TruTrack

Tc-HR Thermocouple Logger

The Tc-HR is a small Two Channel High Resolution (12 bit) Temperature Datalogger. The logger connects to an external Thermocouple probe and also has an internal thermister sensor. The logger accepts Type J,K,N,R and T thermocouple probes.

Specification:

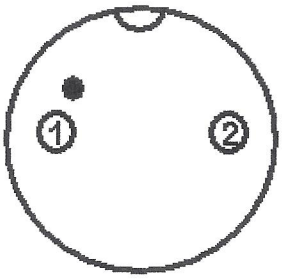
Thermocouple Input:

External Sensor Connector

2 pin Switchcraft Plug (EN3C2M)
Weatherproof
IP66

Pinout

1 Positive
2 Negitive



View from Front of Socket or Rear of Plug

Accuracy

±XX%

Temperature Coefficient

±0.1% per °C of logger Temperature

Temperature Range

Type	Min Temp		MaxTemp
J	-200°C		900°C
K	-250°C		1300°C
N	-250°C		1300°C
R	-50°C		1760°C
T	-250°C		400°C

Resolution

Type	Min Temp	at 0°C	Max Temp
J	±0.32°C	±0.15°C	±0.13°C
K	±2°C	±0.2°C	±0.23°C
N	±2°C	±0.3°C	±0.21°C
R	±1.5°C	±1.4°C	±0.6°C
T	±1.5°C	±0.2°C	±0.13°C

Internal Temperature:

Sensor Type	Thermister
Linear accuracy over range	±0.3°C (0°C to 70°C)
Repeatability	±0.1°C
Long term stability	±0.1°C
Logger:	
Working Temperature	-30°C to +70°C
Storage Temperature	-30°C to +70°C
Sampling Rate	1 second minimum 10 hours maxium in 1 second intervals
Storage capacity	64,000 8 bit samples 32,000 12bit samples
Alarms	Two independent Alarms Triggered on any combination of six user configurable Alarm Conditions One alarm can be configured to dial a PocketPager Alarms can be visually checked using the Omnilog Software
Start modes	Start immediately Start on date/time.
Stop modes	Stop when memory is full Stop on date/time Loop around (continues logging)
Logging Modes	Each channel can be set to log any combination of: • Point readings • Average reading • Maximum reading • Minimum reading
Battery	Factory Replaceable One ½AA 3.6V lithium cell Five year life. The data is retained in the case of battery failure. Battery Status Monitor in OmniLog Software
Download Time	35 seconds for Full Logger
Case material	304 Stainless tube
Screw on end cap	Plated brass
Weight	110g
Size	20mm diameter X 168mm long

TruTrack

OmniLog Data Management Program

Overview

The OmniLog Data Management software is an application for reading, displaying, analyzing, organizing and exporting data that has been downloaded from data loggers.

It includes all the features of the original Data Logger Control Program with many additional Data Management Features.

Data can be read from data loggers or retrieved from previously saved data files. A connected datalogger can be configured,calibrated, started, read and stopped by this application.

Data retrieved from data loggers or weather stations and previously saved data files can be viewed and printed in a values spread sheet list, as a graph or as a statistics report. These values, graphs and statistics can be displayed and printed for all data or from a user selected block of data.

Periodic reports in Hourly, Daily, Weekly and Monthly intervals can be viewed and printed. Datasets from different loggers can be combined and the full range of viewing and printing options are available for these combined datasets.

Data can also be exported in a large range of industry standard formats including Microsoft Excel, Lotus 123,Lotus Symphony, DIF, Microsoft Multiplan, Symbolic Link Format, CSV, HTML and Space delimited Text Format.

The OmniLog software can be download from this web site. It is also available on CD ROM (for a Freight and Handling Fee) from your Logger Agent or Distributor.

Omnilog Download

Plugin Reports for the Omnilog software are also available

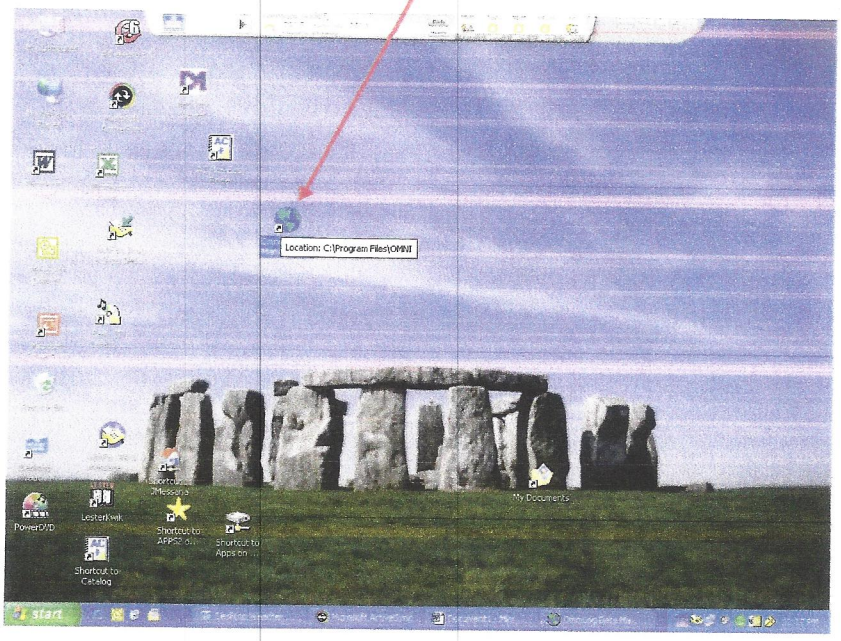
Omnilog Flow Totals Report

OMNI

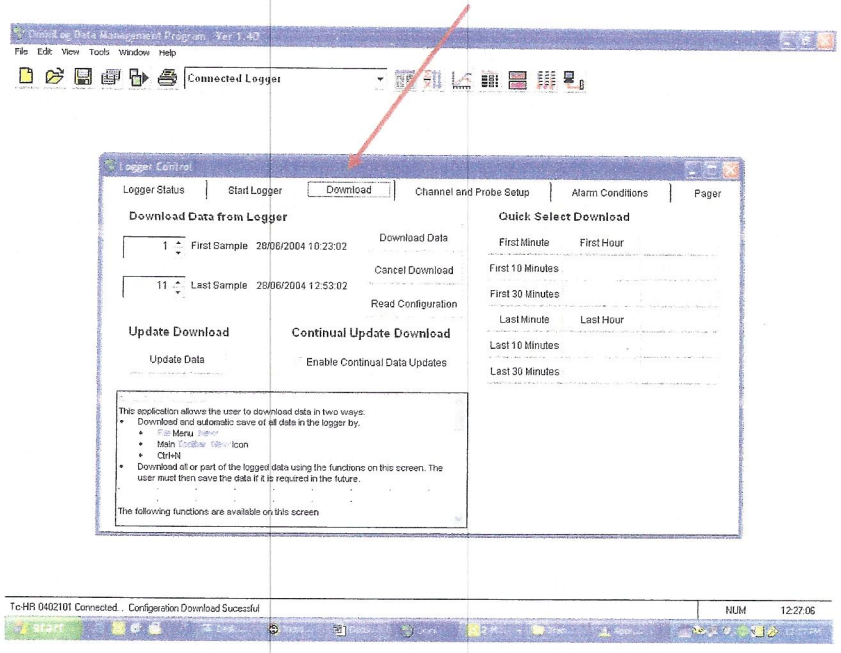
DATA MANAGEMENT DOWNLOAD MANUAL

Recycling Services International, LLC.

STEP 1:
Attach the Logger
Open ***Omnilog Data Management*** icon (World for an Icon)

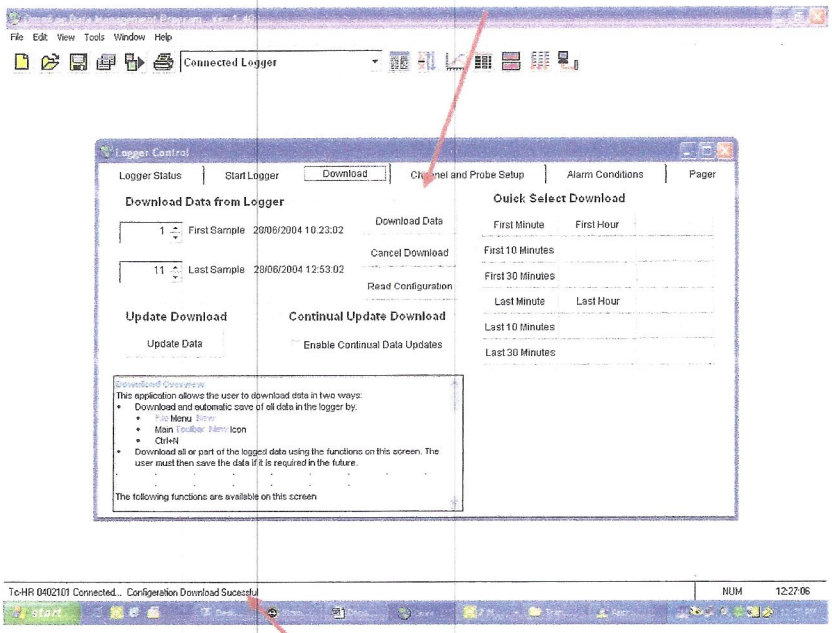


Step 2:
Click on the ***Download*** tab to get the below view



Step 3:

