

## **MINUTES**

### **February 2, 2018 Well Constructors Continuing Education Committee Meeting And Teleconference**

Committee Members Present: Joel Jeffery

Committee Members Teleconferencing: Kevin Gill, James (Jim) Mack, Ryan Galbreth

Others Present: Nancy Sippel, OGWA, Buffy M Gillis (OWRD)

A) Introductions and Acknowledgements:

B) Review of November 17, 2017 Continuing Education Committee Meeting Minutes.

C) Oregon Water Law Conference (11/2/18-11/3/18, Portland OR) previously tabled during November 17, 2017 continuing education meeting: Ryan Galbreth and Joel Jeffery to assist Buffy with completion.

D) Joel Jeffery & Ryan Galbreth to research whether a course can fall into more than one category, i.e., safety and general; to be completed by February 23, 2018.

The Cont. Ed Committee reviewed the courses that comprised:

- Oregon Ground Water Association Spring Technical Seminar, held Friday, February 9, 2018-February 10, 2018. Wilsonville, Oregon
- Idaho Ground Water Association Convention, held January 31, 2018-February 1, 2018. Boise, Idaho
- National Ground Water Association Pacific NW Ground Water Expo, held Friday, March 16, 2018-March 17, 2018. Janzen Beach.
- Dale Carnegie Course, Derek Madsen, completed December 13, 2017.

\*See attachment for Courses & Instructors

**Continuing Education Committee Meeting  
April 11, 2018**

**Table of Contents**

- 1) Minutes: February 2, 2018
- 2) Idaho Groundwater Association CEC Workshop: March 23, 2018 Nampa Idaho
- 3) Washington State Groundwater Association Spring 2018 CEU Seminar: Various WA locations
- 4) National Drilling Association: Basic Geotechnical Procedures Qualification 101: Online Course
- 5) National Groundwater Association PNW Expo (addition): March 16, 2018 Janzen Beach
- 6) Backflow Assembly Tester Certification Course: Varied dates Portland Oregon
- 7) Preferred Pump & Equipment: April 6, 2018 Grants Pass

	A	B	C	D	E	F	G	H	
1	<b>Oregon Ground Water Association (OGWA Spring Technical Seminar Agenda held Friday, February 9, 2018-February 10, 2018, Holiday Inn Portland South-Wilsonville OR</b>	<b>Instructor</b>	<b>Motion to Assign</b>	<b>Credits</b>	<b>Category</b>	<b>2nd Motion</b>	<b>All in favor</b>		
2									
3									
4		Jerry Schmidt, Oregon Water Consultants LLC	KG	1.00	Rules	JM	X		
5	1) Legislative Past and Present 2) Navigating Communication Style in Today's Workplace	Judi Croft, SAIF Corporation	RG	1.00	Gen	JJ	X		
6	3) The Occurrence and Source of Saline Water in the Willamette Valley and the North Coast	Dennis Orlowski-OWRD	JM	1.00	Rules	RG	X		
7	4) Pump Tests and Well Efficiency	Justin Ivreson-OWRD	JM	1.00	Rules	RG	X		
8	5) Basic Riging Training-Inspection, Selection, Use & Removal	Mary Beyer & Art Stanley, West Coast Wire Rope	KG	2.00	Gen	RG	X		
9	6) Water Field Test Kit Selection	Beth Myers, Waterlab Corp	JM	1.00	Gen	JJ	X		
10	7) Making the Best Use of Field Electrical Meters	Michael Watterson, Mitchell Lewis & Staver	JM	0.50	Gen	JJ	X		
11	8) The Application of Geologic Mapping to Groundwater Studies in Oregon	Bob Houston, DOGAMI	JJ	1.00	Gen	RG	X		
12	9) Electric Motor Basics	Robert Stuart, Baldor Reliance	JM	0.50	Gen	KG	X		
13	10. Roundtable Discussion: Troubleshooting Problem Well Issues	Roy Jannsen, A.M. Jannsen Well Drilling	KG	1.00	Gen	JM	X		
14	11. Troubleshooting Residential and Small Irrigation PID Applications	Shawna Andrews, Pentair	JM	0.50	Gen	KG	X		
15	12. Field Testing and Water Analysis from the Drill Rig	Michael Klobes, Always Pure Water Systems	JJ	1.00	Gen	JM	X		
16	13. Line Shaft Turbine Sizing	Curt James, Mitchell Lewis & Staver Co.	RG	1.00	Gen	JJ	X		
17	14. Fishing Tool Selection & Use	Del Boyce, Boyce Drilling	KG	1.00	Gen	JJ/JM/RG	X		
18	15. Promoting Safe & Sustainable Wells	Steve Schneider, Schneider Water Services	KG	1.00	Gen	RG	X		
19	16. Drilling into Oregon OSHA's New Silica Rules	Kim Henry, SAIF Coporation	JM	1.00	Gen	KG	NO, OPPOSED BY JJ		
20	17. The Water Chemistry Fundamentals of Water Treatment	Michael Klobes, Always Pure Water Systems	JJ	2.00	Gen	KG	X		
21	18. Water and The Well & Return to Mt. Hood Glacier Caves and Columbia Gorge Geology Tour (videos)	Oregon Drilling Association, Video & Oregon Field Guide (OPB)	KG	1.00	Gen	JJ	X		

[illegible]

[illegible]

[illegible]

RECEIVED

JAN 30 2018

OWRD

# Certificate of Achievement



Reviewed by Committee Feb 2, 2018

Passed all in favor; 2 CEC's assigned

*This certifies that*

***Derek Madsen***

*has met the required standards for completion of the*

**Dale Carnegie Course®**

*and is hereby awarded 2.8 Continuing Education Units  
by Dale Carnegie & Associates, Inc., on December 13, 2017*

Instructors: Mike Stack and Rico Lea

Class: 17SD07

*Joseph K. Hackett*

CD



# IGWA CEC Workshop – March 23, 2018

## Nampa, Idaho

Hampton Inn, 5750 E. Franklin Rd.

- 7:00 – 8:00     **Registration & Breakfast**
- 8:00 – 9:00     **Round Table Discussion**  
*Dave Adamson, John Bishop, Tom Neace,*
- 9:00 – 10:00    **Oregon Groundwater Rules**  
*Erik Thomasser, Oregon Department of Water Resources*
- 9:00 – 10:00    **Well Cleaning**  
*Leroy Palmer, Ameriwest*
- 10:00 – 10:15   **BREAK**
- 10:15 – 11:15   **Oregon Groundwater Rules**  
*Erik Thomasser, Oregon Department of Water Resources*
- 10:15 – 11:15   **What's New with Residential VFD's**  
*Charlie Fox, Franklin Electric*
- 11:15 – 12:15   **Grout & Seal**  
*George Dugan, Cetoc*
- 12:15 – 1:15    LUNCH PROVIDED
- 1:15 – 2:15     **Department of Transportation Inspections & Licensing Requirements**  
*Seth Uhlenkott, Safety & Compliance Solutions*
- 2:15 – 2:30     **BREAK**
- 2:30 – 3:30     **Idaho Rules and Regulations for Well Drilling**  
*Tom Neace, Idaho Department of Water Resources*
- 3:30 – 4:30     **Domestic vs DCMR Water Rights**  
*Nick Miller, IDWR*



**Franklin Electric**



**FLOMATIC VALVES**



\*There is 1 credit of Rules & Regulations for ID and 2 credits of Rules & Regulations for OR.

*Thanks to Our M&S Sponsors*

# OREGON WELL CONSTRUCTOR CONTINUING EDUCATION COURSE APPLICATION FORM

## Sponsor (Business) Information (please print clearly)

Name: Idaho Ground Water Association

Address: PO Box 2624, Boise, ID 83701

Contact Person: Lynn Tominaga Title: Executive Director

Daytime Phone Number: (208) 381-0294 Fax Number: (208) 381-5272

## Continuing Education Information

Course Title: Round Table Discussion

(As it will appear on advertisements, class materials and certificate of completion)

Provide a brief description of the course and how it pertains to the well construction industry. Attach a copy of the course curriculum showing the actual number of hours of training.

This is a resource roundtable with open discussion on the issues involved with small business operations, well drilling, safety compliance on the state and federal levels, and general topics that concern the industry

How will the course be advertised? Mail, email, and website

Anticipated starting date(s) and duration of course: March 23 2018

Does the attendee need to supply any equipment and/or supplies? No If yes, what? N/A

Where will course be held? Hampton Inn 5750 E Franklin Rd Nampa, ID 83687

What, if any, is the cost? \$85/Mem \$135 Non Mem Are there space/size limitations? What? N/A

What type of documentation of completion will be provided to the constructor? (Something must be provided.) Certificate

(ie certificate of completion, diploma, transcript, etc)

## Instructor Information

Instructor qualifications: List related education, professional licenses, certifications, professional trade experience, training, and/or experience that reflect the qualification(s) necessary to teach this course.

