WISCONSIN WATER WELL ASSOCIATION
EST. WWWA 1927
Providing & Protecting Wisconsin's Groundwater

WELL LOG

A PUBLICATION OF THE WISCONSIN WATER WELL ASSOCIATION

Fall/Winter 2022

IN THIS ISSUE

Find us on

LETTER FROM THE PRESIDENT

By Rick Peterson, WWWA President

Hello once again,

I hope that you can find some time to read through this edition of the Well Log. Our staff spends a lot of time and effort to put forth a quality newsletter that is worth your valuable time and helps you run an efficient and cost-effective business.

On the topic of the Well Log, I would like to extend thanks to the ARC staff for putting together a very fine publication that we can be proud of. I would like to thank all of the contributors who provide well-written and informative articles and advertisers whose support makes the Well Log possible. This edition of the Well Log begins a 3-part series of articles on the life cycle of a water well by Michael Schnieders. Head to page 6 to check it out!

As we head toward year-end, I want to use this space to remind you all of two things: the WWWA Scholarship and CE.

Edwin Huntoon/Owen Williams Scholarship

The WWWA awards two $3,000 scholarships every year. Applicants must be a member or a family member of a WWWA member and enrolled in a post-secondary institute (college), as a full-time student.

The application process is simple. Applicants should fill out the online form or mail in a paper copy along with their written essays (between 250-500 words) and two letters of recommendation. You can find the application on page 34.

That's all there is to it! Applications are accepted through November 21st and the recipients will be notified by year-end. We hope members find even more value in the higher award amounts that can help their family members with their college education.

Continuing Education

Our 2022 continuing education offerings are going well. The WWWA has educated 384 license holders at our in-person sessions throughout this year. Additionally, 256 people have signed up for Virtual CE. Over 900 credits have been awarded so far. If you haven't yet registered for CE, remember that the Virtual CE Platform closes on December 1, 2022. Our staff is happy to help if you have any questions or need assistance registering.

Letter from the President *continued on next page*

2022 WWWA BOARD OF DIRECTORS

Letter from the President *continued from previous page*

With the holidays right around the corner, I hope you can all find some time to relax and spend some quality time with your families. It seems like that you blink, and kids are grown up and friends and family members have left us. Make sure to make your time with loved ones count. If you're going after that trophy buck, have a safe and successful hunt. I look forward to seeing you at the Annual Conference in the New Year.

Rick Peterson, Clean Water Testing
920-841-3904, rick.peterson@cleanwatertesting.com

WWWA MEMBERSHIP UPDATE

As of October 17, 2022

210 FULL MEMBERS

47 ASSOCIATE MEMBERS

6 LIFE TIME MEMBERS

JENNI KILPATRICK, CAE NAMED WWWA'S EXECUTIVE DIRECTOR

By Jennifer Rzepka, CAE, Former WWWA Executive Director

It has been an absolute pleasure serving as Executive Director of the WWWA since the Association came to our Association Resource Center, Inc. (ARC) for association management services in April of 2017, five years ago. In that time there have been some incredible changes and developments within the WWWA as training opportunities have evolved, the relationship between WWWA and the DNR has grown, and the association has weathered the business and association disruptions that the pandemic brought to us all.

During that time, the office has stood strong with the WWWA, thanks in tremendous part to the professionalism and positivity that all the staff members exude daily, but most specifically, the involvement of my entrusted colleague, Jenni Kilpatrick.

Jenni has been with ARC for fifteen years and holds the prestigious title known throughout the association management profession: the Certified Association Executive (CAE). This enables her to predict likely scenarios, and help WWWA be prepared to face any challenges, all while maintaining an eye on the horizon for growth and expansion opportunities. She has fully immersed her energies into the growth and development of WWWA for more than a year now and is just getting started!

Jenni has been the one responsible for deepening the relationship with the DNR, and growing membership to the highest historical numbers. She handles all day-to-day operations already (including the agenda development and preparation of minutes, financials, event planning and execution and more), and oversees any number of staff as needed to accomplish the work of the WWWA. It is through her that the association's had the pleasure of working with Hope Vandenhouten, and it's the two of them together who tackled the exciting changes to the WWWA's logo. They are excited to continue their work on the WWWA's evolution together.

In respect of the work Jenni Kilpatrick has already been doing with the WWWA, and to honor her position more visibly, I proposed that the Board of Directors name Jenni Kilpatrick the WWWA's Executive Director.

The Board approved this recommendation at the September Board meeting, and I encourage you to join me in welcoming Jenni Kilpatrick as the WWWA's new Executive Director.

This will be my final article as Jenni will begin writing in the new year. I'll still be present at the Annual Conference in 2023, and any number of other events as needed by Jenni and Hope moving forward. But starting now, I leave the future direction in their very capable hands to continue their work with the Board members in guiding WWWA into it's exciting, bright future!

Sincerely,

Jennifer Rzepka, CAE

Jennifer Rzepka, CAE

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EXECUTIVE DIRECTOR MESSAGE: UPDATES FROM THE WWWA OFFICE – THE 2023 ANNUAL CONFERENCE AND MORE!

By Jenni Kilpatrick, WWWA Executive Director

As mentioned in Jennifer Rzepka's article, I am honored to have the privilege to step into the Executive Director role with the Wisconsin Water Well Association. I look forward to bringing my organization management experience to the WWWA and its members. I am excited to be working with such an amazing group of groundwater professionals. The commitment, engagement and energy among the organization is incredible and I look forward to being part of the next chapter of the WWWA's development.

Our staff is hard at work planning for the 2023 Annual Conference, along with the Continuing Education offerings for 2023. The Annual Conference will be held on January 18th and 19th at the Kalahari Resort in Wisconsin Dells (additional information can be found in this issue of the *Well Log*). The Annual Conference is an opportunity for attendees to receive their required continuing education credits, while also creating lifelong professional connections. This family-friendly event includes 6 hours of continuing education for water well drillers and pump installers on Thursday (January 19th), the trade show, awards banquet and silent auction, raffles, the annual bowling tournament and more. This is truly an event you don't want to miss!

We continue to provide as many ways as possible for our members and license holders to obtain their annual Continuing Education Credits. In addition to the Virtual On-Demand CE offerings, we are planning to hold three in-person sessions at the following locations (dates to be determined):

- Wisconsin Dells (January 2023)
- Green Bay (February 2023)
- Stevens Point (March 2023)
- Madison (October 2023)

We are in the process of lining up a series of outstanding speakers and topics, including: DNR Updates, well construction, OSHA Updates, sizing water pressure systems and alternative drilling fluids for deep, large diameter wells. Many more topics and speakers yet to come! If you have any speakers or topics you would like to see in 2023, please feel free to reach out to me at **kilpatrick@wisconsinwaterwell.com**.

I hope to see you at a Wisconsin Water Well Association event in 2023!

Sincerely,
Jenni Kilpatrick, CAE
Executive Director

NOW AVAILABLE! WWWA CLASSIFIED ADVERTISEMENTS

By Hope Vandenhouten, WWWA Coordinator

As a new membership benefit, WWWA has created a Classified Ad section of the website. For FREE, WWWA members may post used equipment or surplus product on this section of the website, and all visitors to the WWWA website.

Here is the link to the Classified Ad Section: https://wwwa.memberclicks.net/advertising-opportunities-form

Classified Ad Details:

- Non-members may post at $175 per posting, payment required prior to posting.
- Postings are limited be limited to 250 words + contact information/details.
- Posts may have up to four (4) images/photos included.
- Posts are published for up to 30-days or until they're sold, whichever comes first.
- WWWA office has full editing rights on posts.
- WWWA office has full discretion of whether or not a post is published.
- Posts are intended to offload used or over purchased equipment and product.
- Posts are not intended for sale of new items.

THREE FIELDS OF SCIENCE THAT CAN INFLUENCE THE LIFE CYCLE OF A WATER WELL

Determining the right method of treatment is crucial to the life of the well.

By Michael Schnieders, PG, PH-GW - Water Systems Engineering Inc.

We face many challenges to find and deliver water of acceptable quality and quantity to our customers. Part of this task is new resource identification and development, while some is the ongoing maintenance of existing well systems.

Cuttings at a jobsite where a wellfield was being expanded for the city of Cunningham, Kansas. Photo courtesy Ned Marks, Terrane Resources Co.

As the infrastructure in this country ages, land resources become less available, and the understanding of earth processes and anthropogenic influence grows—so do our challenges.

In our work to better respond and extend the operational life cycle of potable well systems, we focus on three core sciences: geology, chemistry, and microbiology.

The skillful contractor has likely adapted their understanding of these sciences into their craft, often through practices rooted in one of these governing fields handed down overtime although not necessarily labeled as such.

This article, the first in a three-part series, will look at geology and the role it plays in wellfield maintenance and operation.

What Is Geology?

Geology is defined as the science that focuses on the earth's physical structure and the processes that act on it. As such, geology plays an integral role in the work that we, as an industry, perform in the search for and employment of groundwater.

The geologic setting is a broader term to include not only the rock types present in a given locale, but the processes that have and continue to occur both above and below ground within the target area.

The rock types present govern the occurrence and amount of water, dictating the availability and sustainability of the resource. Furthermore, they significantly influence the water quality, both initially as the resource is explored, and later as the resource is utilized.

Two concepts within this topic are permeability and porosity. Permeability is the measure at which fluid moves through a porous substance. Porosity is the measure of the amount of open space or pores within a medium.

A close examination of the grain size and composition of a producing unit. Photo courtesy Ned Marks, Terrane Resources Co.

The two terms are often used hand in hand, but do not necessarily go together. Permeability is more a function of the movement of water while porosity is more a function of the structure of the rock type.

Secondary porosity relates to the interconnectedness of pore space, generally enhancing porosity. Loose compaction of sediments, fractures and crevices, or dissolution within the aquifer can cause secondary porosity.

***Three Fields of Science** continued on next page*

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Hydraulic conductivity (K) is defined as the ease of which water moves through pore space and fractures. Hydraulic conductivity represents permeability and the degree of saturation.

A variety of factors can impact groundwater movement and hydraulic conductivity. The type of sediments that comprise the rock unit, structural influences on the unit, geochemical reactions that occurred at the time of formation or over time with groundwater movement, and geomorphological processes which have shaped the units are just a few of the natural factors.

