



# Storm Water Sampling Made Easy

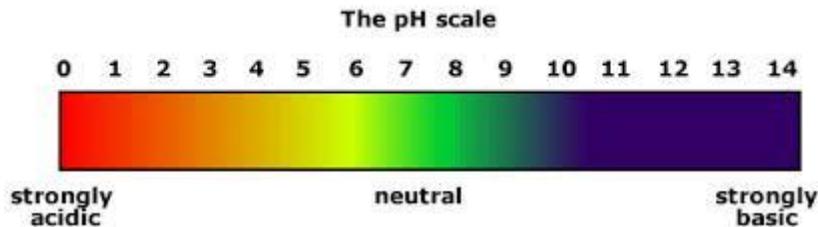
Iowa auto salvage yards with more than 250 vehicles in the yard are required to sample storm water (rain) runoff for parameters listed below. Collect and submit rainfall samples to a laboratory for analysis annually. Retain a copy of the report with the Storm water Pollution Prevention Plan (SWPPP). It is not required to submit the report to the DNR but it must be maintained on-site in the event an inspector requests to see it.

There are no regulatory limits on the values of test results, only that the samples are taken and analyzed. An analytical laboratory with the capacity to test storm water may conduct the testing procedures. An arrangement has been made with TestAmerica to conduct the samples through Sue Schauls that will ensure accuracy in the testing procedures using the parameters required and reporting data accurately.

## Collect the Sample

Collect a representative **grab sample and a composite sample** of rain water flowing off the property (outfall location).

**NEW** → You must take a field pH sample using the pH strips included in the sample kit. Take the strip out of the container and put storm water in the container then dip a strip. **RECORD the value** corresponding to the color of the strip as indicated on the bottle, 7.0 is neutral (the desired value) **on the Chain-of-Custody form.**



**STEP ONE:** In the first hour of a rainfall of significance (about 2 inches) *using the storm water kit (cooler) received from TestAmerica*, collect water in a clean cup and fill the bottles marked “composite” 1/3 full then fill all the bottles marked “grab” completely full.

**STEP TWO:** If at least 15 minutes have passed, then fill the composite sample bottle another 1/3 full.

**STEP THREE:** Wait 15 more minutes and fill the bottles the rest of the way full.

**STEP FOUR:** Fill out the form or **Chain-of-Custody paperwork** with *your name, the name of the facility where the sample was taken and the date and time the sample was taken*. Sign the form and place it in a plastic baggie in the cooler.

**A separate bag is included for ICE!**

<b>TestAmerica</b>		515-277-2401 704-940-0100 800-368-7848	Fax: 515-277-2401 or 1-800-786-1401 Fax: 515-277-2402																																													
Company: <b>SUE SCHAU'S CONSULTING</b> Address: <b>2714 Ridge Ave</b> City/State/Zip: <b>Des Moines, IA 50319</b>		Project No: _____ Project Name: <b>Auto Recyclers</b>	Sample ID: _____ Project Location: _____																																													
Email Address for Reports to be sent: <b>sue@schauls.com</b> Sampled By: _____ Date: _____		Are these samples for EPA/DES Compliance? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																																														
<table border="1"> <thead> <tr> <th>Parameter</th> <th>Sample 1</th> <th>Sample 2</th> <th>Sample 3</th> <th>Sample 4</th> <th>Sample 5</th> <th>Sample 6</th> <th>Sample 7</th> <th>Sample 8</th> <th>Sample 9</th> <th>Sample 10</th> <th>Sample 11</th> <th>Sample 12</th> <th>Sample 13</th> <th>Sample 14</th> </tr> </thead> <tbody> <tr> <td>Composite</td> <td></td> </tr> <tr> <td>Grab</td> <td></td> </tr> </tbody> </table>	Parameter	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5	Sample 6	Sample 7	Sample 8	Sample 9	Sample 10	Sample 11	Sample 12	Sample 13	Sample 14	Composite															Grab															Analytical Method: _____ Analytical Laboratory: _____ Analytical Date: _____		
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**STEP FIVE:**

**Deliver or ship the collection kit to TestAmerica** in CEDRA FALLS, IA using the included shipping label and prefilled CHAIN OF CUSTODY.

**ADD ICE TO THE SAMPLE KIT IF IT WILL NOT BE DELIVERED THE SAME DAY**

(An ice bag is included)

In about two weeks you will receive a laboratory report and a data interpretation from Sue.

1) A **grab sample** is a one-time sample that represents the discharge in the beginning of the rainfall event. The grab sample must be taken in the first hour of the discharge. The laboratory recommends taking a 3000 milliliters (ml) sample (about two quarts) to ensure enough water to perform all tests is available.

2) A time-weighted **composite sample** is taken at timed intervals in equal amounts. The composite sample is taken as a combination of (at least three) small samples (called aliquots) taken throughout the duration of the discharge (for at least three hours), with each small sample being separated by at least 15 minutes. The laboratory recommends taking 300-1000 ml at each sample so that the total amount of the composite sample is 3000 ml (about two quarts) to ensure enough water to perform all tests is available.



Both sets of samples, the grab and the composite, must be tested for five parameters:

- five day biochemical oxygen demand (BOD);
- chemical oxygen demand (COD);
- total suspended solids (TSS);
- total Kjeldahl nitrogen (TKN);
- total phosphorus;

The grab sample must be tested for two additional parameters:

- ✓ oil and grease;
- ✓ pH;

The Sample Collection Kit will include:

**2 Large Amber Glass - Sulfuric Acid (H<sub>2</sub>SO<sub>4</sub>) Preserved**

*for Oil & Grease GRAB sample*

**2 Quart Plastic - NO TREATMENT**

*One each for BOD & TSS Composite & BOD, TSS & pH Grab samples*

**2 Quart Plastic - Sulfuric Acid (H<sub>2</sub>SO<sub>4</sub>) Preserved**

*One each for COD, TKN, PO<sub>4</sub> Composite & COD, TKN, PO<sub>4</sub> Grab samples*

Automotive salvage yards have particular concerns for adding pollutant to storm water runoff due to the sheer number of vehicles present in a yard at any given time. Effective pollution prevention of these storm water pollutants is accomplished through choosing the most applicable Best Management Practice (BMP) as identified in the Storm Water Pollution Prevention Plan (SWPPP) developed as part of the storm water permit requirements.