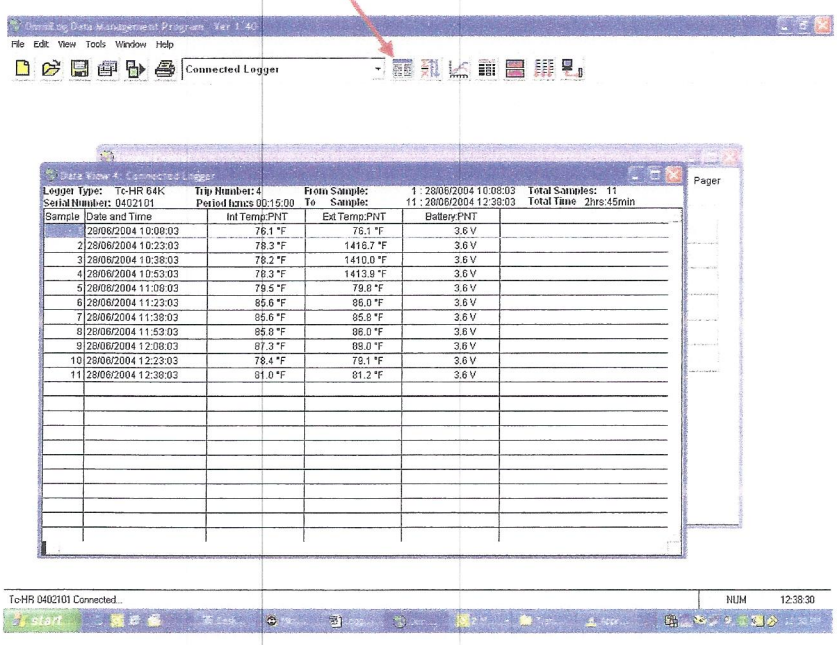
Click on the ***Download Data*** Tab:



Look here, it should read "***finished process***"

Step 4:

Click on the this icon to view the ***data chart***:

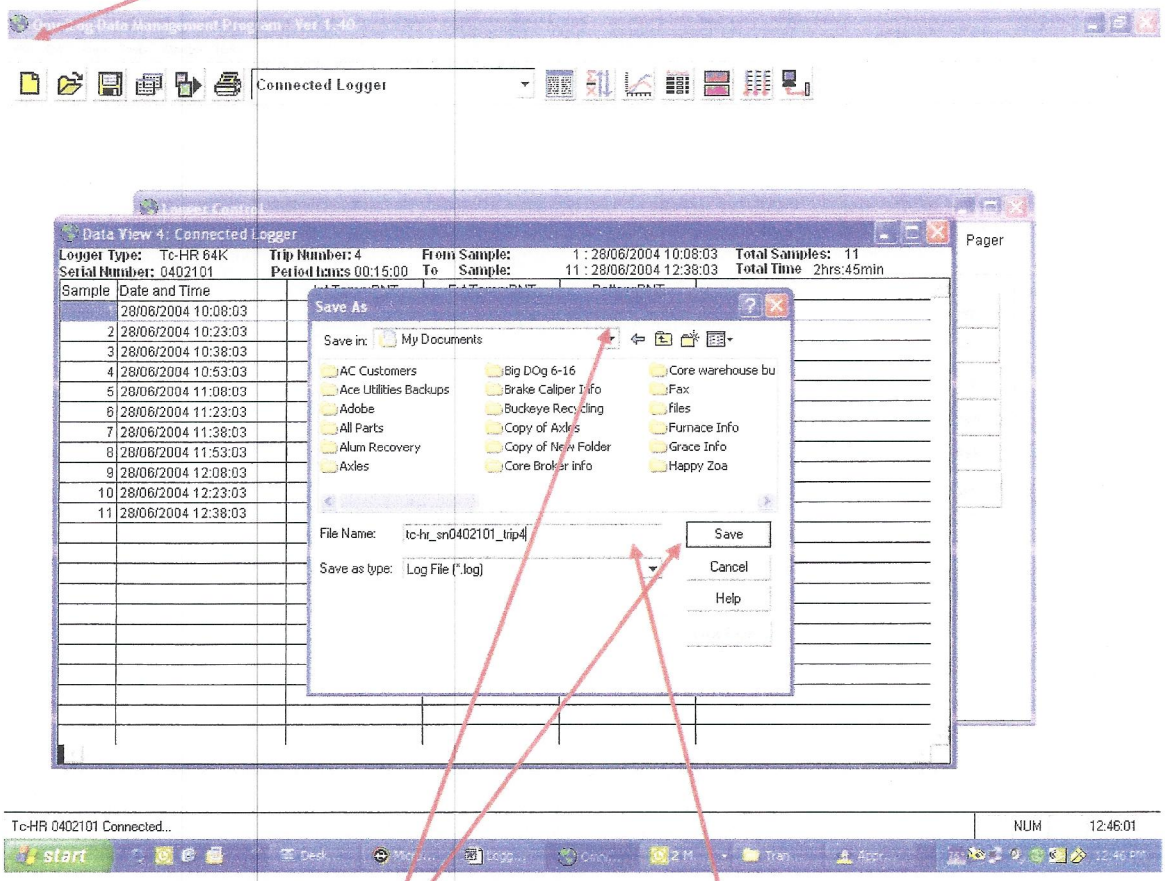


Step 5:

(You may want to create a file to save this info in a specific location. Example: In My documents create a folder called Data Log Charts.

Click the File…click on "save as" and save the file as a .log in the folder of your choice.)

Your Current Folder Name_____

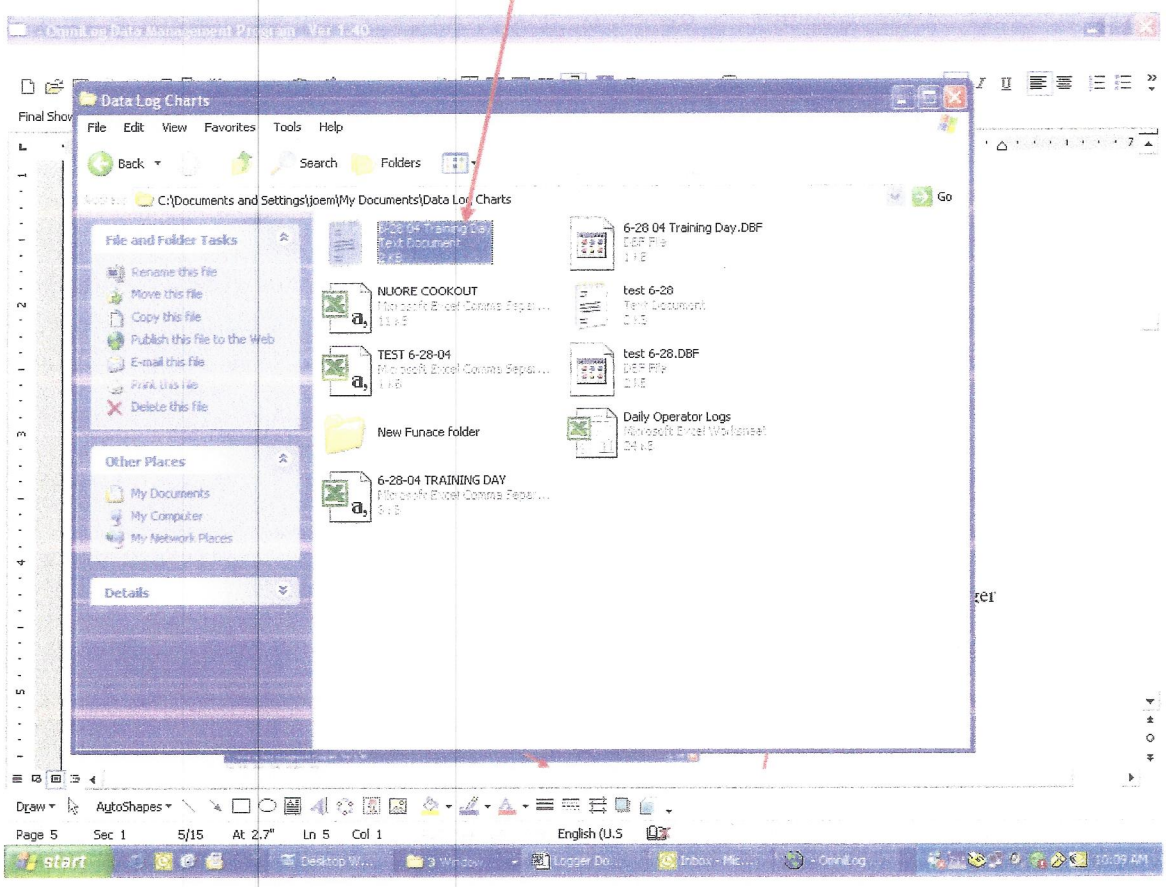


A) Chose the folder to save chart

B) Change the name :
Use the start and stop time (6-20 thru 25-04)