We cannot forget anthropogenic factors either, such as the construction of wells, mining, and alterations of recharge areas to name just a few.

Recharge is the process in which groundwater aquifers are refilled or replenished through a process called infiltration. Rates of recharge are dependent on the geology, anthropogenic influences (including use), and climate.

Secondary porosity caused by dissolution is visible in this rock specimen. Photo courtesy Michael Schnieders, PG, PH-GW, Water Systems Engineering Inc.

Artificial recharge is the process in which wells or basins are used to enhance recharge rates in targeted aquifers. Artificial recharge has become a popular process in which secondary water sources are used to recharge depleted aquifer systems or to bank water for future usage.

While beneficial to restoring our aquifers, it is important to understand that recharge is a major source of natural and anthropogenic contamination.

Influences of an Aquifer

Aquifer influence on produced water quality is generally viewed in a regulatory sense. Quite simply, does the water meet the criteria outlined in the National Primary and Secondary Drinking Water Regulations?

Of the 103 chemical and biological constituents listed in the National Primary and Secondary Drinking Water Regulations, many are anthropogenic or a result of contamination, but some are directly related to the geology present.

Within the Primary Regulations, arsenic, selenium, thallium, turbidity, and uranium are directly related to the lithology present within the aquifer system. Many of the secondary constituents relate to the aquifer composition such as chlorides, copper, iron, manganese, sulfide, zinc, fluoride, and total dissolved solids. Some of the constituents reflect the geologic setting and recharge, some varying regionally such as nitrates.

Beyond the composition of the producing formation, the means of formation and physical characteristics can influence many aspects of well construction and operation.

Unconsolidated alluvial aquifer formations comprised of well-sorted materials such as coarse sand and gravel generally have higher permeability and hydraulic conductivity. While often seen as good producers, these aquifer systems can influence the mechanical, chemical, and biological qualities of produced water.

Generally, alluvial aquifers have higher levels of conductivity, elevated oxidation-reduction potential, elevated iron and manganese, and varying levels of microbial activity.

Unconsolidated alluvial aquifers can be strong producers and are commonly utilized as municipal water sources. As such, alluvial aquifers commonly suffer from iron fouling as well as biofouling, requiring periodic maintenance.

In addition to chemical and biological fouling, these aquifers can suffer from the mobilization of fine sediment toward the borehole over time, mechanically clogging pore space in the near-well aquifer interface zone and requiring redevelopment efforts.

Consolidated aquifers, such as limestone and sandstone, are porous rock types in which the grains are cemented to each other. Consolidated aquifers, which often provide a high degree of water quality, suffer from the development of mineral scale in reflection of their mineral content.

The mineralogy present within these aquifer systems commonly impart calcium and magnesium, influencing hardness, alkalinity, and pH of the produced water.

Fractured rock aquifers occur within solid rock units that have developed fractures, joints, cracks, or dissolution caverns in which water can move. Fractured rock aquifers, such as basalt or granite, can influence water quality with iron, manganese, and silica concentrations impacting scale formation and corrosion rates.

Fractured rock and consolidated rock aquifer units are commonly completed with a method referred to as open-hole completion. Unfortunately, this means of design severely hampers mechanical cleaning of the well.

Mechanical cleaning utilizing jetting, surge block or swab tools, or brushing is a common means of pre-treatment as well as chemical agitation. As both aquifer types can suffer from mineral scale accumulation and biofouling, the limits of this design hampers effective rehabilitation of the well. Similarly, the design can limit development efforts, both initially and maintenance driven.

Goals of Construction

While very similar at times, each of these types of aquifers can be vastly different, impacting the construction

***Three Fields of Science** continued on next page*

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and use of the well over its lifetime. Initial well design goals should follow historical as well as current concerns and make a best effort toward addressing future challenges.

With the geology in mind, well design goals should include:

1. Construct to limit potential of surface influences.
2. Construct to limit aquifer interaction.
3. Construct with awareness of current and future potential contaminant sources.
4. Design beyond minimum standards specific to the formation and aquifer vulnerability.
5. Design and construct with access and future maintenance in mind.

The fifth goal is intended to look into the future, based on the information known regarding the producing aquifer and historical success and failures of wells completed within the same unit. It is included with the intention of imparting a maintenance mindset on the well owner. Not one geologic unit, completion depth, or aquifer type is immune to fouling and the need for periodic maintenance.

Physical observations of the well and well setting remain important tools. Subtle changes at the surface may telegraph major events occurring downhole. Evaluate the land surface and keep apprised of regional concerns as they develop—and, most importantly, before they impact your well.

Annual pumping tests to monitor the well's capacity and efficiency are important indicators of the well's health. Tracking the occurrence of particulate, whether it is fine sand or corrosion byproducts, is another important means of identifying problems early when they are at a more manageable state.

With geology, it is important that we do not dismiss the lessons learned in a specific region or aquifer.

If an area is notorious for hard water, with high amounts of calcium and magnesium present, it is likely it will have a propensity for carbonate scale development and require periodic chemical and mechanical cleaning. As such, we should use that information to design and construct a well of less reactive materials to withstand the cleaning efforts while also being accessible to allow for the use of different methodologies.

In discussing chemistry and microbiology in the forthcoming articles, my colleagues will elaborate on the chemical and biological mechanisms that can impact produced water quality and quantity. These mechanisms are derived from the geology and geologic setting, influencing the well's operational life just as much as the means of construction.

WISCONSIN WATER WELL ASSOCIATION
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2023 WISCONSIN WATER WELL ASSOCIATION ANNUAL CONFERENCE

JANUARY 18-19, 2023

ATTENDEE REGISTRATION

Kalahari Resort and Convention Center
1305 Kalahari Drive
Wisconsin Dells, WI 53965

6737 W. Washington St., Suite 4210, Milwaukee, WI 53214
855-947-9837 • info@wisconsinwaterwell.com • wisconsinwaterwell.com

EVENT OVERVIEW

The 2023 WWWA Annual Conference is an opportunity for attendees to receive their required continuing education credits, while also creating lifelong professional connections. This family-friendly event includes CE classes, the trade show, awards banquet and silent auction, raffles, the annual bowling tournament and more.

CONTINUING EDUCATION

The WI DNR requires licensed water well drillers, heat exchange drillers, pump installers and rig operators to attend six (6) hours of continuing education during each calendar year for each license held. The WWWA provides 6 hours of continuing education for water well drillers and pump installers on Thursday. If you have any questions, please contact the WWWA office.

RAFFLE

Make sure to purchase your tickets for a chance to win one of MANY amazing prizes! Ticket sales will begin at the General Membership Meeting on Wednesday, January 18th. The drawings will be held in the exhibit hall on Thursday, January 19th.

Kalahari Resort and Convention Center

1305 Kalahari Drive
Wisconsin Dells, WI 53965
Room Reservations: 1-877-254-5466

$118/night Single or Double Occupancy-Standard
Room upgrades and weekend reservations are subject to increased rates. Contact the hotel for rates and availability.

Room rates available until December 17, 2022. Reservations must be made by calling the hotel directly at 877-254-5466. **Mention "WWWA 2023 Room Block" to receive the discounted rate.** You can also reserve your room online: https://book.passkey.com/e/50363587

MEMBERS ONLY
Special Deal for WWWA Members

Become a 2023 member, make your hotel reservation AND pay your registration fee before 5:00 pm on December 31, 2022 to receive a ***$100 Kalahari Gift Card!***

Rooms must be booked under the WWWA room block.

SCHEDULE-AT-A-GLANCE

Wednesday, January 18, 2023

9:30 am - 12:30 pm
DNR Advisory Meeting
(private meeting, by invitation only)

12:30 pm - 1:30 pm
Breakout Session: *Up to 1 CE Credit*

1:30 pm - 2:30 pm
Breakout Session: *Up to 1 CE Credit*

3:00 pm - 4:00 pm
General Membership Meeting: Regulatory/ Legislative; Marketing; Elections; WWWA Updates

4:00 pm - 7:00 pm
Reception: Reception; Scholarship and Lifetime Awards Presentation; Silent Auction

Thursday, January 19, 2023

7:00 am - 8:00 am
Breakfast

8:00 am - 12:00 pm
General Session and Breakouts Including DNR Update/Session
Up to 4 CE Credits

12:00 pm - 1:00 pm
Lunch

12:00 pm - 5:00 pm
Trade Show: *Exhibits; Children's Area; Raffle Prizes; Reception: 1 CE Credit per year for attending trade show*

1:00 pm - 2:00 pm
Breakout Sessions: *Up to 1 CE Credit*

2:00 pm - 3:00 pm
Breakout Sessions: *Up to 1 CE Credit*

5:00 pm
Trade Show Ends

7:00 pm - 8:00 pm
WPWS Happy Hour & Prize Giveaway

8:00 pm - 10:00 pm
Annual Bowling Tournament

ATTENDEE REGISTRATION FORM

Please fill out a separate form for each attendee.

Contact Information

Please register using this page, or online (preferred) at www.wisconsinwaterwell.com

Full Name:_____
(As it will appear on badge)

Company Name:_____
(If applicable)

Mailing Address:_____

_____

City:_____

State:_____ Zip:_____

Mobile:_____

Other Phone:_____

Fax:_____

Email:_____

License #_____

Mark all that apply:

❒ Pump Installer
❒ Water Well Driller
❒ Heat Exchange Driller *(or Heat Exchange Drilling Rig Operator)*
❒ Water Well Drilling Rig Operator
❒ Other License: _____

Family Members Attending

The WWWA is a family friendly association. Bring your families and make a mini-vacation out of the trip! As always, there will be a fun kids area in the tradeshow. *Immediate family members may participate for free.*

Please list names:

Spouse/companion:_____

Child #1_____ Age:_____

Child #2_____ Age:_____

Child #3_____ Age:_____

Child #4_____ Age:_____

Child #5_____ Age:_____

Child #6_____ Age:_____

Any special needs?:

_____

_____

_____

_____

Scholarship Donation

The Edwin Huntoon/Owen Williams Scholarship was established to reward students planning to obtain a higher education. Each year, scholarships are based on the availability of funds provided through contributions from Wisconsin Water Well Association Members.

Are you able to make a contribution this year?

