

# Well Said



Vol. 1 No. 21  
April 2005

News from the Water Resources Department's Enforcement Section

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*Available on the web at  
[www.wrd.state.or.us/groundwater](http://www.wrd.state.or.us/groundwater)*

*Please share with others at your organization.*



**Well Said**  
Oregon Water Resources  
Department

*"Well Said" is a production of the Oregon Water Resources Department's Enforcement Section and is designed to inform the drilling industry and the public about program activities and other items of interest.*

*Questions or suggestions concerning this newsletter can be directed to Kristopher Byrd at (503)986-0851, or by e-mail: [Kristopher.R.Byrd@ wrd.state.or.us](mailto:Kristopher.R.Byrd@ wrd.state.or.us).*

**MOLALLA RIVER DRAINAGE**

The boundary between Watermaster District 16 (Salem) and Watermaster District 20 (Oregon City) was changed on January 1, 2005. Mike McCord, Watermaster District 20, is now handling the Molalla River Basin except for the Pudding River drainage. The Pudding River drainage will remain with Bill Ferber, Watermaster District 16. The change was incorporated to better serve the public since we found most people in the Molalla River Basin contacted the Watermasters Office in Oregon City with questions instead of contacting Salem.

**WATER RESOURCES  
RELEASES NEW WEBSITE**

The Oregon Water Resources Department has completely overhauled it's website (<http://oregon.gov/owrd>). A new version was released on January 3<sup>rd</sup>, 2005. We focused on improving navigation for newer users, cleaning up old content and redesigning the look and feel to be consistent with the State of Oregon's new website. The Department's website continues to offer all the same tools for accessing data, but they have been reorganized into more logical groupings. We have also endeavored to provide multiple paths to most content to meet the needs of a wider variety of customers.

There are two significant changes well constructor's will encounter. The first is the changing of the 'GRID' title to 'Well Logs'. The 'GRID' title had outlived it's

usefulness and we felt that switching to 'Well Logs' would be clearer for newer users of the website. We also removed the ability to order Well Log CD's (formerly GRID CD's) from the site. We plan to discontinue this as a standard service in April 2005. We only have a couple of customers and it is no longer cost effective. We are encouraging customers to make more use of the website for accessing and downloading well log information. We will still produce CD's for custom data requests but will need to charge full cost recovery which will increase the cost of the CD's. To order CD's please contact Bob Devyldere at (503) 986-0870 or by e-mail at:

[Bob.J.Devyldere@state.or.us](mailto:Bob.J.Devyldere@state.or.us)

Because of the reorganization of the website most of your bookmarks to our site will no longer work. You will need to update those bookmarks that you use frequently.

**TECHNICAL COMMITTEE ON  
DRILLING STANDARDS**

The Department has assembled a Technical Committee to examine the Department's rules and statutes as they relate to current drilling technology. The committee is made up of individuals from the drilling industry, consultants and Department staff. The first meeting was held on March 11<sup>th</sup>. The next scheduled meeting is on May 20<sup>th</sup> at the Labor and Industries Building in Salem. The public is welcome to attend. For more information contact Kristopher Byrd at (503) 986-0851.

## CONTAINMENT OF CUTTINGS

Sediment filter bags have been widely used on small bridge construction jobs where there is no space available to construct a sedimentation basin. Muddy, sediment-laden water is pumped from the bridge pier excavations and is discharged into a sediment filter bag where almost all of the suspended sediment is contained. The almost sediment-free water discharges through the fabric walls of the bag and flows into the stream.

This relatively new technique of sediment control is also very useful in meeting the sediment control requirements for well construction. The Pennsylvania Ground Water Association (PGWA.ORG) demonstrated the sediment filter bag at their Summer Field Conference (See photos on page 6). They slipped the spout of the filter bag over the end of the diverter pipe for instant cuttings containment and sediment control.

The small size filter bag was made of non-woven geotextile fabric that reportedly looked like heavy felt cloth, measured 6.25 feet wide by 15 feet long, and was rated for an initial water flow rate of 800 gallons per minute. At the demonstration many people refused to help attach the spout to the diverter discharge pipe because they believed that the filter bag would blow up and burst, injuring spectators. They believed that because the rig had 1050 CFM of air that the air flow would cause the bag to whip around and knock down spectators. As the drilling began the bag began to slowly inflate and contained all the cuttings. It

did not burst or flap around. Cloudy water seeped gently from the bag and flowed toward a nearby pond. The bag allowed the air and water to escape and the cuttings to remain.

