

Christchurch Rebuild Remote Monitoring and Management Solutions

AS ECO Series



AS ECO Series Initial Development

Having been invited to Christchurch to investigate potential sewage monitoring solutions for the earthquake damaged infrastructure, further discussions with SCIRT contractors uncovered additional rebuild requirements. Dathan Proudlove of Downer NZ Ltd approached us in 2012 with a challenge to create a device to remotely monitor liquid and waste levels on construction sites and alert company personnel to any potential issues. This would help the fragile Christchurch environment whilst avoiding council penalties. Downer Ltd's requirements were that any device must be:

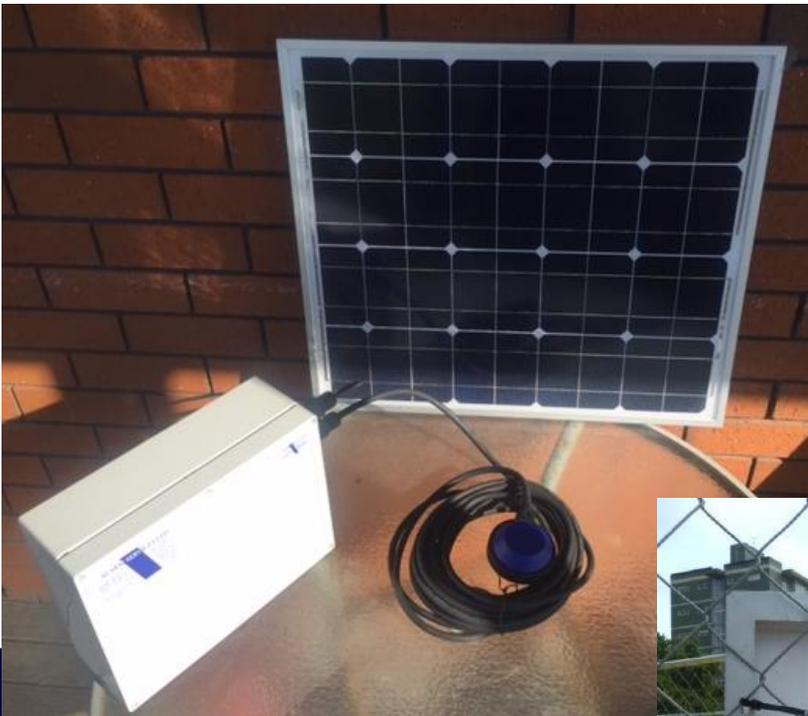
- Rugged, self contained, shatter proof, UV proof and robust
- Reliable – must report 24x7 – no downtime
- Simple to setup - minimal installation effort or instruction
- Waterproof – device and connections to IP67 standards
- Self powered – internal battery backed up by solar or generator
- Constantly monitoring liquid levels – via float/flow switches
- Providing Web, PC, Tablet and Mobile access to incident information
- 24/7 monitoring of all signals to a government registered professional alarm Monitoring Station
- Have the correct company people contacted directly by the Monitoring Station personnel to ensure that all incidents are responded to promptly



AS ECO Series in the Field

The AS ECO Series 12 unit we designed, developed and implemented exceeded Downer's requirements. This unit has since proven itself many times in the field helping contractors avoid a number of potentially costly and environmentally impacting incidents by constantly monitoring changing liquid/waste levels. Working closely with SCIRT contractors our AS ECO Series devices are now in daily worksite use by:

- Downer NZ LTD
- Connell Contractors
- McConnell Dowell
- Fletchers
- Fulton Hogan
- Citycare



Further AS ECO Series Development

Dathan Proudlove from Downer Ltd and Drew Griffen of Connell Contractors recently approached us having successfully used our AS ECO Series 12 units on a number of their sites. For Connell's newest project, the Christchurch Hospital build, we were asked if we could provide further enhancements to our AS ECO 12 unit to enable the additional following remote access functionality:

