

# the Rain events

A Monthly Newsletter on the  
California Industrial General Permit  
By WGR Southwest, Inc.

November 2015

## pH PEN CALIBRATION



Imagine a nice day at the beach. The sand is warm from the sun, and the water is cool and refreshing. After just one hour of boogie boarding, you look at your umbrella to find yourself unwittingly way down the shoreline. This can also happen with a pH meter. The instrument itself may not physically drift down the beach, but the pH meter's calibration can drift without the user being aware of it. Devices such as pH meters have electrodes and sophisticated electronics that need to be calibrated to a known value. If not calibrated, your measurements could be inaccurate enough to give an erroneous value, and may even result in pH readings under or over the Numeric Action Levels (NALs). Think of the calibration process like a hiker that regularly checks a compass in order to stay on course. So, consider the following guidelines for keeping your pH meter at optimal calibration. The Industrial General Permit requires that these devices be calibrated per the manufacturer's specifications; which, in most cases, is at the beginning of each day of use. But remember that an important part of calibration is maintaining proper records - the Permit requires that pH calibration records be maintained for 5 years. We have found that many times these calibration records are not included with the overall compliance documents. The following information will help refresh you on how to calibrate and maintain your pH instrument.

Calibration is a fairly simple process, and only takes a few minutes to perform. We recommend performing a three-point calibration to ensure the highest possible accuracy. A three-point calibration involves using three buffer solutions with three different pH values to calibrate your device. The EPA accepts a double-point calibration method, but for the best accuracy, we recommend the three buffer process. Check out the sidebar on the next page to watch a video of how to perform a three-point calibration for a typical field instrument.

The next thing to decide is who takes care of the calibration of the equipment. The easiest way to answer this is to ask "Who will be performing your sampling?" Will the sampling be handled by a consultant or other outside individual or will it be done by in-house personnel? If you decide to do in-house sampling for your facility, all staff members who perform the sampling will need to be properly trained in both calibrating the equipment and sampling and using the equipment in the field. The devices are straight forward, but it's advisable to have each field sampling member attend a training session to get some hands-on experience.

When the sampling team has been chosen, it is crucial to train them to keep a log for equipment calibration. As previously stated, the Permit

requires that the facility owner keep calibration records at least up to 5 years. Some thought should be given in how to transfer calibration records to the custodian of the compliance documentation. This may be through paper copies of completed calibration forms by maintaining an instrument log book or by storing data on a computer. Look towards the end of this newsletter for a copy of WGR's pH Calibration Log template. When recording the information inside your log, you should include a few things: the date and time of when the calibration occurred; the name/initials of the person calibrating; the 4.01, 7.0, and 10.01 calibration readings; the device model and ID number; and also some space to jot down notes. Store your calibration log in the lab area or choose a computer that is close by so that recording and finding information can be done with ease.

Performing calibrations and keeping logs are not hard tasks to do but they require diligence and consistency. Make a habit out of doing these things and they will soon become "muscle memory" - and you'll be in compliance with the Permit. ☔

## Do I Need to Rinse?

Is it OK to use deionized water with my pH meter? That all depends on what you use it for. You are allowed to use deionized water as a quick rinse when using the meter in the field, but not for storage. It actually makes an excellent rinse water, because the deionized water will want to grab ions away from the surface of the detector bulb and thus “scrub” away ions that could affect the pH of the next reading. However, because of this same property, you should never store the pH bulb in deionized water. Over an extended period of exposure, the deionized water will strip away ions within the bulb and affect the operation of the unit. Many manufactures allow you to rinse with tap water both in the field and while calibrating the device. Some manufactures will provide a rinse solution with the buffer pack to use in the field. We recommend filling a spray-bottle with deionized water (which can be purchased at most grocery stores) for rinsing in the field or using a jar with a lid containing deionized or tap water into which you can dip, swirl, and clean off the probe. For particularly contaminated or dirty bulbs, a soft-bristled toothbrush can also be used to lightly scrub away scum that is clinging to the bulb. ☔



## “To Do List” for December:

- ☔ Perform the December monthly inspection
- ☔ If you haven’t done so, perform your Fall storm water training for facility personnel.
- ☔ By this time, you should have collected two samples for July-December (assuming that your facility has had two discharges). If so, now is the time to review your sample results and begin to implement corrective action, if needed.

## What’s Inside

Sometimes it can be hard to find good tools to use for getting the job done right. In the back of this newsletter is a template that will help you document pH calibration. Either print the template and place it in a binder, or edit the document on a computer. If you decide to print out the templates, make sure to organize the binder in such a way that information is easy to find. Consider making tabs for each month of the year. Now you will have the necessary documentation that is required by the Industrial General Permit. All that is left is to start filling out the logs when performing calibrations.