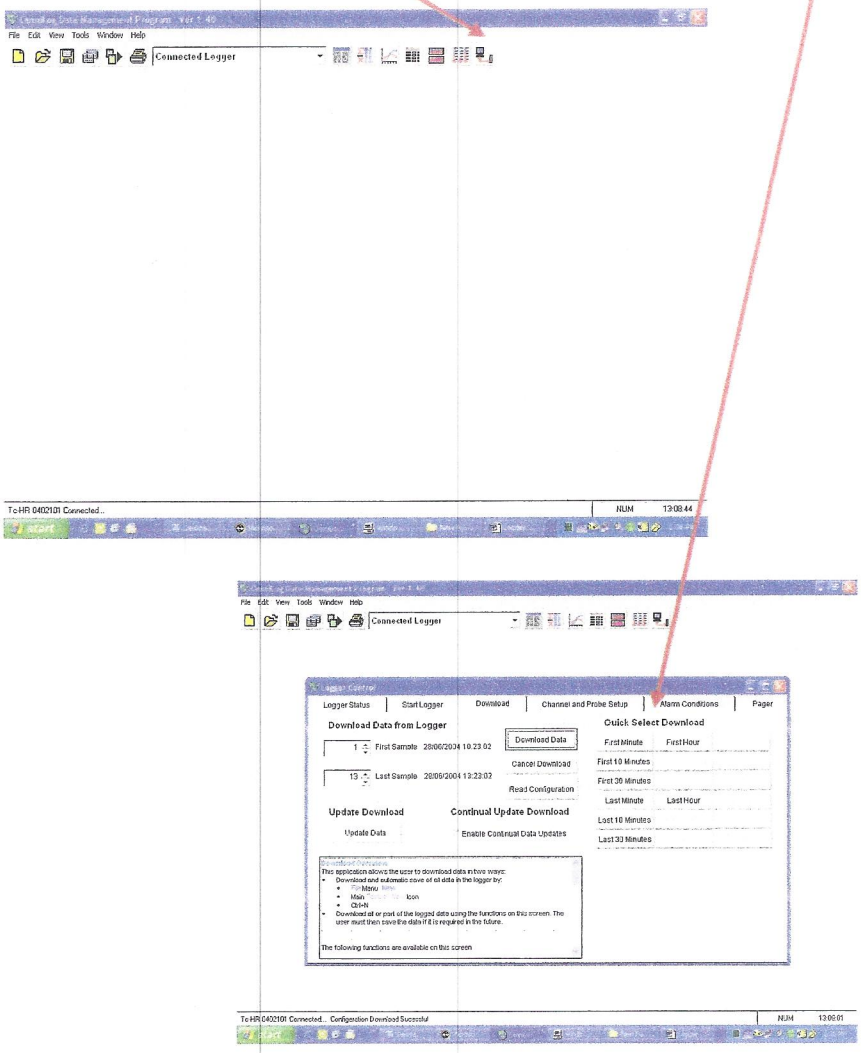
C) Press save to save chart.

Go back to that location and make sure the chart has been saved as a *Text Document.*



Step 6:

If you get this screen, click on this Icon (last one on right) to restore the download logger screen. To get this screen:

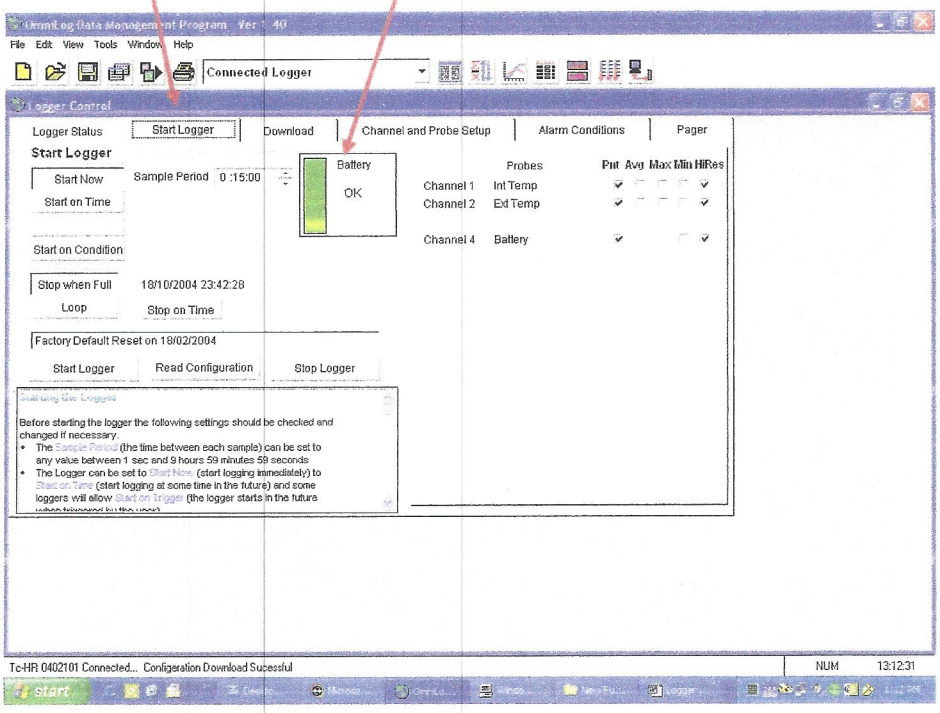


WARNING!!!!!!!!!!!!!!!

THIS STEP IS CRITICAL…STOPPING THE LOGGER WILL PUT THE LOGGER INTO A "WRITE OVER MODE".

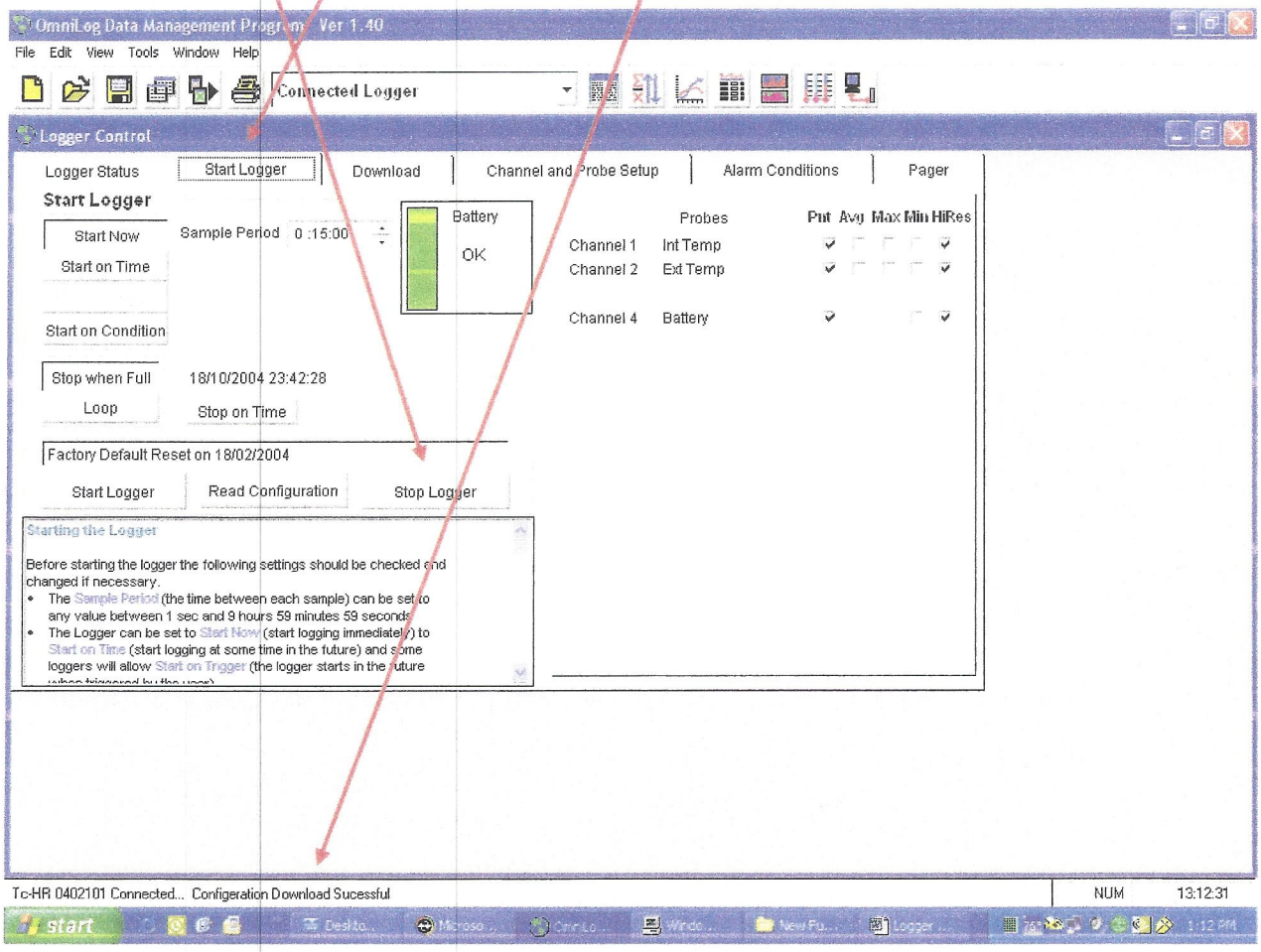
ONCE YOU PRESS "START LOGGER" after you pressed "Stop LOGGER" you will overwrite the data in the logger.