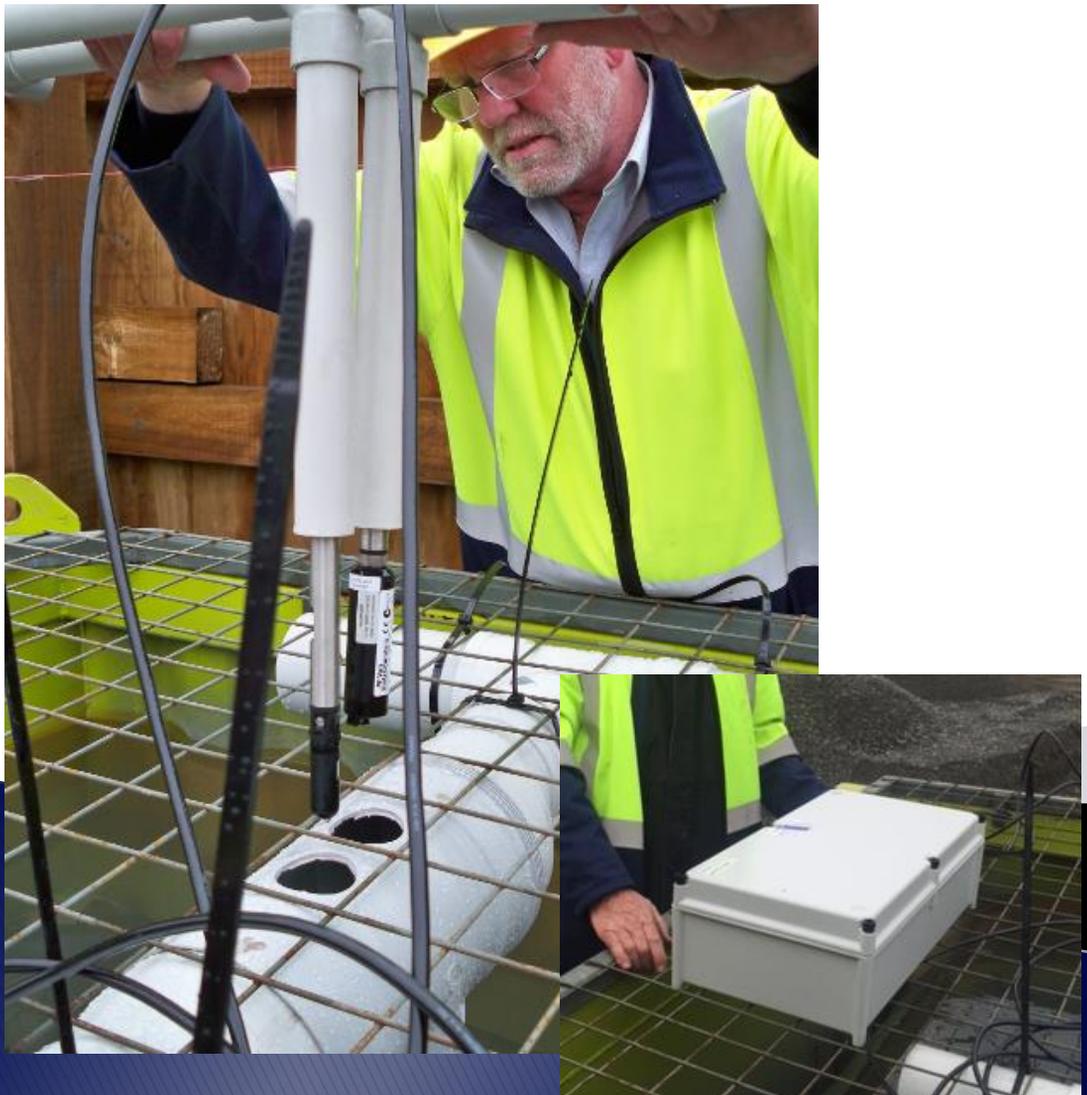
- Stop and start of diesel powered water pumps
- Report individual diesel pump failures
- 24x7 10 minute interval monitoring and reporting of data for ground water flowing through cascade holding tanks before returning to the Avon for:
 - PH levels
 - Turbidity levels
 - Water temperature
- Web, PC, Tablet and Mobile Phone access to live and historical PH and turbidity level data, as well as pump data
- Instant incident notification for exceeded PH and Turbidity parameters, or any pump failure with company personnel immediately contacted by our Monitoring Station



AS ECO Series 20

The enhanced AS ECO Series 20 unit we implemented more than satisfied Connell Contractor's specific requirements. It was installed in June 2015 and has performed faultlessly since. Historical and current water temperature, PH and Turbidity data are available for real time viewing online along with the unit power data.