❒ Item for Silent Auction:_____

_____

— or —

❒ Monetary Contribution: $_____

_____

Participation Counts

Total # *(including you)* attending Wednesday, January 18th Reception:_____

Total # of children participating in the Children's Area of the Trade Show:_____

Total # (including you) attending Thursday, January 19th Bowling Event:_____

PAYMENT INFORMATION

Conference Cost: ❒ Member = $150 ❒ Non-Member = $190 $_____
Note: Onsite registration rates are $250 for members; $290 for non-members, register in advance to save!

Exhibit Hall Only: ❒ Member = $50 ❒ Non-Member = $90 $_____
Note: Immediate family (spouse and children) are complimentary.

Additional Sponsorship Total **$**_____

TOTAL $_____

QUESTIONS?

If you have questions regarding the 2023 WWWA Annual Conference, please contact us: Office: 855-947-9837 • info@wisconsinwaterwell.com

PLEASE MAIL WITH PAYMENT TO:

Wisconsin Water Well Association
6737 W. Washington St., Suite 4210
Milwaukee, WI 53214
FAX: 414-755-1346
Questions? 855-947-9837 or
info@wisconsinwaterwell.com

Please make a copy for your records

Or pay by credit card - VISA, MasterCard, American Express or Discover
We cannot accept emailed credit card information. Please FAX (414-755-1346), mail, or register online.

Name on Card:_____

Credit Card #:_____ Security Code:_____

Exp. Date:_____ Signature: _____

Cancellation Policy: All refund requests must be made in writing to the WWWA office via mail, fax or email. Phone requests will not be honored. No refunds allowed after January 3, 2023. All refund requests are subject to a $50 processing fee.

DNR UPDATES

NEW WELL COMPENSATION PROGRAM STARTS OCTOBER 3RD

By Marty Nessman, Private Water Supply Section Chief

On August 16th, Governor Evers and the DNR announced a new $10 million grant program to support the replacement, reconstruction, treatment, or abandonment of contaminated private wells. The program will expand eligibility beyond the current Well Compensation and Well Abandonment Grant Programs to support more private well owners and increase access to clean drinking water. The DNR will begin accepting applications for grants under the new program beginning on October 3rd.

The current Well Compensation and Well Abandonment Grant Programs contain several statutory eligibility requirements that significantly limit the number of individuals that can utilize the program. The new $10 million program makes critical updates to expand eligibility.

Key Changes to Existing Eligibility Criteria:

- No longer required that a nitrate-contaminated well is only eligible for a grant if it is used as a water supply for livestock.
- The nitrate threshold for nitrate-contaminated wells has been lowered from 40 parts per million (ppm) to 10 ppm to comply with the state's public health standards.
- The arsenic standard for arsenic-contaminated wells has been lowered from 50 parts per billion (ppb) to 10 ppb to comply with federal drinking water standards.
- Any source of bacterial contamination that presents a human health risk is eligible for the program, not just fecal bacteria caused by livestock.
- The family income limit for grants has been increased from $65,000 to $100,000.
- There is no longer a requirement that an award must be reduced by 30 percent if the owner or renter of the well has a family income that exceeds $45,000.
- Eligible applicants have been expanded to include owners of contaminated non-community wells (churches, daycare centers, rural restaurants and other small businesses). Income eligibility will be based on the property or business owner's income instead of family income.

Award Amounts:

- The maximum award amount under the program will be $16,000.
- The cost share requirement under the program will be $0.

Other Important Information and Contacts:

- The DNR will accept applications and issue awards on a continuous basis until all funding is expended. Application materials will be updated and posted to the Well Compensation Grants web page: https://dnr.wisconsin.gov/aid/WellCompensation.html, and the Well Abandonment Grants web page: https://dnr.wisconsin.gov/aid/WellAbandonment.html on or before October 3rd.
- Questions about the program can be sent to DNRARPAWellGrants@wisconsin.gov.
- The DNR has a GOV Delivery list to sign up to receive updates about the new program. Interested parties can sign up at https://public.govdelivery.com/accounts/WIDNR/subscriber/new. Under the "Grants and Loans" category, check the box next to ARPA Well Grant.
- The department will post additional guidance and conduct an informational webinar as we get closer to accepting applications. If an individual wishes to be notified of when the webinar will be, they should sign up for the GovDelivery list.

For more information, contact your regional field staff, or Frank Fetter at (608) 264-6139 or via email at franklin.fetter@wisconsin.gov.

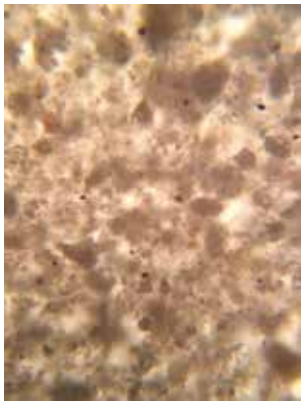
WELL DEVELOPMENT IS STEP ONE IN RESOURCE DEVELOPMENT

It may not be exciting, but it is among the most important steps of completing a new well.

By Gary Gin, RG, and Michael Schnieders, PG, PH-GW

Inadequate or insufficient well development can have negative consequences to a well's performance over its life cycle.

Whether the well is a standard production well or an aquifer storage and recovery (ASR) well, poor pump and recharge efficiency can lead to increased clogging and lowering of pumping water levels.



Microscopic image of mud from a well drilled this year at 200 times magnification. Evidence of the polymer can be seen with clay and sediment entrained.

Inadequate development impacts well efficiency, which requires more energy per gallon pumped than an efficient well. Even a small impact in energy costs per gallon can mean a significant cost burden to the water provider over the life of the well. And this problem is magnified in deeper pump settings because the energy to lift groundwater to the surface is costly.

Well development is often used to describe the final stages of new well construction, a maintenance activity, or a rehabilitative effort on an existing well.

For a standard production well, an ASR well, or even an environmental well—cleaning the borehole, maximizing efficiency, and stabilizing the borehole-aquifer interface are common goals for development. The effective completion of these goals can set the tone for a new well, not only from an operational efficiency standpoint but also from a water quality view.

Often misunderstood is the role that insufficient well development can play in water quality. Restricted or blocked flow—common elements in a poorly developed well—can result in hydrologically isolated zones within the well. This isolation often results in the development of reducing environments, areas which favor the development of anaerobic growth.

In addition to nuisance organisms such as sulfate-reducing bacteria, many environmental coliforms take up residence in these areas. As long as the flow profile remains affected, the anaerobic presence can continue to impact produced and injected water quality despite even the best disinfection efforts.

Use of Drilling Fluids

Drilling fluids, commonly referred to as muds, are used to prevent borehole collapse, reduce friction and heat at the drill tip, and aid in the suspension and removal of cuttings during the drilling process.

The muds used in water well drilling begin with water, and then clays and other chemicals are incorporated into the water to create a more uniform blend to overcome challenges specific to that site. The clay component is typically a combination of formation clays and processed or refined clays such as bentonite. When wet, clays expand to several times their dry mass, which, in addition to their colloidal properties, likewise create a self-sealing mechanism which acts as a barrier to permeability.

Macroscopic image of preserved mud from 2010 at 200 times magnification. Despite the age, the muds retain consistent properties.

A variety of chemicals are added to the muds depending on the formation, drilling process, groundwater quality, depth, and length of time spent drilling. These additives are used in the drilling process for a number of reasons. Some of the goals of these additives include pH control, enhanced sealing of permeable layers, increased borehole stability, mobilization of sediment, prevention of lost circulation, improved viscosity, and to minimize formation damage.

Part of the well development process is to remove the introduced drilling fluids and develop a more normal flow pattern from the aquifer into the borehole. Two types of additives that can challenge the well development procedure include polyphosphates and polyacrylamides. These two polymers are used to enhance clays (natural and

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processed) during the drilling process.

Polyacrylamides are a type of linear chain polymer that are highly water absorbent. Polyphosphates are larger, linear chain or cyclic ring structures with a negative charge that bond readily with many natural elements such as calcium, magnesium, and iron.

Polyacrylamides and polyphosphates are resilient polymers, maintaining their structure and bonds over a long period of time. As the polymers degrade slowly over time, minor phosphate residuals are released into the well, oftentimes resulting in macronutrients or stimulants for microbial activity.

The resiliency of these additives is one reason that multiple methods for development are often encouraged. At a minimum, mechanical and chemical methods are advised to combat the physical and chemical properties of the drilling fluids.

Additive manufacturers typically recommend using 100 to 200 mg/L (parts per million) chlorine to aid in the breakdown of the polymers. Laboratory research and field studies have shown that at a minimum 1000 mg/L is required to oxidize and create the disassociation required for these polymers to begin to break down.

Additionally, specifically using sodium hypochlorite as opposed to calcium hypochlorite helps to limit the calcium bonding that can occur, which limits the polymer degradation. It is generally advised to use a range of 1200 to 1500 mg/L sodium hypochlorite to degrade the polymer additives prior to traditional well development efforts.

Chemical parameters that can be assessed to identify the presence of legacy or remnant polymers include orthophosphate, polyphosphate, total phosphate (as PO4), total reactive phosphorus, hydrolyzable phosphorus, acrylamide, and the presence of microplastics. Additionally, microscopic evaluation can aid in the identification of the polymers from a physical standpoint, oftentimes providing introspection into the agglomeration of these polymers and formation sediments.

During this oxidative treatment, timing is not as critical as it is for disinfection. However, sufficient time and agitation are recommended to ensure distribution throughout the borehole and well screen interface.

A Case Study

LRE Water, Water Systems Engineering Inc. (WSE), Johnson Screens, and Roscoe Moss Co. conducted collaborative research efforts to better understand the impact that this strong oxidation effect would have on steel well components (Phase 1) and on residual muds (Phase 2).

It was identified that the prolonged exposure (beyond 96 hours) of chlorine to the well structure would have some detrimental effects and could accelerate corrosion rates. While each well site is unique, our findings indicate that older wells (5 years and older) subjected to high chlorine dosage (more than 1000 ppm) should have a contact time between 24 and 48 hours to minimize any corrosion impacts to the stainless steel components.

