



Red Rocks Community College
Water Quality Management
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THE

WATER SOURCE

NEWSLETTER

FROM THE Water Quality Management Dept. at Red Rocks Community College

Volume 1 • Issue 3 • Summer 2006

Test Your Skills

Take a crack at these questions to test your knowledge and skills. Correct answers will be published in the Fall 2006 edition.

Water

- 1.) What compound is formed from the reaction between an acid and an alcohol with the elimination of a molecule of water?
- 2.) What chemical scale inhibitor is used most frequently in a Reverse Osmosis unit?
- 3.) You are dosing 16 MG of a reservoir with copper sulfate at 75 mg/l, 25% available copper, how many lbs are required?
- 4.) Will Ion Exchange softening remove iron and manganese in both a soluble and precipitated form?
- 5.) What is the shelf life of a polyphosphate solution?

Wastewater

- 1.) What is the best test to determine the efficiency of a trickling filter?
- 2.) What bacteria do not require molecular oxygen to survive?
- 3.) How much gas is produced in an anaerobic digester for every pound of volatile matter destroyed?
- 4.) A 20 ft. diameter gravity thickener is used to thicken 20 GPM of primary sludge. 80 GPM of secondary effluent is blended with the raw sludge to prevent septic conditions. What is the surface loading rate?
- 5.) What is the name of the heavy coarse mixture of grit and organic materials carried in wastewater?

Answers from Spring 2006 edition:

WT: 1.) PL-92-500, 1972, 2.) 34.04 mg/l 3.) Acid, 4.) Enzymes 5.) Soda Ash and Lime
WWT: 1.) Increase Aeration, 2.) 3 ft, 3.) a blockage, 4.) .09 lbs/day/cu ft, 5.) Mesophilic

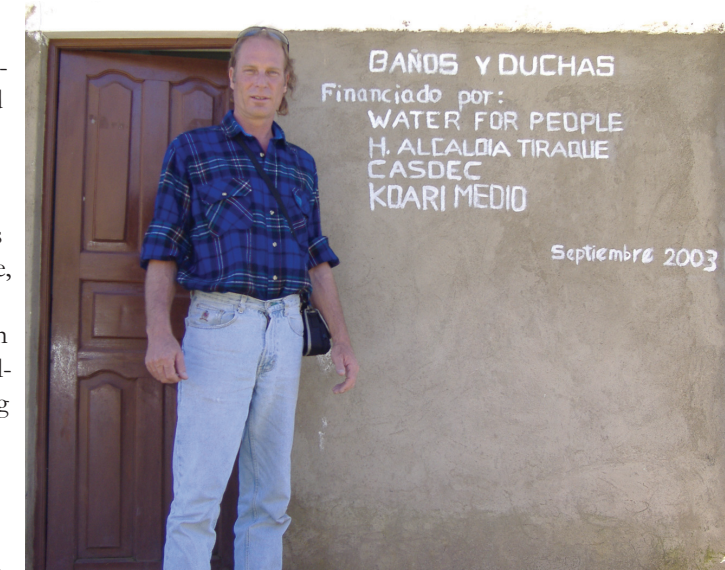
Happenings...

Welcome to another edition of the Water Source. It seems that with each edition, this section is something I always am looking forward too. With so much happening with the Water Quality Management Program, sharing it with you is a pleasurable task.

Our construction and departmental reorganization is now complete and we are able to begin our process of growth and development. Our Hydraulic Lab project is now moving forward and it should be in full operation this Fall. The entire curriculum has been upgraded and we have improved our audio and visual aid capabilities. Yes, we've been busy making systematic improvements to keep up with our changing industry. We have also taken a step back, by this I mean

that we are now working closely with developing nations with much simplified processes and without infrastructure. This summer we will be hosting a group of international colleagues from the Water For People, John H. Ware Jr. International Water and Sanitation Fellowship. I too am traveling to Bolivia, a developing nation that has more than its share of water related health problems. After extensive research on the area for the WFP program, I am anxious to thoroughly see the reality of the problem myself and share this adventure with you and use the experience to better the educational program for the students.

New ideas have been developed that need to be shared. The industry is in need of reuse treatment training and storm water management techniques. We are now in the process of assembling the materials needed for such training. Our Advanced WQM 201 and 202, Water and Wastewater Treatment Techniques is being prepared to offer in 2007 and with the Hydrology Club, our youth recruitment endeavor has a plan. In addition, we are pursuing the concept of a consortium of all Front Range utilities to recruit the up and coming youth as we prepare for our baby boomer retirement years. A very real problem in the industry is very much



on our minds and we need to recruit by interesting the youth in our exciting field. And finally, we are in the process of putting all our elective, self paced courses on line to aid operators with their Training Unit requirements. These courses are all 3 CEU's in specific areas of study in water treatment, wastewater treatment, distribution and collection systems.

As you can see, we have been busy building on a program that has trained and produced some of the finest operators in the state of Colorado. New goals have been set, new standards have been defined and on behalf of the entire Water Quality Management staff, welcome to the new level in our "water" world.