Individual Connell Contractor employees with approved access are now able to stop and start their diesel pumps remotely using mobile phones, tablets or PCs from literally anywhere on the planet if the PH or Turbidity levels exceed the allowed maximums thus avoiding environmental disaster and fines.



AS ECO Series Design

Come to us with your work site challenges and we can work together to customise our AS ECO Series units to provide the monitoring, management features and functionality you require.



Remote Access – Incident Mangement

We pride ourselves on being able to alert you promptly of incidents and then supply you with the necessary data on which to make the right decisions, all through using our comprehensive remote access Web and Mobile apps, all backed up by professional Monitoring Station communication.

Using our apps and our Monitoring Station , the correct people in your organisation will be individually called by telephone to respond to incidents both real and potential. Upon incident resolution by the contractor and normal service has been resumed the Monitoring Station must to be contacted in order to close the ticket or emergency notifications (via phone and text) will continue.

We do not rely on text-only based solutions. Our communication is fully interactive and your personnel are then able to monitor the situation themselves (using their Mobiles, PC, and Tablets), and make the right decisions based on the available information allowing them to take charge – all remotely.



Remote Incident Access - Mobile

Reported Incidents displayed (using the app) on a SmartPhone

Voda NZ 8:56 am 22%

CCL ASB Pump 2 AL... Options >

CCL ASB Pump 2 ALARM - HIGH PRIORITY
0551-0001

Phone

8/07/2015 6:04 p.m.
Restore Pump Failure

8/07/2015 5:55 p.m. >
Alarm Pump Failure

7/07/2015 12:32 p.m.
Restore Pump Failure

7/07/2015 12:27 p.m. >
Alarm Pump Failure

6/07/2015 5:39 p.m.
Restore Pump Failure

Voda NZ 8:55 am 22%

Alarm Details

CCL ASB Pump 2 ALARM -
Alarm Pump Failure

NOTES

PUMP FAILURE - DO NOT NEED TO CALL IF IT RESTORES WITHIN 10 MINS PER DR EW/SUE 24/06/2015

8/07/2015 5:55 p.m.

Slept Alarm

8/07/2015 5:55 p.m.
The operator Ainsley has scheduled for this alarm to be checked again at Jul 8 2015 6:04P M

