

How to Perform a Low-Flow Test with VuSitu

In this tech note, you'll learn how to use VuSitu with the Aqua TROLL 600 Multiparameter Sonde to conduct a low-flow test. Once your test is complete, it's easy to save the results to your mobile device. You can then share your test report via email, text or cloud storage.





1. Flip and Pour

After thoroughly cleaning and rinsing the sonde and sensors, flip the restrictor into calibration & storage mode. Hold the sonde with the sensors pointing up. Pour the calibration standard directly into the restrictor until the sensors are covered.

Calibration Sequence

Open VuSitu and connect to the Aqua TROLL 600. If you cannot connect, remember to loosen and then tighten the battery compartment on the sonde. This will reset the Bluetooth connection and you will automatically connect with the instrument. The LCD display on the Aqua TROLL 600 will light up when you do this. If a serial number appears, you know it is working.



alibration Details Calibration Point 1

calibrate to your specifications or click on Quick-

Calibration will be automatic, and a calibration report will be created.

> Click on Save to ... and save your Calibration Report to the cloud or e-mail it to yourself.



2. Hold and Calibrate

Continue holding the sonde in a vertical orientation with the sensors pointing up. This prevents bubbles from forming on the sensor face. Perform the calibration using VuSitu or WinSitu 5.



3. Rinse and Rinse

Between calibrations and calibration points, discard the calibration standard, remove the restrictor and rinse all parts thoroughly with deionized water. For best results, follow the water rinse by rinsing twice with the standard to be used for the next calibration point.

VuSitu Low-Flow Test Procedure...

- Calibrate the Agua TROLL 600
- Select Low-Flow from the VuSitu menu
- Configure and run the test
- Save and share test report

CALL OR CLICK TO PURCHASE OR RENT 1-800-446-7488 (toll-free in U.S.A. and Canada) 1-970-498-1500 (U.S.A. and international)

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Running the Test

To begin your sampling regime, set up on the well you want to sample, click on the upper-left menu bars, click on **Low-Flow**, choose the well template with the corresponding well you are sampling, review the Setup – Criteria – Well – Details and click **Start** when ready. Make sure you have a stable flow and drawdown established when you start the test. Click **Start**. The low-flow sampling sequence will run automatically.

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|------------------------|--------------|---------------------|---------------|---------|------|-------|--------------------------|-------|------------|-------------|------|
| E 😻 Low-Flow Testing | < 🍘 La | ow-Flow Set | ир | | | ا 🎲 ۱ | ow-Flow S | etup | | | |
| - Connected Instrument | IN 445985 Aq | uaTROLL 600 No | n-Vented - SN | 445985 | | A | quaTROLL 600 | Non-V | /ented - S | N 445985 | |
| 🖄 Live Readings | Setup | Criteria | Well | Deta | ails | Setup | Criteri | a | Well | Det | ails |
| 🕍 Downloaded Data | Flow Ce | ell Volume | 130.00 | ml | | 0 | рH | +/- | 0.1 | pН | ۰. |
| 9 Locations | Samp | le Interval | 5:0 | | | 0 | Temperature | +/- | 0.5 | ۴F | ¢. |
| Low Flow | | Flow Rate | 100 | ml/min | ¢ | 0 | Specific Conductivity | +/- | 3 | % µS/cm | ¢ |
| | Initia | l Depth to Water | 12 | ft | ¢ | 0 | RDO Concentratio n | +/- | 0.3 | mg/L | ¢ |
| | _ | | | | | 0 | Turbidity | +/- | 10 | NTU | ф |
| | | | | | | 0 | ORP | +/- | 10 | mV | ф |
| | | | | | | 0 | Depth To Water | +/- | 5 | cm | ¢ |
| | | | | | | 0 | Salinity | +/- | 10 | PSU | ф |
| | | | | | | | | | | | |
| | Save a | and Close | \$ | Start | | Save | and Close | | | Start | |

| Aqua | TROLL 600 | Non-\ | /ented - SN 4 | 459 | 85 |
|------------|-----------|-------|---------------|-----|---------|
| Setup | Criter | ia | Well | | Details |
| Location / | Well ID | | MW-03 | | > |
| Well D | iameter | 2 | | in | -0 |
| Casi | ng Type | ente | er material | | |
| Tota | al Depth | 25 | | ft | 4 |
| Top of | Screen | 15 | | ft | 0 |
| Screen | Length | 10 | | ft | 0 |