The test was performed while drilling in shale. The hammer bit created unusual size chips, along with sand, silt and clay size particles. Some of the silt and clay was of natural origin from within the fractures and bedding planes of the shale bedrock. Even the surges of water and the blasts of air when the rods were changed didn't affect the filter bag. The water seeping from the filter bag was muddy in appearance, but contained only some clay-sized particles. If you were drilling a well near the bank of a stream, then a sediment filter bag may help you meet water discharge standards

The day after the demonstration, the cleanup crew used a fork-lift to pick up the filter bag and carry it away. The bag didn't split or burst when lifted, and the field grass beneath had so little fine sediment on it that a rainstorm erased all signs the filter bag had ever been there.

(Dr. Todd Giddings, "Containment of Cuttings: It's in the bag")

### SPECIAL STANDARDS

A Special Standard is a Final Order in other than a contested case. Any Special Standard request must provide at least the same level of resource protection as that which is provided in the well construction standards. If you call for verbal approval of a Special Standard then you must follow up that verbal approval with a written request within three working days of the date of the oral approval. Failure to submit the written request as described may void the prior oral approval.

## HOUSE BILL 2083

As part of its regulatory streamlining efforts, the Department has identified several regulations that are burdensome, add unnecessary paper work or are obsolete. HB 2083 would eliminate these regulations without diminishing protection to existing water rights and the State's water resources. One of the regulations proposed to be eliminated is the requirement that a landowner record well information on their property deed record. The well information comes from Well Reports filed by drillers and from applications submitted by landowners. If you have any questions about the bill, please feel free to contact the Department.

### CONTINUING EDUCATION

The following courses were approved by the Continuing Education Committee on March 10, 2005. Check the Department's Web Site for a complete list of classes.

#### I. UPCOMING CLASSES:

**April 2, 2005**, The Washington State Ground Water Association's 2005 Technical Seminar, Central Washington University, Ellensburg, Washington 8 CEC's.

**April 12-14, 2005**, 5<sup>th</sup> Washington Hydrogeology Symposium, Tacoma, Washington:

- 1.) Poster Sessions and Exhibit 1 CEC in the exhibit category, maximum of 1 CEC for the Symposium
- 2.) Session 1A: Groundwater-Surface Water Interactions: Chemistry, Models, and Regulations 1.5 CECs
- 3.) Session 1B: Aquifer Storage and Recovery 1.5 CECs
- 4.) Session 2A: Point Source Contaminants In The Subsurface 1.5 CECs