Following treatment, steps to evacuate the well of residual chlorine (airlift pumping) should be taken. For newly constructed wells, high chlorine dosages (more than 1000 ppm) impacting stainless steel well screens may not be as much of a concern. This is because newly constructed wells are still full of fresh drilling mud which consumes the high dose of sodium hypochlorite quickly. Residual muds and the chlorine residual significantly reduce within a 24-hour period, which is not long enough to impact stainless steel well components.

To better understand the signatures from drilling fluids, two mud samples were submitted to the WSE laboratory for evaluation. The first sample was 12 years old and had been preserved in a sealed container since collection at the time of drilling of a municipal water supply well in 2010. The second sample was collected while a new water supply well was being constructed in March 2022. The data from the two samples is presented in Table 1.

An example of time, planning, energy, and monitoring. These are images of airlift well development activities on a newly constructed water supply well with 15 minutes elapsed between the two images. Notice the higher degree of water clarity in the image above.

While some settling had occurred in the older mud sample, reducing the amount of dissolved solids in the liquid port ion, the presence of polymers remained strong. Additionally, the old mud sample remained oxidative and contained an active microbial population as determined by Adenosine Triphosphate (ATP) analysis.

The new mud maintained a strong alkaline signature with a high load of dissolved

***Well Development** continued on next page*

solids which remained in suspension. As with the old mud sample, the new mud exhibited a strong polymer signature.

The mud samples were subjected to macroscopic and microscopic evaluation following centrifugation, a process that separates solids suspended in liquids for better evaluation. Microscopic evaluation of the new mud confirmed the presence of polymers creating a uniform composition of polymer, clay, and formation sediment.

Settling over time of the formation material, clay, and polymer was evident in the water chemistry and in the macroscopic evaluation of the old mud sample. However, the polymer remained viable (cohesive and resilient).

Restricted or blocked flow—common elements in a poorly developed well—can result in hydrologically isolated zones within the well.

In addition to the high dosage of chlorine for oxidation and destruction of the polymers, use of clay dispersants is recommended coupled with mechanical agitation (e.g., dual swab assembly), to enhance development efforts. Clay dispersants, such as NW-220 by Johnson Screens, help to destabilize the bentonite and formation clays further once the polymer additives have been broken down by oxidation. Mechanical energy such as surging, jetting, airlifting, and to a certain extent over-pumping, can further aid the process.

Keys to Success

The key components to a successful well development include the culmination of these four phases: time, planning, energy, and monitoring.

The time required to develop a well will be site specific and must be weighed with practicable parameters of success established and agreed upon before drilling begins. There is no set time per foot of completion or method of drilling.

For planning, measures should be taken to identify the scale and magnitude of the well development needed, so that proper communication can be coordinated with the drilling contractor. This planning effort can streamline the development process and avoid logistical hurdles (e.g., smart development versus longer development).

For any of the chemical or mechanical efforts to be successful, sufficient energy must be available for the physical application and dispersal of the chemicals and energy downhole. While the chemicals can break down the additives and help destabilize the clays, physical energy is required to mobilize and evacuate the components.

	"New Mud" 2022	"Old Mud" 2010	Detection Limits
pH	10.5	7.88	NA
Total Dissolved Solids	1,295	528	1.0 mg/L
Conductivity (µm or S/cm)	1,799	734	NA
Oxygen Reduction Potential (mV)	200.5	203.1	NA
Phosphorus, Reactive (as PO_4^{3-})	39.75	23.0	0.06 mg/L
Acid Hydrolyzable Phosphorus	153.45	254.6	0.06 mg/L
Adenosine Triphosphate (cells/mL)	Interference	171,000	1,000
Fe/Mn Oxidizing Bacteria	Positive	Negative	NA
NA – Not Applicable			

Table 1. Laboratory Evaluation of Mud Samples

Finally, *monitoring* of operational efficiency and water quality throughout the effort provides a good benchmark of success. Clear water, or the lack of visual turbidity, is an insufficient indicator of sufficient development. The images shown with this article all relate to this.

While important, those visual parameters should be verified by field tests to include conductivity, pH, oxidationreduction potential (ORP), and specific testing for any additives used.

As the nature of groundwater use changes and we as an industry are faced with more challenges with regards to production, recharge, and water quality—recognizing and acting with a better understanding of the importance of development is essential.

For successful well development, there should be clear expectations as to the responsibilities and objectives of the effort. Methods should be discussed and approved with benchmarks established ahead of time with all parties participating in the discussions.

It can be said that well development is not the most exciting part of the well construction process, but it is arguably the most important step of completing a new well and achieving sustained and consistent well performance.

STILL TIME FOR CE IN 2022: ON-DEMAND VIRTUALLY

VIRTUAL CONTINUING EDUCATION

Registration will close on December 1st for the 2022 Virtual CE Platform! All courses MUST be completed by 11:59PM to be valid for renewing your 2023 license/s.

Courses are broken down into hour-long segments, giving you the freedom to complete one hour individually on a rainy afternoon or do three hours of education over a weekend.

You are also able to see your completed credits in real-time and print off completion certificates immediately after finishing your course.

Pump Installer, Well Driller, and Heat Exchange Well Driller are currently being offered.

CE SESSION COUNTS

as of 10/21/22

IN-PERSON		ONLINE
2022 Annual Conference	188	381
Wisconsin Dells	132	
Green Bay	60	
Eau Claire	57	
Stevens Point	69	
Rothschild	84	

To get started sign up online and pick the courses that interest you! Check out the courses we have to offer this year:

Drilling Deeper – Understanding the Well Compensation Fund

Jeff Beiriger, Government Relations Advisor

1.0 PIP, 1.0 WDP

Wisconsin has, for many years, maintained a Well Compensation Fund. The Fund is used by certain property owners to remediate existing wells and/or drill new wells. Behind the idea is a simple concept: Protect the State's groundwater resources. But how does the program really work? We'll look at the history and we'll look at the future of this Fund, all the while helping you to navigate the processes used to access funds for your customers.

First Aid Field Techniques

Cathy Connor, Aspirus Langlade Hospital

1.0 PIP, 1.0 WDP, 1.0 HE

Anywhere, at any time, someone may need first aid medical assistance. Would you know what to do in an emergency? This session is designed to give you tools to assist you in providing emergency care and treatment until EMS arrives or the patient is provided definitive treatment. Your role in an emergency can make the difference for a patient!

Wisconsin's High Capacity Well Program

Adam Freihoefer, Wisconsin DNR

1.0 PIP, 1.0 WDP

This session will provide attendees with an overview of Wisconsin's high capacity well application process, regulation, and technical review. The session will also cover the current state of groundwater quantity management in Wisconsin.

The Trouble with Carbonate Rock Aquifers

Eric Hiatt, UW Oshkosh

1.0PIP, 1.0 WDP, 1.0 HE

The carbonate rocks of Wisconsin's provide opportunities to demonstrate complexities in understanding properties of these hydrologic units. This course is designed for professionals who are not geologists or experts in carbonate rocks, and it will highlight the many aspects that make carbonates unique in terms of their aquifer properties. These principles will be applied to Wisconsin's carbonate rock record.

Safety Around the Rig Tender

Matt Kouba, Kouba Drilling LLC

1.0 PIP, 1.0 WDP, 1.0 HE

Service trucks are highly important to the well drilling and pump installing geothermal process. Maintaining a high level of maintenance, along with project surroundings, is an everyday importance to the employee and the company.

So… Your Well Has a Bridge in It?

Dick Milaeger, Municipal Well & Pump

1.0 PIP, 1.0 WDP

Review of multiple projects from simple to extensive when a bridge or blockage is in a well, which will give insight to drillers, pump installers and rig operators, when they encounter such a situation.

***Continuing Education** continued on next page*

***Continuing Education** continued from previous page*

DNR Updates

Marty Nessman, Wisconsin DNR

1.0 PIP, 1.0 WDP, 1.0 HE

Updates on the Private Water Supply Section and how they affect licensed drillers, pump installers and rig operators. Includes updates on staffing, code revisions and other relevant information.

POWTS & Wells: Keeping it Clean

Elizabeth "CeCe" Rudnicki, Wisconsin DSPS

1.0 PIP, 1.0 WDP

This presentation will cover the concept of wastewater recycling and discussion about how SPS 383 addresses methods for protecting drinking water supplies.

PFAS – Educating the Contractor and Customer

Dave Schulenberg, NGWA

1.0 PIP, 1.0 WDP

An in-depth discussion on PFAS and the role of the Contractor, Association and how to try and understand it.

Well Driller Viewer – Overview and New Features

Stacy Steinke, Wisconsin DNR

1.0 PIP, 1.0 WDP, 1.0 HE

An overview of the Well Driller Viewer and how it can help well drillers construct the best well possible for their client. The presentation will also introduce drillers to the Nitrate Penetration Layer that is being added to the viewer. The new layer is an important tool to help drillers and well owners make informed decisions when deciding how to construct a well.

Fundamentals of Dual Tube Flooded Reverse Drilling

Art Steelman, Matrix Drilling Products

1.0 WDP

Relevant to licensed drillers as it is a unique technology that is becoming more and more popular for medium to large diameter wells. It is a viable alternative to Mud Rotary and Air Rotary in many scenarios – Limits both subsurface and surface contamination – it produces a more efficient better producing well. It can be used in unstable formations where Air Rotary and Mud Rotary are not a good match. It is fast and can advance large diameter bore holes to 30-inch diameter in a single pass. It is an excellent drilling method in environmentally sensitive areas as all cutting/ contaminants are 100% contained. Many times, it can be used without bentonite or additives.

FMCSA/DOT Compliance for Carriers/Drivers

Jeff Swan, HNI Risk Services of Wisconsin

1.0 PIP, 1.0 WDP, 1.0 HE

General updates and overview of compliance for CMV drivers and employers. The attendees all either drive commercial vehicles or own and are responsible for them on a daily basis. This session will cover both safety topics as well as crucial compliance issues they must follow. This compliance is often over looked with small carriers but the ramifications of ignoring DOT rules and regulations can be devastating financially and from a safety perspective.

An exceptional opportunity for Vertical Drillers to participate in Renewable Energy

Scott M. Niesen, Wisconsin Geothermal Association

1.0 HE

This presentation will discuss: Design solutions and sizing for Vertical Geo-Exchange loops, Why Geothermal and Beneficial Electrification are a match in Wisconsin • Vertical Drillers providing reliable renewable energy for Wisconsin, and What does a HVACR Professional know about; fracture gradient, uphole velocities and viscosity - next to nothing therefore Geo-Exchange loops and Geothermal Renewable Energy is a team sport.

