Hach FH950 Electromagnetic Meter - Data Entry

Operations Manual table of contents

Overview:

This Operation Manual details the office procedures required to correctly 'post-process' and import a Hach FH95 Electromagnetic Current Meter Gauging.

Post-processing:

1.Transferring Data

Connect Hach controller unit to your computer via the USB cable

Turn controller on and wait *(The unit can take a while to register on the computer and open the file folder)*

Once detected, the file folder will open automatically, gaugings will be stored under the 'P' folder (profile measurements)

Select the files you wish to transfer

Copy and paste these files to the chosen location on your computer

Once you have saved the files, check that they open correctly on your computer. If you would like to clear the gauging memory on your Hach controller, this can be done by going to *Diagnostics>Delete Files>Yes*

2. Viewing/Editing the Results

- Open the files using Excel, this ensures that all columns have the appropriate header information
- This file contains the information for the start and end times of your gauging, and the Hach-calculated discharge.

Begin physical gauging card.

- Enter site details, date, times
- After entering the times, use telemetry to get the logger stage data for the duration of the gauging
- Obtain a gauging number
  - Go into the Gauging Register at http://hydrapro.horizons.govt.nz/gauging_register.asp
  - Enter all appropriate gauging data
  - **Uncheck "Glog?"**
  - Click "Save"

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- Record Gauging ID ***and*** Site Gauging Number on the physical gauging card along with the Hilltop file it is located in (Central/Eastern/Northern/Discharge)
- Move your Hach gauging file to the "Hach" folder in //Ares/Hydrology Sites/*HydroSiteName/Gaugings/*
- Rename to *GaugingNumber_Date_3-LetterCode.tsv*

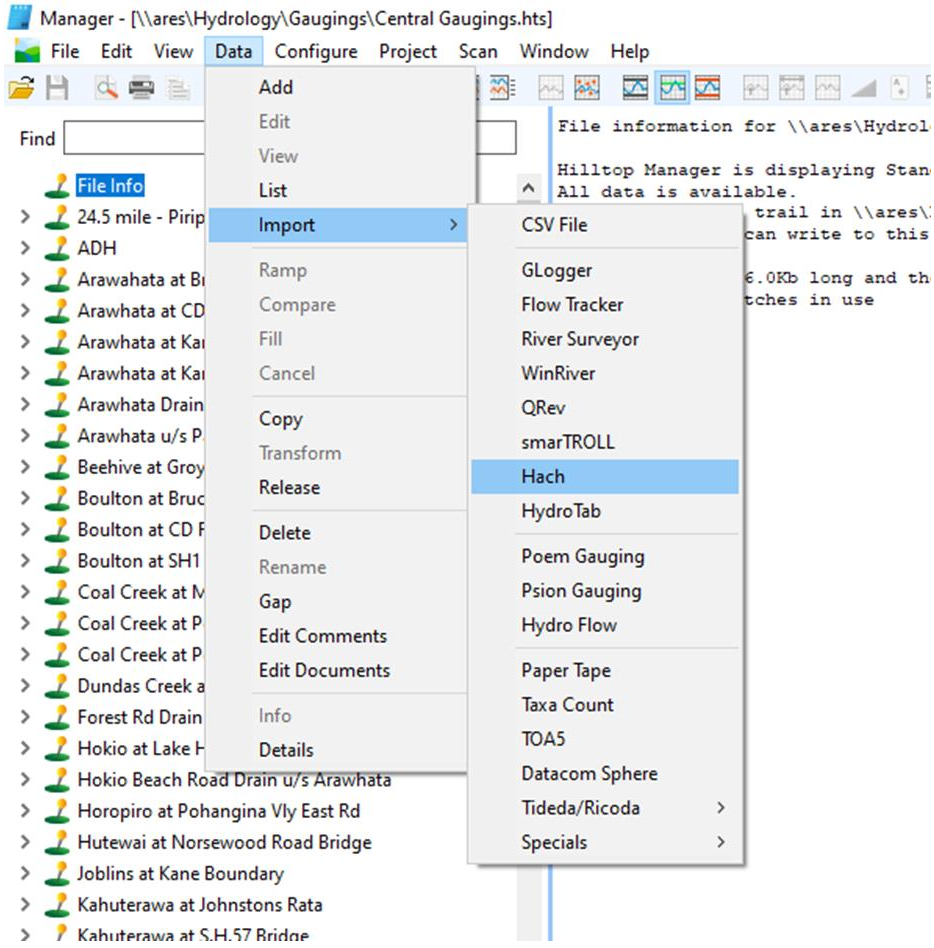
  Example: 421137_20210610_KIS.tsv

From here, you can now import your gauging to the "HachImport" version of manager *(see the data team and IT for permissions and file directory)*