Instructor(s) Name: Legrand Baker, Tom Neace, Dave Adamson, John Bishop Phone #(s):

Representative's Signature: Lynn Tominaga

Date: \_\_\_\_\_

Please return completed form to: Oregon Water Resources Dept., Attn: Tracy Fox, 725 Summer Street NE, Suite "A", Salem, OR 97301-1266. Questions contact Tracy at 503.986.0856. Keep a copy of this application form for your records. Revised 05/2011

The information listed below is necessary for other state associations to score your course. Without this information, drillers may not receive the credits they need for licensure. Thank you for completing this form in its entirety and returning it promptly. If you have any questions please call our office at (208) 381-0294.

**SPEAKER**

Name: DAVE ADAMSON

Title: OWNER & OPERATOR

Company: ADAMSON PUMP AND DRILLING

Phone: 208-466-6439

Email: Adamsondrilling@gmail.com

Credentials/Qualifications: INSTALLING and servicing WATER PUMPS for 43 yrs, drilling wells for 30 yrs, Second Generation.  
Bio:

**PRESENTATION**

Course Title: Round Table discussion

Brief Course Description:

Audio Visual Preferences (please check all that apply):

<input type="checkbox"/>	Computer - PC	<input type="checkbox"/>	Internet Access
<input type="checkbox"/>	LCD Projector	<input type="checkbox"/>	Projector Screen
<input type="checkbox"/>	PowerPoint Clicker	<input type="checkbox"/>	TV / DVD Player
<input type="checkbox"/>	Microphone	<input type="checkbox"/>	Dry Erase Board

Do attendees need to supply any equipment or supplies?

<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
--------------------------	-----	-------------------------------------	----

Do you need to ship materials?

<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
--------------------------	-----	-------------------------------------	----

# OREGON WELL CONSTRUCTOR CONTINUING EDUCATION COURSE APPLICATION FORM

## Sponsor (Business) Information (please print clearly)

Name: Idaho Ground Water Association

Address: PO Box 2624, Boise, ID 83701

Contact Person: Lynn Tominaga Title: Executive Director

Daytime Phone Number: (208) 381-0294 Fax Number: (208) 381-5272

## Continuing Education Information

Course Title: State of Oregon Rules & Regulations Parts 1 & 2  
(As it will appear on advertisements, class materials and certificate of completion)

Provide a brief description of the course and how it pertains to the well construction industry. Attach a copy of the course curriculum showing the actual number of hours of training.

This is an overview of the rules and regulations for the proper construction of water wells in the state of Oregon

How will the course be advertised? Mail, email, and website

Anticipated starting date(s) and duration of course: March 23 2018

Does the attendee need to supply any equipment and/or supplies? No If yes, what? N/A

Where will course be held? Hampton Inn 5750 E Franklin Rd Nampa, ID 83687

What, if any, is the cost? \$85/Mem \$135 Non Mem Are there space/size limitations? What? N/A

What type of documentation of completion will be provided to the constructor? (Something must be provided.) Certificate

(ie certificate of completion, diploma, transcript, etc)

## Instructor Information

Instructor qualifications: List related education, professional licenses, certifications, professional trade experience, training, and/or experience that reflect the qualification(s) necessary to teach this course.

Instructor(s) Name: Erik Thomasser Phone #(s): \_\_\_\_\_

Representative's Signature: 

Date: \_\_\_\_\_

Please return completed form to: Oregon Water Resources Dept., Attn: Tracy Fox, 725 Summer Street NE, Suite "A", Salem, OR 97301-1266. Questions contact Tracy at 503.986.0856. Keep a copy of this application form for your records. Revised 05/2011

## Erik Thomasser

Erik started his career as an exploration geologist in the precious and base metal mining industry specializing in sediment-hosted disseminated Ag-Au deposits in the Western United States. He has now been with the Oregon Water Resources Department for just over 2 years facilitating and regulating well construction in the Umatilla Basin, Walla Walla Basin, John Day Basin, Lower Deschutes Basin, and the Hood Basin with a significant focus on well construction in the Columbia River Basalt Group

---

# OREGON WELL CONSTRUCTOR CONTINUING EDUCATION COURSE APPLICATION FORM

## Sponsor (Business) Information (please print clearly)

Name: Idaho Ground Water Association

Address: PO Box 2624, Boise, ID 83701

Contact Person: Lynn Tominaga Title: Executive Director

Daytime Phone Number: (208) 381-0294 Fax Number: (208) 381-5272

## Continuing Education Information

Course Title: Well Cleaning

(As it will appear on advertisements, class materials and certificate of completion)

Provide a brief description of the course and how it pertains to the well construction industry. Attach a copy of the course curriculum showing the actual number of hours of training.

This class is a presentation by industry representative regarding the proper use of chemical treatment for water wells with water quality issues.

How will the course be advertised? Mail, email, and website

Anticipated starting date(s) and duration of course: March 23 2018

Does the attendee need to supply any equipment and/or supplies? No If yes, what? N/A

Where will course be held? Hampton Inn 5750 E Franklin Rd Nampa, ID 83687

What, if any, is the cost? \$85/Mem \$135 Non Mem Are there space/size limitations? What? N/A

What type of documentation of completion will be provided to the constructor? (Something must be provided.) Certificate

(ie certificate of completion, diploma, transcript, etc)

## Instructor Information

Instructor qualifications: List related education, professional licenses, certifications, professional trade experience, training, and/or experience that reflect the qualification(s) necessary to teach this course.

Instructor(s) Name: Leroy Palmer Phone #(s): \_\_\_\_\_

Representative's Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Please return completed form to: Oregon Water Resources Dept., Attn: Tracy Fox, 725 Summer Street NE, Suite "A", Salem, OR 97301-1266. Questions contact Tracy at 503.986.0856. Keep a copy of this application form for your records. Revised 05/2011

## Speaker Biography

Name: LeRoy Y. Palmer  
Company: AmeriWest Water Services Inc.  
P.O. Box 44683  
Boise Idaho 83711  
Phone: 208-861-3410

### Biography:

- LeRoy Palmer was born and raised in Brigham City Utah.
  - After receiving a Bachelors degree in microbiology at Weber State College, he received a Masters degree from Brigham Young University in microbiology. His research at BYU was related to the movement and disappearance of virus particles in Dear Creek Reservoir.
  - After graduation, he worked for Boise Water Corporation in Idaho as the laboratory director and water quality specialist from 1977 to 2000.
  - While employed by Boise Water, he maintained a State Certified Microbiology Laboratory where he performed over 50,000 total coliform water tests in over 22 years.
  - In 2000, he co-founded AmeriWest Water Services, where he has formulated and developed over 40 NSF Standard 60 Certified water treatment chemicals. Working with municipalities from Seattle to Denver, he does extensive consulting on water quality issues and groundwater well maintenance and rehabilitation.
  - He holds an Idaho Class IV-Drinking Water Treatment Operator License and has been certified as a Cross-Connection Control / Backflow Assembly Tester since 1978.
  - He has served on the Pacific Northwest Section of the American Water Works Association (AWWA) Water Quality Committee and is a former board member of the South East Idaho Sub Section of AWWA.
  - He is a member of the American Water Works Association, the Idaho and Utah Ground Water Associations, the Nation Groundwater Association and has participated in numerous AWWA, Idaho and Utah Rural Water Conferences, teaching such topics as customer complaints, reservoir water quality, valve maintenance, corrosion control, chlorination, iron and manganese control and well maintenance and rehabilitation.
-

# OREGON WELL CONSTRUCTOR CONTINUING EDUCATION COURSE APPLICATION FORM

## Sponsor (Business) Information (please print clearly)

Name: Idaho Ground Water Association

Address: PO Box 2624, Boise, ID 83701

Contact Person: Lynn Tominaga Title: Executive Director

Daytime Phone Number: (208) 381-0294 Fax Number: (208) 381-5272

## Continuing Education Information

Course Title: Pumps Class - Whats New with Residential VFD's  
(As it will appear on advertisements, class materials and certificate of completion)

Provide a brief description of the course and how it pertains to the well construction industry. Attach a copy of the course curriculum showing the actual number of hours of training.

This is a presentation by industry representative regarding the proper selection of submersible pumps for a variety of real world situations, water well types, and addressing remedial issues.

How will the course be advertised? Mail, email, and website

Anticipated starting date(s) and duration of course: March 23 2018

Does the attendee need to supply any equipment and/or supplies? No If yes, what? N/A

Where will course be held? Hampton Inn 5750 E Franklin Rd Nampa, ID 83687

What, if any, is the cost? \$85/Mem \$135 Non Mem Are there space/size limitations? What? N/A

What type of documentation of completion will be provided to the constructor? (Something must be provided.) Certificate

(ie certificate of completion, diploma, transcript, etc)

## Instructor Information

Instructor qualifications: List related education, professional licenses, certifications, professional trade experience, training, and/or experience that reflect the qualification(s) necessary to teach this course.

