

**“The Flowsheet
Processor”**

Update for existing users

Who (and where) are the *Limn* users?

Limn versions

On-line delivery of new versions

“New Lamps for Old”

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Limn under Windows Vista

What about Excel 2007?

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Information for potential users

Supplier contacts

Australia, Africa, North America, South America, UK
& Europe

Support in Western Australia

“The Flowsheet Guru”

Limn update for existing users...

Who (and where) are the *Limn* users?

There are now approaching 650 *Limn* licences worldwide. Approximately 125 of these are Educational/Teaching and Academic licences, the remainder are in the broader industry around the world.

Limn Licence Breakdown by Category - 13-August-2008

Licences by Region

Region	Count
Africa	243
Asia Pacific	5
Australia	294
Europe	44
Middle East	6
North America	28
Central America	1
South America	25

Licences by Commodity

Commodity	Count
Academic	15
Coal	105
Copper	19
Diamonds	96
Fertiliser	3
Ferroalloys	1
Gold	9
Iron Ore	34
Metalliferous	15
Mineral Sands	12
Multiple	204
Nickel	5
Platinum Group Minerals	5
Salt	1
Sugar	2
Teaching	110
Tin	1
Titanium Pigment	6
Uranium	3

Licences by User Type

User Type	Count
Contractor	1
Education	125
Engineering	78
In-House Research	9
In-House Technical	100
Process Consultants	38
Producer	243
Research	25
Laboratory	3
Supplier	24

Limn versions

While much of the current *Limn* development effort is going into a new version which will work seamlessly with Excel 2007 and later versions, the existing version of *Limn* has also been undergoing smaller upgrades and enhancements. If you would like a copy of the latest version please contact david@davidwiseman.com.au for an installation CD with the latest version (generally free of charge).

On-line delivery of new versions

We are working on a system for delivering updates via the Internet. One of the issues we face with delivering the initial package of CDROM, manual and licence key via company purchasing departments is that we often lose contact with (or never know) the end users. It is hoped that Internet availability of updates will allow any user who wishes to update, to do so at any time, while allowing us to maintain contact with the actual users of the software.

“New Lamps for Old”

Well, not quite. But Aladdin Knowledge Systems, the company that makes the Hardlock licence control key used by the *Limn* software, do make USB key and PCMCIA key variants of the “dongle” to replace the key requiring a parallel port - something fast disappearing from the PC world.

If you wish to exchange your existing parallel port Hardlock *Limn* licence control key for one of the alternatives, please contact david@davidwiseman.com.au or one of the *Limn* support team at their various locations around the world. Typically, a small charge to cover costs and an agreement to return the original is all that is required...

Hardlock “dongle” drivers

Updated drivers for recent hardware and newer operating systems such as Windows Vista are available for download from the Aladdin website at either <http://www.aladdin.com/support/hardlock/downloads.aspx> or http://www.aladdin.de/HASP/hardlock/hardlock_support_setup.aspx. The required file is “hldr32.zip”. This should be unzipped and the enclosed “hldr32.exe” file run. Windows “Administrator” privileges are required for this to work properly.

***Limn* under Windows Vista?**

Limn works under Windows Vista with versions of Excel prior to Excel 2007. It works even better if the Vista User Access Control (“UAC”) is turned off. Instructions for doing this are readily available on the web and in the Windows help system itself.

What about Excel 2007?

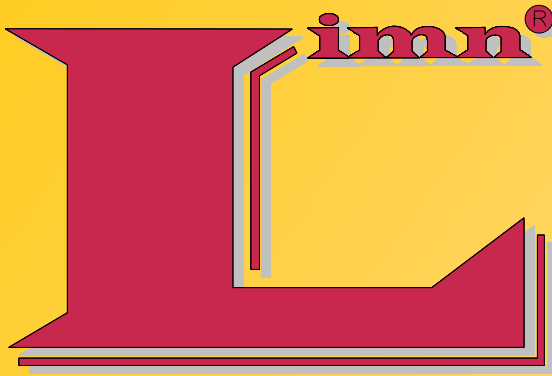
Limn does not yet support Excel 2007. We are working on both a “native” Excel 2007 version as well as a “minimum changes but compatible” version in the interim. This latter is proving more difficult than anticipated, but we are hopeful of a release to users before year end. For those who have Excel 2007, the current workaround we recommend is to load both Excel 2007 and a previous version of Excel on the same machine. They co-exist quite happily if Excel 2007 is loaded first, followed by the older version.