Step 7: REREAD THE ABOVE WARNING…
Click on ***Start Logger*** tab….check Battery life

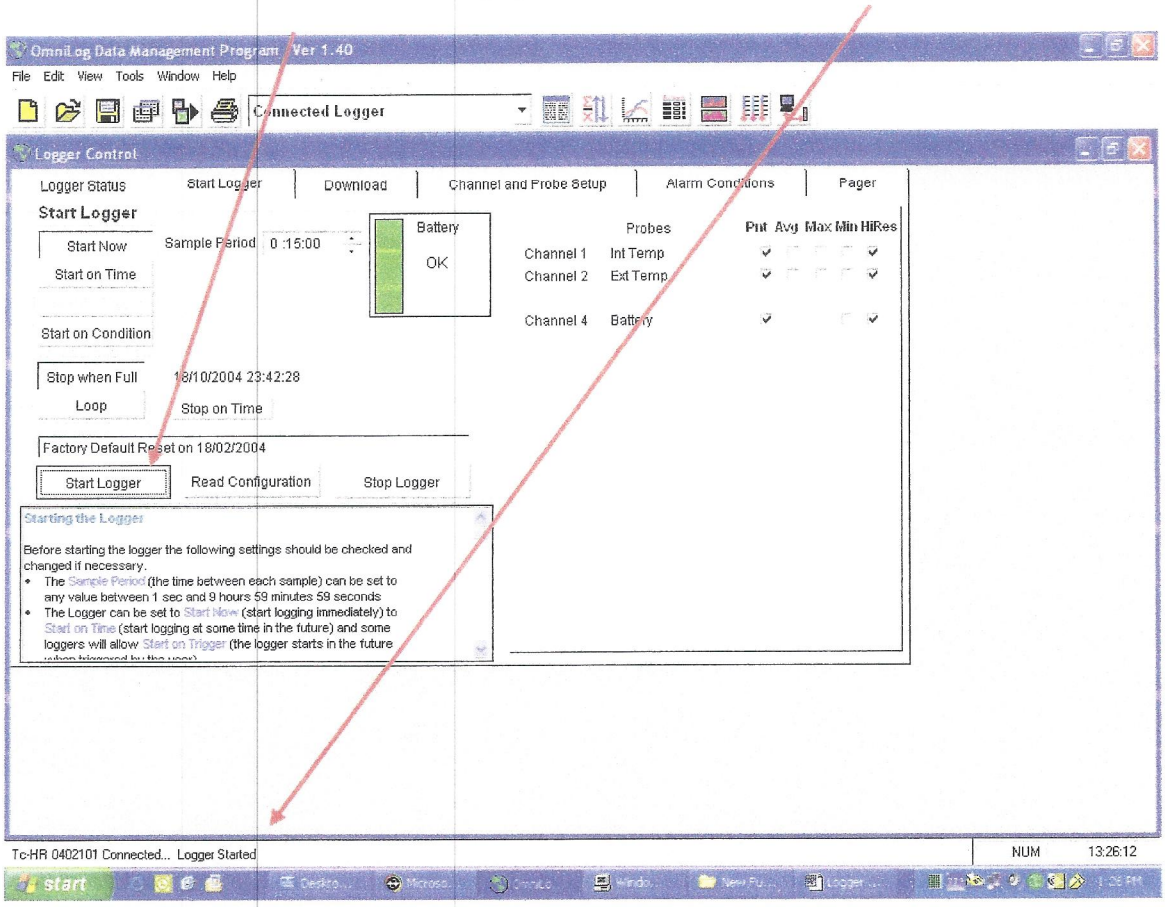


Step 8: In the "Start Logger" Tab

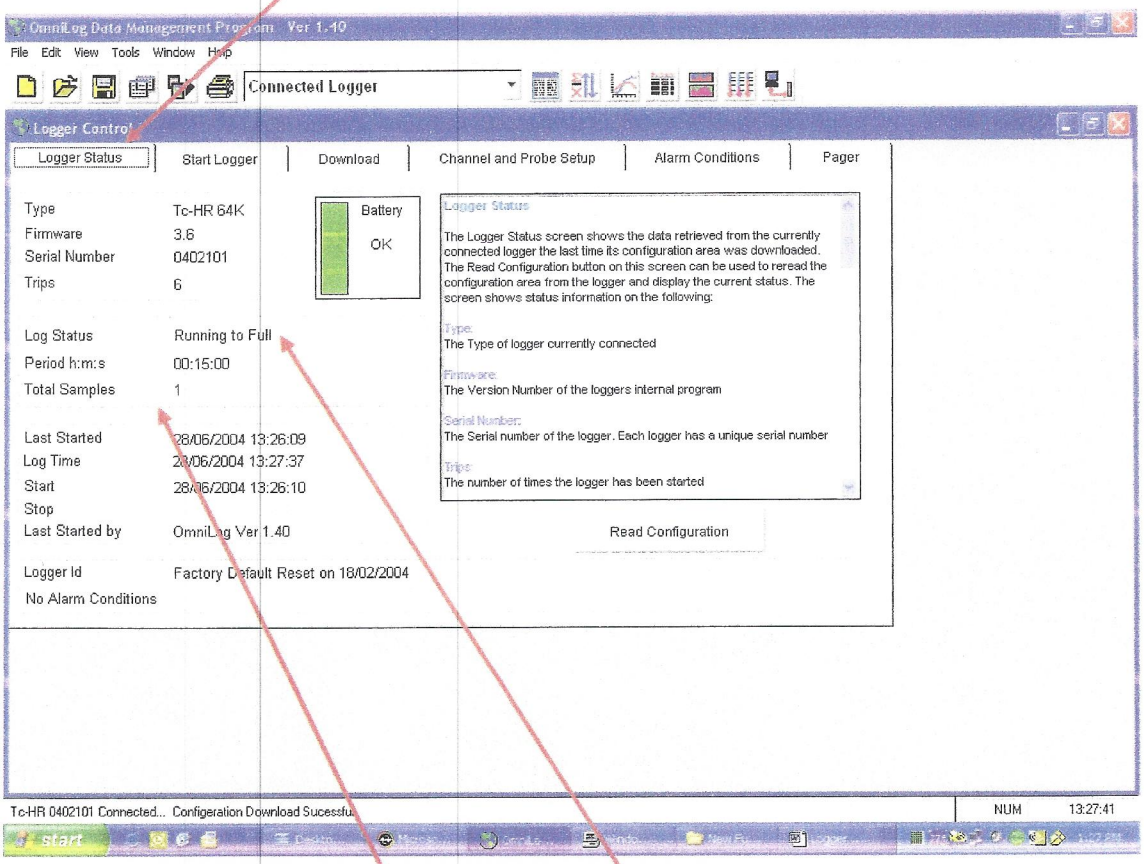
Click on the Stop Logger and look at bottom left for the words "Logger stopped"



Step 9:
After you are confirmed that the logger has been stopped Click the "Start Logger button and CONFRIM on the bottom of the page that the logger has been started.



Step 10: Logger Status tab:
For your Info: "***Total Sample***" counts how many 15 min. intervals have been recorded.



Logger status should always read "***Running to Full***".

You are ready to attach logger for readings.

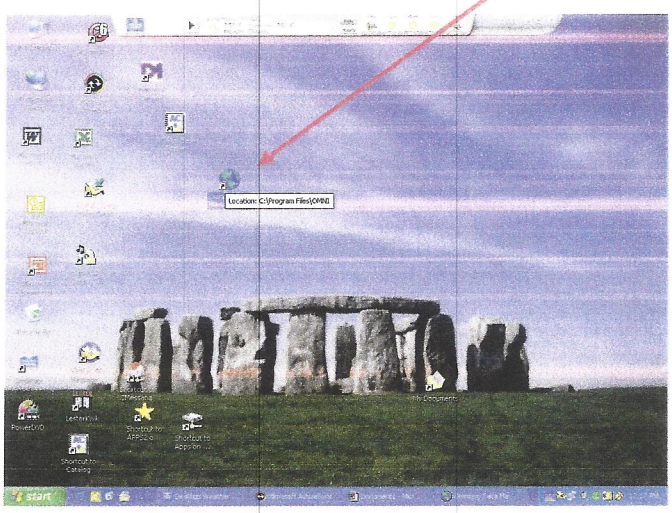
Total Samples should now read…1

Stop at this point. You should check with your administrator for directions on whether you should continue.

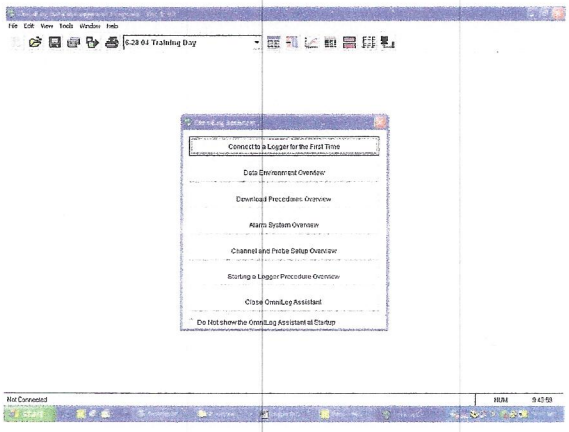
Steps to EXPORT text file as follows.