Instructor(s) Name: Charlie Fox Phone #(s): \_\_\_\_\_

Representative's Signature: Lynn Tominaga

Date: \_\_\_\_\_

Please return completed form to: Oregon Water Resources Dept., Attn: Tracy Fox, 725 Summer Street NE, Suite "A", Salem, OR 97301-1266. Questions contact Tracy at 503.986.0856. Keep a copy of this application form for your records. Revised 05/2011

## **Charlie Fox**

Charlie is a Western Region Territory Manager with twenty eight years of experience in the water system industry. Charlie spent ten years as a contractor installing and servicing industrial pumps, irrigation systems, and water well equipment. In 1998 Charlie took a job with a distributor where he managed three branches in California and Utah before moving his family to Idaho. Charlie has spent the last nine years as a Territory Manager for Franklin Electric covering six states in the western region.

---

# OREGON WELL CONSTRUCTOR CONTINUING EDUCATION COURSE APPLICATION FORM

## Sponsor (Business) Information (please print clearly)

Name: Idaho Ground Water Association

Address: PO Box 2624, Boise, ID 83701

Contact Person: Lynn Tominaga Title: Executive Director

Daytime Phone Number: (208) 381-0294 Fax Number: (208) 381-5272

## Continuing Education Information

Course Title: What's New with Residential VFD's

(As it will appear on advertisements, class materials and certificate of completion)

Provide a brief description of the course and how it pertains to the well construction industry. Attach a copy of the course curriculum showing the actual number of hours of training.

This is a presentation by industry representative regarding the proper selection of submersible pumps for a variety of real world situations, water well types, and addressing remedial issues.

How will the course be advertised? Mail, email, and website

Anticipated starting date(s) and duration of course: March 23 2018

Does the attendee need to supply any equipment and/or supplies? No If yes, what? N/A

Where will course be held? Hampton Inn 5750 E Franklin Rd Nampa, ID 83687

What, if any, is the cost? \$85/Mem \$135 Non Mem Are there space/size limitations? What? N/A

What type of documentation of completion will be provided to the constructor? (Something must be provided.) Certificate

(ie certificate of completion, diploma, transcript, etc)

## Instructor Information

Instructor qualifications: List related education, professional licenses, certifications, professional trade experience, training, and/or experience that reflect the qualification(s) necessary to teach this course.

Instructor(s) Name: Charlie Fox Phone #(s): \_\_\_\_\_

Representative's Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Please return completed form to: Oregon Water Resources Dept., Attn: Tracy Fox, 725 Summer Street NE, Suite "A", Salem, OR 97301-1266. Questions contact Tracy at 503.986.0856. Keep a copy of this application form for your records. Revised 05/2011

# OREGON WELL CONSTRUCTOR CONTINUING EDUCATION COURSE APPLICATION FORM

## Sponsor (Business) Information (please print clearly)

Name: Idaho Ground Water Association

Address: PO Box 2624, Boise, ID 83701

Contact Person: Lynn Tominaga Title: Executive Director

Daytime Phone Number: (208) 381-0294 Fax Number: (208) 381-5272

## Continuing Education Information

Course Title: Grout & Seal

(As it will appear on advertisements, class materials and certificate of completion)

Provide a brief description of the course and how it pertains to the well construction industry. Attach a copy of the course curriculum showing the actual number of hours of training.

This class is led by an industry representative will address proper grouting and sealing of water wells under construction. It will also address practical application of various products and the selection of materials to address those issues.

How will the course be advertised? Mail, email, and website

Anticipated starting date(s) and duration of course: March 23 2018

Does the attendee need to supply any equipment and/or supplies? No If yes, what? N/A

Where will course be held? Hampton Inn 5750 E Franklin Rd Nampa, ID 83687

What, if any, is the cost? \$85/Mem \$135 Non Mem Are there space/size limitations? What? N/A

What type of documentation of completion will be provided to the constructor? (Something must be provided.) Certificate

(ie certificate of completion, diploma, transcript, etc)

## Instructor Information

Instructor qualifications: List related education, professional licenses, certifications, professional trade experience, training, and/or experience that reflect the qualification(s) necessary to teach this course.

Instructor(s) Name: George Dugan Phone #(s): \_\_\_\_\_

Representative's Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Please return completed form to: Oregon Water Resources Dept., Attn: Tracy Fox, 725 Summer Street NE, Suite "A", Salem, OR 97301-1266. Questions contact Tracy at 503.986.0856. Keep a copy of this application form for your records. Revised 05/2011

WHO: GEORGE M. DUGAN - TERRITORY MANAGER

George Dugan has been a Territory Manager for CETCO Drilling Products Group for over 17 years and is based in Dayton, Texas. George has worked in drilling-related industries for over 40 years, working with drilling fluids, drilling fluid recycling equipment, liquids/solids separation (dewatering), and solidification services in a multitude of industries. George has been actively involved in teaching continuing education classes for the national ground water association as well as for state ground water associations throughout the United States for over 17 years.

Before his employment with CETCO, George spent four years working for a horizontal directional drilling (HDD) equipment manufacturer, providing technical support and training for HDD contractors throughout the United States. George recently earned a Bachelor of Science degree in business with a major in marketing through the University of Phoenix.

#### Course Agenda

##### I. Drilling Fluids

- \* Sodium Wyoming Bentonite: Characteristics and Origin
- \* Types of Drilling Fluids
- \* Make-up Water
- \* Functions of a Drilling Fluid
- \* Characteristics of a Bentonite Drilling Fluid
- \* Loss circulation
- \* Pit Design
- \* Polymer Additives
- \* Matching Drilling Fluids to Soil Conditions

George M Dugan  
Technical Sales Manager  
CETCO Drilling Products Group  
100 County Road 6478  
Dayton, TX 77545  
Cell: 281-705-7791  
george.dugan@mineralstech.com<mailto:george.dugan@mineralstech.com>  
[cid:image001.png@01D075B7.AE516820]

# OREGON WELL CONSTRUCTOR CONTINUING EDUCATION COURSE APPLICATION FORM

## Sponsor (Business) Information (please print clearly)

Name: Idaho Ground Water Association

Address: PO Box 2624, Boise, ID 83701

Contact Person: Lynn Tominaga Title: Executive Director

Daytime Phone Number: (208) 381-0294 Fax Number: (208) 381-5272

## Continuing Education Information

Course Title: U.S. Department of Transportation Inspections & Licensing Requirements  
(As it will appear on advertisements, class materials and certificate of completion)

Provide a brief description of the course and how it pertains to the well construction industry. Attach a copy of the course curriculum showing the actual number of hours of training.

This class is an overview of current safety standard requirements and regulatory documentation requirements. This class will focus on the well drilling industry and how these regulations impact the industry.

How will the course be advertised? Mail, email, and website \_\_\_\_\_

Anticipated starting date(s) and duration of course: March 23 2018

Does the attendee need to supply any equipment and/or supplies? No \_\_\_\_\_ If yes, what? N/A

Where will course be held? Hampton Inn 5750 E Franklin Rd Nampa, ID 83687

What, if any, is the cost? \$85/Mem \$135 Non Mem Are there space/size limitations? What? N/A

What type of documentation of completion will be provided to the constructor? (Something must be provided.) Certificate

(ie certificate of completion, diploma, transcript, etc)

## Instructor Information

Instructor qualifications: List related education, professional licenses, certifications, professional trade experience, training, and/or experience that reflect the qualification(s) necessary to teach this course.

Instructor(s) Name: Seth Uhlenkott Phone #(s): \_\_\_\_\_

Representative's Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Please return completed form to: Oregon Water Resources Dept., Attn: Tracy Fox, 725 Summer Street NE, Suite "A", Salem, OR 97301-1266. Questions contact Tracy at 503.986.0856. Keep a copy of this application form for your records. Revised 05/2011

## Seth Uhlenkott

After 15 years with government agencies in commercial vehicle enforcement, Seth brought his experience to private industry to help small companies operating under USDOT regulations. Seth began his career with the Idaho Transportation Department as a Port of Entry Inspector and joined the Idaho State Police in 2004. He worked in the Commercial Vehicle Safety Division as a Senior Specialist, Hazardous Materials Specialist, and as a Sergeant. Seth was a certified instructor for the FMCSA National Training Center for the North American Standard Inspection and Idaho POST.

He provided industry training to new inspectors and safety personnel including commercial vehicle enforcement and interpretation of complex regulations. He was certified in multiple areas, including Safety Audits. Seth enjoys educating and assisting owners/drivers so they may find success under USDOT regulations.