***Limn* on a Mac?**

Who’d have believed it? But yes, it does work - after a fashion. You will of course need one of the new generation “Intel” Macs and a Windows Emulator – we know it works well under Parallels Desktop for Mac (www.parallels.com). You will also of course need a licence for Windows and a version of Excel from Excel97 to Excel 2003.

New documentation

We are working with an industrially experienced *Limn* user, who is now working as a technical writer, to pull together a cohesive set of *Limn* documentation from various existing sources, as well as preparing new material where required. It is hoped that this will be completed towards the end of the year and that it will provide a useful resource for new users, minimising the need for introductory type courses and allowing training efforts to focus on the more advanced options for *Limn* use.

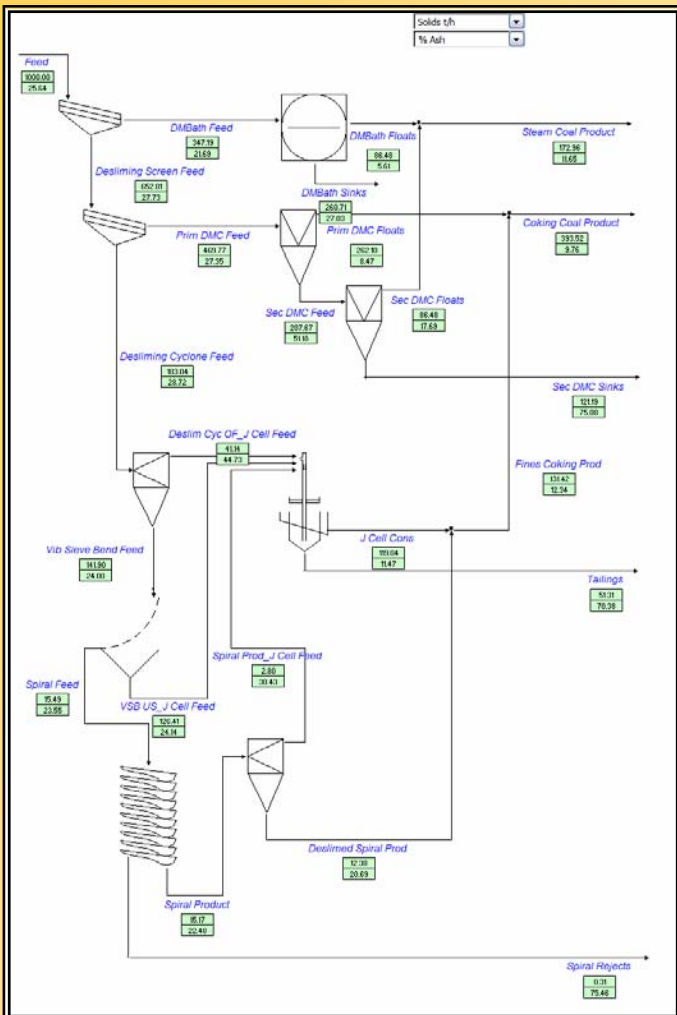
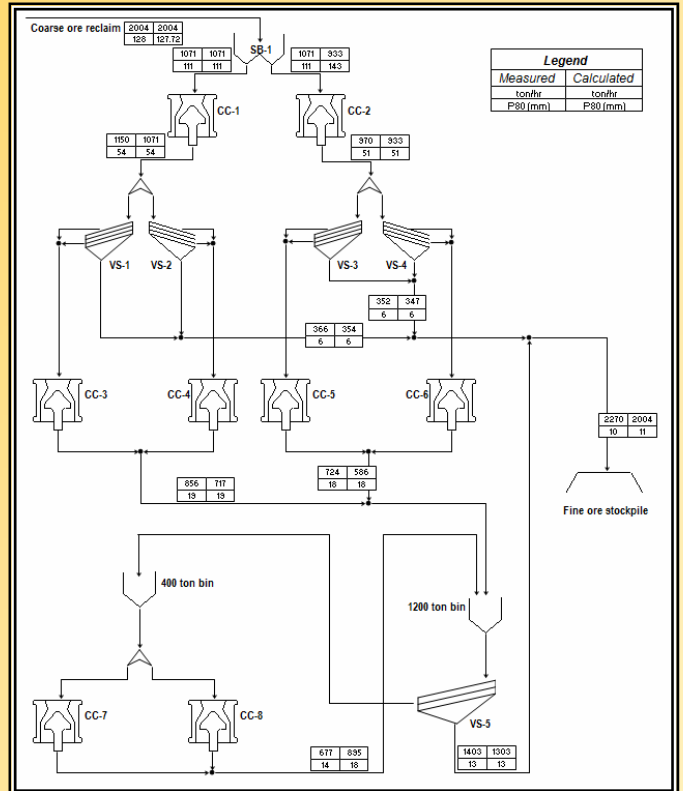


“The Flowsheet Processor”

“Designed to bring the same ease of use to flowsheet drawing and solution that word processors bring to the preparation of text based documents.”

