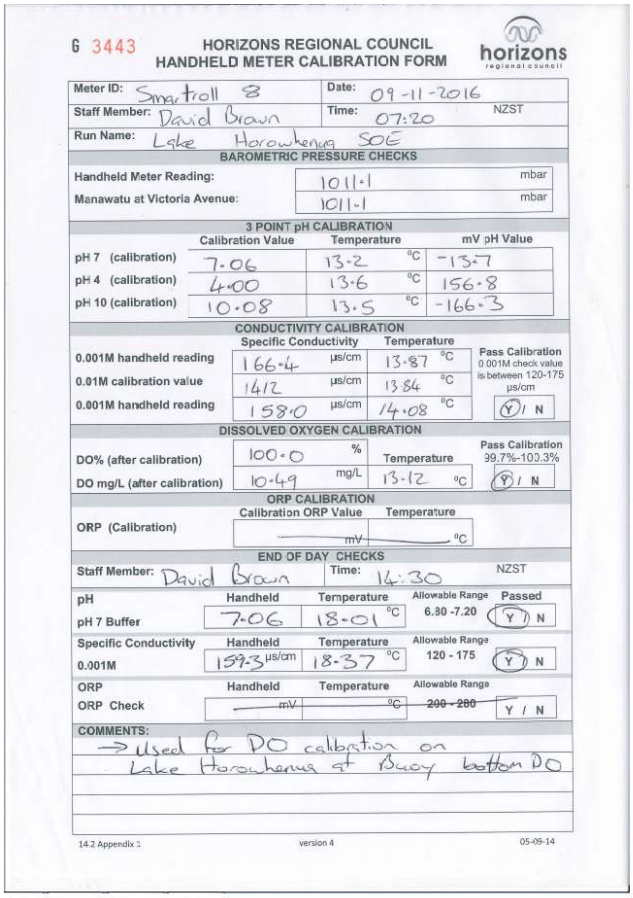
Loading Handheld Meter Calibration Forms Into Hilltop

Overview:

This procedure outlines the process of entering Handheld Meter Calibration Forms (SmarTrolls, ExoSondes, YSI's, etc.) into Hilltop and what to do with forms after they have been entered. Calibration forms are filled out as a check to see whether handhelds have any faults with them prior to use in the field. Once field staff have finished with their handheld at the end of the day they will continue to fill out the calibration form to check if any faults with the handheld occurred during use. Calibration forms provide a form of confidence in data collected by handhelds; if handhelds pass checks set out by the calibration form we can be confident they were accurately recording data throughout the day.

Handheld Meter Calibration Forms:

Handheld Meter Calibration Forms are stored in the Water Quality Shed to the rear of Regional House. Handheld books are kept here because this is the primary site where handhelds are calibrated. Each Handheld has its own book of calibration forms which stay in the shed, however on some rear occasions books may be taken by staff who have early starts or overnight trips in order to calibrate handhelds offsite. At the end of each month filled out calibration forms will be picked up by Darren Bentley-Hewitt to be checked for errors. After being checked, calibration forms are pinned up by the Logsheets drop-off with a poo emoji label.



G 3443 HORIZONS REGIONAL COUNCIL HANDHELD METER CALIBRATION FORM

Meter ID: Smartroll 8 | Date: 09-11-2016
Staff Member: David Brown | Time: 07:20 NZST
Run Name: Lake Horowhenua SOE

BAROMETRIC PRESSURE CHECKS

Handheld Meter Reading:	1011.1	mbar
Manawatu at Victoria Avenue:	1011.1	mbar

3 POINT pH CALIBRATION

	Calibration Value	Temperature	mV pH Value
pH 7 (calibration)	7.06	13.2 °C	-13.7
pH 4 (calibration)	4.00	13.6 °C	156.8
pH 10 (calibration)	10.08	13.5 °C	-166.3