---

# OREGON WELL CONSTRUCTOR CONTINUING EDUCATION COURSE APPLICATION FORM

## Sponsor (Business) Information (please print clearly)

Name: Idaho Ground Water Association

Address: PO Box 2624, Boise, ID 83701

Contact Person: Lynn Tominaga Title: Executive Director

Daytime Phone Number: (208) 381-0294 Fax Number: (208) 381-5272

## Continuing Education Information

Course Title: Domestic vs DCM Water Rights

(As it will appear on advertisements, class materials and certificate of completion)

Provide a brief description of the course and how it pertains to the well construction industry. Attach a copy of the course curriculum showing the actual number of hours of training.

This is an overview of the rules and regulations which impact municipal water wells vs domestic water wells. Discussion is planned to include both construction requirements and the permitting process. Water rights and water law may also be addressed.

How will the course be advertised? Mail, email, and website

Anticipated starting date(s) and duration of course: March 23 2018

Does the attendee need to supply any equipment and/or supplies? No If yes, what? N/A

Where will course be held? Hampton Inn 5750 E Franklin Rd Nampa, ID 83687

What, if any, is the cost? \$85/Mem \$135 Non Mem Are there space/size limitations? What? N/A

What type of documentation of completion will be provided to the constructor? (Something must be provided.) Certificate

(ie certificate of completion, diploma, transcript, etc)

## Instructor Information

Instructor qualifications: List related education, professional licenses, certifications, professional trade experience, training, and/or experience that reflect the qualification(s) necessary to teach this course.

Instructor(s) Name: Nick Miller Phone #(s): \_\_\_\_\_

Representative's Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Please return completed form to: Oregon Water Resources Dept., Attn: Tracy Fox, 725 Summer Street NE, Suite "A", Salem, OR 97301-1266. Questions contact Tracy at 503.986.0856. Keep a copy of this application form for your records. Revised 05/2011

# OREGON WELL CONSTRUCTOR CONTINUING EDUCATION COURSE APPLICATION FORM

## Sponsor (Business) Information (please print clearly)

Name: Idaho Ground Water Association

Address: PO Box 2624, Boise, ID 83701

Contact Person: Lynn Tominaga Title: Executive Director

Daytime Phone Number: (208) 381-0294 Fax Number: (208) 381-5272

## Continuing Education Information

Course Title: State of Idaho Rules & Regulations

(As it will appear on advertisements, class materials and certificate of completion)

Provide a brief description of the course and how it pertains to the well construction industry. Attach a copy of the course curriculum showing the actual number of hours of training.

This is an overview of the rules and regulations for the proper construction of water wells in the state of Idaho

How will the course be advertised? Mail, email, and website

Anticipated starting date(s) and duration of course: March 23 2018

Does the attendee need to supply any equipment and/or supplies? No If yes, what? N/A

Where will course be held? Hampton Inn 5750 E Franklin Rd Nampa, ID 83687

What, if any, is the cost? \$85/Mem \$135 Non Mem Are there space/size limitations? What? N/A

What type of documentation of completion will be provided to the constructor? (Something must be provided.) Certificate

(ie certificate of completion, diploma, transcript, etc)

## Instructor Information

Instructor qualifications: List related education, professional licenses, certifications, professional trade experience, training, and/or experience that reflect the qualification(s) necessary to teach this course.

Instructor(s) Name: Tom Neace Phone #(s): \_\_\_\_\_

Representative's Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Please return completed form to: Oregon Water Resources Dept., Attn: Tracy Fox, 725 Summer Street NE, Suite "A", Salem, OR 97301-1266. Questions contact Tracy at 503.986.0856. Keep a copy of this application form for your records. Revised 05/2011

# OREGON WELL CONSTRUCTOR CONTINUING EDUCATION COURSE APPLICATION FORM

## Sponsor (Business) Information (please print clearly)

Name: Washington State Ground Water Association

Address: P.O. Box 606, Duvall, WA 98019

Contact Person: Colleen Mastro

Title: Education Coordinator

Daytime Phone Number: 206-351-6384

Fax Number: colleenmastro@hotmail.com

## Continuing Education Information

Course Title: Bit Selection, Use and Care 11:15am-12:15pm

(As it will appear on advertisements, class materials and certificate of completion)

Provide a brief description of the course and how it pertains to the well construction industry. Attach a copy of the course curriculum showing the actual number of hours of training.

Tri cone bits, button and milltooth, drag bits, claw bits, hammer bits, PDC bits. A conversation about each type of bit, how it is made and its intended use. How choosing the right bit for the formation to be drilled is important in having successful well completions. Also provided will be how to fish lost bits out of a well.

How will the course be advertised? WSGWA website and mailings

Anticipated starting date(s) and duration of course: 3/9, 3/10, 3/30, 3/31, 2018

Does the attendee need to supply any equipment and/or supplies? ☐ Yes ☒ No If yes, what? \_\_\_\_\_

Where will course be held? Tacoma, Kelso, Spokane, Richland, WA

What, if any, is the cost? see WSGWA website Are there space/size limitations? What? none

~~What type of documentation of completion will be provided to the constructor? (Something must be provided).~~  
(ie certificate of completion, diploma, transcript, etc)

WSGWA stamped participation sheet and Oregon roster signatures

## Instructor Information

Instructor qualifications: List related education, professional licenses, certifications, professional trade experience, training, and/or experience that reflect the qualification(s) necessary to teach this course.

Instructor(s) Name: Steve Kaser Phone #(s): 503-538-2004

Steve has been in the drilling industry for over 49 years beginning with onsite drilling, and is now a product drilling manager as well as a proficient speaker at many classes and events.

Representative's Signature:

*Colleen Mastro*

Date: 2-1-18

Please return completed form to: Oregon Water Resources Dept., Attn: Laurie Norton, 725 Summer Street NE, Suite "A", Salem, OR 97301-1266. Questions contact Laurie at 503.986.0856. Keep a copy of this application form for your records.  
Revised 05/2011

# OREGON WELL CONSTRUCTOR CONTINUING EDUCATION COURSE APPLICATION FORM

## Sponsor (Business) Information (please print clearly)

Name: Washington State Ground Water Association

Address: P.O. Box 606, Duvall, WA 98019

Contact Person: Colleen Mastro

Title: Education Coordinator

Daytime Phone Number: 206-351-6384

Fax Number: colleenmastro@hotmail.com

## Continuing Education Information

Course Title: Well Testing 1-2pm

(As it will appear on advertisements, class materials and certificate of completion)

Provide a brief description of the course and how it pertains to the well construction industry. Attach a copy of the course curriculum showing the actual number of hours of training.

Discuss basic types of well testing, discharge and water level measurement options, data plots and what can be seen in the water level record, hto to calualte specific capacity and transmissivity and well efficiency, appropriate water sampling techniques.

How will the course be advertised? WSGWA website and mailings

Anticipated starting date(s) and duration of course: 3/9, 3/10, 3/30, 3/31, 2018

Does the attendee need to supply any equipment and/or supplies? ☐ Yes ☒ No If yes, what? \_\_\_\_\_

Where will course be held? Tacoma, Kelso, Spokane, Richland, WA

What, if any, is the cost? see WSGWA website Are there space/size limitations? What? none

What type of documentation of completion will be provided to the constructor? (Something must be provided)

.....(ie.certificate of completion, diploma, transcript, etc).....  
WSGWA stamped participation sheet and Oregon roster signatures

## Instructor Information

Instructor qualifications: List related education, professional licenses, certifications, professional trade experience, training, and/or experience that reflect the qualification(s) necessary to teach this course.

Instructor(s) Name: Mike Picchowski Phone #(s): 253-475-7711

Mike is the Principal Hydrogeologist with Robinson Noble with over 25 years practical hands on experience as a hydrogeologist drilling and logging wells. Licensed Hydrogeologist in WA, accomplished speaker at many classes and events.

Representative's Signature:



Date: 2-1-18

Please return completed form to: Oregon Water Resources Dept., Attn: Laurie Norton, 725 Summer Street NE, Suite "A", Salem, OR 97301-1266. Questions contact Laurie at 503.986.0856. Keep a copy of this application form for your records.

Revised 05/2011

# OREGON WELL CONSTRUCTOR CONTINUING EDUCATION COURSE APPLICATION FORM

## Sponsor (Business) Information (please print clearly)

Name: Washington State Ground Water Association

Address: P.O. Box 606, Duvall, WA 98019

Contact Person: Colleen Mastro

Title: Education Coordinator

Daytime Phone Number: 206-351-6384

Fax Number: colleenmastro@hotmail.com

## Continuing Education Information

Course Title: Geology and Hydrogeology for Well Drillers 2-3pm

(As it will appear on advertisements, class materials and certificate of completion)

Provide a brief description of the course and how it pertains to the well construction industry. Attach a copy of the course curriculum showing the actual number of hours of training.

Aquifers, confining units, head relationships principles of groundwater flow, permeability vs porosity, Darcy's Law, explanation of aquifer criteria of hydraulic conductivity and thickness and transmissivity, along with well efficiency.