Start



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|--------------|------------------|-------------|-------------|
| C B Low-Fl | ow Test | | |
| AquaTRO | LL 600 Non-Ven | ted - SN 44 | 5985 |
| ① Low-Flow R | eadings | | |
| Que el la | LIVE READIN | GS | |
| Specific | c Conductivity | 0.00 µS | /cm |
| RDO (| Concentration | 7.75 m | ı/L |
| | | | |
| | Turbidity | 0.08 NT | U |
| | ORP | 140.2 m | ٧ |
| | = | | |
| RECO | ORDED SAMPLE | READINGS | - da |
| | © 02:15 | | <u>Q</u> |
| Elapsed Time | Depth To Wat | er | Flow |
| | +/- 5 cm | | ml/min |
| 20:40 | 365.76 | | 100.00 |
| 15:39 | 365.76 | | 100.00 |
| 10:40 | 365.76 | | 100.00 |
| 05:40 | 365.76 | | 100.00 |
| Rotate sci | reen to view all | ample read | lings |
| Edit Prope | rties | Finish | Test |

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Save and Close

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How to Perform a Low-Flow Test with VuSitu

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🗱 Low-Flow Test

| (i) Low- | Flow Read | ings | | | | | | |
|--------------|-------------------|--------|-------------|------------------|--------------------------|---------------------|------------|-----------|
| | | | | (b) 02:50 | | | | \$ |
| Elapsed Time | Depth To Water | Flow | рН | Temperature | Specific Conductivity | RDO Concentratio | Turbidity | ORP |
| | +/- 5 cm | ml/min | +/- 0.1 pH | +/- 0.5 °F | +/- 3%µS/cm | +/- 0.3 mg/L | +/- 10 NTU | +/- 10 mV |
| 15:39 | 365.76 | 100.00 | 6.21 | 77.06 | 0.00 | 7.78 | 0.06 | 192.9 |
| 10:40 | 365.76 | 100.00 | 6.76 | 76.94 | 0.00 | 7.78 | 0.09 | 162.6 |
| 05:40 | 365.76 | 100.00 | 8.09 | 76.80 | 0.00 | 7.80 | 0.03 | 148.0 |
| 00:40 | 365.76 | 100.00 | 11.65 | 76.63 | 0.00 | 7.82 | 0.06 | 103.4 |
| | | | Rotate scre | en to view Li | ve Readings | | | |

AquaTROLL 600 Non-Vented - SN 445985

The software needs at least three water quality parameter readings to run a 3-point running average in order to calculate the stabilization values. For the sample set (A, B, C), [(Max-Min)/A] X 100 = Running Average.

You can rotate the screen to see all the water quality parameters being collected. The software will record your sample interval and show you a countdown until your next sample is taken.

Once a parameter has reached stabilization, the field turns green. When all the fields have stabilized for the required number of readings you can click on Finish Test.

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|-----|-------------------------------------------------------|--------------------------------------------|------------------------------------------|-------------------|------------------------------|----------------------------------|-------------------------------------|--------------------------|------|
| | | | 5 | (Low-Flow Test | | | Toet | | |
| | w-Flow Readings LIVE RE Specific Conduct | ADINGS ivity 0.00 µS/cn | n an | AquaTROLL 600 Non | -Vented - SN 445985 | AquaTROLL | 500 Non-Vented - | · SN 445985 | |
| | RDO Concentra | tion 7.75 mg/L | | U Samples | | Final Draw Down | 0 | ft | ÷ |
| | | dity 0.08 NTU | | | | Final Flow Rate | 100 | ml/min | \$ |
| | Finish This | DRP 140.1 mV | | | | Estimated Total Volume Pumped | 2066.667 | ml | Ф |
| | Please confirm and readings are choosing Finish | that all test propert e complete before | ies | Z | 5 | Test Notes | Dune Techno Asylum Lake AT600 | ologies, LLC Preserve | |
| | Go Back | Finish | | No Samo | las Takan | | | | |
| | +/- | | l/min | No Samp | | | | | |
| 20 | 36 | 5.76 10 | 0.00 | | | | | | |
| 15 | 39 36 | 5.76 10 | 0.00 | | | | | | |
| 10 | 365 | 5.76 10 | 0.00 | | | | | | |
| 05 | 36 | 5.76 10 | 0.00 | | | | | | |
| | | | S | | | | | | |
| | | Finish T | est | Add Sample | Next | Back | 0 | Complete | |
| | | | | | | | | | |