Process flowsheets built into a spreadsheet:

- Rapid sketching of report quality flowsheets using a ‘flowsheet aware’ drawing package
- Extensive process unit icon library
- Block diagram option
- Easy addition of user drawn custom icons
- Data are stored totally within the spreadsheet - no additional files
- All data are accessible to the user - no internal data formats
- WYSIWIG presentation - may be used in conjunction with other tools for the Windows operating system.

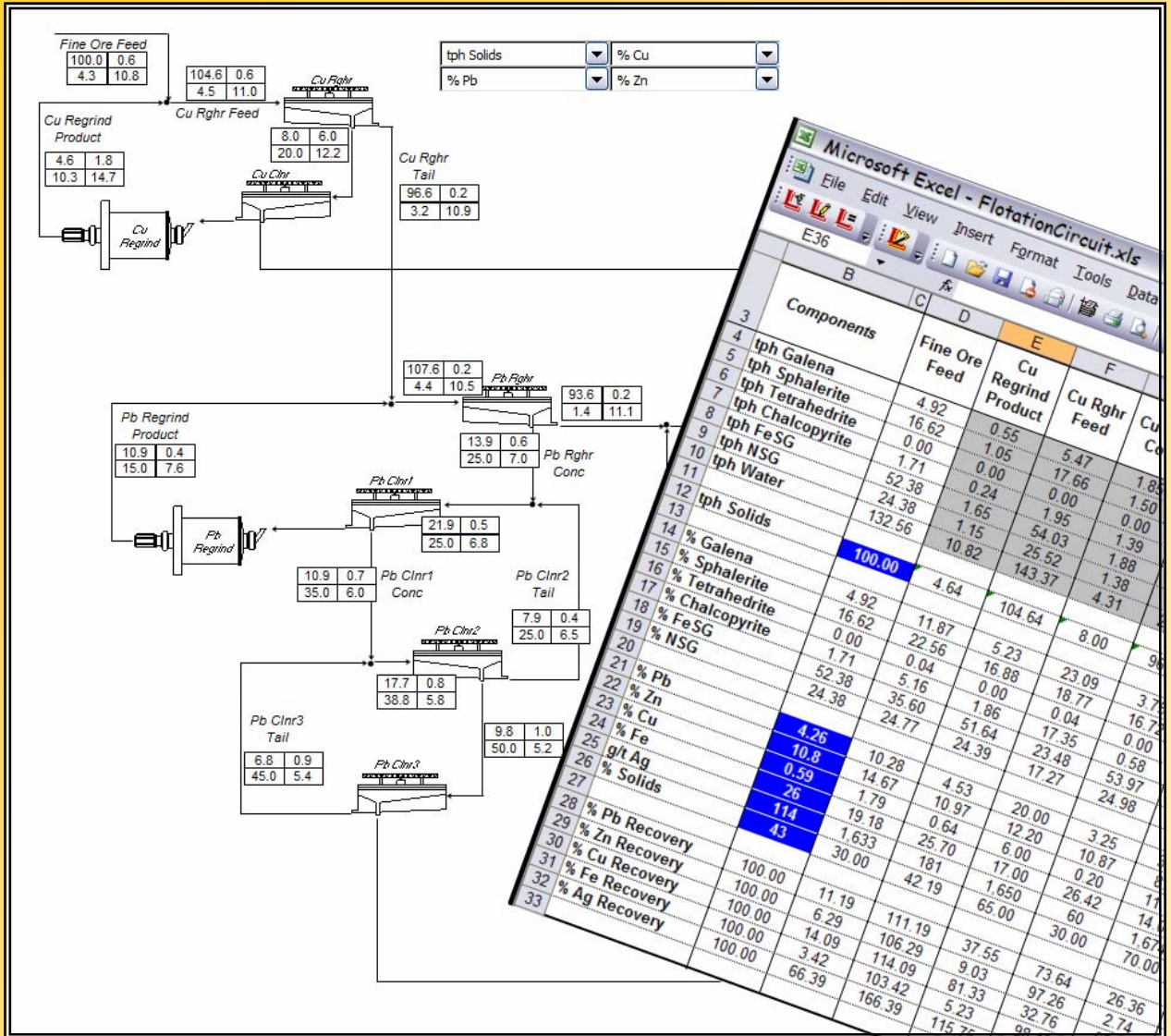


The flowsheet makes an ideal vehicle for:

- Presentation of survey results
- Communication of design data
- Preparation of design data
- Display of process balance data

The Limn:Solve 'Simulation Engine' provides:

- *Balanced flowsheet solutions using your spreadsheet models, the Limn model pack, or model packs from external sources.*
- **Spreadsheet based simulation** (without circular references!).
- Results of **simulations** saved within the **spreadsheet** and presented in data blocks on the **flowsheet**



Add-Ins:

Limn may be further enhanced by the addition of domain specific Add-Ins:

- **WizardPack Add-On for Limn** – Provides data structures and models for simulation and analysis of mineral, coal and other processing operations
- **THERMO Add-In for Limn and Excel** – Provides simple spreadsheet access to a chemical thermodynamics database and calculations

Limn is developed and marketed by:

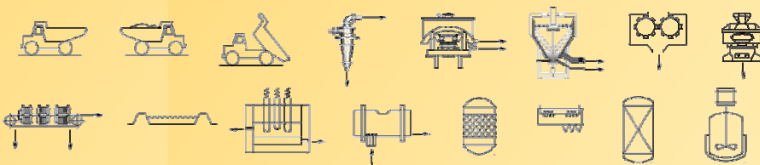
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THERMO

Thermodynamics Properties and Calculations for Excel and Limn

- A set of thermodynamics calculations for use within an Excel spreadsheet.
- Access data from an Outokumpu “HSC Chemistry for Windows” database.
- Or from a database in an Excel workbook.
- A new ‘Thermodynamics’ category in the Excel function wizard

Adds new worksheet formulas to the Excel cell formula set:

MolecularWeight(Species Name), or MW(Species Name)
=MW("TiO2")

MeltingPoint(Species Name), or MPt(Species Name)
=MeltingPoint("H2O") or =MPt("H2O")

BoilingPoint(Species Name), or BPt(Species Name)
=BoilingPoint("H2O") or =BPt("H2O")

HeatCapacity(Species Name, Temperature)
=HeatCapacity("TiO2", 900)

Enthalpy(Species Name, Temperature)
=Enthalpy("TiO2", 900)

Entropy(Species Name, Temperature)
=Entropy("TiO2", 900)

GibbsFreeEnergy(Species Name, Temperature)
=GibbsFreeEnergy("TiO2", 900)

Temperature(Species Name, Enthalpy)
=Temperature("TiO2", -883120)

StreamEnthalpy(Species Names, Species Masses, Temperature)
=StreamEnthalpy(B10:B20, C10:C20, 900)

Wizard Pack AddOn *for Limn*

- Inbuilt or user specified worksheet stream structure definitions – specific to the flowsheet solution domain of interest.
- Inbuilt or user specified flowsheet solution and simulation models.
- User configurable “template” workbooks.
- Auto creation of:
 - Flowsheet data blocks
 - Summary worksheet
 - Scenario worksheet
- Inbuilt access to
 - Constraint controllers
 - Printing, cloning, clearing and other data manipulation tools.

Inbuilt Wizards for:

Coal Preparation Plants

Comminution Circuits

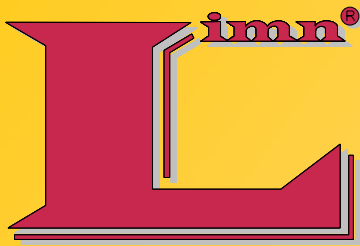
Flotation Circuits

Generic Size by Density

Suits Iron Ore, Chromium, Diamond and other sizing and density separation processes.

Generic Size by Mineral

Suits Mineral Sands and gravity concentration processes.