If you are going to export the txt file after the program has been close out after the previous 10 step:

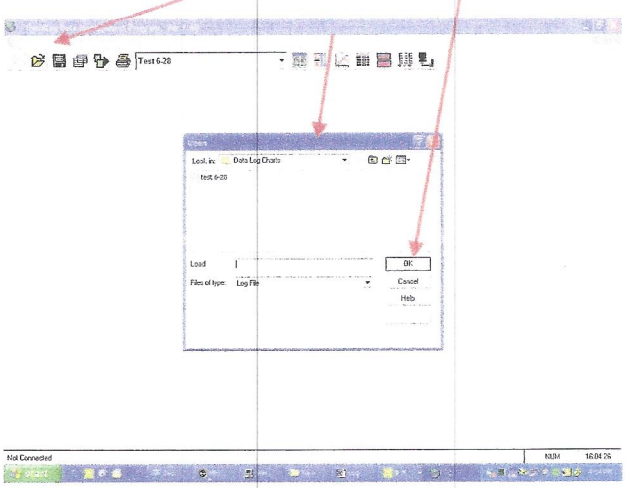
STEP 1:
Open ***Omnilog Data Management*** icon (World for an Icon)



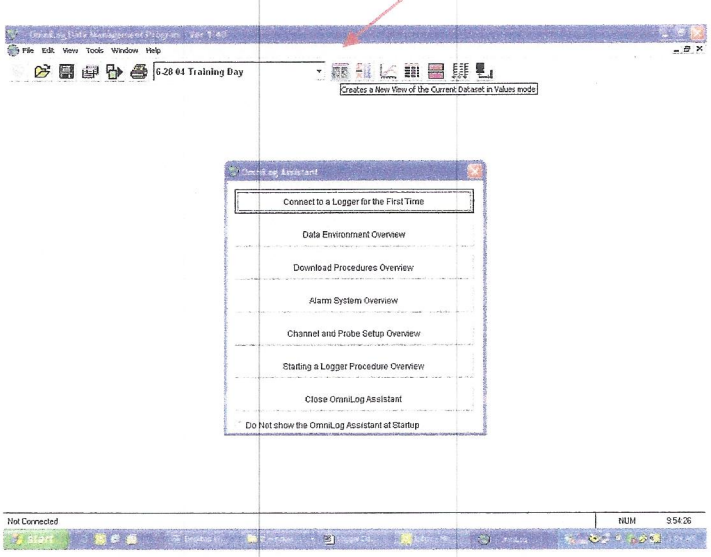
Your screen will look like the following:



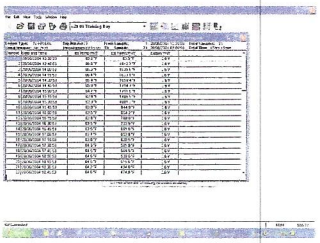
Step 2: Click on ***"File"*** and ***"open"*** and chose the folder that the data chart was saved. Highlight the txt file and then click on open.



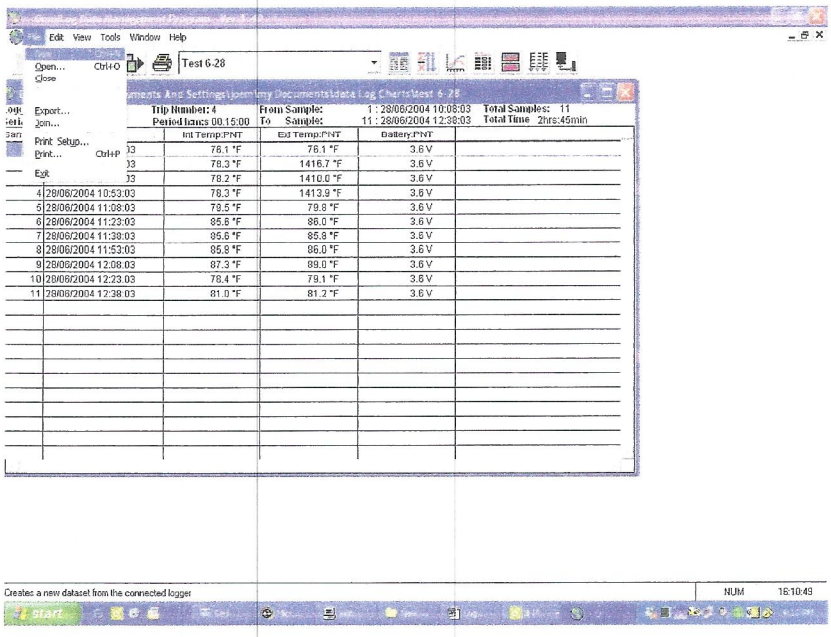
Step 3: Now click on the chart icon to view the data. (1st icon on right)



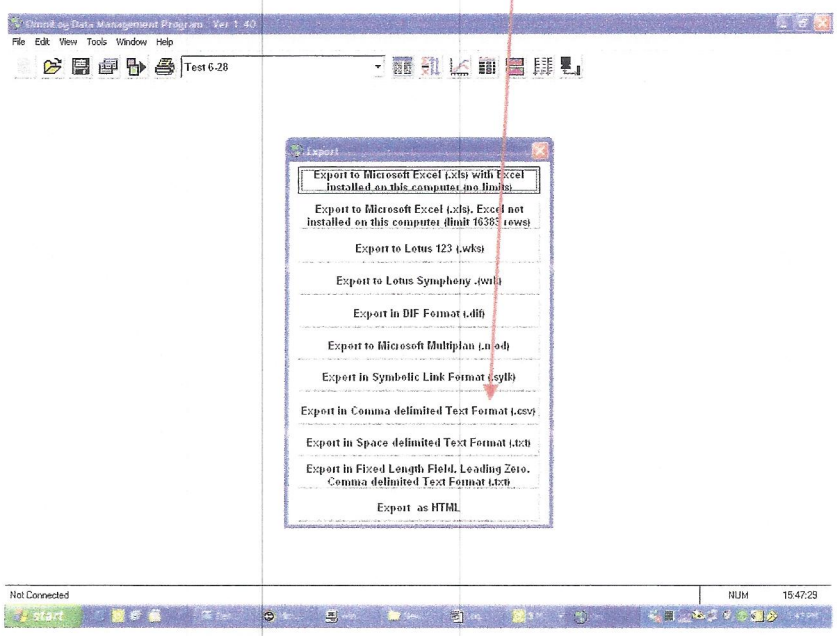
This screen will be displayed:



Step 4: Click on ***"file"*** and then ***"export"***.

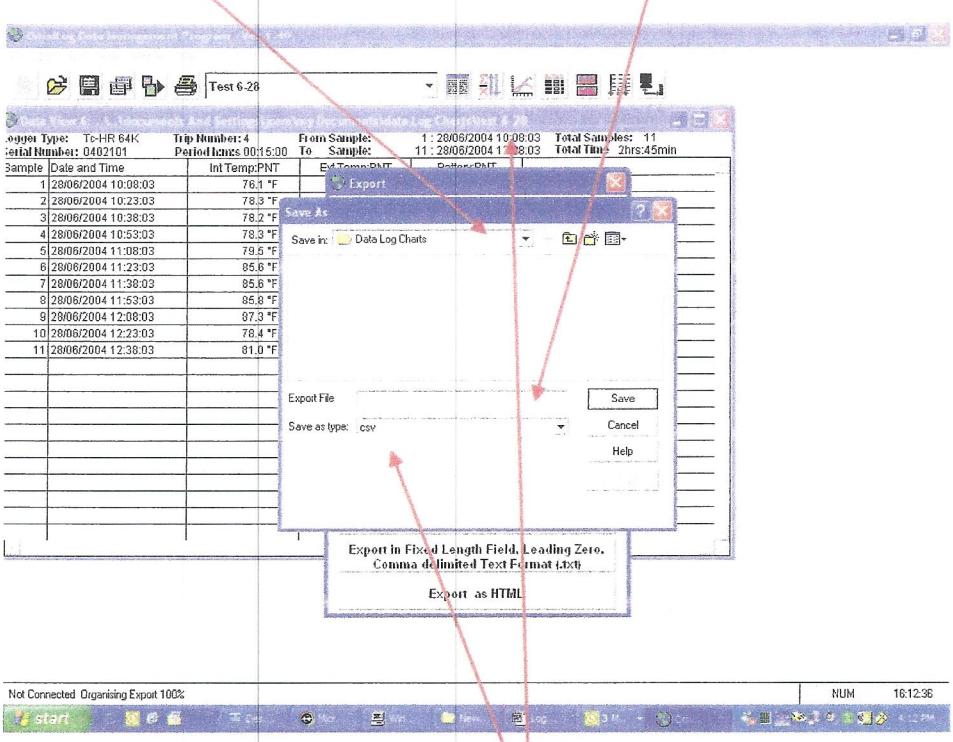


Step 5: This screen will be displayed. Click on ***"Export in Comma delimited Text Format (csv)".***



Step 6: Chose the folder that you need to save the .csv file in. Do not forget to name it you run date (6-20 thru 25-04). Click on ***"save"***

Folder Name **Name of exported file:** (6-20 thru 25-04).