3. Importing into Manager

Open Manager and the appropriate Hilltop file (Central/Eastern/Northern/Discharge)

On the top ribbon, navigate to:
Data>Import>Hach (Pictured)



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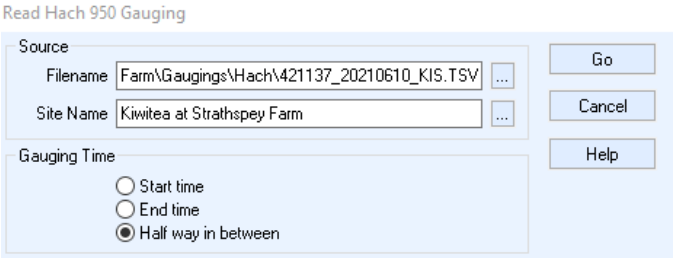
Navigate to your gauging file

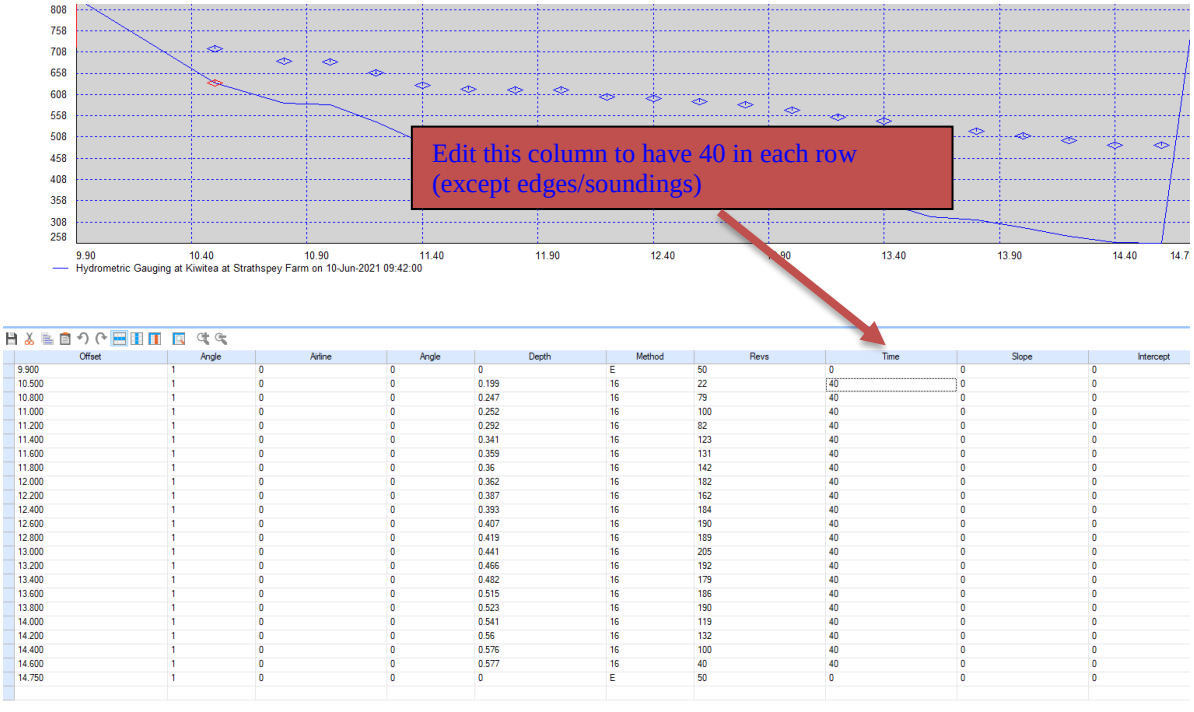
Select the correct site name for your gauging

Set gauging time to “Half way in between” and click “Go”



Processing the gauging in Hilltop:

On the first screen that pops up after importing your gauging, you will need to edit the “Time” field to display “40” (the exposure time, in seconds) for each vertical *excluding* edges and soundings