How will the course be advertised? WSGWA website and mailings

Anticipated starting date(s) and duration of course: 3/9, 3/10, 3/30, 3/31, 2018

Does the attendee need to supply any equipment and/or supplies? ☐ Yes ☒ No If yes, what? \_\_\_\_\_

Where will course be held? Tacoma, Kelso, Spokane, Richland, WA

What, if any, is the cost? see WSGWA website Are there space/size limitations? What? none

What type of documentation of completion will be provided to the constructor? (Something must be provided)

-----(ie. certificate of completion, diploma, transcript, etc)-----

WSGWA stamped participation sheet and Oregon roster signatures

## Instructor Information

Instructor qualifications: List related education, professional licenses, certifications, professional trade experience, training, and/or experience that reflect the qualification(s) necessary to teach this course.

Instructor(s) Name: Mike Piechowski Phone #(s): 253-475-7711

Mike is the Principal Hydrogeologist with Robinson Noble with over 25 years practical hands on experience as a hydrogeologist drilling and logging wells. Licensed Hydrogeologist in WA, accomplished speaker at many classes and events.

Representative's Signature:

*Colleen Mastro*

Date: 2-1-18

Please return completed form to: Oregon Water Resources Dept., Attn: Laurie Norton, 725 Summer Street NE, Suite "A", Salem, OR 97301-1266. Questions contact Laurie at 503.986.0856. Keep a copy of this application form for your records.  
Revised 05/2011

**OREGON WELL CONSTRUCTOR CONTINUING EDUCATION COURSE  
APPLICATION FORM**

**Sponsor (Business) Information** (please print clearly)

Name: Washington State Ground Water Association

Address: P.O. Box 606, Duvall, WA 98019

Contact Person: Colleen Mastro

Title: Education Coordinator

Daytime Phone Number: 206-351-6384

Fax Number: colleenmastro@hotmail.com

**Continuing Education Information**

Course Title: Hot, Cold and Being Safe 3-4pm

(As it will appear on advertisements, class materials and certificate of completion)

Provide a brief description of the course and how it pertains to the well construction industry. Attach a copy of the course curriculum showing the actual number of hours of training.

Working in the heat and in the cold bring about proper PPE concerns, health tracking and on site safety hazards. Course is directed to well drillers working in varied environments, site locations and varying degrees of temperature.

How will the course be advertised? WSGWA website and mailings

Anticipated starting date(s) and duration of course: 3/9, 3/10, 3/30, 3/31, 2018

Does the attendee need to supply any equipment and/or supplies? ☐ Yes ☒ No If yes, what? \_\_\_\_\_

Where will course be held? Tacoma, Kelso, Spokane, Richland, WA

What, if any, is the cost? see WSGWA website Are there space/size limitations? What? none

What type of documentation of completion will be provided to the constructor? (Something must be provided)

-----(ie. certificate of completion, diploma, transcript, etc.)-----

WSGWA stamped participation sheet and Oregon roster signatures

**Instructor Information**

Instructor qualifications: List related education, professional licenses, certifications, professional trade experience, training, and/or experience that reflect the qualification(s) necessary to teach this course.

Instructor(s) Name: Delwin Weeks Phone #(s): 360-575-6908

23 years heavy equipment operator USMC, 10 years safety compliance officer Wyoming/Washington, Safety Consultant with L&I 2 years.

Representative's Signature:



Date: 2-1-18

Please return completed form to: Oregon Water Resources Dept., Attn: Laurie Norton, 725 Summer Street NE, Suite "A", Salem, OR 97301-1266. Questions contact Laurie at 503.986.0856. Keep a copy of this application form for your records.  
Revised 05/2011

# OREGON WELL CONSTRUCTOR CONTINUING EDUCATION COURSE APPLICATION FORM

## Sponsor (Business) Information (please print clearly)

Name: Washington State Ground Water Association

Address: P.O. Box 606, Duvall, WA 98019

Contact Person: Colleen Mastro

Title: Education Coordinator

Daytime Phone Number: 206-351-6384

Fax Number: colleenmastro@hotmail.com

## Continuing Education Information

Course Title: Basic Grounding/Plumbing Code for Pump Installer 8am-5pm lunch is 12-1

(As it will appear on advertisements, class materials and certificate of completion)

Provide a brief description of the course and how it pertains to the well construction industry. Attach a copy of the course curriculum showing the actual number of hours of training.

Define grounding and bonding, purpose of each, electrical safety, Interior Plumbing Codes applicable to the rules for Pump Installers, safety, objectionable currents, electrodes, conductors and more...

How will the course be advertised? WSGWA website and mailings

Anticipated starting date(s) and duration of course: 3/9, 3/10, 3/30, 3/31, 2018

Does the attendee need to supply any equipment and/or supplies? ☐ Yes ☒ No If yes, what? \_\_\_\_\_

Where will course be held? Tacoma, Kelso, Spokane, Richland, WA

What, if any, is the cost? see WSGWA website Are there space/size limitations? What? none

What type of documentation of completion will be provided to the constructor? (Something must be provided)  
(ie certificate of completion, diploma, transcript, etc)

WSGWA stamped participation sheet and Oregon roster signatures

## Instructor Information

Instructor qualifications: List related education, professional licenses, certifications, professional trade experience, training, and/or experience that reflect the qualification(s) necessary to teach this course.

Instructor(s) Name: Roger Chick Phone #(s): 360-265-6994

Over 18 years as Electrical Inspector with L&I, certified Master Electrician, International Association of Electrical Inspectors, repeated outstanding speaker of continuing education classes.

Representative's Signature:

*Colleen Mastro*

Date: 2-1-18

Please return completed form to: Oregon Water Resources Dept., Attn: Laurie Norton, 725 Summer Street NE, Suite "A", Salem, OR 97301-1266. Questions contact Laurie at 503.986.0856. Keep a copy of this application form for your records.

Revised 05/2011

# OREGON WELL CONSTRUCTOR CONTINUING EDUCATION COURSE APPLICATION FORM

## Sponsor (Business) Information (please print clearly)

RECEIVED

MAR 05 2018

Name: National Drilling Association

Address: 4036 Center Road, Suite B, Brunswick, OH 44212

Contact Person: Becky McWilliam

Title: Administrator

OWRD

Daytime Phone Number: 877-632-4748

Fax Number: 216-803-9900

## Continuing Education Information

Course Title: Basic Geotechnical Procedures Qualification 101

(As it will appear on advertisements, class materials and certificate of completion)

Provide a brief description of the course and how it pertains to the well construction industry. Attach a copy of the course curriculum showing the actual number of hours of training.

This training uses the NDA Driller's Manual and the ASTM, AASHTO specifications mentioned in the manual for self study and an online exam. The purpose of this training is to reinforce proper procedures for geotechnical purposes.

How will the course be advertised? Electronic newsletter, mass e-mail, "Drill Bits" magazine, social media, NDA website (www.nda4u.com)

Anticipated starting date(s) and duration of course: N/A

Does the attendee need to supply any equipment and/or supplies? Y ☒ N If yes, what? \_\_\_\_\_

Where will course be held? Online

What, if any, is the cost? \$100 for members/\$200 for non-members Are there space/size limitations? What? No


What type of documentation of completion will be provided to the constructor? (Something must be provided)  
(ie certificate of completion, diploma, transcript, etc)

Certificate of completion is issued with a passing grade of at least 80%

## Instructor Information

Instructor qualifications: List related education, professional licenses, certifications, professional trade experience, training, and/or experience that reflect the qualification(s) necessary to teach this course.

Instructor(s) Name: N/A Phone #(s): \_\_\_\_\_

Representative's Signature: 

Date: 3/1/2018

Please return completed form to: Oregon Water Resources Dept., Attn: Laurie Norton, 725 Summer Street NE, Suite "A", Salem, OR 97301-1266. Questions contact Tracy at 503.986.0856. Keep a copy of this application form for your records.

Revised 05/2011

# NATIONAL DRILLING ASSOCIATION



## *Certificate of Completion*

This certifies that

**FIRST NAME LAST NAME**

Successfully completed the

***Basic Geotechnical Procedures Qualification 101***

on

**DATE**

President, National Drilling Association

Please keep a copy of this certificate for documentation. Additional copies of this certificate for submission to licensing authorities may be downloaded from the NDA Online Training Center

**RECEIVED**

**MAR 05 2018**

**OWRD**

## Basic Geotechnical Procedures Qualification 101 Exam

*The NDA Driller's Manual and the ASTM, AASHTO specifications mentioned in the manual are be the reference points for the exam.*

*Circle the letter of the best answer*

1. The purpose of a geotechnical test boring is
  - a) To find any water table present
  - b) Determine the relative strength of soil utilizing the Standard Penetration Test (SPT)
  - c) Obtain representative soil and rock samples
  - d) All of the above
2. When rotary drilling for geotechnical sampling, you must use what type of bit
  - a) Side discharge
  - b) Bottom discharge
  - c) Carbide button
  - d) Diamond impregnated
3. Casing with wash or mud rotary is always the best method for drilling a test boring  

TrueFalse
4. Geotechnical engineers may utilize which of the following sample methods:
  - a) Shelby Tube Sampling
  - b) SPT tests
  - c) Rock coring
  - d) All of the above
5. The SPT is performed using what diameter split spoon sampler
  - a) 4" diameter
  - b) 2" diameter
  - c) 3" diameter
  - d) All of the above
6. You can utilize water or drilling mud with hollow stem augers to help keep cuttings from entering the augers.  