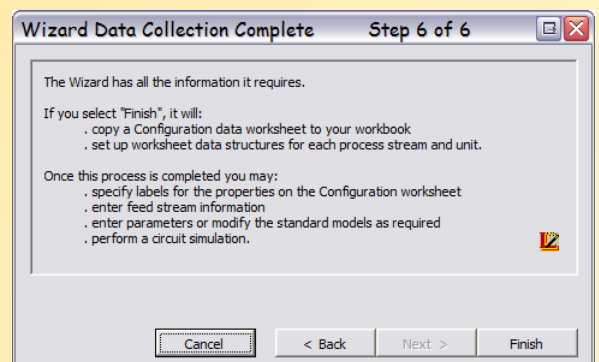
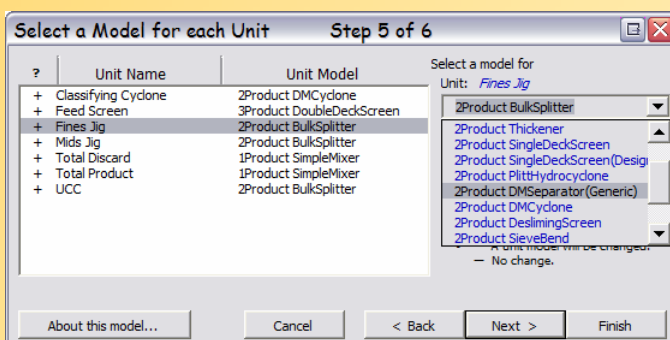
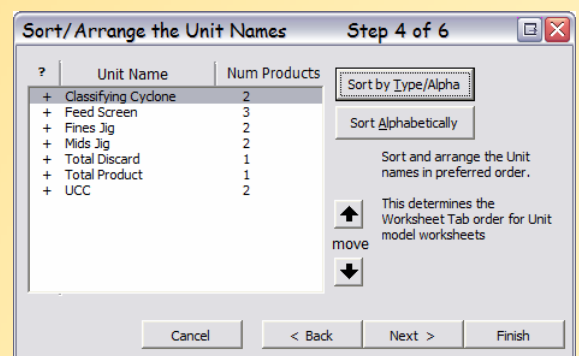
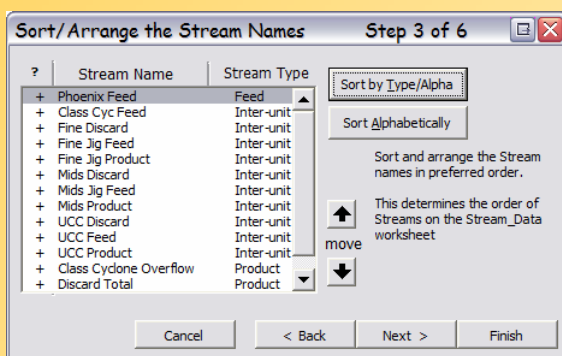
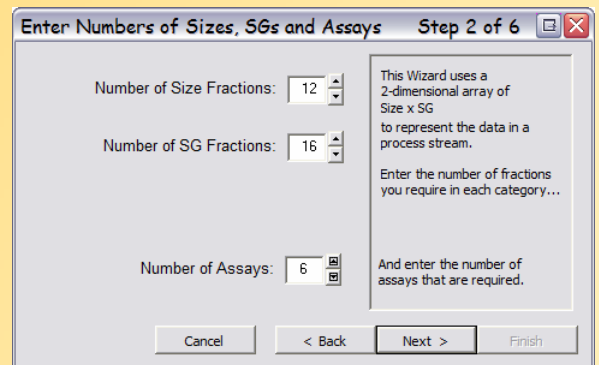
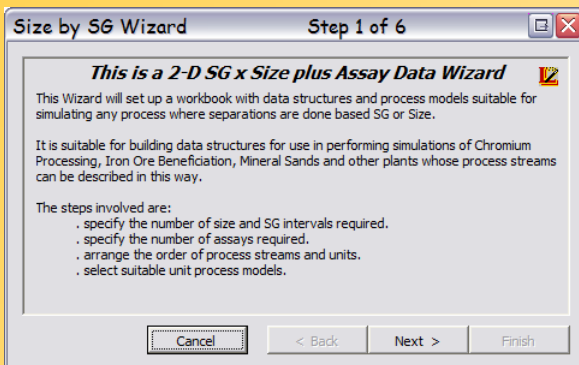
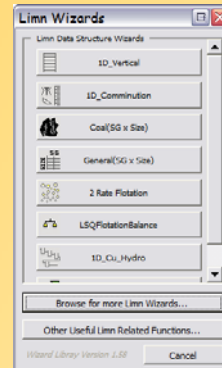


“The Flowsheet Processor”

WizardPack Add-On

6 Steps to a Simulation Spreadsheet

1. Select a “Wizard”
2. Specify Properties
3. Arrange Streams
4. Arrange Units
5. Select Unit Models
6. Close Wizard



Supplier Contacts

Limn is available worldwide directly from David Wiseman Pty Ltd in Adelaide, Australia, or from suppliers in several strategic locations.

These “*Limn* business partners” make wide use of *Limn* in their own consulting activities as well as holding stock and offering local first level support and training.

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