Offset	Angle	Airline	Angle	Depth	Method	Revs	Time	Slope	Intercept
9.900	1	0	0	0	E	50	0	0	0
10.500	1	0	0	0.199	16	22	40	0	0
10.800	1	0	0	0.247	16	79	40	0	0
11.000	1	0	0	0.252	16	100	40	0	0
11.200	1	0	0	0.292	16	82	40	0	0
11.400	1	0	0	0.341	16	123	40	0	0
11.600	1	0	0	0.359	16	131	40	0	0
11.800	1	0	0	0.36	16	142	40	0	0
12.000	1	0	0	0.362	16	182	40	0	0
12.200	1	0	0	0.387	16	162	40	0	0
12.400	1	0	0	0.393	16	184	40	0	0
12.600	1	0	0	0.407	16	190	40	0	0
12.800	1	0	0	0.419	16	189	40	0	0
13.000	1	0	0	0.441	16	205	40	0	0
13.200	1	0	0	0.466	16	192	40	0	0
13.400	1	0	0	0.482	16	179	40	0	0
13.600	1	0	0	0.515	16	186	40	0	0
13.800	1	0	0	0.523	16	190	40	0	0
14.000	1	0	0	0.541	16	119	40	0	0
14.200	1	0	0	0.56	16	132	40	0	0
14.400	1	0	0	0.576	16	100	40	0	0
14.600	1	0	0	0.577	16	40	40	0	0
14.750	1	0	0	0	E	50	0	0	0

Check for any negative velocities on the Hach output and correct these on the Hilltop file. Negative velocities will show up as a zero in the “Revs” column in Hilltop. If you need to correct these, put the number **without** the decimal point. For example, -0.046 on the Hach can be entered as -46 in Hilltop.

Check all other verticals have the correct details, note any edits in the comments as these will create a difference between the .tsv and hilltop output.

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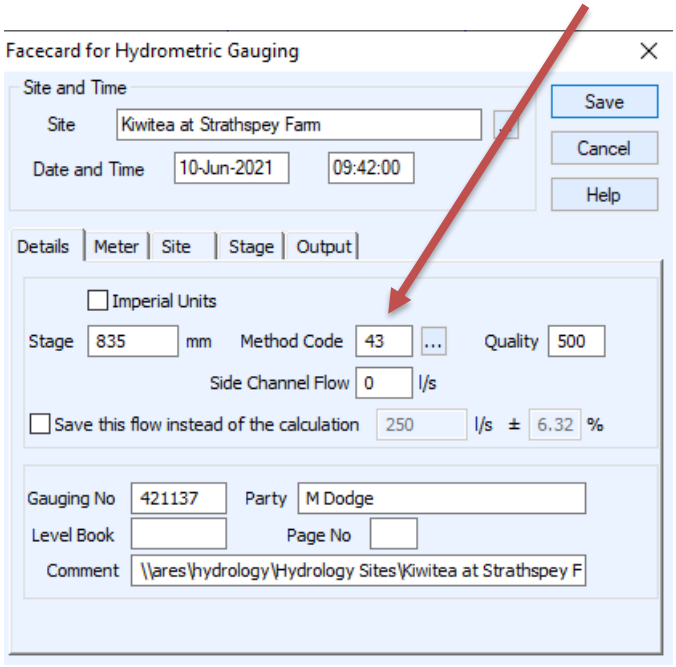
Click the “Edit Face Card” button (Ace of Diamonds) on the manager task bar ribbon to begin editing the Hilltop face card

Details

- Check site is correct
- Check date/time
- Enter stage
- Change your gauging method code from 46 to 43 on the front tab of the face card editor



- Enter quality (once known)
- Enter gauging number
- Enter gauging party
- Delete the default comment (file path) and replace with any relevant comments from your gauging

Meter

Check that the current meter serial number and details are correct

Site

Enter location information as appropriate – Where you gauged it
Add all other known information – Temperature, Clarity, Wind

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Stage

- Check/correct arrival and departure time
- Check/correct start and finish time
- Enter recorder stage values for arrival/departure
- Enter any ESG or reference readings and associated errors at arrival/departure

Save the face card **then also** click the save icon at the top left of your manager window once the face card closes

Hard copies

Open and print the 'Hydrometric Gauging' from Hilltop

Open the TSV file (the Hach file) with Excel and print – print in landscape and scale to fit sheet on one page

Add all missing information to the physical gauging card from the Hilltop printout

Staple the Hach printout to the gauging card and attach the Hilltop printout with a paperclip

Place the hard copies on your team's gauging card pile to be checked by another team member

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