Mike Smith
Water Quality Management Technology
Program Coordinator
Red Rocks Community College

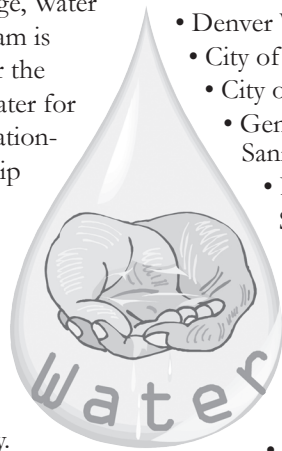
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Share Corner

Red Rocks Community College, Water Quality Management Program is now the educational resource for the AWWA international affiliate, Water for People's John H. Ware Jr. International Water and Sanitation Fellowship Program. For 2006, the Water Quality Management Program has also set up the mentoring program for the international guests. We would like to thank the following organizations for their contribution this summer hosting our guests at their facility.

- North Table Mountain Water and Sanitation District
- Consolidated Mutual Water Company
- Centennial Water and Sanitation District
- Metropolitan Wastewater Reclamation District



- Denver Water
- City of Aurora
- City of Westminster
- Genesee Water and Sanitation District
- Parker Water and Sanitation District
- Coors Brewery
- Littleton /Englewood Water and Sanitation District
- Environmental Protection Agency
- Colorado Department of Public Health and Environment

These organizations share the enthusiasm of providing our guests with the best possible educational experience that will benefit the developing nations of our guests to use and develop upon their return home. ♦

Colorado Rural Water Association Small Water System Operator of the Year

We are proud to announce that Beth Harris was named Operator of the Year. Ms. Harris is a 2005 graduate at Red Rocks Community College with an Associate of Applied Science Degree in Water Quality Management. She is currently employed with the Consolidated Mutual Water Company working at the Maple Grove Water Treatment Facility. Please join us in congratulating Ms. Harris on her accomplishment. ♦

Research Corner

Since so many districts now work with the Water Quality Management Program we have opened other areas to share your systems operational accomplishments with the industry.

If you would like to have your system photographed for classroom teaching tools, please consider us. Nothing helps a student better with his/her education than exposure to the

industry. Planned projects, unique operations, and new upgrades can all be very useful to an upcoming student.

If you have an assessment or research projects that you would like our program to assist you with, please share that information with us, we would be happy to help. Contact us at mike.smith@rrcc.edu for more information. Don't forget this section in future issues. We all will find this quite useful and the students and Water Quality Management staff are looking forward to providing it for you. ♦

AT A GLANCE

Summer Water Quality Management Core Course Schedule

Only WQM electives, self paced courses are offered during the Summer Semester.

This is a great opportunity to catch up on those elective credits in areas of specific interest.

Need a Training Unit or 2? All our courses are TU approved courses.

This is also a great time to check on your degree program status and plan your future education strategy. Call Mike Smith at 303-914-6325 to schedule an appointment.

Training Units, Certificates and Degrees

Did you know that every Water Quality Management (WQM) accredited course is automatically Training Unit approved? We have worked hard with the Colorado Plant Operators Certification Board to establish a strong educational relationship. Each course is approved by "10 hour" increments for Training Units with material in all categories. Look for this announcement on the OCPO Website.

What are Certificates? The WQM Program has developed six different Certificate programs in addition to our existing AAS degree. These certificates, when completed, represent specific areas of interest/study to help an operator build his/her portfolio. Certificates are offered for the following categories:

- Introduction to Water Treatment
- Introduction to Wastewater Treatment
- Water Distribution and Collection
- Water Quality Analysis
- Treatment Mathematics
- Experience and Education

Did you forget something? We have many files of past students who did not complete their degree. Amazingly, many of these students already have enough courses and experience to earn the degree and don't know it. If you have been a past student who never completed the degree program, give us a call, you may be a lot closer than you think. ♦

RRCC Events

Summer 2006

March 27, 2006	Registration begins
May 11, 2006	WM Advisory Committee meeting 4:30 pm
May 23, 2006	New Student Orientation 5:30 -7:30 pm
May 30, 2006	Summer Semester begins
August 8, 2006	Summer Semester ends

2006 Water for People

The John H. Ware Jr. International Water and Sanitation Fellowship Program is pleased to announce the recipients of this year's foundation.



Six very talented professionals will attend the 3rd annual program from May 27 – August 20, 2006.

Domingo Perez Bernal	Guatemala
Greby Caillavy	Bolivia
Jyotirmoy Chakraborty	India
Henrick Kunkeyani	Malawi
Lasanta Perera	Sri Lanka
Alexis Reyes	Honduras

These recipients will 80 hours of training in the Water Quality Management Program with a curriculum specifically detailed to developing nation water and sanitation needs. In addition, they will spend 18 days with local water and sanitation organizations to receive hands on exposure to operations here in the United States. During their stay they will have 8 leadership training classes and attend the ACE conference in San Antonio, Texas.

It is the foundations hope that following this education and mentorship program, they will be able to return to their home countries and further improve the health and hygiene standards in the water and sanitation industry. ♦

Hydrology Club

Mr. Ernest Espinosa, Hydrology Club President, has not only been active with the club's development, but has been directly involved with program growth and marketing. The Club now has a complete research library in the Water Quality Management Program. At the present time, we are considering the idea of making a Hydrology course a required humanities class of the social science requirement for an AAS degree in WQM. With the industry pushing more and more with reuse treatment development, this decision would truly enhance a students education in the water/wastewater industry and increase the value of their education at the same time.

As a Water Quality Management student in the program, anyone can become a member which generally meets on Wednesday evenings at 5:30 PM at the ETC. For more information about our Hydrology Club, please contact Mike Smith or Ernest Espinosa, Hydrology Club President, Red Rocks Community College Water Quality Management Technology Student ♦