LOBBYIST REPORT:
GOVERNMENT RELATIONS UPDATE

By Jeff Beiriger, WWWA Government Relations Advisor

Administrative Rules

NR 812 (PVC): The agency is developing a series of communications on the new rule and planning on training sessions, including ones at the Groundwater Conference in January.

NR 812 (Cement): Only one person (me) testified at the CNR's public hearing regarding the necessity for the NR 812 rule change (emergency and permanent) related to cement formulations. Approval of the Scope Statement is on the NR Board's September 28 meeting and WWWA will provide written testimony for that hearing. No other testimony is expected. Once the emergency rule is adopted, there may be a gap between its expiration and adoption of the final rule. If that happens, the agency has indicated it would reinstate the letter that is in place now to allow for the use of a currently unapproved cement formulation.

PFAS

Described as a generational issue – think lead, CFCs, asbestos, PCBs – it will take years to sort out the regulations and the various approaches to dealing with PFAS. Encouraging news came on one front, with reports that they may have found a way to break the PFAS down into "harmless" elements. The commercial application of the technology (in the ground, in the well, whole-house, or on-demand) is unclear at this point.

There will not be a groundwater standard for Wisconsin for some time and much of the current efforts are focused on ceasing operations using PFAS and identifying and containing those locations where it is known to be present. Ultimate responsibility – meaning lawsuits and appeals aplenty – will be in the mix for years to come.

Legislation/Budget

We have discussed the potential for the DNR to include our language on weight limits in their budget request for 2023/2024. It may be viewed as policy, but it will provide us with legislative language and a statement of priority from the agency regarding the necessity for clean water (versus beer). There is a certain risk, however, that if the language does go through the budget process, it may be viewed – wrongly – as being a partisan issue. It is not. So, discussions are ongoing with Republican offices to also pick up this issue as the legislative session turns from the budget to other legislation. Discussions have also begun with other interested parties, including the Wisconsin Counties Association.

Proposed change:

(e) The authority in charge of the maintenance of the highway shall exempt from the special or seasonal weight limitations imposed under sub. (1) (a) a motor vehicle that is being operated to service a private well providing potable water, without which, public health and safety may be compromised. A motor vehicle operated under this paragraph shall, to the extent practicable, travel on seasonally weight-restricted roads at times of the day when the highways used are the least vulnerable. *

*This language could also apply to a farmer, for instance, needing water for livestock. While not necessarily potable, water is a necessity for livestock and cannot be addressed using bottled water as an option.

The DNR would like our input on a reinstatement of language that would allow a property owner to do their own well pump work. The language was removed when the geothermal heat exchange drillhole legislation was passed a few years back and the agency is considering restoring it.

ARPA Funding – Well Compensation

The Governor announced that he would be allocating $10 million to the well compensation fund, using monies from the American Rescue Plan Act (ARPA). The Governor, in his announcement, went on to articulate the circumstances under which the grant monies could be distributed, some of which are different from the current laws/rules related to the Well Compensation Fund. What may be at issue, ultimately, is the Governor's authority to make unilateral changes to the grant criteria. While nobody is specifically objecting to the Governor's criteria, the issue may come down to one of administrative over-reach balanced against the need for these funds to be distributed.

PFAS is among the Governor's criteria for well compensation grants, but it should be noted that it's unclear what remediation would be recommended for such instances. Drilling a new well may not make a difference. Installing water treatment devices would be an option, but handling every PFAS situation that may be out there could exhaust $10 million quickly.

NR 140

A public hearing on the scope statement was held recently. There has been no subsequent action. This is

***Lobbyist Report** continued on next page*

a follow up to a rejected standard that included 4 PFAS classifications (18 were not included). The revised NR 140 is expected to address the other-than-PFAS chemicals that were also part of the rule that were rejected.

License Review – DSPS

A legislative study committee has convened related to a review of occupational licenses. Right now, the committee is in the early stages of their work and has staff picking up where a DSPS reports left off. That report was submitted to the legislature (which requested it as part of the 2017/2028 legislative cycle) in December 2018 and immediately shelved by the Evers administration. Only DSPS-issued licenses were the subject of the legislature's request, but the legislative study committee is allowed to expand that scope. It is highly unlikely that the target they are looking for is in a water-related trade given its health and safety implications. Designers of plumbing, POWTS, HVAC, elevators, fire sprinklers, and electrical systems are, however, included in the DSPS report.

Worker's Compensation Rates/Coalition

The rate for Well Drillers (Class 6204) will drop from $12.86 to $11.66 per $100.00 of payroll. Your rates will vary based on your company's Experience Modification Rate. The rate for Pump Installers (Class 5183) will also drop, from $3.39 to $3.06 per $100.00 of payroll. Again, your rates will vary based on your company's Experience Modification Rate. If employee hours are tracked, employers can "split" the classification for employees based on their work, possibly saving hundreds of dollars in WC expense.

The WC Coalition trying to restore deference to the Agreed Bill process, continues to seek the endorsement of the WWWA for its activities.

The Inflation Reduction Act

The Geothermal Exchange Organization provided a detailed analysis of the Inflation Reduction Act as it relates to tax credits and rebates, and more specifically to the HVAC industry. The bottom line is that rebates have been increased to 30 percent retroactive to January 1, 2022 (they were at 26 and scheduled to drop to 22 percent next year) and they were extended by 10 years, so a total of 12 years of tax credits will be available. There are other energy-related investment rebates and there are commercial incentives as well. Bottom line, this could stimulate demand for geothermal systems and grow the market and need for heat exchange drillers.

Private Water Advisory Council

The next meeting of the PWAC will be October 27 at Plumbers Local 75 in Madison. Among other things, the DNR will have the chance to visit the building and see what, if any, training might be done (in cooperation with WWWA) using some of the available spaces.

Primaries and General Elections

The primaries are over and there are two elections of note. First, Speaker Vos won by a very narrow margin against an almost unknown opponent. Second, Tim Michels defeated Rebecca Kleefisch.

As for the general elections, the big question will be turnout, as the top of the tickets candidates are pretty well solidified with their party faithful and equally split among independents. The first polls seemed to be favoring Evers and Barnes. The latest polls show a race that is closing, with Michels gaining a point or two, but Johnson overtaking Barnes after a seven-point deficit in the last poll.

Could Wisconsin split its vote – again? Absolutely! But both parties would love to win both races and claim Wisconsin for their own. Recent statewide elections have favored Democrats, but there's nothing conventional about politics any more and polls have proven to be of less and less likely to predict the outcomes.

Hang in there, those ads will be over before long....

Obscurum Per Obscurius (An explanation that is less clear than what it tries to explain....)

What is a legislature? What is Congress?

All to say, who gets to decide the election processes used by the states and why is this important?

WPWS Report

About 50 people attended the WPWS Fall Golf Outing at Trappers Turn. All told, the event will raise a little more than $2,000.00, a good portion of which will be used to support well projects. Attendees had the chance to hear from Ezra Pett (Headwater Wholesale) about a new opportunity to fund well projects. Ezra's parents were working as missionaries in 2004 when the were murdered in Uganda. Ezra and his brother visited the community earlier this year and brought back to well projects that the WPWS will help to support through our fundraising efforts.

WPWS will hold two golf outings in 2023, a return to what it had done a few years back. One will be in the Spring at a course and date yet to be selected. The other will be Thursday, September 21 at Trappers Turn.

WPWS is thrilled to have the opportunity to host the pre-bowling pizza party during the Groundwater Conference. The group plans to hold its Board meeting during the Conference, on Thursday, January 19, and looks forward to having WWWA representatives join us.

MARKETING MATTERS: THE LAST 90 DAYS

By Tara Schessler, In Time Creative

Everyone has made a New Year's resolution at least once in their life. Whether it's starting a nutrition diet or a financial diet. Maybe you've set goals to work out more or spend less money, read more books, or maybe this is the year you're going to get your dog to walk nice on a leash. If you master this last one, please share your secrets!

As you're familiar with these types of resolutions, you may not be as familiar with the concept of "The Last 90 Days." For the record, I did not invent this concept. There are several motivational speakers, fitness, nutrition and business coaches who preach this idea. So, what is it?

The Last 90 Days – Don't Wait

Instead of waiting for the magical first day of the new year to start crushing goals, take advantage of the last 90 days of the year to set your New Year up with the most success possible. While I didn't create this concept, I truly believe in its power for setting people and businesses up for great success.

New Year's Resolutions typically fade after 2-4 weeks for many reasons: Lack of planning, lack of willpower, setting too many goals, procrastination, not getting enough time. Setting yourself up for success takes strategic planning. The longer you work on small positive changes, the more habit forming they will become.

The Last 90 Days – The Plan

Name the goal, that's the finish line. Now, what mile markers do you need to set and reach to make that big goal happen? How will you track it? Who will you tell?

Let's apply this to marketing:

- The Finish Line: As you head into the end of the year, what is the overall business revenue goal for 2022? How far away are you to reaching that goal?
- *Mile Marker #1: What percentage of that revenue goal gap do you typically apply to your marketing budget? Is that enough? How will you apply this budget? (See Bonus Business Bites)
- Mile Marker #2: How many widgets do you need to sell?
- Mile Marker #3: How many customers do you need to talk with to make those sales?
- Mile Marker #4: Close the sales and track the return on your investments.

Now work the plan, check in often and share with the team.

What if this marketing plan ended up blowing that revenue goal right out of the water? Looks like you have a recipe for success to hit those 2023 projections with ease.

So, as you head into the last 90 days of the year, don't get stuck in working a plan that isn't working. This is your opportunity to pivot, set new goals and knock 2022 out of the park. Hit the 2023 proverbial road running.

Bonus Business Bites:

*Applying your last 90 days marketing budget in the right areas with the right message to target the right people can feel overwhelming.

Think of the 3 C's:

- Concentration – choose fewer media outlets and concentrate the dollars with the most effective advertising outlets you experienced throughout the year. What worked, what failed, what's fuzzy?
- Consistent – Give it the last 90 days. Stay present throughout the rest of the year.
- Concise – Make sure your message is concise and easy to understand. Want to book out you.