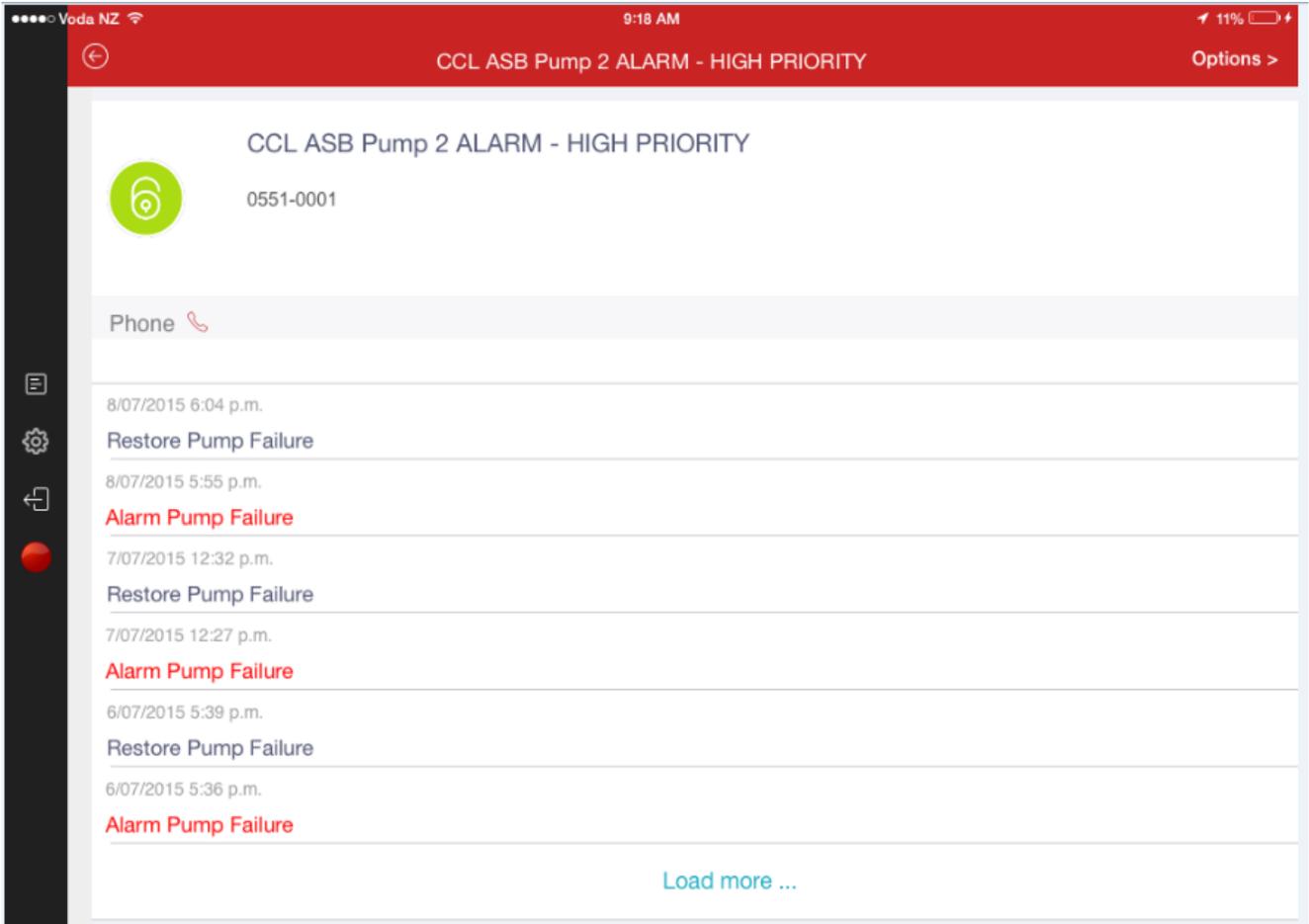
08/07/2015 18:04:04 Restore Pump Failure
:

8/07/2015 6:05 p.m.
Restored

8/07/2015 6:05 p.m.

Remote Incident Access - Tablet

Reported Incidents displayed (using the app) on a Tablet.



Online Incident Monitoring

As can be seen in the demonstration below, the AS ECO Series 20 immediately informed our Monitoring Station that there was a pump failure. Our Monitoring Station personnel then contacted the named client contact to inform him of the problem and request further advice.

On the Web access (secure from any authorised Mobile, PC, Tablet) there is a record of all incident activity reported by each AS ECO device and by inference, contractor work site and monitored equipment.

In addition there is a transcript of all communication between our Monitoring Station personnel and clients that can be readily downloaded. All telephone conversations are recorded and stored indefinitely and any conversations can be recalled and emailed to the customer in order to not only get a better picture of unfolding incidents but also to allow further refinement of client processes.

The screenshot displays a monitoring interface with a table of events and a detailed notes window. The table lists various transmission events and one critical incident.