CONDUCTIVITY CALIBRATION

	Specific Conductivity	Temperature	Pass Calibration (0.001M check value is between 120-175 µs/cm)
0.001M handheld reading	166.4 µs/cm	13.87 °C	
0.01M calibration value	1412 µs/cm	13.84 °C	
0.001M handheld reading	158.0 µs/cm	14.08 °C	(Y) / N

DISSOLVED OXYGEN CALIBRATION

			Pass Calibration (99.7%-100.3%)
DO% (after calibration)	100.0 %	Temperature	
DO mg/L (after calibration)	10.49 mg/L	13.12 °C	(Y) / N

ORP CALIBRATION

	Calibration ORP Value	Temperature
ORP (Calibration)	mV	°C

END OF DAY CHECKS

Staff Member: David Brown | Time: 14:30 NZST

	Handheld	Temperature	Allowable Range	Passed
pH 7 Buffer	7.06	18.01 °C	6.80 - 7.20	(Y) N
Specific Conductivity 0.001M	159.3 µs/cm	18.37 °C	120 - 175	(Y) N
ORP ORP Check	mV	°C	~~200 - 280~~	Y / N

COMMENTS:
→ Used for DO calibration on Lake Horowhenua at Buoy bottom DO

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Figure 1. Example Handheld Meter Calibration Form filled out

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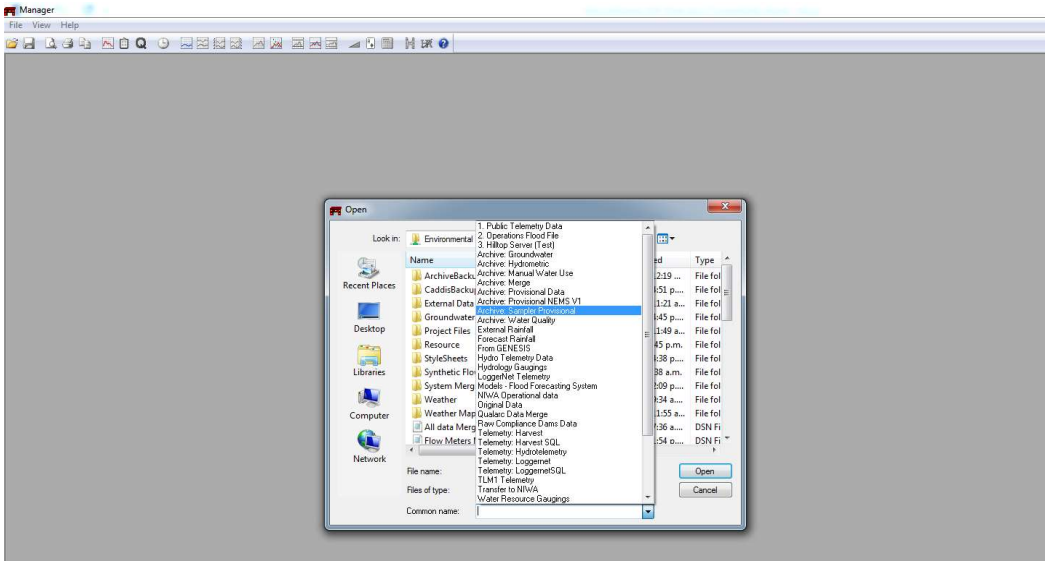
Entering Data into Hilltop:

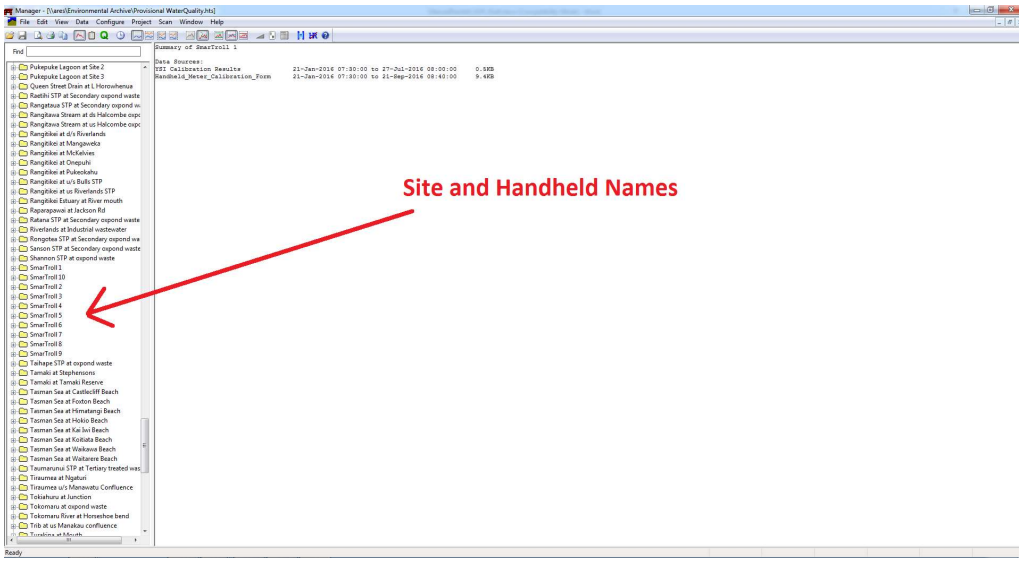
1) Handheld Meter Calibration Forms are entered to the Provisional Water Quality Archive.

   a. An easy way to get to the Archive is to open Hilltop and click on 'File' at the top of the page
   b. Scroll down the File Tab and click on 'Open'
   c. Now click on the drop down menu at the bottom labelled 'Common Name' and select 'Archive: Sampler Provisional' then Open



   d. Another way to open the file is to follow the link: \\ares\Environmental Archive\Provisional WaterQuality.hts

2) Scroll through the sites list on the left hand-side of the page to find the matching handheld for the calibration form you are entering.



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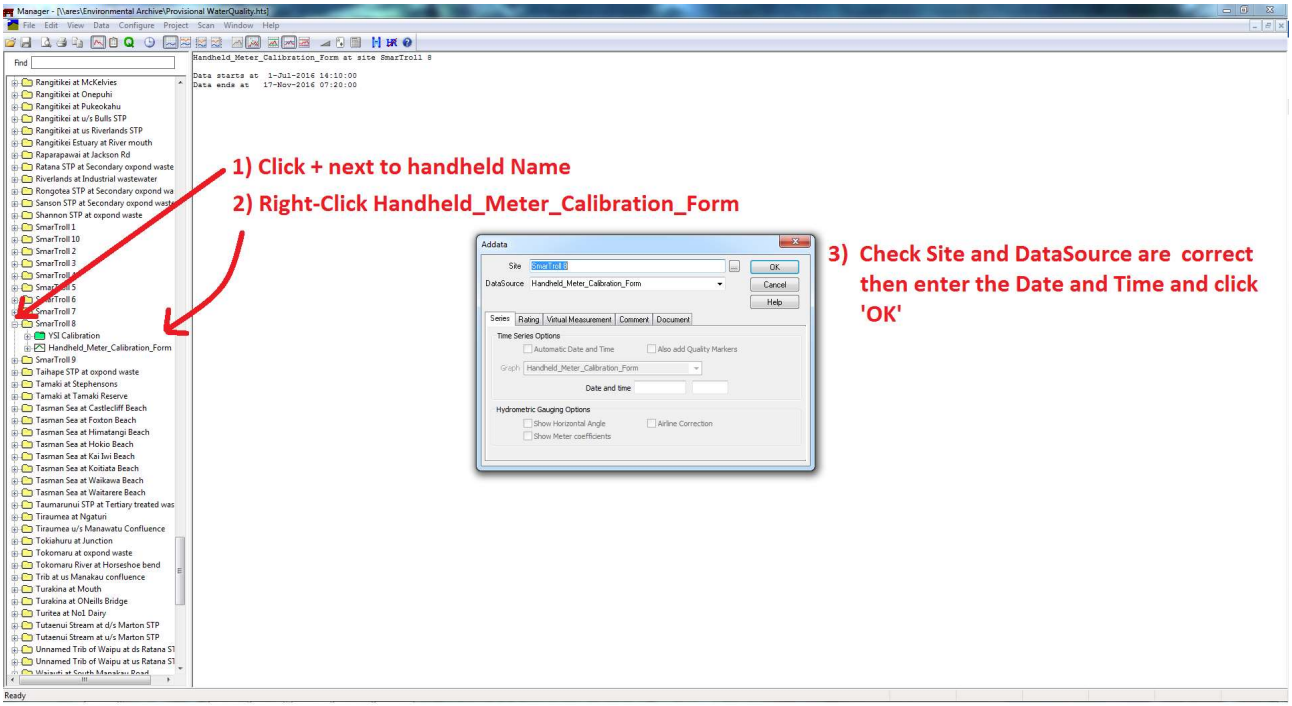
3) Click the '+' symbol next to the handheld name you are entering and then right click on the Handheld_Meter_Calibration Form and select 'Add' to bring up the following window:



4) Check to make sure the 'Site' has the same name as the handheld calibration form you are entering, if not click 'Cancel' and select the correct handheld. If you cannot find the handheld name anywhere on the left then it is possible that the handheld may be new to the fleet. You will need to create a new folder for new handhelds which is as simple as entering the new name into the 'Site' bar and filling out the rest of the window as follows. Current meters that are already in the fleet are:

- Exo2 Sonde 13E103761
- Exo2 Sonde 13E103859
- SmarTroll 1
- SmarTroll 2
- SmarTroll 3
- SmarTroll 4
- SmarTroll 5
- SmarTroll 6
- SmarTroll 7
- SmarTroll 8
- SmarTroll 9
- SmarTroll 10
- YSI Pro 9
- YSI Pro DSS 10

If you suspect a handheld is new to the fleet consider asking either Darren or one of the field staff first before adding a new handheld site folder.

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5) The date can be entered into the window using various formats such as DD/MM/YYYY, DD:MM:YYYY, or using the TIDEDA format 1YYMMDD.

   For example: 07/05/2016 can also be entered 07:05:2016, or 1160507.

   Time must be include hours, minutes and seconds, however does not have to include colons (HH:MM:SS).

   For example: 10:30:00 or 103000

   After checking the Site, DataSource, Date and Time are correct click 'OK'

6) After clicking OK an electronic spreadsheet will appear with all the same fields as what is on the calibration form. Transfer all the information from the calibration form onto the electronic field sheet and make sure to select 'Pass' at the bottom if the form has a PASSED stamp on it.