5.) <u>Session 2B: Changing Climate, Retreating Glaciers, and Groundwater Availability</u> 1.5 CECs	<u>Cruise</u> ” 3 CECs	Baltimore, Maryland, 8 CECs per day of attendance.
6.) <u>Session 3A: Remediation - I</u> 2 CECs	22.) <u>Field Trip #4 “Fort Lewis Groundwater and Source Remediation”</u> 4 CECs	<b>April 25-26, 2005, <u>Low-Cost Remediation Strategies for Contaminated Soil and Ground Water (#146)</u></b> , National Ground Water Association (NGWA), San Francisco, California, 8 CECs per day of attendance.
7.) <u>Session 3B: Non-Point Source Contamination</u> 2 CECs	23.) <u>Field Trip #5 “Geohistory of Floods in the Columbia Gorge”</u> 12 CECs	<b>April 26-29, 2005, <u>The MODFLOW Course Theory &amp; Hands-on Applications using MODFLOW-2000, MODPATH, MT3D &amp; WinPEST (#258)</u></b> , National Ground Water Association (NGWA), Houston, Texas, 8 CECs per day of attendance.
8.) <u>Session 4A: Data Analysis and Exchange</u> 1.5 CECs	24.) <u>Workshop #1 “FRAMES Software for Contaminant Transport”</u> 4 CECs	<b>April 27-29, 2005, <u>Natural Attenuation for Remediation of Contaminated Sites (#147)</u></b> , National Ground Water Association (NGWA), San Francisco, California, 8 CECs per day of attendance.
9.) <u>Session 4B: Effects of Heterogeneity</u> 1.5 CECs	25.) <u>Workshop #3 “Seawater Intrusion Panel”</u> 1.5 CECs	<b>May 18, 2005, <u>OWRD Spring 2005 Continuing Education for Well Constructors</u></b> , Pendleton, Oregon, 6.5 CECs ( 3 CECs apply towards the ground water and well construction statutes and administrative rules requirement).
10.) <u>Session 5A: Contaminant Fate and Transport Studies</u> 1.5 CECs	26.) <u>Workshop #4 “Using Geochemistry to Evaluate Sources of Contamination”</u> 2 CECs	<b>May 26-27, 2005, <u>NGWA Conference on TBE and Perchlorate: Assessment, Remediation, and Public Policy</u></b> , National Ground Water Association (NGWA), San Francisco, California, 8 CECs per day of attendance.
11.) <u>Session 5B: Hydrostratigraphy</u> 1.5 CECs	27.) <u>Workshop #5 “GeoDatabase and New Geologic Maps: Applications, Better Geologic Maps, and Communication (cool findings)”</u> 1 CEC	<b>June 6-8, 2005, <u>Analysis and Design of Aquifer Tests Including Slug Tests and Fracture Flow</u></b> , National Ground Water Association (NGWA), Dublin, Ohio, 8 CECs per day of attendance.
12.) <u>Session 6A: Watershed Management Problems and Plans</u> 1.5 CECs	28.) <u>Workshop #6 “Excel Spreadsheets for 30 Hydrologic Calculations”</u> 2.5 CECs	<b>July 19-20, 2005, <u>Environmental Forensics: Methods and Applications (#183)</u></b> , National Ground Water Association (NGWA), Chicago, Illinois, 8 CECs per day of attendance.
13.) <u>Session 6B: Groundwater/Surface Water - I</u> 1.5 CECs	29.) <u>Workshop #7 “Seawater Intrusion Modeling”</u> 4 CECs	
14.) <u>Session 7A: Remediation - II</u> 1.5 CECs	30.) <u>Workshop #8 “Subsurface Heterogeneity: Why It Is Important, Why We Usually Ignore It, and What to Do About It”</u> 2.5 CECs	
15.) <u>Session 7B: Groundwater/Surface Water - II</u> 1.5 CECs	<b>April 17-20, 2005, <u>2005 Ground Water Summit</u></b> , National Ground Water Association (NGWA), Houston, Texas, 8 CECs per day of attendance.	
16.) <u>Session 8A: Emerging Contaminants and Public Exposure</u> 1.5 CECs	<b>April 25-26, 2005, <u>Artificial Recharge of Ground Water</u></b> , National Ground Water Association (NGWA), Baltimore, Maryland, 8 CECs per day of attendance.	
17.) <u>Session 8B: Groundwater Modeling</u> 1 CECs	<b>April 25-26, 2005, <u>Isotopic and Hydrogeological Characterization of Fractured Rock Settings: Current and Novel Approaches</u></b> , National Ground Water Association (NGWA),	
18.) <u>Keynote Speakers</u> 1 CEC per each speaker		
19.) <u>Field Trip #1 “Geohydrology of Hanford Site”</u> 16 CECs, being 8 CECs per day		
20.) <u>Field Trip #2 “Hydrogeology of Mount St. Helens”</u> 8 CECs		
21.) <u>Field Trip #3 “Coastal Cliff Geology Dinner</u>		

## II. APPROVED CLASSES:

**October 15-16, 2004**, “Profit” is not a bad word - don’t give away your professionalism & knowledge, Oregon Ground Water Association’s 2004 Fall Convention, Redmond, Oregon 1 CEC.

**March 4-5, 2005**, Oregon Ground Water Association’s 2005 Spring Technical Seminar, in Keizer, Oregon:

- 1.) Pump Product Showcase 0.5 CEC
- 2.) Pump Product Showcase 0.5 CEC
- 3.) Drilling Product Showcase 1 CEC
- 4.) Water Treatment Licensing & Limits of Authority 1 CEC
- 5.) Minor Labeling Program & Other Electrical Q&A 0.5 CEC
- 6.) Safety 101 Through Grad School: Overall Safety Refresher 2.5 CECs in the safety/first aid/CPR category
- 7.) Variable Frequency 101 (VFD’s) 0.5 CEC
- 8.) Formation Identification: Its Not Just Rock & Dirt 1.5 CECs
- 9.) Missoula Floods: Transformation of the West 1 CEC
- 10.) Well Efficiency is Not a Myth 1.5 CECs

**March 9-11, 2005**, Environmental Geochemistry of Metals: Investigation and Remediation (#576), National Ground Water Association (NGWA), Denver, Colorado, 8 CECs per day of attendance.