Date/Time	Description	Count	Actions
20/06/15 10:38:13	notes Continued	04	
20/06/15 10:38:13	Extra info changed to ***ONLY CALL IF THERE IS NO RESTORE AFTER 5 MINUTES AS PER DREW** SMS # 642	64	
20/06/15 10:31:26	Pump Fail Pump 1 Failure	1	Read operator report Raw Data
20/06/15 9:50:50	Periodic RF Transmission		Raw Data
20/06/15 8:50:56	Periodic RF Transmission		Raw Data
20/06/15 7:50:58	Periodic RF Transmission		Raw Data
20/06/15 6:50:59	Periodic RF Transmission		Raw Data
20/06/15 5:50:55	Periodic RF Transmission		Raw Data
20/06/15 4:50:51	Periodic RF Transmission		Raw Data
20/06/15 3:50:51	Periodic RF Transmission		Raw Data
20/06/15 2:50:59	Periodic RF Transmission		Raw Data
20/06/15 1:50:51	Periodic RF Transmission		Raw Data
20/06/15 0:50:54	Periodic RF Transmission		Raw Data
19/06/15 23:51:15	Periodic RF Transmission		Raw Data
19/06/15 22:50:52	Periodic RF Transmission		Raw Data
19/06/15 21:51:02	Periodic RF Transmission		Raw Data
19/06/15 20:50:55	Periodic RF Transmission		Raw Data
19/06/15 19:50:52	Periodic RF Transmission		Raw Data

The 'Notes' window for the 'Pump Fail Pump 1 Failure' incident shows the following details:

- Alarm: 20/06/15 10:31:26
- Date: 20/06/15 10:31:47
- 20/06/15 10:32:47: Called number from users page 641960272853644 (with profile picture)
- 20/06/15 10:32:52: Drew advised he will have someone checking all the pumps during the day. Asked that we only call if they have not restored after 5 minutes (with profile picture)

Remote Access To Sensor Data

It is expected that monitoring systems will create incident calls when certain parameters are exceeded, but what about being able to view sensor data trending to identify issues before they become incidents? The AS ECO Series 20 enables the customer to see their PH and Turbidity sensor data online.

The AS ECO Series 20 was set up to report sensor data at 10 minute intervals for water PH, Turbidity and temperature. Backup battery voltage reports hourly. In the example below the current and historical data can be viewed either as pure data or in graph form, which easily displays trending.

This information is available via secured access (Mobile, PC, Tablet). Graphed data may also be overlaid and reports produced.



Site: Chch Hospital

User: connell [Log Off] [Change User]

Grid Reference:	
Elevation (m):	

[Download Samples](#) | [Photograph of site](#)

Current Sensor Readings

Sensor	Latest Value	Last Update	Alarm Status	Data Access
Turbidity	11.572	09/07/2015 09:00:00	N/A	
pH	7.49	09/07/2015 09:00:00	N/A	
Temperature	13.3 °C	09/07/2015 09:00:00	N/A	
Supply Voltage	14.15 V	09/07/2015 09:00:00	N/A	

Plot Samples Download

Remote Access To Trended Sensor Data

Below is a sample of the trended data. Any historical time periods and scales can be selected

Chch Hospital : Turbidity

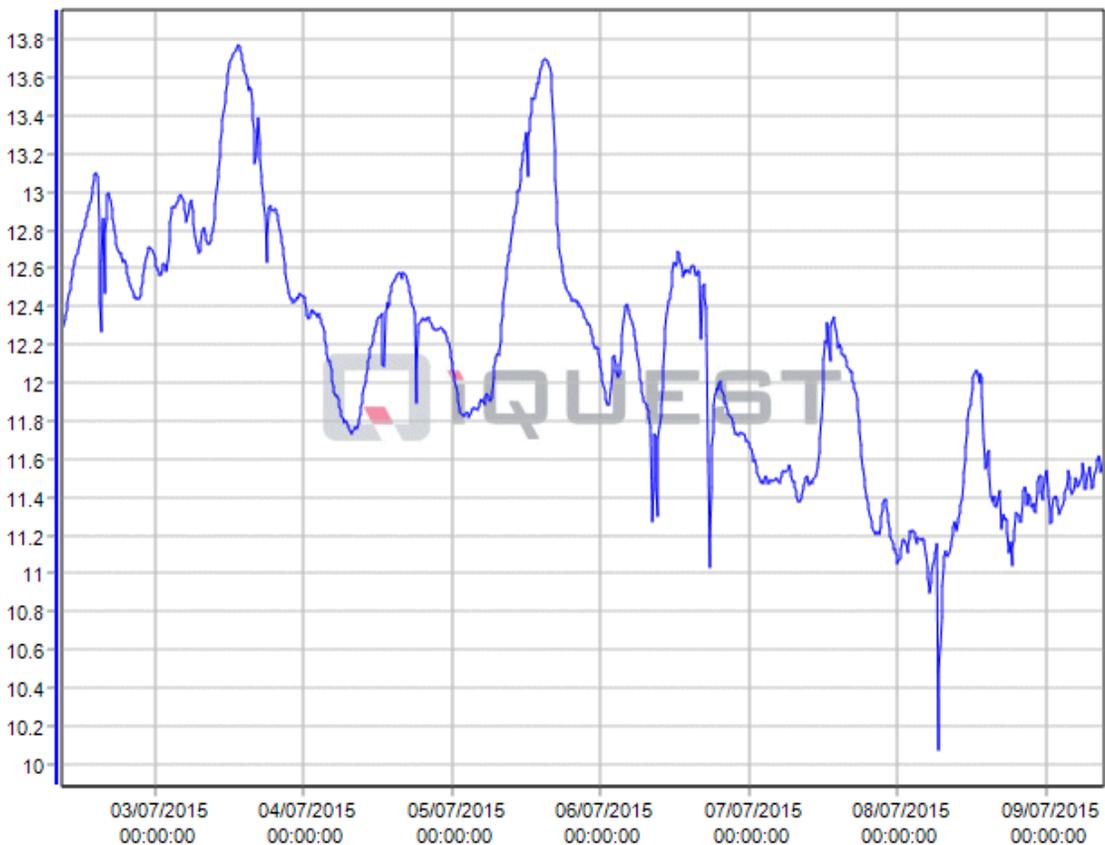
User: **connell** [Log Off] [C]