Sincerely,

Tara Schessler
Local Sales Manager / Digital Sales Manager
WAOW TV 9
Wausau, WI

Have marketing questions? E-mail me anytime at tschessler@waow.com. My ideas are free!

WPWS UPDATES

ANOTHER SUCCESSFUL GOLF OUTING

By Jeff Beiriger, WPWS Executive Director

TRAPPERS TURN

September 15 was a picture-perfect day for a golf outing! About 50 people joined us for the WPWS Golf Outing at Trappers Turn in Wisconsin Dells for a day of relaxation and camaraderie.

Many thanks to our event sponsors:

- **Baker Manufacturing Group**
- **Franklin Electric**
- **Headwater Wholesale**
- **Rep-Rite Burk**
- **Rundle-Spence**
- **Walter Products**
- **Wisconsin Water Well Association**

While we play more for pride than the prizes, our top-score went to the group of Lucas Antonioni, Mike Recheck, Seth Schultz, and Ryan Steffes (pictured below). The group came in at 13 under par!

Photo credit: Jeff Beiriger

Photo credit: Jeff Beiriger

Flag event prizes went to the following:

Arbor Course

Mickey Lewis – Shortest Drive

Michael Hanten – Closest to the Pin

Jake Bowling – Longest Putt

Lake Course

Jamison Seuser – Longest Putt

Cole Gill – Closest to Pin

Karl Sprung – Longest Drive in Fairway

Join us for event next year:

WPWS Golf Outing
Thursday, September 21, 2023
Trappers Turn
Wisconsin Dells, WI

And look for an announcement regarding our Spring 2023 event too! Coming soon...

Proceeds Support Well Projects in Uganda

Funds from all of our outings are used to help support well projects around the world. We are working with the Warren and Donna Pett Memorial Foundation on two projects in Uganda – one for a community farm and another for a church. Other projects are planned.

MUSTACHIOED MUSINGS

By Terry Farago

Labor day is sort of the final day of summer for the Farago's. Like most of our fellow well drillers and pump installers it was a busy one. With the prices of our supplies going up every week it made it hard to get things done. When you add up the cost of fuel and material it made things tough. We're hoping it gets a little better soon.

With things down winding we can start to think about completing our CE. Our folks at the WWWA office are hard at work putting together a CE program that can't be beat! I really don't know how they do it but I sure do appreciate it.

We're excited to start putting together the WWWA 2023 Annual Conference. I hope to see all of our members and non-members attend the conference to get the full WWWA experience. Between the vendor show and in-person speakers it will be a great time. I always like to say: it's not always about what's said in the classroom but rather talking with others and hearing their stories is sometimes how we learn the most.

The annual meeting is a place for bonding with people who make the same living as yourself. I hope you'll join us in 2023 if you have any feedback or suggestions, please let me or our office know - the board only knows so much.

Your friend,
Terry

HEADWATER
WHOLESALE

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INTERESTED IN JOINING THE WWWA'S BOARD OF DIRECTORS? NOW IS YOUR CHANCE!

As a part of the WWWA Board, you will participate in making very important decisions regarding your profession and the groundwater industry as a whole.

The Wisconsin Water Well Association's purpose is to increase the industry's knowledge and understanding of proper drilling, pump installation, and well abandonment techniques; work with the appropriate state agencies in the protection of Wisconsin's groundwater, and increase the public's awareness of the importance of and involvement in groundwater efforts.

We are currently looking for a Specialty Director who is interested in serving a two-year term.

The Specialty Director seat on the Board of Directors is open to specialty/environmental well drillers, engineers, and/or environmental scientists. This commitment is a two-year term.

General Expectations:

1. Support the Association's mission, purposes, goals, policies, and programs while knowing its strengths and needs.
2. Monitor and strengthen programs.
3. Serve actively on committees of the Board as requested by the President.
4. Attend activities and events sponsored by the Association whenever possible.
5. Ensure adequate financial resources.

Meetings:

1. Prepare for and participate in Association Board meetings and scheduled committee meetings.
2. Ask timely and substantive questions at Board and committee meetings consistent with personal conscience, convictions, and ethics, while supporting the majority decision on issues decided by the Board.
3. Maintain confidentiality of the Board's Executive sessions, and speak for the board or the Association only when authorized to do so.
4. Suggest agenda items for Board and committee meetings to ensure that significant policy-related matters are addressed.

Avoiding Conflicts:

1. Serve the Association as a whole rather than any special interest group or constituency.
2. Avoid even the appearance of a Conflict of Interest that might compromise the Board, and disclose any possible conflicts to the board in a timely manner.

If interested please email info@wisconsinwaterwell.com and we will provide the next steps! Help us continue to fight for what's good and right — **Water the Wisconsin Way: Fresh. Clean. Safe.**

CALL FOR DRILLING SITES!

Wisconsin Water Well Association's

DRILL-DAYS

We are in the early stages of organizing an onsite, in-person, experiential type of training for attendees to get more active learning through hands-on training. Classroom training is important, but so is getting to use equipment and engaging with the experienced, experts who are handling well drilling and pump installation work in the field every day.

The WWWA is seeking appropriate drilling sites for different drilling applications such as, positive displacement drilling, commonly known as mud drilling, hydro fracking, air percussion drilling, geothermal drilling, and installation of geothermal loops along with grouting practices and other technical acts can be performed by the drill rig operators and the attendees/vendor outreach. Should you have a site available, or need a well drilled on your company's property, and would be willing to demonstrate and/or loan equipment and want to be involved - let the office know as soon as you are able. Please submit your interest to info@wisconsinwaterwell.com.

CE will be sought for these trainings, and the hope will be to conduct at least one Drill-Day event within the next year. Based on how these are received by the participants, we hope to expand on these offerings in the coming years.

CALL FOR ADVERTISERS!

We would like to invite you to advertise in our printed *Well Log* or on our website!

Our website means opportunities for online advertising! We now have scrolling ad opportunities on all pages of our website, a full year is only $180 to be seen on every page. Traffic on the website has been boosted due to virtual continuing education access and a contractor search tool for well-owners.

The WWWA *Well Log* circulates to 1500+ industry representatives spanning three different states (Wisconsin, Illinois and Michigan) with top articles from the DNR, marketing professionals, industry leaders and business owners.

You can request an invoice or pay now using our online form https://wwwa.memberclicks.net/advertising-opportunities-form. Or please feel free to call our association office 855-947-9837 for any questions or payment over the phone.

Make sure your business is viewable by industry leaders, well-owners and colleagues alike!

Website Advertising

Full year $180

Graphic must be 380 pixel by 380 pixel .jpeg file.

ADVERTISE TODAY!

WWWA WELL LOG ADVERTISEMENT PRICING

Full Page Advertisement

Entire Year $1300

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Half Page Advertisement

Entire Year $850

Single Issue..... $250

Quarter Page Advertisement

Entire Year $600

Single Issue..... $175

To advertise, submit an article, or recognize industry members In Memoriam please contact the Association office at 414-488-3908 or e-mail us at info@wisconsinwaterwell.com.

Advertising Graphic Requirements:

All ads must be submitted electronically via email. WWWA *Well Log* is designed on a Macintosh platform. Accepted software: print quality PDF files (preferred), Adobe Illustrator, Photoshop, and InDesign. Fonts and linked graphics must be included with electronic files. Minimum 300 dpi on graphics and photos. Ads not supplied properly may incur additional charges. Ads not sized properly will be scaled proportionately to fit.

Please contact our office for more information:
info@wisconsinwaterwell.com

Ad Sizes	Vertical (W x H)	Horizontal (W x H)
Trim Size	8 1/2" x 11"	
Full page (float)	8" x 10 1/2"	N/A
Full page (bleed)*	8 1/2" x 11"	N/A
Half page	3 3/4" x 10"	8" x 4 3/4"
Third page	2 1/2" x 10"	8" x 3 1/2"
Quarter page	3 3/4" 4 3/4"	N/A

**Bleed Ads need to allow an additional 1/8" on all sides for trimming.*

WWWA MEMBER LISTING

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24/7 Well & Pump Service
Oconto Falls, WI

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Aqualines, LLC
Minnetonka, MN

Jeremiah Anderson
Paul R Anderson Well Drilling
Ashland, WI

Daniel Antonioni
Antonioni Well & Pump Service,Inc.
Mayville, WI

Dale Arndt
Arndt & Son Plumbing, LLC
Brooklyn, WI

Lance Arneson
Luisier Well Drilling
Oconto Falls, WI

Thomas Arts
A-1 Septic Service
Rhinelander, WI

Bob Aune
Aune Well,Inc.
Hammond, WI

Debra Bac
Cetco
Hoffman Estates, IL

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Baroid IDP
Somerset, WI

Tim Baird
Robert's Irrigation Co, Inc.
Bancroft, WI

Randy Bates
RB Plumbing, LLC
Colfax, WI

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D.M.B Drilling Co., Inc.
Shell Lake, WI

Ann Berkholtz
Water Wells, Inc.
Windsor, WI

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Binz Brothers Well Drilling
Hurley, WI