When you finish the test, you will have the option of recording laboratory samples that you collect for the well in question, and record any post-stabilization data. When you are satisfied, click **Complete**.

| 😂 Low-Flow Test | | | Low-F |
|----------------------------------------------------------------------------------------------|----------------------------------------------------|---------------------------|-------------------------------------------|
| AquaTROLL 600 Non-Vented - | SN 445985 | | AquaTRO |
| (i) Low-Flow Report | | () | Low-Flo |
| Low-Flow Test Report | | Low | Flow T |
| Test Date / Time: 6/27/2016 2:21:54 PM Project: WMU Field Camp 2016 Operator Name: DAW | | Test D Projec Opera | ate / Time: :t: WMU Fie tor Name: [|
| Location Name: MW-03 Latitude: Longitude: | Pump Type: Pro Tubing Type: I Tubing Inner I | Sh | are with |
| Well Diameter: 2 in Casing Type: Screen Length: 10 ft | Tubing Length Pump Intake F Estimated Tot | 0 | VuSi |
| Top of Screen: 15 ft Total Depth: 25 ft Initial Depth to Water: 12 ft | Flow Cell Volu Final Flow Rat Final Draw Do | 0 | Outle |
| Test Notes: Dune Technologies, LLC As Preserve AT600 | ylum Lake | 0 | Andr |
| Weather Conditions: | | ٢ | Clou |
| Low-Flow Readings | | | Mes |

RDO

Elapsed Depth To Flow

Close

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Save to Drive

| t | E 😂 Low-Flow Testing |
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| n-Vented - SN 445985 | AquaTROLL 600 Non-Vented - SN 445985 |
| rt | + New Test |
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Once your test is complete, you will have the ability to review the data file, and then click Save to ... You can then choose to save the file, text, e-mail, or store the file on the cloud, ensuring that you will not lose any data. The sampling event is also automatically stored on your mobile device. Then organize and manage your data to your specifications.

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Save to ...

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Low-Flow Test Report

| | | Tubing Type: Poly Tubing Inner Diameter: (Tubing Length: 50 ft Pump Intake From TOC: Estimated Total Volume Flow Cell Volume: 130 m Final Draw Total: 100 ml/ Final Draw Down: 0 ft | 1.25 in 22 ft Pumped: 2066.667 m I nin | (| | Serial Number: 445985 | | |
|-------------------------------------------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|
| sylum Lake Preserve AT600 | | | | | | | | |
| | | | | | | | | |
| Danth To Vieter | Fire | 800 Concentration | 100 | ORP | Tubiday | Descention . | Search Conductivity | Sainty |
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| | sylum Lake Preserve AT600 | sjum Lake Preserve AT602 | Flow Cell Volume: 130 m Final Draw Down: 0 ft Final Draw Down: 0 ft | Flow Cell Volume: 130 ml Final Over Mode: 100 minimum Final Over Gover: 0.0 submittee Preserve A1900 | Files Cell Volume: 130 mi Files Dev Mode: 100 minim Files Deve Koen: 0 fil | Flow Coll Volume 100 ml Final Draw Down 0 ml Final Draw Down 0 ml | Flow Cell Volume: 10 mil Fliet Power 10 million Fliet Power Deart 0 million Fliet Power Power 0 million | Plane Cell Volume: 10 mi Final Draw Comt: 0 film Final Draw Comt: 0 film |

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When you save the file by e-mail, three separate files are saved and sent to your computer: an HTML display of the data report (above), an Excel file with the formatted data, and a PDF file. All files are automatically generated.

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