
29																										
30																										
31																										
32																										
33																										
34																										
35																										
36																										
37																										
38																										
39																										

Données / Calculs / Formules / Variables / C13 /

Prêt

demarrer

Courrier en...

_DOUME...

Manuel DIA...

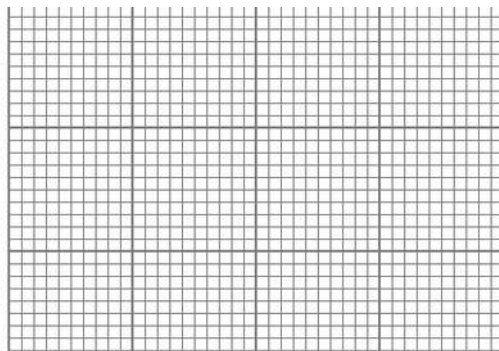
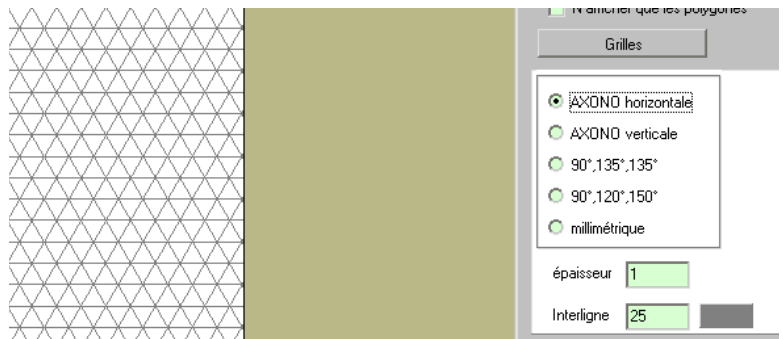
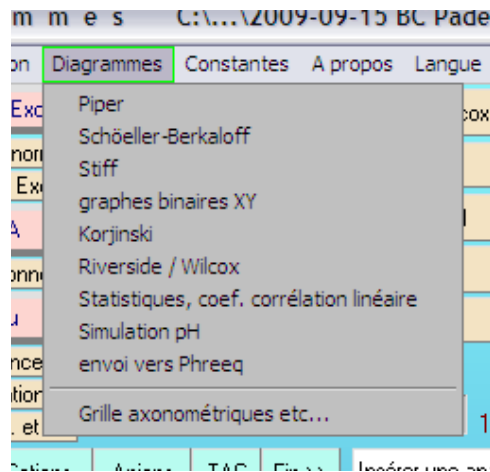
Diagrammes

Bloc-notes

Calculatrice

Microsoft E...

jeudi 13 octobre 12 : 17



ppt tips

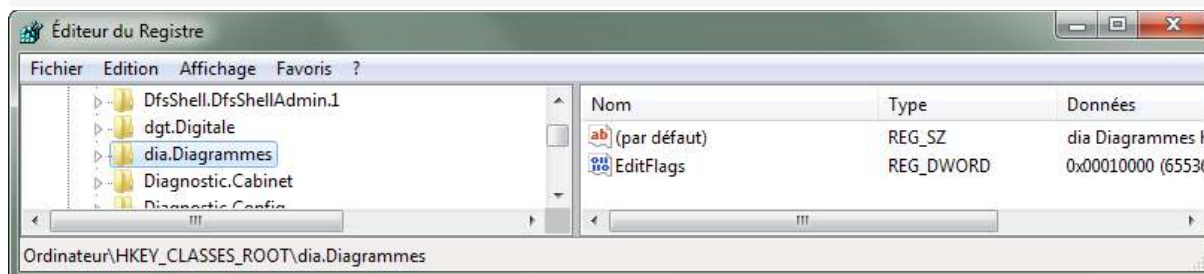
Les raccourcis clavier pour contrôler un diaporama PowerPoint

Sur PowerPoint, on peut distinguer deux étapes : le mode « création » et le mode « diaporama ». Le premier correspond à la création du diaporama, le second à sa présentation. Pour lancer un diaporama, il suffit d'appuyer sur la touche F5. Ensuite, pour passer d'un slide à un autre, il suffit d'utiliser les flèches directionnelles, les touches Espace, Enter ou sa souris. Vous pouvez également :

- Atteindre une diapositive précise : 42 + ENTER pour atteindre le slide 42.
- Mettre en pause une présentation automatique : S
- Arrêter une présentation : FCHAP
- Revenir au début de la présentation : clics gauche et droit simultanés pendant 2 secondes
- Afficher le curseur : A ou =
- Modifier le curseur : CTRL+P, A ou E.
- Afficher la liste des diapositives : CTRL+S

Ouverture *chemin/nom de fichier*.

Certains fichiers peuvent contenir des virus ou endommager votre ordinateur. Il est important de s'assurer que ce fichier provient d'une source digne de confiance. Vous souhaitez ouvrir ce fichier ?



HKEY_CLASSES_ROOT\dia.Diagrams the value of type DWORD "*EditFlags*" and set it to 10000 in hex (65536 in decimal). Once this is done you should not have any more error message.

The method being rather tedious (you have to do this for each type of file and possibly for each type of program) you can create a .bat to do this more quickly. Copy/paste the line below:

```
REG ADD HKEY_CLASSES_ROOT\mplayerc.avi /v EditFlags /t REG_DWORD /d 65536 /f
```

Duplicate this line as many times as necessary by changing the program/extension pair (here mplayerc.avi) and run the .bat.

Bibliography

Chemistry of aquatic environments

Courses and corrected exercises

Laura Sigg, Philippe Behra, Werner Stumm

Collection: Sciences Sup, Dunod

2014 - 5th edition - 576 pages - 175x250 mm

EAN13: 9782100588015

Chemical balances in natural waters Paperback – January 1, 2000 by
Gil Michard (Author)

Balances of minerals and their aqueous solutions: translated by R. Wollast

Robert M. Carrels, C. Christ

Gauthier-Villars, 1967 - 335 pages