TrueFalse
7. The SPT test requires a 140lb. hammer having a free fall of:
  - a) 18 inches
  - b) 24 inches
  - c) 30 inches
  - d) Whatever distance the auto hammer is calibrated for

RECEIVED

MAR 05 2018

OWRD

8. Which of the following is an approved method for drilling geotechnical test borings
- a) Hollow stem augers (HSA)
  - b) Solid stem augers
  - c) Casing with mud rotary or wash boring
  - d) All of the above
9. The Hollow Stem Auger (HSA) system consists of a drive cap, Auger, cutter head, rod to cap adapter, drill rod, and center plug.
- True            False
10. The Standard Penetration Test (SPT) ASTM D1586 is the primary sampling method for Geotechnical drilling.
- True            False
11. When soil heaves into the auger it is permissible to "jet an open split spoon to depth and then sample
- True            False
12. When drilling a test boring below a water table which method is least suitable
- a) Hollow stem augers
  - b) Solid stem augers
  - c) Casing with mud rotary or wash boring
  - d) Casing advancing system
13. When drilling with casing, utilizing wash or mud rotary, you can perform which of the following Geotechnical procedures in the same borehole.
- a) Standard Penetration Tests (SPT)
  - b) Rock Coring
  - c) Piezometers
  - d) All of the above
14. The information obtained from geotechnical test borings is used by engineers to help determine the type and depth of foundations.
- True            False
15. Solid stem augers can be used for SPT tests when
- a) Drilling in clay above the water table
  - b) Drilling in wet sand below the water table
  - c) Drilling in loose gravel above the water table
  - d) Drilling in loose gravel below the water table

RECEIVED

MAR 05 2018

OWRD

16. Using hollow stem augers are always the best way to start a test boring
- True            False
17. Hollow stem augers can be used for which of the following:
- a) Shelby tube sampling
  - b) Rock coring
  - c) Geotechnical instrument installations
  - d) All of the above
18. There is a check ball located in the head of split spoon samplers, when is it permissible to remove the check ball
- a) Below a water table
  - b) When in clean dry sand
  - c) When very soft clay is expected
  - d) Never
19. Wash or mud rotary borings are commonly advanced by which of the following methods
- a) Using clean water
  - b) Utilizing drilling fluid made with bentonite
  - c) Utilizing drilling fluid made with polymer additives
  - d) All of the above
20. Solid stem augers are never the best method for test borings
- True            False
21. N-value is considered the
- a) The sum of all blow counts
  - b) The sum of the 1<sup>st</sup> and 2<sup>nd</sup> 6" increments
  - c) The sum of the 2<sup>nd</sup> and 3<sup>rd</sup> 6" increments
  - d) All of the above
22. The Standard Penetration Test (SPT) is accomplished by which procedure
- a) 140 lb weight free falling 36 inches
  - b) 140 lb weight free falling 24 inches
  - c) 140 lb weight free falling 30 inches
  - d) all of the above

RECEIVED

MAR 05 2018

OWRD

23. When utilizing the rotary wash method, you encounter a sand formation that will not stay open; what would a likely remedy be:
- a) Introduce drilling mud
  - b) To improve the drilling mud properties to stabilize the borehole
  - c) Advance casing to the next sample depth
  - d) Any of the above
24. Emergency stop buttons and other safety devices should be tested how often at a minimum
- a) Monthly
  - b) Once a week
  - c) Daily, at the beginning of each shift
  - d) Every DOT inspection
25. Split spoon samplers come in what lengths of split halves
- a) 18"
  - b) 24"
  - c) Both 18" and 24"
  - d) None of the above
26. During the SPT test which blow counts are recorded
- a) Every 6" increment
  - b) Just the 2<sup>nd</sup> and 3<sup>rd</sup> increments
  - c) Just the 1<sup>st</sup> and 2<sup>nd</sup> increments
  - d) All of the above
27. Groundwater measurements should be recorded at which time?
- a) Upon encounter
  - b) Borehole completion
  - c) If possible 24 hours
  - d) All of the above
28. Shelby Tube (undisturbed samples) samples are typically used in which of the following:
- a) Clay and fine grained soils
  - b) Loose sands
  - c) Sand and gravel
  - d) All of the above

RECEIVED  
MAR 05 2018  
OWRD

29. When wet sand and/or soil cuttings enter up into the hollow stem augers it is called
- a) Bad cuttings
  - b) Quick sands
  - c) Slop
  - d) Heaving
30. The SPT test is performed using
- a) NX Core Barrel
  - b) 3"Shelby Tube
  - c) 2" Split Spoon Sampler
  - d) All of the above
31. Extended water levels are only necessary if there will be a basement in the structure.
- True                  False
32. When you must drill within 100 feet of high tension electric lines you should:
- a) Stop and assess the situation, taking into account the slack in the lines, wind, movement of the drill rig tower and hoisting lines.
  - b) Consult the electric company as to the strength of the electricity
  - c) Follow OSHA requirements about assured working distance
  - d) All of the above
33. When soil heaves into the hollow stem auger only 1 foot, you must clean out the auger before driving a SPT
- True                  False
34. The SPT test can be performed using
- a) AW rods
  - b) PW rods
  - c) NW rods
  - d) Either AW or NW rods
35. What are the typical size HSA's utilized for geotechnical drilling
- a) 2-1/4" HSA
  - b) 4-1/4" HSA
  - c) 3-1/4" HSA
  - d) All of the above

RECEIVED

MAR 05 2018

OWRD

36. When performing an SPT test with an 18" split spoon, you observe that there is 6" of slough, in the borehole. What should you do next
- a) Pull the spoon out and clean the hole
  - b) Call the engineer and let him know
  - c) Drive the spoon and make a notation on the boring log
  - d) Any of the above is a good option
37. When preparing to drive a sample using a 24" split spoon it is noted that there is 6" of loose slough in the hole. You are allowed to continue driving the sample
- True                  False
38. If the split spoon shoe becomes deformed it must be replaced
- True                  False
39. If a split spoon sampler becomes just slightly bent, it is allowable to use it as long as it is not rubbing the augers and a notation is made in the drillers boring log
- True                  False
40. When performing a SPT test you may stop the test when you reach
- a) 50 blows for less than 6"
  - b) 100 blows total
  - c) 10 blows with no penetration
  - d) Any of the above
41. Piezometers are installed for long term water level reading due to seasonal water level changes
- True                  False
42. Rock coring for most geotechnical studies is typically performed in what size
- a) P-Series - 2-1/2" core size
  - b) N-Series - 2" core size
  - c) G-Series - 3" core size
  - d) All of the above
43. Casing Advancement Systems can be used with:
- a) Water
  - b) Drilling Mud
  - c) Air Rotary
  - d) All of the above

RECEIVED

MAR 05 2018

OWRD

44. The most limiting factor when using solid stem augers is:
- a) Clay
  - b) Sand
  - c) Shale rock
  - d) Borehole stability
45. All personnel working on a drill or in the immediate area must wear hard hats, safety glasses and steel toed work boots at all times.
- True                  False
46. Core barrel types include which of the following:
- a) Single tube
  - b) Double tube
  - c) Triple tube
  - d) All of the above
47. A quality geotechnical investigation employing test borings generally result in:
- a) Increased project costs
  - b) Decreased project costs
  - c) Have no effect on the project
  - d) All of the above
48. While auguring a little wetness is observed. No water is noted in the samples and no water is in the borehole upon completion. What is the best thing to do?
- a) Backfill the boring with a bentonite cement grout with a tremie pipe
  - b) Ignore the wetness unless it is severe
  - c) Make a notation and if possible leave the boring open for extended water readings
  - d) All of the above
49. It is permissible to drill within 10 feet of low voltage lines in a residential area
- True                  False
50. When setting up to drill a site in a corn field you should:
- a) Make sure that the utilities were cleared
  - b) Check for overhead wires
  - c) Be sure the drill is level and stable before raising the tower
  - d) All of the above

RECEIVED

MAR 05 2018

OWRD

51. When drilling on a slope and performing the SPT test, the drill mast must always be perpendicular to gravity.

True                      False

52. Diamond bits for rock coring are typically used for which type of rock?

- a) Limestone
- b) Granite
- c) Basalt
- d) All of the above

53. It is permissible to use hollow stem augers as casing for Rock Coring or wash borings

True                      False

54. The main purpose of the center plug employed with Hollow stem augers is

- a) Keep the rods from falling below the augers
- b) Help when installing wells
- c) Keep the augers straight
- d) Prevent soil cuttings from entering the auger

55. When conditions are present causing wet sands and/or cuttings to enter up into hollow stem augers, these conditions can be alleviated by

- a) Turning the hollow stem auger faster
- b) Pulling the center plug out of the hole very quickly but safely
- c) Drilling two feet deeper to allow room for the cuttings
- d) Maintaining a positive head of drilling fluids inside the augers

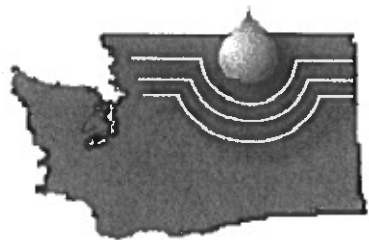
56. Carbide bits can be used for rock coring in softer rock formations.