[Download Samples](#)

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Colour	Samples	Point	Units	Format	Aggregate
 	<input checked="" type="radio"/>	Chch Hospital : Turbidity		Default <input type="text"/>	Plot Period <input type="text"/>
		Lock Plots to One Axis: <input type="checkbox"/>	<input type="button" value="Update Plot"/>		

Click on the  icon next to any Sensor on the Navigation Tree to add a trace to the graph.



Graph

Samples

Remote Access To Overlaid Sensor Data

Below is a sample of the overlaid trended data. Any historical time periods and scales can be selected

Chch Hospital : Turbidity

User: connell [Log Off] [Ct

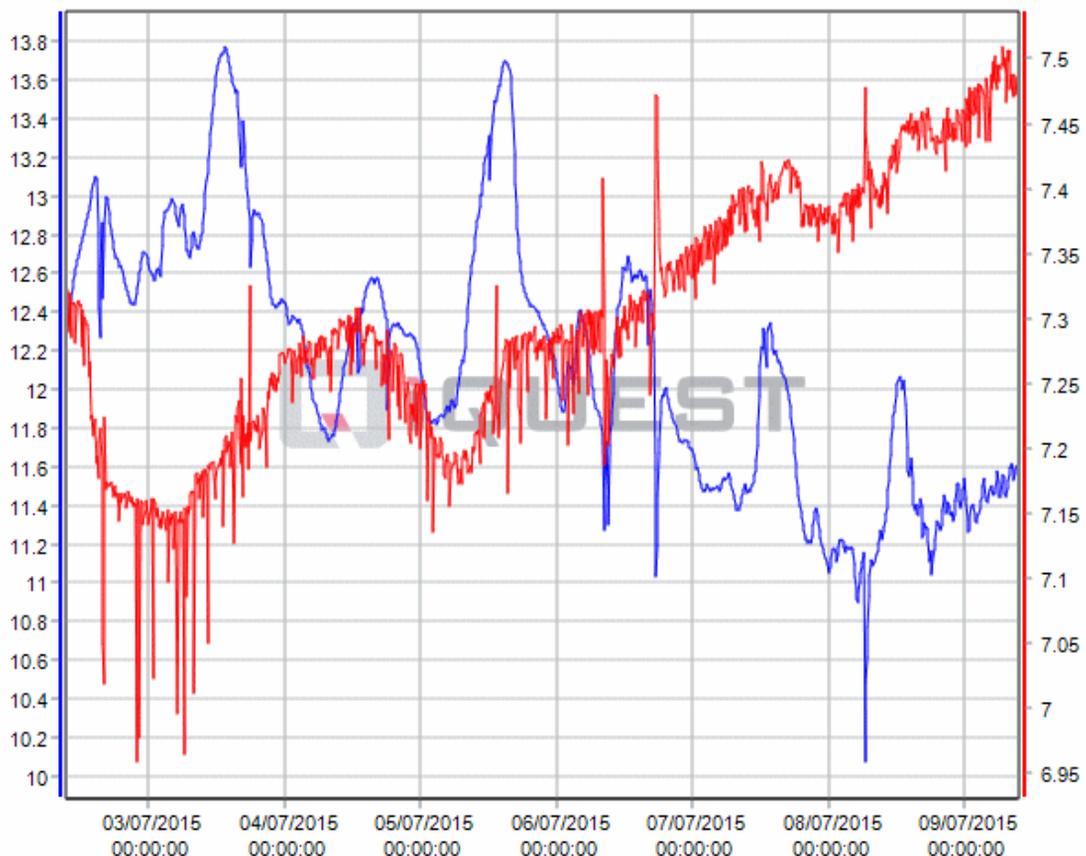
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Colour	Samples	Point	Units	Format	Aggregate
	<input checked="" type="radio"/>	Chch Hospital : Turbidity		Default <input type="text"/>	Plot Period <input type="text"/>
	<input type="radio"/>	Chch Hospital : pH		Default <input type="text"/>	Plot Period <input type="text"/>