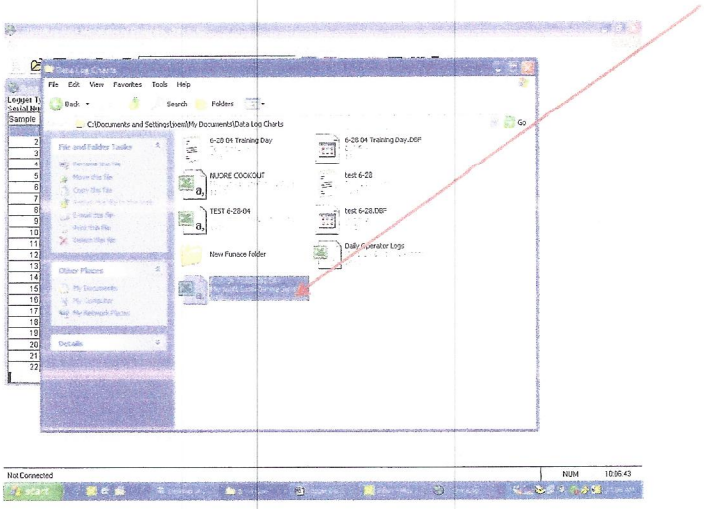


Make sure you save the file as a ***"csv"*** file.

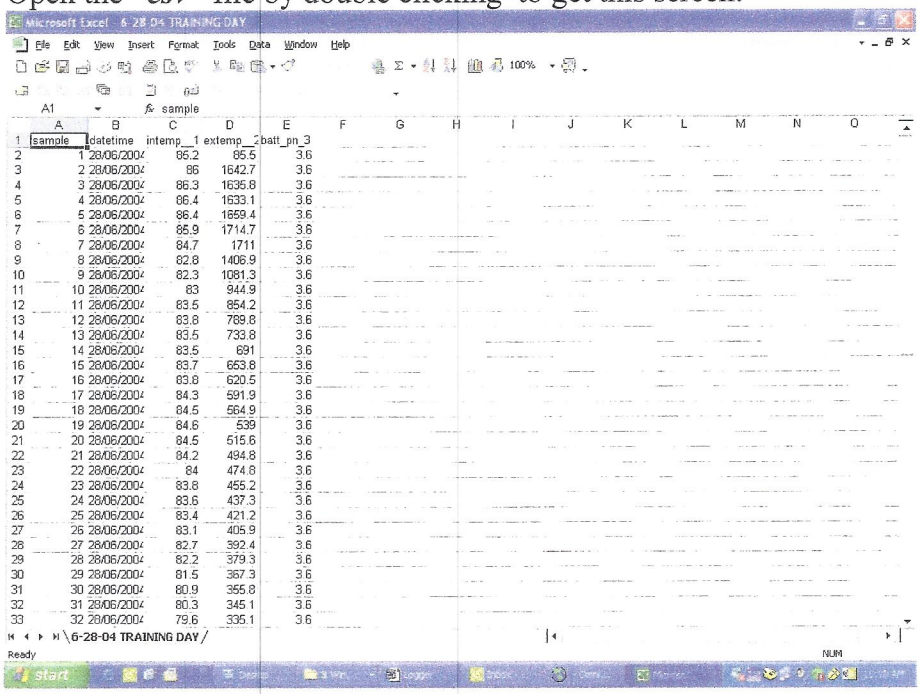
Your Folder Name _____

Note: You can copy the name of the ***"txt"*** file that is being exported and past it in the ***"Export File"*** window.
This will keep the files consistent.

Step 6:
Go to the folder to make sure the file has been saved:



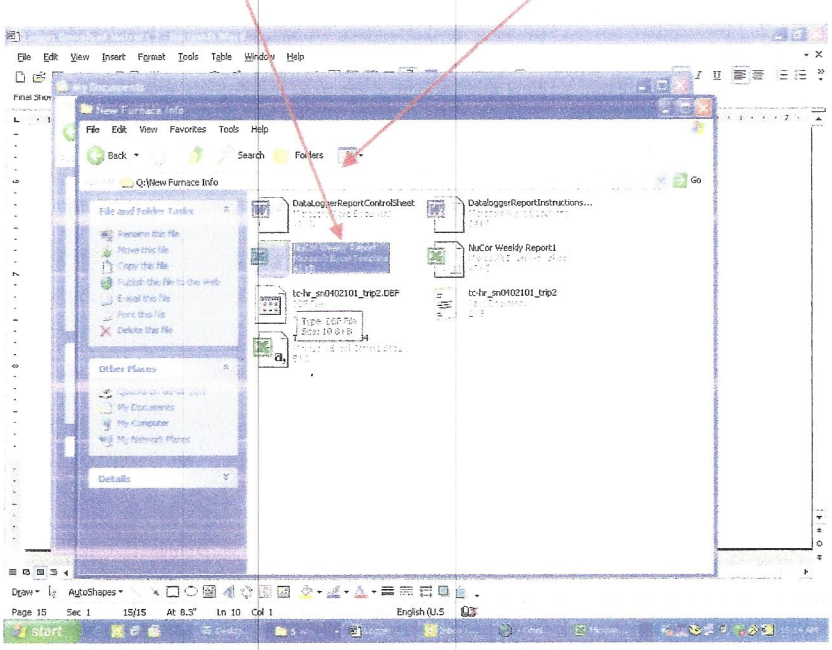
Step 7:
Open the ***"csv"*** file by double clicking to get this screen:



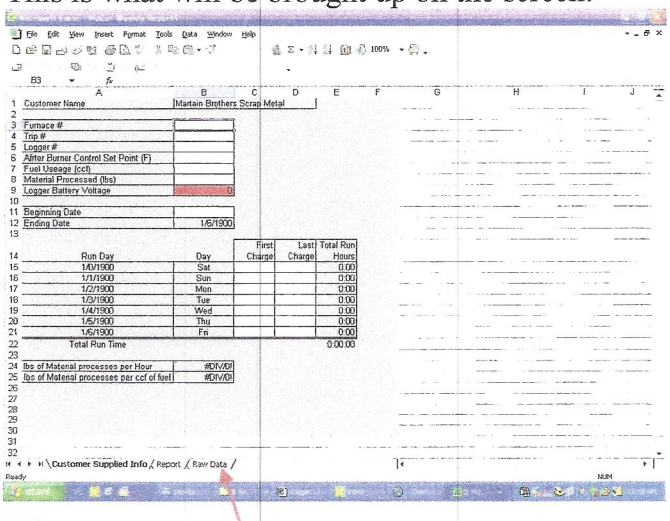
	A	B	C	D	E
1	sample	datetime	intemp__1	extemp__2	batt_pn_3
2	1	28/06/2004	85.2	85.5	3.6
3	2	28/06/2004	86	1642.7	3.6
4	3	28/06/2004	86.3	1635.8	3.6
5	4	28/06/2004	86.4	1633.1	3.6
6	5	28/06/2004	86.4	1659.4	3.6
7	6	28/06/2004	85.9	1714.7	3.6
8	7	28/06/2004	84.7	1711	3.6
9	8	28/06/2004	82.8	1406.9	3.6
10	9	28/06/2004	82.3	1081.3	3.6
11	10	28/06/2004	83	944.9	3.6
12	11	28/06/2004	83.5	854.2	3.6
13	12	28/06/2004	83.8	789.8	3.6
14	13	28/06/2004	83.5	733.8	3.6
15	14	28/06/2004	83.5	691	3.6
16	15	28/06/2004	83.7	653.8	3.6
17	16	28/06/2004	83.8	620.5	3.6
18	17	28/06/2004	84.3	591.9	3.6
19	18	28/06/2004	84.5	564.9	3.6
20	19	28/06/2004	84.6	539	3.6
21	20	28/06/2004	84.5	515.6	3.6
22	21	28/06/2004	84.2	494.8	3.6
23	22	28/06/2004	84	474.8	3.6
24	23	28/06/2004	83.8	455.2	3.6
25	24	28/06/2004	83.6	437.3	3.6
26	25	28/06/2004	83.4	421.2	3.6
27	26	28/06/2004	83.1	405.9	3.6
28	27	28/06/2004	82.7	392.4	3.6
29	28	28/06/2004	82.2	379.3	3.6
30	29	28/06/2004	81.5	367.3	3.6
31	30	28/06/2004	80.9	355.8	3.6
32	31	28/06/2004	80.3	345.1	3.6
33	32	28/06/2004	79.6	335.1	3.6

Step 8:
Your administrator will know where the excel program is located that will be used to import the cvs file into a format that the EPA requires.