True                      False

57. Wash or mud rotary borings can be used under which drilling conditions

- a) Silty clay
- b) Clay with seams of wet sand
- c) Wet sands and gravel
- d) Organic materials
- e) All of the above

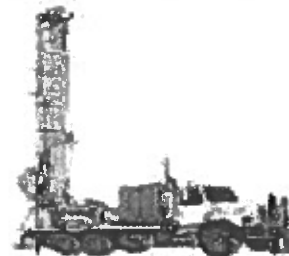
RECEIVED  
MAR 05 2018  
OWRD



# Spring 2018 CEU Seminar

## Driller Agenda

*Presented by the Washington State Ground Water Association*



### Agenda

### Speaker

7:30-8:00

**WSGWA Registration**

8:00-8:15

**Welcome**

**WSGWA**

8:15-10:15

**Regulations Update**

**Department of Ecology**

This session will cover any new developments in Washington's well construction and licensing statutes as well as review current regulations and industry updates.

10:15-11:15

**Rig Maintenance**

**Dave Farmer: Epiroc USA LLC**

Get up to date information on special maintenance requirements, high pressure compressors, derrick daily inspections, winches and main hoist requirements, down the hole oilers and water injections systems, and more.

11:15-12:15

**Bit Selection Use and Care**

**Steve Kaser; Forge Pacific**

Tri Cone Bits, Creag, Claw, Hammer, PDC bits use and maintenance.

12:15-1:00

**Lunch**

1:00-2:00

**Geology & Hydrogeology for Well Drillers** **Mike Piechowski; Robinson Noble Inc.**

Mike's presentation will discuss aquifers, confining units, head relationships and principles of groundwater flow. Also discussed will be primary vs secondary porosity as applied to water wells, then explain the fundamental aquifer criteria. as well specific capacity and well efficiency.

2:00-3:00

**Well Testing**

**Mike Piechowski; Robinson Noble Inc.**

This session will cover basic types of well testing, discharge and water level measurement options, data plots, how to calculate specific capacity, transmissivity and well efficiency as well as appropriate water sampling techniques.

3:00-4:00

**Hot, Cold and Being Safe on Site**

**Jim Lawrence: L&I**

Dehydration isn't just for summer time. Working in the heat and cold bring about challenges on the job site. Be safe and be in the know.

**Dates and Locations for Spring 2018:**

3/9 La Quinta, 1425 E. 27th St., Tacoma, WA 98421

3/10 Kelso Red Lion, 510 Kelso Drive, Kelso, WA 98626

3/30 Mirabeau Park Hotel, 1100 N. Sullivan Rd., Spokane, WA 99037

3/31 Hanford House, 802 George Washington Way, Richland, WA 99352

\*class topics subject to change

7 CEUs

Agenda subject to change  
[www.wsgwa.org](http://www.wsgwa.org)

For questions regarding classes, you may call  
Colleen Mastro-Education/Convention Coordinator 206-351-6384

Registration 7:30am  
Class: 8am-4pm  
Lunch provided at 12:15

# OREGON WELL CONSTRUCTOR CONTINUING EDUCATION COURSE APPLICATION FORM

## Sponsor (Business) Information (please print clearly)

Name: Washington State Ground Water Association

Address: P.O. Box 606, Duvall, WA 98019

Contact Person: Colleen Mastro

Title: Education Coordinator

Daytime Phone Number: 206-351-6384

Fax Number: colleenmastro@hotmail.com

## Continuing Education Information

Course Title: Rig Maintenance 10:15-11:15 am

(As it will appear on advertisements, class materials and certificate of completion)

Provide a brief description of the course and how it pertains to the well construction industry. Attach a copy of the course curriculum showing the actual number of hours of training.

Get up to date information on special maintenance requirements, high pressure compressors, derrick daily inspections, winches and main hoist requirements, down the hole oilers and water injection systems and more

How will the course be advertised? WSGWA website and mailings

Anticipated starting date(s) and duration of course: 3/9, 3/10, 3/30, 3/31, 2018

Does the attendee need to supply any equipment and/or supplies? ☐ Yes ☒ No If yes, what? \_\_\_\_\_

Where will course be held? Tacoma, Kelso, Spokane, Richland, WA

What, if any, is the cost? see WSGWA website Are there space/size limitations? What? none

What type of documentation of completion will be provided to the constructor? (Something must be provided)

(ie. certificate of completion, diploma, transcript, etc.)

WSGWA stamped participation sheet and Oregon roster signatures

## Instructor Information

Instructor qualifications: List related education, professional licenses, certifications, professional trade experience, training, and/or experience that reflect the qualification(s) necessary to teach this course.

Instructor(s) Name: Dave Farmer Phone #(s): 530-301-5601

Eprioc product support, over 20 years of drilling equipment repair and maintenance, in the heavy equipment repair and maintenance field since 1976.

Representative's Signature: \_\_\_\_\_

*Colleen Mastro*

Date: 2-1-18

Please return completed form to: Oregon Water Resources Dept., Attn: Laurie Norton, 725 Summer Street NE, Suite "A", Salem, OR 97301-1266. Questions contact Laurie at 503.986.0856. Keep a copy of this application form for your records.

Revised 05/2011

**OREGON WELL CONSTRUCTOR CONTINUING EDUCATION COURSE  
APPLICATION FORM**  
(please print clearly)

**Sponsor (Business) Information**

Name: National Ground Water Association

Address: 601 Dempsey Road; Westerville, OH 43081

Contact Person: Barbette Culpepper Title: Special Project Coordinator

Daytime Phone Number: (614) 898-7791 x1568 E-mail: bculpepper@ngwa.org

**Continuing Education Information**

Course Title: Properly Sizing a Water System  
(As it will appear on advertisements, class materials and certificate of completion)

Provide a brief description of the course and how it pertains to the well construction industry. Feel free to attach additional information.

See attached

How will the course be advertised? Mail, fax, email, web, and press releases.

Anticipated starting date(s) and duration of course: March 16, 2018; 10:15 – 11:15 a.m.

Does the attendee need to supply any equipment and/or supplies? Y [N] If yes, what? \_\_\_\_\_

Course location, name and complete address:

Red Lion Hotel on the River — Jantzen Beach; 909 North Hayden Island Drive; Portland, Oregon 97217

What, if any, is the cost? \$50/ (after 2/9) \$60

Are there space/size limitations? N/A What? \_\_\_\_\_

What type of documentation of completion will be provided to the constructor? (Something must be provided)  
(ie certificate of completion, diploma, transcript, etc) They receive CEU forms to complete and submitted to their state agency.

**Instructor Information**

Instructor qualifications: List related education, professional licenses, certifications, professional trade experience, training, and/or experience that reflect the qualification(s) necessary to teach this course.

Instructor(s) Name: \_\_\_\_\_ Phone #(s): \_\_\_\_\_

See following page

Representative's Signature: Barbette Culpepper Date: 2/13/18

2018 Pacific Northwest Ground Water Exposition  
March 16-17 • Portland, Oregon

---

Friday, March 16, 2017  
10:15 a.m. – 11:15 a.m.

**Properly Sizing a Water System**

Proper sizing and selection of a water system is essential to meet a user's water requirements with reliability, operating efficiency, adequate reserve capacity and reasonable system cost. The system must supply an adequate amount of water during all periods of usage and supply it at high enough pressure to properly operate fixtures and appliances. Come learn the procedure for designing a domestic water system based on the type of pumping systems. This class will cover suction lift requirements, friction loss calculation, and pump selection.

**Chris Preston** has been the global residential water product manager for Xylem Inc. since 2012. He earned his bachelor of science degree in mechanical engineering from Clarkson University in 2002. Preston is a Technical Professional in Engineering/Design, Program/Project Management, and Marketing/Product Management with 15 years of experience in progressive roles. He is a successful, proactive project and team leader with domestic and international teams. His key strengths include understanding risk management, problem solving, identifying growth opportunities, and building relationships. Preston is an experienced trainer and presenter with excellent communication skills.