**March 19, 2005**, Oregon Ground Water Association, Keizer, Oregon, Jobsite Safety 4 CECs in the safety/first aid/CPR category

24-Hour Mine Safety and Health Administration (MSHA) Initial Training, Layne Christensen Company, 24 CECs in the safety/first aid/CPR category.

8-Hour Mine Safety and Health Administration (MSHA) Refresher, Layne Christensen Company, 8 CECs in the safety/first aid/CPR category.

HM-126F, Layne Christensen Company, 8 CECs in the safety/first aid/CPR category.

Basic Hydraulic Refresher Course, Hydraulic Training Associates, various times/ places, 8 CECs per day of attendance.

Basic Hydraulic 4.1 Course, Hydraulic Training Associates, various times/ places, 8 CECs per day of attendance.

Basic Electrical Refresher Course, Hydraulic Training Associates, various times/ places, 4 CECs per day of attendance.

Basic Mechanical Refresher Course, Hydraulic Training Associates, various times/ places, 8 CECs per day of attendance.

Basic Pneumatic Refresher Course, Hydraulic Training Associates, various times/ places, 8 CECs per day of attendance.

### WELL LOG REMINDERS

Please be sure to include:

- A static water level for each aquifer encountered.
- List the property owner’s name and mailing address where the well is located instead of who contracted for the construction of the well.
- Include both before and after

deepening static water level measurements on the Well Log.

- Check “new” and “abandonment” on your Well Log if applicable.
- Faxed logs should be followed up with a hard copy.
- When you re-submit “amended” logs indicate what was amended.
- Use yellow highlighters when sending in Well Logs or maps. Other colors will not scan properly.
- Indicate North/South and East/West direction on locations.

### ELECTRICAL SAFETY

According to the National Institute for Occupational Safety and Health (NIOSH), between 1992 and 2002 the leading cause of on the job death for water well drillers was electrocution. The other main causes were (in order) vehicular, struck by object, caught in and crushed, all others.

The main cause, according to NIOSH, of electrocutions is overhead power lines.

More than 33 percent of those electrocuted were self employed. Younger workers are electrocuted most often and most of the electrocutions occur at private residences.

Here are a few case studies:

CASE 1: A driller raised a drill rig mast into a 7200 Volt overhead power line. Both he and his helper were killed.

Case 2: A driller lowered a drill rig mast into a 13,800 Volt power line, and was electrocuted. A truck driver saw the driller collapse, and rushed

over to help. The truck driver touched the drill rig and was also killed.

Case 3: A crew was preparing to remove a pump from a well when the hoist boom contacted a 4160 Volt power line. The hoist operator was electrocuted.

Case 4: A driller's helper was pulling a winch cable toward a stack of drill steel, when the cable contacted a 12,000 Volt power line. The helper was killed and the driller at the rig controls was severely injured.

Be sure to keep your drill rigs and related tools, equipment and supplies a safe distance away from overhead electric power lines. The Department does not want you to become the next case study.

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**REGION OFFICE PH/FAX #'S**

Northwest ph (503) 986-0900  
fax (503) 986-0904

Southwest ph (541) 471-2886  
fax (541) 471-2876

South Central ph (541) 388-6669  
fax (541) 388-5101

North Central ph (541) 278-5456  
fax (541) 278-0287

East ph (541) 523-8224  
fax (541) 523-7866

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**ENFORCEMENT STAFF  
DIRECTORY**

Juno Pandian, Manager  
juno.g.pandian@ wrd.state.or.us  
(503) 986-0852

Kristopher Byrd, Well  
Construction Program Coordinator

kristopher.r.byrd@ wrd.state.or.us  
(503) 986-0851

Tracy Eichenlaub, License and  
Compliance Officer  
tracy.l.eichenlaub@ wrd.state.or.us  
(503) 986-0856

Laurie Norton, Well Log Reviews  
laurie.k.norton@ wrd.state.or.us  
(503) 986-0850

Janet Halladey, Well  
Identification  
janet.l.halladey@ wrd.state.or.us  
(503) 986-0854

Enforcement Fax  
(503) 986-0902

**PHOTOS OF SEDIMENT  
FILTER BAGS IN USE**



Filling with Cuttings.



Preparing Filter Bag.



Filter Bag Beside Stream.



Beginning to Fill.



Hauling Away Full Bag.

Cased Well Filled with Trash.



Damaged Cased Well.



Monitoring Well Left by Driller without a Vault (Barrel was over well).