Step 9:
Open the excel file for import. Locate location for the file. Highlight and open the program



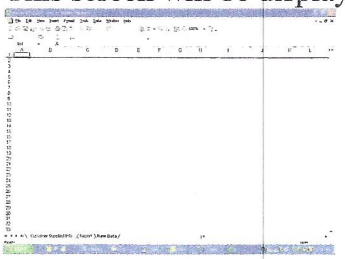
This is what will be brought up on the screen:



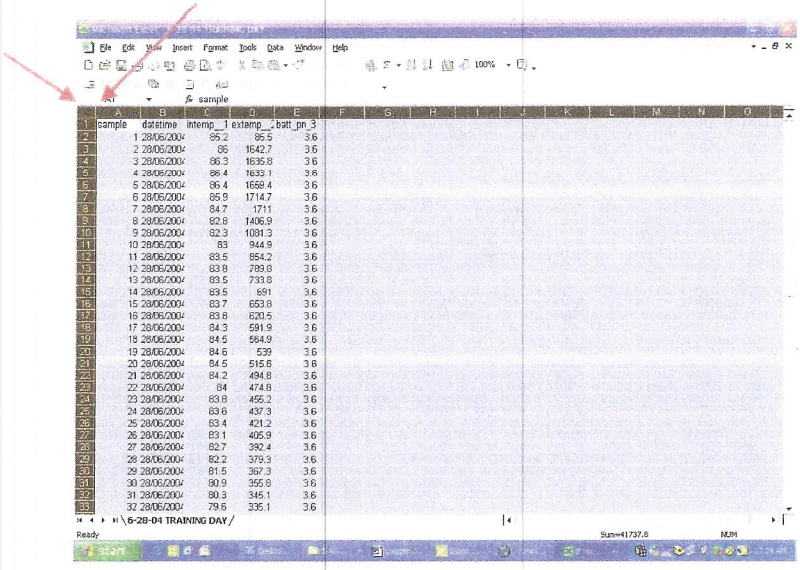
	A	B	C	D	E
1	Customer Name	Martain Brothers Scrap Metal			
2					
3	Furnace #				
4	Trip #				
5	Logger #				
6	After Burner Control Set Point (F)				
7	Fuel Useage (ccf)				
8	Material Processed (lbs)				
9	Logger Battery Voltage	0			
10					
11	Beginning Date				
12	Ending Date	1/6/1900			
13					
14	Run Day	Day	First Charge	Last Charge	Total Run Hours
15	1/0/1900	Sat			0.00
16	1/1/1900	Sun			0.00
17	1/2/1900	Mon			0.00
18	1/3/1900	Tue			0.00
19	1/4/1900	Wed			0.00
20	1/5/1900	Thu			0.00
21	1/6/1900	Fri			0.00
22	Total Run Time				0:00:00
23					
24	lbs of Material processes per Hour	#DIV/0!			
25	lbs of Material processes per ccf of fuel	#DIV/0!			

Step 10: Click in tab raw data

This screen will be displayed:



Step 11:
Go back to the screen that has the csv file (step 7). Click the mouse the top left hand corner to highlight (the screen should) turn purple). Press the "control key" and the "c" key simultaneously.



sample	datetime	intemp__1	extemp__2	batt_pn_3
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4	28/06/2004	86.4	1633.1	3.6
5	28/06/2004	86.4	1658.4	3.6
6	28/06/2004	85.9	1714.7	3.6
7	28/06/2004	84.7	1711	3.6
8	28/06/2004	82.8	1406.9	3.6
9	28/06/2004	82.3	1081.3	3.6
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11	28/06/2004	83.5	854.2	3.6
12	28/06/2004	83.8	789.8	3.6
13	28/06/2004	83.5	733.8	3.6
14	28/06/2004	83.5	691	3.6
15	28/06/2004	83.7	653.8	3.6
16	28/06/2004	83.8	620.5	3.6
17	28/06/2004	84.3	591.9	3.6
18	28/06/2004	84.5	564.9	3.6
19	28/06/2004	84.6	539	3.6
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23	28/06/2004	83.8	455.2	3.6
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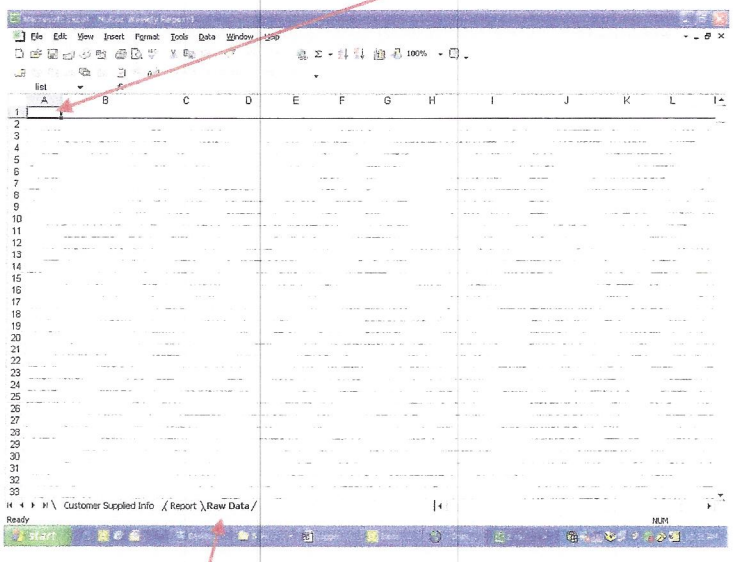
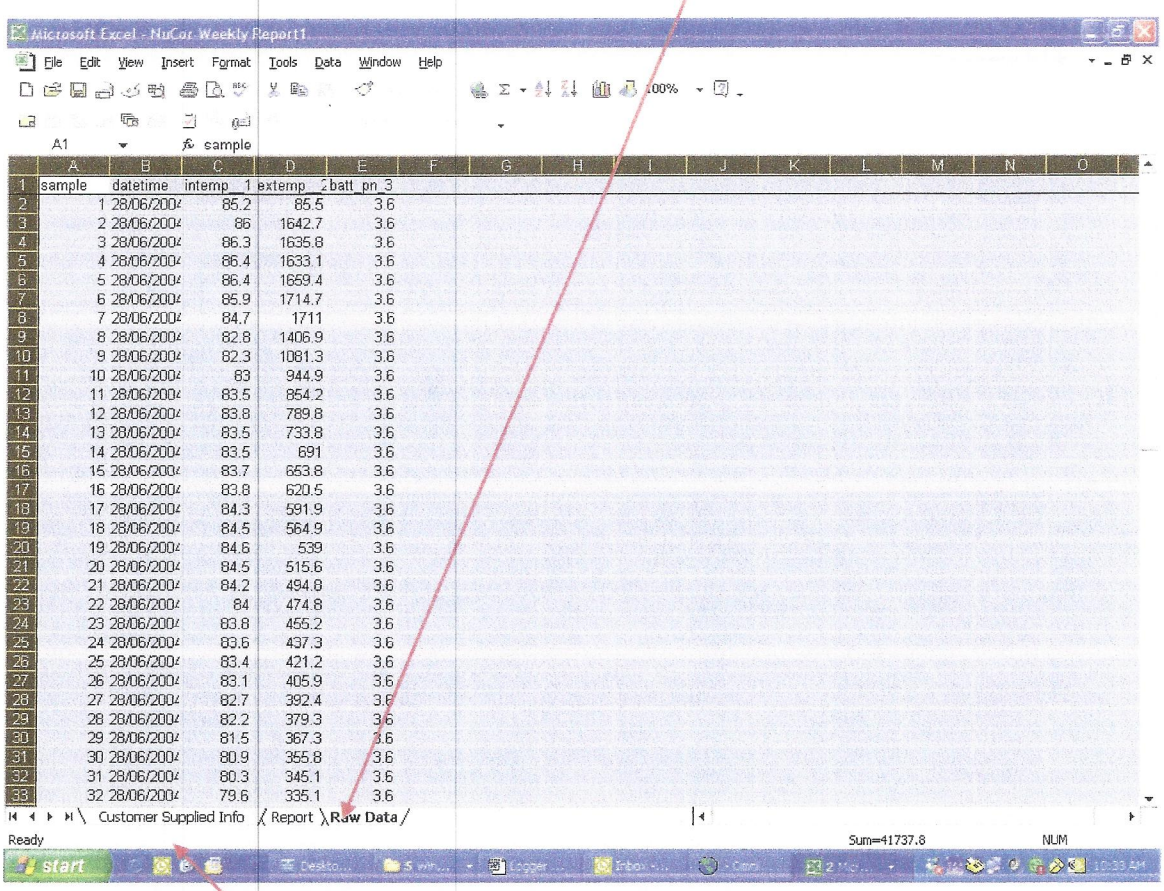
30	28/06/2004	80.9	355.8	3.6
31	28/06/2004	80.3	345.1	3.6
32	28/06/2004	79.6	335.1	3.6

Step 11:
Bring the screen up that is in the excel file for the import (Step 10). Click the mouse in cell "A1".



Step 12:

Now press the "control" key and the "v" simultaneously to paste the information. Your screen will now look like the. Notice the sheets on the bottom. You are now working in the excel file.