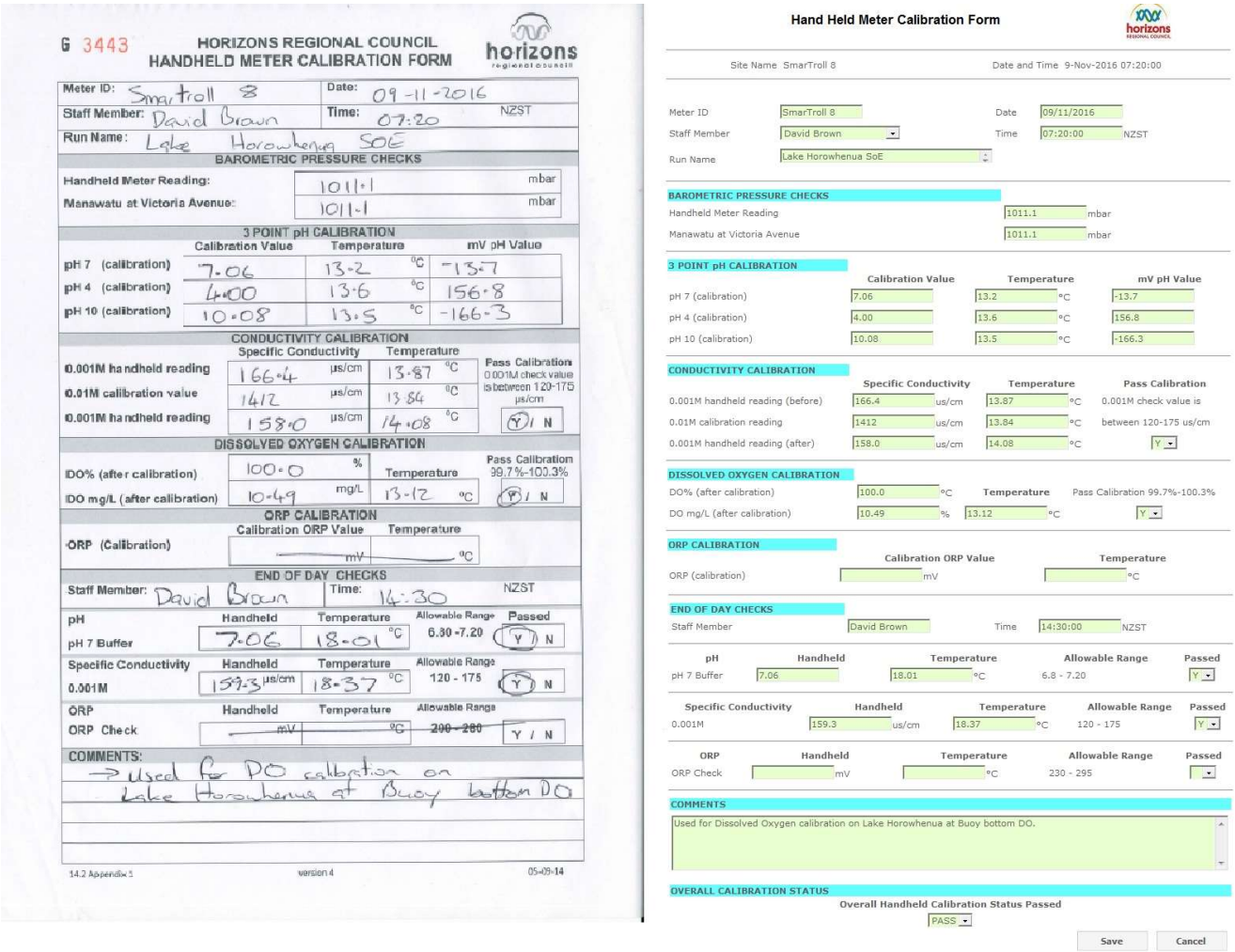

Figure 2. Hard Copy Calibration Form and Electronic Forms

7) Click 'Save' to save form to Hilltop and then stamp the hardcopy with an 'ENTERED' stamp

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Filing Away Forms:

After calibration forms have been entered they are stored away in a cardboard box in the Archive Room in-between the Science Office and Stairwell in Regional House. Have someone show you where this box is; people who can show you include Ariana Blackwood, Darren Bentley-Hewitt, Matthew Putt, Brent Watson and Maree Patterson. In the box calibration forms are dog-clipped together in bunches relating to what handheld they are for. Forms are also ordered from oldest at the back to most recent in the front; you can judge how to order them based off either the sheet number (in red on the top left corner) or by the date written on the forms.

Who to Contact for help:

Any general questions regarding the procedure can be directed to:

Darren Bentley-Hewitt
021 2277 134
Darren.Bentley-Hewitt@horizons.govt.nz

Brent Watson
021 2277 199
Brent.Watson@horizons.govt.nz

For problems specifically related to the Hilltop Electronic Forms (e.g. missing staff members from the drop down field or any other Hilltop errors) contact Brent Watson.