

### **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.

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10+49 ORP C	mg/L	13-12		99.7%-100.3%
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Figure 1. Example Handheld Meter Calibration Form filled out

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	Hydrology Operations Manual			

# Loading Handheld Meter Calibration Forms Into Hilltop

# **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

iew Help			
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🚝 Open			
	1. Public Telemetry Data		
Look in:	Levironmental 2. Operations Flood File 3. Hiltop Server (Test)		
	Name Arabius Hudiometric	ed Type 🔶	
	ArchiveBack, Archive: Manual Water Use	2:19 File fol	
Recent Places	CaddisBackul Archive: Merge	I:51 p File fol =	
	External Data Archive: Provisional NEMS V1	1:21 a File fol	
		1:45 p File fol	
Desktop	Groundwater Archive: Water Quality     Project Files External Rainfal	- 1:49 a File fol	
	Forecast Rainfal		
	Resource From GENESIS	45 p.m. File fol	
	StyleSheets Hydro Telemetry Data	k38 p File fol	
Libraries	Synthetic Flor Hydrology Gaugings LoggerNet Telemetry	38 a.m. File fol	
	System Merg Models - Flood Forecasting System	209 p File fol	
	Weather NIWA Operational data Original Data	1:34 a File fol	
Computer	Weather Map Qualarc Data Merge	1:55 a File fol	
	All data Merg Raw Compliance Dams Data Telemetry: Harvest	1:36 a DSN Fi	
	Flow Meters / Telemetry: Harvest SQL	:54 p DSN Fi *	
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	Water Resource Gaugings	-	
	Common name:		

- d. Another way to open the file is to follow the link: <u>\\ares\Environmental Archive\Provisional</u> <u>WaterQuality.hts</u>
- 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.





### Loading Handheld Meter Calibration Forms Into Hilltop

 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 9
    SmarTroll 10
  - Smar From
    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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## Loading Handheld Meter Calibration Forms Into Hilltop

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.

Manual

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

nor

regional council

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.

G 3443 HO	443 HORIZONS REGIONAL COUNCIL				Hand Held Meter Calibration Form			
HANDHEL	D METER CA	ALIBRATION	FORM	regional asunali	Site Name SmarTroll 8	3	Date and Time 9-Nov	-2016 07:20:00
Meter ID: Smartroll	8	Date: 09	-11-201	6				
Staff Mamhar - 1	Brown	Time: 07	:20	NZST	Meter ID SmarTroll 8	8	Date 09/11/201	6
Run Name: Lake	Horowher	nug SOE			Staff Member David Brov	_	Time 07:20:00	NZST
	BAROMETRIC PR	RESSURE CHEC	KS		Run Name Lake Horow	/henua SoE	( <b>Q</b> )	
Handheld Meter Reading:		1011+1		mbar	BAROMETRIC PRESSURE CHECKS			
Manawatu at Victoria Avenu	10::	1011-1		mbar	Handheld Meter Reading		1011.1 r	mbar
Calib	3 POINT pH	CALIBRATION Temperature		V pH Value	Manawatu at Victoria Avenue		1011.1 r	mbar
whi 7 (selfbretion)		13.2	°C -13		3 POINT pH CALIBRATION			
mild (collibration)	06	13.6	13			Calibration Value	Temperature	mV pH Value
4	.00		150		pH 7 (calibration)	7.06	13.2 °C	-13.7
	0.08	13.5	180		pH 4 (calibration)	4.00	13.6 °C	156.8
	CONDUCTIVIT Specific Cond	ductivity Ter	l nperature		pH 10 (calibration)	10.08	13.5 °C	-166.3
0.001M handheld reading	166.4		.87 °C	Pass Calibration 0.001M check value	CONDUCTIVITY CALIBRATION		129 B	020 STICKY 300
0.01M calibration value	1417	µs/cm 13	SG °C	is between 120-175 µs/cm	0.001M handheld reading (before)	Specific Conductivity	Temperature	Pass Calibration 0.001M check value is
0.001M handheld reading	158.0	µs/cm /4	00	(DIN	0.01M calibration reading	1412 us/cm	13.84 °C	between 120-175 us/cm
-		GEN CALIBRAT			0.001M handheld reading (after)	158.0 us/cm	14.08 °C	Y -
B		%	ny in	Pass Calibration		11010 Usychi	114.00	
IDO% (after calibration)	100.0	Ten	nperature	99 <u>.7%-100.3%</u>	DISSOLVED OXYGEN CALIBRATIO			
IDO mg/L (after calibration)	10-49	mg/L 13	-12 °C	(PIN	DO% (after calibration)	100.0 °C		s Calibration 99.7%-100.39
	ORP CAI Calibration O	LIBRATION PR Value	nperature		DO mg/L (after calibration)	10.49 %	13.12 °C	Y 💌
ORP (Calibration)	Guildiation of				ORP CALIBRATION			
	END OF D	MY CHECKS	°C		ORP (calibration)	Calibration ORP V	/alue	Temperature °C
Staff Memiber:	0	Time:	30	NZST	Calibration)	I mv		
pH	Handheld	Temperature	Allowable Ra	nge Passed	END OF DAY CHECKS		_	
-	7.06	18-01 00	6.30 -7.2		Staff Member	David Brown	Time 14:30:00	NZST
pH 7 Buffer	Handheld		Allowable Ra		pH Handhe	eld Temper	ature Allow	vable Range Passe
	59-3 <sup>µs/cm</sup>	Temperature	120 - 17		pH 7 Buffer 7.06	18.01	°C 6.8 - 7.20	Y_
		1 1	Allowable R:		Specific Conductivity	Handheld	Temperature /	Allowable Range Pass
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			200-20	Y/N				
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Figure 2. Hard Copy Calibration Form and Electronic Forms

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

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## Loading Handheld Meter Calibration Forms Into Hilltop

# 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.