	A	B	C	D	E
1	sample	datetime	intemp_1	extemp_2	batt_pn_3
2	1	28/06/200	85.2	85.5	3.6
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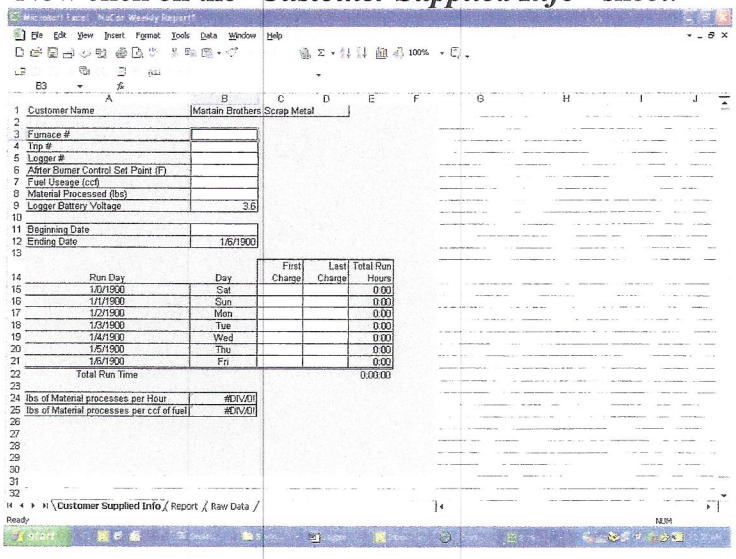
4	3	28/06/200	86.3	1635.8	3.6
5	4	28/06/200	86.4	1633.1	3.6
6	5	28/06/200	86.4	1659.4	3.6
7	6	28/06/200	85.9	1714.7	3.6
8	7	28/06/200	84.7	1711	3.6
9	8	28/06/200	82.8	1406.9	3.6
10	9	28/06/200	82.3	1081.3	3.6
11	10	28/06/200	83	944.9	3.6
12	11	28/06/200	83.5	854.2	3.6
13	12	28/06/200	83.8	789.8	3.6
14	13	28/06/200	83.5	733.8	3.6
15	14	28/06/200	83.5	691	3.6
16	15	28/06/200	83.7	653.8	3.6
17	16	28/06/200	83.8	620.5	3.6
18	17	28/06/200	84.3	591.9	3.6
19	18	28/06/200	84.5	564.9	3.6
20	19	28/06/200	84.6	539	3.6
21	20	28/06/200	84.5	515.6	3.6
22	21	28/06/200	84.2	494.8	3.6
23	22	28/06/200	84	474.8	3.6
24	23	28/06/200	83.8	455.2	3.6
25	24	28/06/200	83.6	437.3	3.6
26	25	28/06/200	83.4	421.2	3.6
27	26	28/06/200	83.1	405.9	3.6
28	27	28/06/200	82.7	392.4	3.6
29	28	28/06/200	82.2	379.3	3.6
30	29	28/06/200	81.5	367.3	3.6
31	30	28/06/200	80.9	355.8	3.6
32	31	28/06/200	80.3	345.1	3.6
33	32	28/06/200	79.6	335.1	3.6

Step 13:

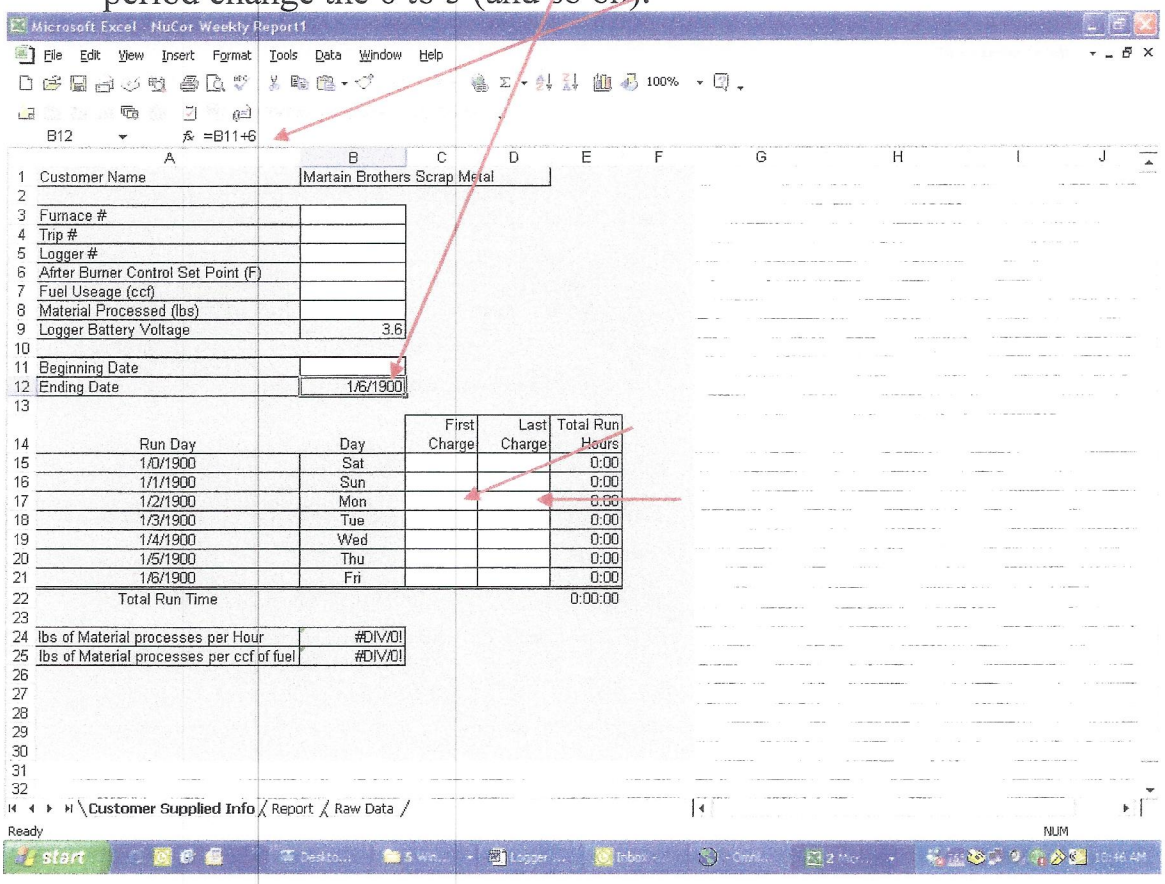
Now click on the "***Customer Supplied Info***" sheet:



	A	B	C	D	E
1	Customer Name	Martain Brothers Scrap Metal			
2					
3	Furnace #				
4	Trip #				
5	Logger #				
6	After Burner Control Set Point (F)				
7	Fuel Useage (ccf)				
8	Material Processed (lbs)				
9	Logger Battery Voltage	3.6			
10					
11	Beginning Date				
12	Ending Date	1/6/1900			
13					
14	Run Day	Day	First Charge	Last Charge	Total Run Hours
15	1/0/1900	Sat			0.00
16	1/1/1900	Sun			0.00
17	1/2/1900	Mon			0.00
18	1/3/1900	Tue			0.00
19	1/4/1900	Wed			0.00
20	1/5/1900	Thu			0.00
21	1/6/1900	Fri			0.00
22	Total Run Time				0.00:00
23					
24	lbs of Material processes per Hour	#DIV/0!			
25	lbs of Material processes per ccf of fuel	#DIV/0!			

Do not type in the gray areas (these are calculation cells).

1) Calculate the fuel usage from the recorded data that the operators posted on the **"Daily operators logs"**. Place the total in the cell call "Fuel Usage"
2) Enter the total lbs of melted aluminum for the recorded period in the "**Material Processed"** cell.
3) Fill in the date the recording period began **"Beginning Date".**
4) Click the mouse on the "Ending Date cell and look at the red arrows below. The calculation will appear here: If you are recording a 5 day period change the 6 to 5 (and so on).



Fill in the start and stop times for the recorded day. Your administrator will let you know if you are on a 12 hour record or 24.

Print the ***"Customer Supplied Info"*** sheet, as well as the ***"Report"*** sheet.

Save in a binder. Save the *"txt file, "csv"* file to a disc or server. Ask your administrator if the excel file should also be saved. If so, rename the excel file the same as the *"txt" and "csv"* (save as an excel file). This will enable you to continue to work on the original *"Weekly Report.*

Weekly Report1

Customer Name	Jeff's Autobody & Recycling

Furnace #	
Trip #	
Logger #	
Afrter Burner Control Set Point (F)	
Fuel Useage (ccf)	
Material Processed (lbs)	
Logger Battery Voltage	0

Beginning Date	
Ending Date	1/6/1900

Run Day	Day	First Charge	Last Charge	Total Run Hours
1/0/1900	Sat			0:00
1/1/1900	Sun			0:00
1/2/1900	Mon			0:00
1/3/1900	Tue			0:00
1/4/1900	Wed			0:00
1/5/1900	Thu			0:00
1/6/1900	Fri			0:00
Total Run Time				0:00:00

lbs of Material processes per Hour	#DIV/0!
lbs of Material processes per ccf of fuel	#DIV/0!

Run Date	Day	Run Hours	3 Hour Block #	Block Size	Start Date & Time	Block Average
	Sat					
1/1/1900	Sun					
1/2/1900	Mon					
1/3/1900	Tue					
1/4/1900	Wed					
1/5/1900	Thu					
1/6/1900	Fri					

Weekly Report1