



## Siltation from Construction Runoff: Using In-Situ Inc. MP TROLL 9000™ to Monitor Silt Laden Runoff From Construction Activities

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### Project Overview

Water quality testing was performed at a construction site in order to document the direct impacts to a nearby creek. The purpose of this test was to show that erosion and sediment controls on-site were inadequate to handle the associated volume of runoff. Large silt loads down stream were observed during previous inspections.

The developer considered existing erosion and sediment control to be adequate for the site. The project goal was to quantitatively demonstrate that the site was contributing to siltation of the creek; thereby, prompting an upgrade to the construction projects erosion control.

### Equipment / Procedure Overview

Urban Stream Monitoring using MP TROLL 9000



**Equipment:** The In-Situ MP TROLL 9000, 25 ft of Quick-Connect cable and Pocket-Situ software running on a ruggedized iPAQ color PDA was used to take snapshot readings. Data was uploaded onto a desktop computer and printed for analysis.

**Procedure:** The MP TROLL 9000 was calibrated before leaving the office. Upon arrival the TROLL 9000 was deployed in the creek at 6 different locations along the creek. A snapshot was taken at each site.

### Test results:

**Site 1:** in stream where drainage ditch intersects stream.

**Condition:** 2 minutes after heavy rain started

**Turbidity:** 490.2 NTU

**Date:** 5/5/03

**Site 2:** in stream where drainage ditch intersects stream.

**Condition:** 6 minutes after heavy rain started

**Turbidity:** 63.4 NTU

**Date:** 5/5/03

**Site 3:** upstream of development

**Condition:** 21 minutes after heavy rain started

**Turbidity:** 57.3 NTU

**Date:** 5/5/03

**Site 4:** @ outfall of south shore detention pond

**Condition:** 24 minutes after heavy rain started.

**Turbidity:** 2898.8 NTU

**Date:** 5/5/03

**Site 5:** in ditch of discharging holding pond of site 4

**Condition:** 26 minutes after start of heavy rain.

**Turbidity:** 2809.4 NTU

**Date:** 5/5/03

**Site 6:** @ top of drainage ditch

**Condition:** 31 minutes after heavy rain started.

**Turbidity:** 937.4 NTU

**Date:** 5/5/03



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### How In-Situ Equipment Helped

First encounters showed that the site was contributing large amounts of sediment to the creek. With the In-Situ MP TROLL 9000 we were able to determine exactly how bad the situation actually was. The test data quantitatively showed the need for erosion/sediment control upgrade, which was implemented shortly thereafter.

### More Information

Information contained in this application note was provided by:

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**"With the In-Situ MP TROLL 9000 we were able to determine exactly how bad the situation actually was."**