Date	Time	Name of Person Calibrating	Site/ID	Meter ID	Measurement pH 4.01 Buffer	Measurement pH 7 Buffer	Measurement pH 10 Buffer	Comments

# the Compliance corner

## Litmus Lifeline

In the IGP, there is an exception for using pH meters in the field. In some cases, the use of litmus paper is permissible within the boundaries of the IGP. Litmus paper can be used, given that the site has no prior history of pH exceedances. According to Section XI. C. 2 of the Permit, only sites that are performing baseline testing are allowed to use litmus paper. In other words, litmus testing is allowed **before** a site has entered into ERA Level 1. The pH meters have a lower margin of error but are a little more expensive (around \$120). Litmus paper runs at around \$6 for 80 strips. You can purchase it from Amazon or swimming pool supply stores. However, our opinion is that the cost savings of paper over a field meter are not worth the sacrifice in reliability and defensibility. Litmus paper results can be “masked” with other things in the water and may, at times, give a false reading.



[http://www.amazon.com/Packs-Paper-Litmus-Strips-Tester/dp/B008IBOG7G/ref=sr\\_1\\_4?rps=1&ie=UTF8&qid=1449533275&sr=8-4&keywords=litmus+paper&refinements=p\\_85%3A2470955011](http://www.amazon.com/Packs-Paper-Litmus-Strips-Tester/dp/B008IBOG7G/ref=sr_1_4?rps=1&ie=UTF8&qid=1449533275&sr=8-4&keywords=litmus+paper&refinements=p_85%3A2470955011)

*Please contact us if you have any questions ...*

## The Rain Events

Newsletter Editor: **John Teravskis**  
 QSD/QSP, QISP, CPESC, ToR, IGPTT Participant  
[jteravskis@wgr-sw.com](mailto:jteravskis@wgr-sw.com)  
 (209) 334-5363 ext. 110 or (209) 649-0877

Technical Questions about Environmental Compliance?

Call ...

**Aaron Ortiz**, QISP, ToR, [aortiz@wgr-sw.com](mailto:aortiz@wgr-sw.com)  
 (209) 334-5363 ext. 114

**Steve Teravskis**, [steravskis@wgr-sw.com](mailto:steravskis@wgr-sw.com)  
 (209) 334-5363 ext. 115

**Chelsea Dreyer**, [cdreyer@wgr-sw.com](mailto:cdreyer@wgr-sw.com)  
 (562) 799-8510 ext. 1003

Need a SWPPP revision for the new permit?  
 Give us a call at (209) 334-5363, ext. 114



THIS CHRISTMAS

MAY YOU BE

BLESSED

*with qualifying rain events and*

WITH

PEACE

*of mind knowing your results are under the NALs*

*For to us a Child is born ... And He will be called Wonderful Counselor, Mighty God, Everlasting Father,  
Prince of Peace.*

*Isaiah 9:6*

# University of California ANR South Coast Research and Extension Center with Cooperative Extension Present:

## Low Impact Development Workshop – A New Paradigm for California

December 16, 2015; 8am-12 pm or 1pm-5pm

South Coast Research and Extension Center (SCREC)  
7601 Irvine Blvd, Irvine, CA 92618 | 949-653-1810



Urban storm water runoff poses a substantial threat to receiving surface waters across North America. Green infrastructure, low impact development, green building ordinances, National Pollutant Discharge Elimination System (NPDES) storm water permit compliance, and Total Maximum Daily Load (TMDL) implementation strategies have become national priorities; however watershed professionals, civil engineers and landscape architects need more sustainable, low cost solutions to meet these goals and guidelines. Building on concepts of biomimicry, natural capital restoration, and ecosystem service enhancement, attendees will learn how compost-based storm water best management practices (BMPs) use natural processes to achieve high performance results in storm water volume reduction, pollution prevention, and bio-filtration. The program will also highlight the use of green walls as vertical prairies to treat storm water while increasing native habitat to promote LID in the urban environment.

**Registration Fee: \$30. Proceeds to benefit UC ANR South Coast REC and Cooperative Extension Community Outreach Programs. This is a non-refundable fee. Contact Craig Kolodge for program info: 760-429-4041; [craig@filtrex.com](mailto:craig@filtrex.com) Registration Page: <http://ucanr.edu/survey/survey.cfm?surveynumber=16586>**

### Agenda

**7:30-8:00 AM - Refreshments & Sign In**

**8:00-8:45 AM - Introduction, Darren Haver, Ph.D., Water Resources Advisor, Director - UC Cooperative Extension Orange County & South Coast Research and Extension Center**

*University of California Water Resources/Water Quality Program: Yesterday, Today and Tomorrow*

**8:45-9:00 AM - Orange County MS4 Permit LID Requirements – Christy Suppes, Environmental Resources Specialist, County of Orange**