Wayne Binz
Binz Brothers Well Drilling
Hurley, WI

Steve Binz, Jr.
Binz Brothers Well Drilling
Hurley, WI

Michael Blum
JMI Pump Systems
Germantown, WI

Matthew Boedecker
Neumann Plumbing & Heating, Inc.
Howards Grove, WI

Roger Boehlke
Boehlke Hardware
Mequon, WI

Nathan Borchert
Haupt Well and Pump
Arpin, WI

Benjamin Bracker
Bracker Pump & Well Service
Racine, WI

Wayne Brady
Brady's Septic Service,Inc.
Gresham, WI

Paul Brown
Mauston Plbg & Htg,Inc.
Mauston, WI

Todd Bruesewitz
Tyde Fource, Inc./ Maas & Sons
Waterford, WI

Jake Brunner
Midwest Drilling
Cornell, WI

Timothy Butterfield
Tim Butterfield Drilling,Inc.
Somerset, WI

Tony Butterfield
Butterfield,Inc.
Hayward, WI

Travis Butterfield
Butterfield,Inc.
Hayward, WI

David Canopy
Canopy Water Works
Appleton, WI

Justin Castleman
Castleman & Sons Plumbing, Inc.
Franklin, WI

Bruce Collins
A-1 Septic Service
Rhinelander, WI

Gerald Cooper
Cooper Water Well Service, LLC
Little Suamico, WI

Bryan Cox
Blc Well Drlg & Pump Service
Milltown, WI

Dennis Crow
Water Compliance Specialists, Inc.
Lodi, WI

Richard Culton
Culton's WaterWell & Pump Service
Amherst, WI

Andrew Dahl
Dahl Well Drilling,Inc.
Glenwood City, WI

Charlie Davis
South Central Well & Pump
Edgerton, WI

Jacob Davis
South Central Well & Pump
Edgerton, WI

Steve Demars
Demars Plumbing,Inc.
North Freedom, WI

Robert Dewitz
Bartingale Mechanical
Augusta, WI

John Dickson
John's Plumbing, LLC
Wild Rose, WI

John Dillenburg
Shawano Well Drilling, Inc.
Shawano, WI

Charles Dominski
C-Dominski Plumbing, LLC
East Troy, WI

Derrick Domres
Herr Well Drilling, Inc.
Dousman, WI

Gregory Domres
Herr Well Drilling, Inc.
Dousman, WI

Nathan Domres
Herr Well Drilling, Inc.
Sullivan, WI

WWWA MEMBER LISTING (CONTINUED)

Daniel Drozdowicz
E&D Water Works, Inc.
Janesville, WI

Daniel Eberhardt
Eberhardt Plbg & Htg, Inc.
Adell, WI

Daniel T Eberhardt
Eberhardt Plumbing & Heating
Adell, WI

Mark Euclide
Euclide Well Drilling,Inc.
Sturgeon Bay, WI

Ryan Euclide
Euclide Well Drilling,Inc.
Sturgeon Bay, WI

Jeffery Faherty
Faherty & Son Well Drlg, LLC
Platteville, WI

Louis Fahey
Fahey Sales & Service,Inc.
Brooklyn, WI

Tyler Fain
Richardson Well Drilling
Minocqua, WI

Clancy Farago
Farago Drilled Wells
Plainfield, WI

Joseph Farago
Farago Plumbing & Trenching
Hancock, WI

Terry Farago
Farago Well Drilling
Plainfield, WI

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Advanced Dairy Solutions
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Packerland Well Service
Chilton, WI

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Burlington, WI

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John Filbrandt Plbg & Htg, Inc.
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Frasier's Plumbing & Heating, Inc.
Rhinelander, WI

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Froemel Well
Haward, WI

Travis Froemel
Froemel Well
Hayward, WI

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Gillespie Plumbing, LLC
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Waterloo, WI

Monte Gourley
Gourley's Home Service
Osceola, WI

Martin Govert
Govert Well & Pump,Inc.
Brodhead, WI

Zach Govert
Govert Well & Pump,Inc.
Janesville, WI

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H&N Plumbing & Heating
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Groth Water Wells, Inc.
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H2O Compliance Services, LLC
Sparta, WI

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The Pump Connection
Stoughton, WI

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Rice Lake, WI

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Haupt Well and Pump
Arpin, WI

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Hintzke Well Drilling,Inc.
New London, WI

Jay Hintzke
Hintzke Well Drilling,Inc.
New London, WI

John (JJ) Hintzke
Hintzke Well Drilling,Inc.
New London, WI

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Nelson Hinz Pump & Plumbing
Pickett, WI

Daniel Hischer
Kirk Hischer Well Drilling
Luck, WI

Jonathan Hokenson
McCullough & Sons
Forest Lake, MN

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Wayne Holly Well Drilling
Iron River, WI

Laura Holly
Wayne Holly Well Drilling
Iron River, WI

Wayne Holly
Wayne Holly Well Drilling
Iron River, WI

Robert Holly, Sr.
Paul R. Anderson Well Drilling
Marengo, WI

James Hornung jr.
Hornung Well Drilling
Merrill, WI

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Josh Huemann & Sons
Ringwood, IL

WWWA MEMBER LISTING (CONTINUED)

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Josh Huemann & Sons
Ringwood, IL

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Brodhead, WI

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Tetra Tech
Los Alamos, NM

Jim Hutmacher
Wyo-Ben,Inc.
Billings, MT

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Hyink Well Drilling
Sheboygan Falls, WI

Tyler Hyink
Hyink Well Drilling
Sheboygan Falls, WI

Chad Imme
Guardian Well & Septic
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Jenks Well Drilling
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Donald Karnosh
Karnosh Well Drilling
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Mequon, WI

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Kent Well Drilling
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Komarek Well Drilling
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Komarek Well Drilling
Ogema, WI

Ronald Komarek, Sr.
Komarek Well Drilling
Ogema, WI

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Krueger Water Systems, LLC
Wausau, WI

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S & K Pump & Plumbing
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David McCullough
McCullough & Sons Well Drilling
Forest Lake, MN

James McCullough
McCullough & Sons Well Drilling
Forest Lake, MN

David McCullough, II
McCullough & Sons Well Drilling
Forest Lake, MN

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Morin & Johnson
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Laverne Nelson
Nelson's Plbg & Elec,Inc.
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Oium Well Drilling & Pump Service
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Ken Olson Well Drilling & Pump
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Michael Phelps
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Dennis Rasmussen
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Mason Rens
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Green Lake, WI

David Rock
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Kansasville, WI

Andrew Rogers
Rogers Pump Company
Oshkosh, WI

WWWA MEMBER LISTING (CONTINUED)

Thomas Roos
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Oxford, WI

Todd Roos
Roos Well Drilling,Inc.
Oxford, WI

Thomas Ruemenapp
Big Moose Home Inspections, Inc.
Bessemer, MI

Jon Rush
Rush Well Drilling, LLC
Black River Falls, WI

Adam Ryberg
Prime Source Plumbing & Heating,Inc.
La Crosse, WI

Wesley Salverda
Salverda Well
Forest Lake, MN

Kenneth Schaefer
Ken Schaefer Well Pump and Water Treatment Consulting, LLC
Slinger, WI

Eric Schmidt
Advantage Plumbing & Heating,Inc.
Nekoosa, WI

Michael Schmitt
Huemann Well Drilling
Ringwood, IL

Nicholas Schouten
Tim Butterfield Drilling, Inc.
Somerset, WI

Patrick Schreiner
Schreiners Plumbing & Heating
Marshfield, WI

Nicholas Schultz
Mineral Service Plus, LLC
Green Isle, MN

Joe Seep
Joe Seep Plbg & Elec,Inc.
Reedsburg, WI

Ivan Semingson
Semingson Aberle Plumbing, LLC
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Robert Serre
Cliff Bergin & Associates
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Butternut, WI

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Bloyer Well & Pump, Inc.
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Christopher Smith
Bloyer Well & Pump, Inc.
South Beloit, IL

Steven Solofra
Solofra Plumbing and Heating,Inc.
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Steffl Drilling & Pump,Inc.
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Richard Thron
Mantyla Well Drilling, Inc.
Lakeland, MN

Brian Van Beusekom
Ingleside Engineering & Const
Loretto, MN

Troy Van de Yacht
Leo Van De Yacht Well Drilling
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Jim Vander Galien
Sam's Well Drilling
Randolph, WI

Tom VanDeYacht
Ground Source,Inc.
De Pere, WI

Ralph Volkman
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Black Creek, WI

Trisha Vukodinovich
Aqua Well & Pump Systems, Inc.
North Prairie, WI

Vern Wagner
Wagner Plumbing
Wautoma, WI

Bruce Walker
Wisconsin Well & Water Systems, LLC
Grand Marsh, WI

Mark Weber
Weber Well Drilling, Inc.
Chilton, WI

Bradley Webster
Brad Webster & Sons Drilling,Inc.
Poynette, WI

WWWA MEMBER LISTING (CONTINUED)

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Northwoods Property Inspections
Park Falls, WI

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GW Plumbing Service, Inc.
Boulder Junction, WI

Steffen Wellstein
Wells, Inc.
Risingsun, Ohio

Alan Wepking
Wepking Pump Service, Inc.
Lancaster, WI

David Werner
Werner Pump Service
Jefferson, WI

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Weslow Water Systems
Green Bay, WI

Brian Weslow
Weslow Water Sys, Inc.
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Jack West
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Owatonna, Minnesota

Randy Williams
Water Well Solutions
Pewaukee, WI

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Rice Lake, WI

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Hartland, WI

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Thomas F Wranik Well Drilling, Inc.
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Lloyd Wurzer
Cahoy Pump Service
Sumner, Iowa

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Campbellsport, WI

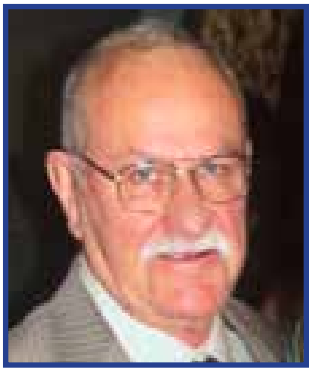
Cody Zimmerman
PHE Contractors, Inc.
Randolph, WI

John Zimmerman
Zimmerman Pump
Boyd, WI

Herbert Zoellick
Hezpaz Enterprizes
Wisconsin Dells, WI

IN MEMORIUM

ROBERT EDWARD LAABS



Robert Edward Laabs of Jackson, formerly of Grafton, passed away at Aurora Medical Center in Grafton on Tuesday, Aug. 23, 2022, at the age of 83. He was born in Freistadt to Elmer and Mildred Laabs on Aug. 24, 1938, and they referred to him as “Little Bobby.” Bob married Sharon Kornfehl (1941-2008) on June 27, 1959, in Milwaukee and together they had four children. After his wife’s passing, he was united in marriage to Shirley Krejci on April 24, 2011, at Our Savior Lutheran Church in Grafton.

Bob was a 1956 graduate of Cedarburg High School. He retired from American Motors after 30 years of dedicated service as a steamfitter. Bob also took over the family business at the age of 16 and operated Laabs Well Drilling until his passing. He and Shirley were members of Our Savior Lutheran Church in Grafton. Bob enjoyed traveling, going out to eat and spending time with his children, grandchildren and great-grandchildren. He was a huge Green Bay Packers fan and would not be disturbed during a game. Bob is survived by his wife Shirley; his children Lynn Laabs, Lisa (Jon) Pease, Daniel (Vickie) Laabs and David (Michele) Laabs and Darryl Krejci and family; grandchildren Shannen, Rachel, Ashley, Jonathon, Kati and Jake; great-grandchildren Sophia, Levi, Isabel and Ian; and sister Kathleen Bavuso. He was preceded in death by his parents, wife Sharon and brother Richard Laabs.