Lock Plots to One Axis: [Update Plot](#)

Click on the  icon next to any Sensor on the Navigation Tree to add a trace to the graph.



Graph

Samples

In Summary

We are able to design and customise our AS ECO Series units to suit your particular needs.

We offer:

- Self contained, weatherproof and self powered site ready units
- Internal batteries that can be supplemented by any external 12VDC source, solar, generator, or mains for added reliability
- Units routinely remotely report on their own health and battery condition
- Professional, technically certified Monitoring Station personnel who contact your key site personnel for incident response
- Web and Phone apps that allow you to monitor alarms, incidents and sensor outputs from any location
- Web and Mobile apps that allow you to:
 - View logged and graphed historical and current sensor data
 - Monitor and report water levels, temperature, PH and Turbidity and create threshold alarming for each
 - Monitor pump or machinery and report on state changes
 - Remotely Stop and Start machinery
 - Monitor and report machine failures
 - Customise data, reporting and processes for virtually any business requirements
- The ability to be remotely forewarned of impending incidents helps save you time, onsite manpower and penalties
- **And so much more, just ask!**

Health and Safety

- All Alarm Services Ltd staff, contractors and sub-contractors will;
 - Comply with all site rules
 - Ensure members of the public are not endangered during contract work.
 - Adhere to health and safety practices and performance.
 - Comply with all relevant laws, regulations and standards
 - Complete a health and safety induction for all new contractors and sub-contractors prior to commencing work
 - Identify and manage hazards

Servicing

All servicing of the devices and associated supplied equipment is to be performed by Alarm Services Ltd or their authorised agent. Failure to do so will invalidate any warranty.

Servicing intervals vary and are based on manufacturers recommendations for each different piece of equipment.

As an example PH and Turbidity sensors will require 3 monthly servicing including calibration checks to ensure continued functional accuracy, whereas our base AS ECO Series devices will only require annual checks.

We can advise on any recommended scheduling periods, processes and associated costs.

Warranty

A 24 month warranty is provided on all parts and labour. This excludes Acts of God, client damage, vandalism, damage caused by incorrect use, installation or maintenance of equipment, or 3rd party interference.



ALARM SERVICES LTD

Alarm Services Ltd - Domestic - Rural - Commercial - Security

email: info@alarmservices.co.nz

- Alarm Systems
- CCTV Cameras
- Intercom Systems
- Alarm Monitoring
- GPRS Radio Monitoring
- Turbidity and pH Monitoring
- Gate Automation
- Gate Beams
- Smoke Alarms
- Pet Proof Sensors
- Telephone PABX Systems

To View Your Monitored Alarm click here

Setting up ASRN Unit Christchurch click here



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