**9:00-10:00 AM - Working with Nature: Compost-Based BMPs in LID and Green Infrastructure Applications, Britt Faucette, Ph.D., Filtrex**  
*Applying the Principles and Science of Sustainable Site Development in the Field*

**10:00-10:15 AM - Break**

**10:15-11:00 AM - Green Wall Design, Mark Woolbright, Filtrex**  
*New Innovations in Living Walls and their Benefits for a Drought Challenged Landscape*

**11:00-11:30 AM - Low Impact Development with a New Twist, Craig Kolodge, Ph.D., Filtrex**  
*A New Approach to Integrating California Environmental Goals with Low Impact Development Programs and Case Studies*

**11:30 AM-12:00 PM - Field Tour of LID Applications and Designs Integrating Locally Recycled Organics**

**\*Above agenda repeats beginning at 12:30pm (registration) until 5:00pm**

Sponsored by:



**COME SEE OUR SHOWROOM!**

11780 N. HWY 99,  
Lodi CA 95220

## PRODUCT SPOTLIGHT

Are you ready to perform field pH tests? The new Industrial General Permit requires dischargers to analyze pH **within 15 minutes of collecting storm water samples**. Grab your pH quickly and accurately with the **Oakton Waterproof pHTestr 30**, a necessary tool for all storm water samplers. This handy device is completely waterproof, and is designed to float in case it gets dropped in water. The device analyzes to +/- 0.01 pH accuracy, and has a quick and simple calibration process. The **pHTestr** also measures the temperature of your sample, allowing you to record both results simultaneously. Also, the pH sensor can be easily removed and replaced to ensure years of accurate operation.

### Product Specifications:

- Accuracy: +/- 0.01 pH accuracy
- Range: -1 to 15 pH
- Temperature Range: 32° to 122° F
- Batteries: (4) 1.5V button batteries
- Battery Life: 500 hours under normal conditions
- Dimensions: 6.5" Long x 1.5" Diameter

ONLY  
**\$117.50**



## pH Buffer Solutions

Your pH pen is only as accurate as your buffer solution. Have you checked the expiration date on your buffers recently? It may be time to get new buffers. BMP Outlet carries a couple different pH buffer kits to suit different jobs and uses. The Oakton pH Singles Assortment Pack is good for situations that require calibrating in the field, since you can place the pen inside the packets for the calibration process. Our pH Solution Three Pack is great for a more controlled calibration environment.

BMP Outlet is a supply house for affordable erosion control products, drain inlet protection, sorbents, spill containment, and field instruments.

We have a large inventory of many different types of product, and can usually order whatever you need for your project.

**\$32.70**  
Per box



**\$29.60**  
Kit of 3  
500-ml Bottles



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## Storm Water Contest...

Each month, we invite our readers to participate in a contest to test their knowledge of the Industrial General Permit and their storm water compliance program. We enter all submittals to our monthly newsletter question into a drawing, and one person is selected at random to receive a \$25 gift card.

**If one of your sample parameters exceeds the Instantaneous NAL value for only one storm, will you be required to take any Exceedance Response Actions?**

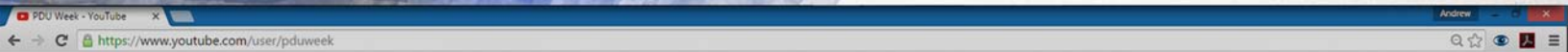
Congratulations, Edward Flores - you are correct! An Instantaneous NAL exceedance occurs **when two or more analytical results (for any single parameter) exceed the NALs listed for that parameter** in Table 2 of the IGP.

Edward wins \$25 to Applebee's for some smoky, delicious ribs!

## This Month's Contest Question:

**How long are you required to maintain your pH meter calibration logs?**

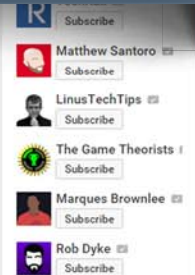
By December 31, 2015, submit your response to the above question by sending an email to [jteravskis@wgr-sw.com](mailto:jteravskis@wgr-sw.com). All persons submitting the correct answer will be placed in a drawing. The winner will receive a \$25 gift cart to Amazon.



**Check out the PDU Week YouTube Channel**  
*DOZENS OF FREE STORM WATER EDUCATION VIDEOS!*  
[WWW.YOUTUBE.COM/PDUWEEK](http://WWW.YOUTUBE.COM/PDUWEEK)



Get ready for Storm Water Awareness Week 2015! We're excited about this year's event. Visit our website at [www.stormwaterawareness.org](http://www.stormwaterawareness.org) to register to attend workshops - all for free!



### Storm Water Awareness Week 2015

Get ready for Storm Water Awareness Week 2015! Our fourth annual storm water education event will be happening during the week of September 21-25, 2015. Sign up to participate in the workshops, and wat...