Wisconsin Water Well Association (WWWA)
6737 W. Washington St., Suite 4210, Milwaukee, WI 53214
Office: 414-488-3908 • Fax: 414-755-1346 • Toll-Free: 855-947-9837
info@wisconsinwaterwell.com • www.wisconsinwaterwell.com

2023 WWWA MEMBERSHIP

There are countless benefits to being a dues-paying member of the WWWA. While many are intangible, WWWA members receive discounted event registration, including registration for Continuing Education and the option to participate in special 'member-only' perks like the annual scholarships, contributions to the tri-annual *Well Log* and more.

Please visit www.wisconsinwaterwell.com to find a more detailed listing of membership benefits and details on the networking and educational opportunities coming in 2023.

The Board of Directors hopes that 2023 will continue to be a strong membership year with many returning and new members who will help the WWWA fight for what's good and right – ***Water the Wisconsin Way: Fresh. Clean. Safe.***

Dues to the Wisconsin Water Well Association are not deductible as charitable contributions for federal income tax purposes, but may be deductible as ordinary and necessary business expenses. The percentage of your 2023 dues that represents non-deductible lobbying costs is 20%

We hope to have your support!

CONTACT INFORMATION

Full Name: _____

Company: _____

Mailing Address: _____

City, State, Zip: _____

Phone: _____ Alternate Phone: _____

Email: _____

☐ **YES!** I want to be a WWWA member in the 2023 year.

Note: *Membership Fee is **per individual** (not per company), valid January 1 - December 31.*

☐ $150 = FULL MEMBERSHIP (VOTING) - FIRST Member from a member company

☐ $100 = FULL MEMBERSHIP (VOTING) - ADDITIONAL Members from same company

License #_____ ***Full Members MUST hold at least one license***

Mark all that apply:

- ☐ Pump Installer
- ☐ Water Well Driller
- ☐ Water Well Drilling Rig Operator
- ☐ Heat Exchange Driller
- ☐ Heat Exchange Drilling Rig Operator
- ☐ Other License: _____

☐ $75 = ASSOCIATE MEMBERSHIP (NON-VOTING)

License #_____

Mark all that apply:

- ☐ Employee of a Full Member ***but who does NOT hold a license***
- ☐ Family Member
- ☐ Supplier/Distributor
- ☐ Manufacturer
- ☐ Manufacturer Rep
- ☐ Scientist
- ☐ Technician
- ☐ Hydrogeologist
- ☐ Geologist
- ☐ Engineer
- ☐ Consultant
- ☐ Health Official
- ☐ State Government Official
- ☐ Other:_____

PRINTED NEWSLETTER OPTIONS

Full Page Ad: ☐ $1,300 full year / ☐ $475 single issue
Half Page Ad: ☐ $850 full year / ☐ $250 single issue
Quarter Page Ad: ☐ $600 full year / ☐ $175 single issue

WEBSITE ADVERTISING

☐ $180 = Large Banner Ad *(380 x 380 pixels)*

DONATIONS

☐ Scholarship Fund: $_____
☐ Silent Auction Item: _____

PAYMENT DETAILS

☐ Check enclosed payable to: WWWA

☐ Charge my credit card $ _____

#: _____

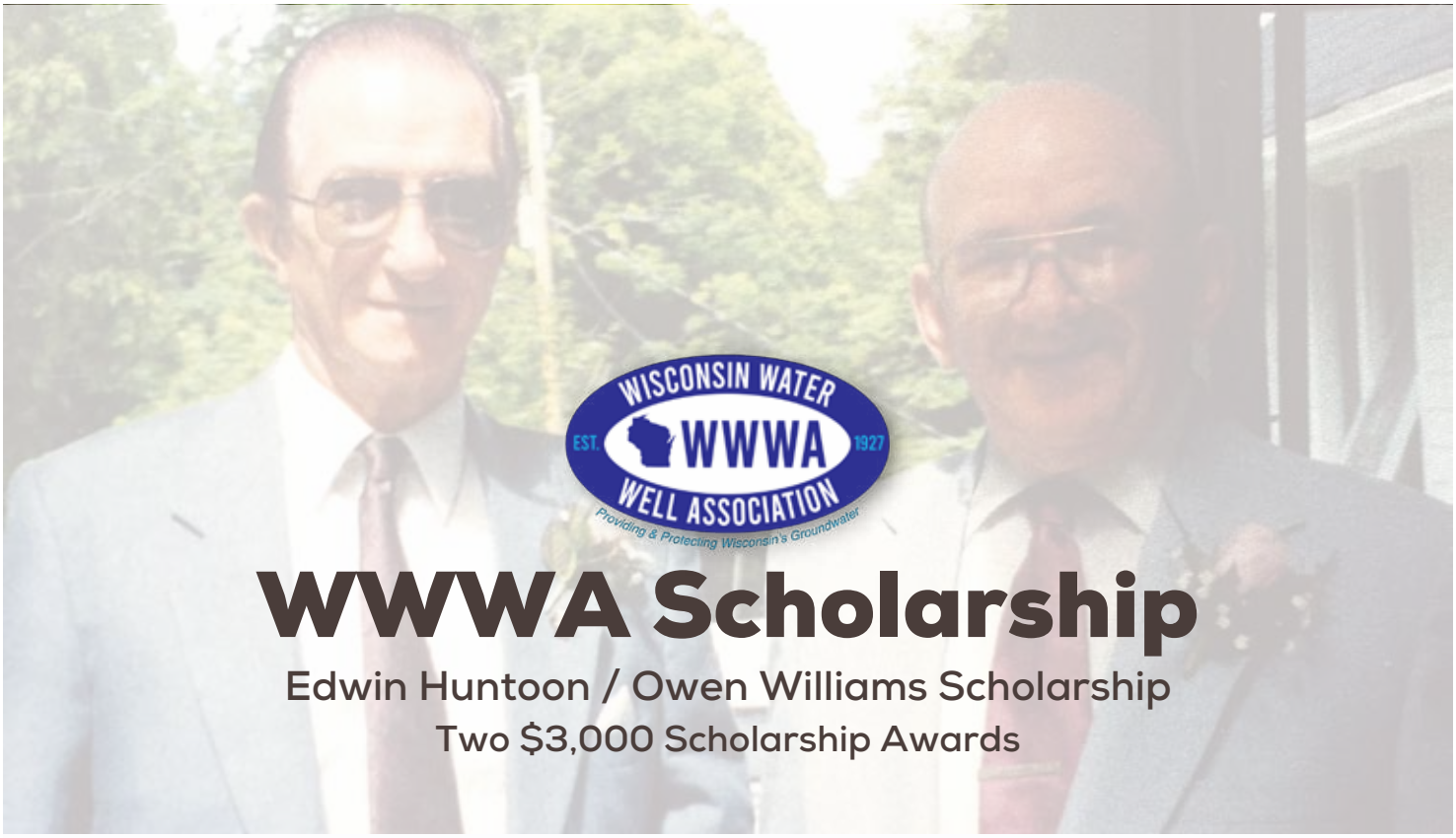
Name: _____

Exp. Date: _____

CVV #: _____

Please return by fax:
414-755-1346
or scan/send to:
info@wisconsinwaterwell.com
or mail to address at top.

Any questions, please call:
855-947-9837



WWWA Scholarship

Edwin Huntoon / Owen Williams Scholarship

Two $3,000 Scholarship Awards

Edwin W. Huntoon (1917-2011)
Ed Huntoon served the WWWA as Editor of the newsletter, and was a proponent of the water well industry throughout the world. He started in the industry as a driller in the rock quarries, then for the US Army during WWII and on water supply projects around the world. Ed was a licensed pump installer, master plumber, and journeyman plumber. He was the recipient of the NGWA Life Member Award in 1991, and the NGWA Oliver Award in 1995 for outstanding contributions to the groundwater industry.

Owen W. Williams (1922-2014)
Owen Williams served the WWWA as Executive Secretary, and represented the Association at many conferences, meetings, and legislative sessions. He served in the Navy aboard the USS Barb during World War II, and served as State President of the US Submarine Veterans. He devoted significant time and energy in the formation of the Wisconsin Water Well Guild. He encouraged others to "make greater strides to meet the challenge of protecting the environment."

Applicant must be:

- A current member of WWWA or family member of a current member
- Applying to or enrolled at a post-secondary institute as a full-time student

To Apply:

Scan code at right with mobile device, visit wisconsinwaterwell.com, or fill out and mail in the application on the following page.

Submission deadline November 21, 2022

Edwin Huntoon / Owen Williams
Scholarship Application

PERSONAL INFORMATION

Name:_____

Address:_____

City:_____ **State:**_____ **Zip:**_____

Contact Phone Number:_____ **Email:**_____

Parent Names:_____

Current WWWA Member? ❒Yes ❒No **Name of Member/Company:**_____

HIGH SCHOOL/COLLEGE INFORMATION

High School Graduation Date:_____ **GPA:**_____

College Applied to:_____ **Accepted?** ❒Yes ❒No

If no, when do you expect acceptance?:_____

Intended field of study?:_____ **Career Objective?:**_____

What influenced your choice?:_____

Please list high school activities:_____

Please list community activities:_____

WORK HISTORY

Please list your work history

ESSAY QUESTIONS - Please use a separate sheet of paper to respond.

- **What would this Scholarship mean to you? (approximately 500 words)**
- **How would you use these Scholarship funds? (approximately 250 words)**

APPLICATION SUBMISSION

Completed applications should be submitted to:

Questions: 414-488-3908

WWWA Scholarship Fund
6737 W. Washington St.
Suite 4210
Milwaukee, WI 53214

6737 W. Washington St.
Suite #4210
Milwaukee, WI 53214

WWWA CALENDAR OF EVENTS

January 18-19, 2023

2023 Annual Conference

Kalahari Resort and Convention Center Wisconsin Dells, WI