RECEIVED

FEB 15 2018

OWRD

2018 Pacific Northwest Ground Water Exposition  
March 16-17 • Portland, Oregon

---

Friday, March 16, 2018

8:00 a.m. – 10:00 a.m.

**Drilling Fluids: A Common-Sense Approach**

Friday, March 16, 2018

8:00 a.m. – 10:00 a.m.

**Well Rehabilitation—What to Use and How to Dispose of It**

Friday, March 16, 2018

10:15 a.m. – 11:15 a.m.

**Properly Sizing a Water System**

Friday, March 16, 2018

10:15 a.m. – 11:15 a.m.

**Boosting Your Skills on Water Sampling Techniques: The Benefits**

Friday, March 16, 2018

11:30 a.m. – 12:30 p.m.

**Variable Frequency Drives—Selling Value and Protection**

Friday, March 16, 2018

11:30 a.m. – 12:30 p.m.

**Addressing Water Supply Issues Proactively Through Proper Well Development**

Friday, March 16, 2018

1:45 p.m. – 2:45 p.m.

**How Drones Can Help Pinpoint Water Resources**

Friday, March 16, 2018

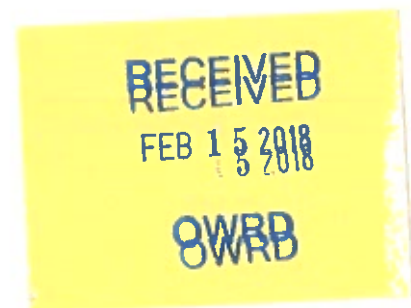
1:45 p.m. – 2:45 p.m.

**Roadside Inspections—What Inspectors Are Looking For**

Friday, March 16, 2018

3:00 p.m. – 4:00 p.m.

**Drill Bit Selection: Making the Right Choice the First Time**



2018 Pacific Northwest Ground Water Exposition  
March 16-17 • Portland, Oregon

---

Friday, March 16, 2018

3:00 p.m. – 4:00 p.m.

**Heavy Equipment Inspections and Vehicle Performance**

Saturday, March 17, 2017

1:00 p.m. – 2:00 p.m.

**How to Approach Design Build Geothermal Loop Fields**

Saturday, March 17, 2017

1:00 p.m. – 2:00 p.m.

**What Groundwater Professionals Need to Know About Bidding and Responding to Customer Questions**

**OREGON WELL CONSTRUCTOR CONTINUING EDUCATION COURSE  
APPLICATION FORM**

**Sponsor (Business) Information** (please print clearly)

Name: Backflow Management Inc.  
Address: 17752 NE San Rafael St. Portland, OR 97230  
Contact Person: Garrett Yates Title: President  
Daytime Phone Number: (503) 255-1619 Ext 105 Fax Number: (503) 255-1220

**Continuing Education Information**

Course Title: Backflow Assembly tester Certification Course

(As it will appear on advertisements, class materials and certificate of completion)

Provide a brief description of the course and how it pertains to the well construction industry. Attach a copy of the course curriculum showing the actual number of hours of training.

This Oregon Health Authority approved training course teaches participants how to test and troubleshoot backflow assemblies. backflow assemblies are sometimes used at wells to prevent backflow into the wellhead. At the end of the 5 day course there is a two part exam.

How will the course be advertised? website

Anticipated starting date(s) and duration of course: courses are Mon-Fri

Does the attendee need to supply any equipment and/or supplies? Y ☒ N ☐ If yes, what? \_\_\_\_\_

Where will course be held? Portland facility at 17752 NE San Rafael St. Portland, OR 97230

What, if any, is the cost? 495.00 Are there space/size limitations? What? 22 students

What type of documentation of completion will be provided to the constructor? (Something must be provided) (ie certificate of completion, diploma, transcript, etc)

A certificate of Completion with 3.7 CEU'S (DESAC approved)

**Instructor Information**

Instructor qualifications: List related education, professional licenses, certifications, professional trade experience, training, and or experience that reflect the qualification(s) necessary to teach this course.

Instructor(s) Name: Garrett Yates Phone #(s): 503 255-1619 Ext 105

Garrett Yates is part owner of backflow management inc. and has worked with the company for 22 years. He originally got Certified as a backflow tester in 1994 and brings extensive field experience into his classroom. Backflow Management provides this type of training in various states throughout the United States

Representative's Signature: Garrett Yates Date: 3/8/18

Please return completed form to: Oregon Water Resources Dept., Attn: Laurie Norton, 725 Summer Street NE, Suite "A", Salem, OR 97301-1266. Questions contact Laurie at 503.986.0856. Keep a copy of this application form for your records.

**RECEIVED**

**MAR 12 2018**

**OWRD**

Revised 01/2015

The exam consists of a 100 question written exam and a hands-on proficiency exam. Upon completion of the course and passing scores on the examination the attendee is eligible to apply for certification as a backflow tester through Oregon Health Authority.

RECEIVED

MAR 12 2018

OWRD

**OREGON WELL CONSTRUCTOR CONTINUING EDUCATION COURSE  
APPLICATION FORM**

**Sponsor (Business) Information** (please print clearly)

Name: Preferred Pump & Equipment  
Address: 1470 SE MST Grants Pass Or. 97526  
Contact Person: Jacques Zozaya Title: Branch Manager  
Daytime Phone Number: 541-471-1362 Fax Number: 541-471-1367

**Continuing Education Information**

Course Title: Functional VFD Basics  
(As it will appear on advertisements, class materials and certificate of completion)

Provide a brief description of the course and how it pertains to the well construction industry. Attach a copy of the course curriculum showing the actual number of hours of training.

This course covers basic fundamentals of VFD's  
Applications & Sizing  
Compatibility & energy savings  
wire sizing

How will the course be advertised? Email  
Anticipated starting date(s) and duration of course: 4-6-18 2 hour duration approx  
Does the attendee need to supply any equipment and/or supplies? Y ☒ N If yes, what?

Where will course be held? 1470 SE MST Bldg #1B Grants Pass Or. 97526  
What, if any, is the cost? 0 Are there space/size limitations? What? NO  
What type of documentation of completion will be provided to the constructor? (Something must be provided)  
(ie certificate of completion, diploma, transcript, etc)

Certificate of completion

**Instructor Information**

Instructor qualifications: List related education, professional licenses, certifications, professional trade experience, training, and/or experience that reflect the qualification(s) necessary to teach this course.

Instructor(s) Name: Ken Fitzgerald Phone #(s): 260-599-4310  
Western Regional Sales Manager  
30 year veteran of groundwater Industry,  
well drilling  
Pump Installation  
Factory trained on VFD's

Representative's Signature: Jacques Zozaya Date: 4-2-18

Please return completed form to: Oregon Water Resources Dept., Attn: Laurie Norton, 725 Summer Street NE, Suite "A", Salem, OR 97301-1266. Questions contact Laurie at 503.986.0856. Keep a copy of this application form for your records.

**OREGON WELL CONSTRUCTOR CONTINUING EDUCATION COURSE  
APPLICATION FORM**

**Sponsor (Business) Information** (please print clearly)

Name: Preferred Pump & Equipment  
Address: 1470 SE MST Grants Pass Or. 97526  
Contact Person: Jacques Zozaya Title: Branch Manager  
Daytime Phone Number: 541-471-1362 Fax Number: 541-471-1367

**Continuing Education Information**

Course Title: CSI Water Treatment Training basics on;  
(As it will appear on advertisements, class materials and certificate of completion)

Provide a brief description of the course and how it pertains to the well construction industry. Attach a copy of the course curriculum showing the actual number of hours of training.

Water testing, Aesthetic contaminants  
Softeners, Filters  
Aeration equipment  
Arsenic filters

How will the course be advertised? Email  
Anticipated starting date(s) and duration of course: 4-5-18 6 hour duration  
Does the attendee need to supply any equipment and/or supplies? Y ☒ N ☐ If yes, what?

Where will course be held? 1470 SE MST Bldg #1B Grants Pass Or. 97526  
What, if any, is the cost? 0 Are there space/size limitations? What? NO  
What type of documentation of completion will be provided to the constructor? (Something must be provided) (ie certificate of completion, diploma, transcript, etc)

Certificate of completion

**Instructor Information**

Instructor qualifications: List related education, professional licenses, certifications, professional trade experience, training, and/or experience that reflect the qualification(s) necessary to teach this course.

Instructor(s) Name: Duane Barey Phone #(s): \_\_\_\_\_  
Technical Sales Manager for CSI 1995-Present  
National Sales manager for Watersoft 1988-1995  
Has conducted over 1500 Water treatment Seminars in the past  
20 years

Representative's Signature: \_\_\_\_\_

Date: 4-2-18

Please return completed form to: Oregon Water Resources Dept., Attn: Laurie Norton, 725 Summer Street NE, Suite "A", Salem, OR 97301-1266. Questions contact Laurie at 503.986.0856. Keep a copy of this application form for your records.