



# GSPC Data Entry

Graphic Statistical Process Control  
by MeltLab Systems  
844-MeltLab  
[www.meltlab.com](http://www.meltlab.com)

Fast • Accurate • Comprehensive

# GSPC Data Entry

- Data Entry does many things
  - It can create a new record: example Sand Tests
  - It can quickly find tests in the data base.
  - It can add to an existing record: example physical tests
  - It can edit tests with conditions applied
  - It can edit or delete tests with high enough authority.

# Rules applied to Manual Data

- A user who has rights to create a record, can enter manual-one type data, and correct that data in any record that is recent (last 20 records). He cannot change automatic data or calculated data, though he might change the data used in the calculation. He cannot manual-two data.
- A user who has rights to add data to a record cannot change manual-one data or automatic or calculated data, but may enter manual-two data without date limits.

# Rules continued

- A user who has “Look Around” authority may look up records but cannot make changes or delete records.
- The user who has complete authority has the ability to change any manual or automatic data. Calculated data will recalculate. He also has the ability to delete the record. This authority should be reserved for the person in the foundry legally responsible for certifications as it must be used responsibly.

# Data Entry

- Data Entry Screen
- Ranges displayed to either side of each test.

Test Names	Test Values			Test Names	Test Values
MB Clay	8.9	9.1		Screen 6	
Moisture	3.8	3.9	4.4	Screen 12	
Compactability		45		Screen 20	.10
Hartley Comp		52		Screen 30	.54
Green Strength	20.0	24.0	26.0	Screen 40	1.59
Hardness		91		Screen 50	5.90
Volatile		1.94		Screen 70	11.84
Permeability		98		Screen 100	13.68
Specimen Wt		149		Screen 140	7.83
Cycle Count		2		Screen 200	1.89
				Screen 270	.44
				Pan	.45
Mulling Eff		56.6		Fines	14.19
Avail Bond		7.7		AFS GFN	70.40
Working bond		4.33		Total Wt	44.26
Free Clay		3.3		FIS Screens	4.4
				Type Sieve	AFS Washed Sand

- Out of range values displayed in yellow for low, and red for high.
- Equations recalculate after each entry including Heine's calculations.
- Screen values can be entered as weights and then show as percentage.

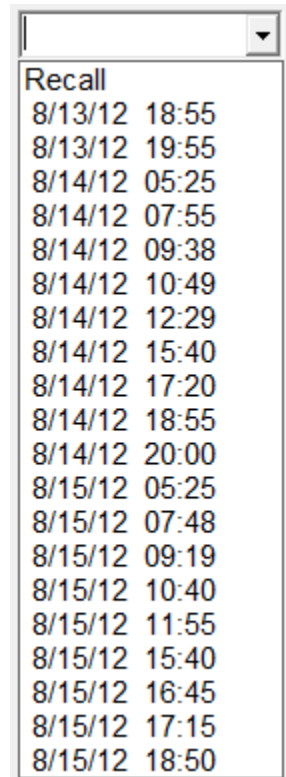
# Entering data

- Clicking on a data cell starts the data entry. If a cell cannot be changed by the user, then the next available cell that can be changed is selected. Up and down errors, and the Enter key move between fields as do tabs and backtabs. Or select the field by clicking on it.
- Press ESC when finished, then save the record.

Test Names	Test Values		
MB Clay	8.9	8.3	
Moisture	3.8	4.1	4.4
Compactability	48		
Hartley Comp	51		
Green Strength	20.0	23.0	26.0
Hardness	91		
Volatile			
Permeability	96		
Specimen Wt	149		
Cycle Count	2		
Mulling Eff	55.1		
Avail Bond	7.8		
Working bond	4.30		
Free Clay	2.4		

# Recalling a Record for additional data

- A last 20 dropdown box is available to recall recent records.
- For sand data, entering a clay wash or a sieve analysis may be an hour or more after the original test was done.
- For other data, a part number may have been entered incorrectly or left off.
- If the user has authority to enter that variable it remains changeable if in the last 20 window.



Recall	
8/13/12	18:55
8/13/12	19:55
8/14/12	05:25
8/14/12	07:55
8/14/12	09:38
8/14/12	10:49
8/14/12	12:29
8/14/12	15:40
8/14/12	17:20
8/14/12	18:55
8/14/12	20:00
8/15/12	05:25
8/15/12	07:48
8/15/12	09:19
8/15/12	10:40
8/15/12	11:55
8/15/12	15:40
8/15/12	16:45
8/15/12	17:15
8/15/12	18:50

# Entering Secondary Data

- Secondary data would be like Physical testing data that may take a day or more to complete.
- This user would recall the correct record from the data base by choosing the specification, then pressing the brown Record book button to open up the dates in that file. Select the date, select the record by time stamp or other identifier (heat number) and then enter the physical test data. All other data is blocked.



# Finding a test

- Click on the brown book to open up the dates available.
- Select a date by double clicking .
- Select a record by double clicking.
- Enter the data and click save.

Pick a record to open			
Rec	Date	Time	Spec
26129	6/ 3/2014	05:31:44	Base M-80-55-06
26130	6/ 3/2014	05:36:15	Base M-80-55-06
26131	6/ 3/2014	06:11:00	32510
26132	6/ 3/2014	06:14:50	Base 32510
26133	6/ 3/2014	06:21:37	M-80-55-06
Dates ----- Recs		Dates ----- Recs	
4/30/2012	154	6/19/2012	144
5/ 1/2012	97	6/20/2012	129
5/ 2/2012	110	6/21/2012	74
5/ 3/2012	45	6/22/2012	35
5/ 7/2012	112	6/25/2012	159
5/ 8/2012	139	6/26/2012	155
5/ 9/2012	139	6/27/2012	149
5/10/2012	81	6/28/2012	143
26143	6/ 3/2014	07:19:47	M-80-55-06
26144	6/ 3/2014	07:25:35	Base M-80-55-06
26145	6/ 3/2014	07:34:26	M-80-55-06

# Command buttons in order



- 123 button – return to data entry with columns
- X-bar graph – show last 20 tests and select test box
- Histogram – similar to X-Bar
- Certification Graph – combination of X-Bar and Hist.
- Multi-Graphs – show several X-bar graphs at once.
- Data Screen – show all data from last 20 samples
- Sunrise – New data record
- Book – look up a record from current data base
- Part – examine a part number if part number system present.
- Sand pile – find next Sand specification.
- Printer – print this sample.
- Eraser – Erase this record (Requires authority and confirmation)
- X-box – Exit program.



# Data Entry Summary

- Fast but controlled access to the data.
  - Level 0 See the record
  - Level 1 Enter manual data and correct mistakes in recent tests.
  - Level 2 Add secondary data as it becomes available.
  - Level 3 Totally change or delete data as needed by only those with the highest authority and responsibility.
- Preserves data integrity by restricting entry and data revision to trusted personnel.