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Anniversary
Issue

Drilling Resource®

Volume 13 September 2016

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What's inside

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Home of Solid Gold Service ~ with a smile!TM

Wow, I can't believe another month has come and gone! September is a special month for WWD&R as it was September 2003, when the company was founded. So, each September we invite companies to share the history of their company, products, or projects with you our dear subscribers. This year the response was incredible! So much so, we will have to feature WWD&R's history article and Ronnie's Real World in the October issue.

Ronnie,
Managing Publisher
ronnie@worldwidedrillingresource.com
With pen (computer) in hand...

Wait until you read some of the fantastic tales of how these companies used their passion for the drilling industry to build and expand their businesses. Let your favorite manufacturer/distributor know you appreciate them sharing their history with you through WorldWide Drilling Resource®.

Speaking of appreciation, our Sales Team is working on a special REWARDS program for 2017, to show our gratitude for the valuable advertisers who bring this publication to nearly 40,000 subscribers each month. Keep your eyes open for our Marketing Guide which will have more details and should be heading your way soon. This is going to be an exciting year for WWD&R!

There is simply no slowing this Team down! The WWD&R Team ended August and began September with coverage of The Water Expo in Miami, Florida, and continued with the National Drilling Association Convention in Pittsburgh, Pennsylvania, and MINExpo in Las Vegas, Nevada. Whew! Our skates are rolling!

Be sure to visit the WWD&R Photo Gallery at www.worldwidedrillingresource.com to view, download, and print photos from your favorite trade shows (for personal use only unless approved by WWD&R management).

SEE YOU ON THE TRAIL!

We'll be the ones with the smiles! And a "Positive" Attitude! No frowners allowed!



SUPERIOR QUALITY, RELIABILITY, AND SPEED IN A POWERFUL COMPACT PACKAGE

~ From the Cover ~

The DRILLMAX® 2400 shown is mtd. on a Peterbilt 348 6x6 all-wheel drive. The rig is equipped with 45,000 lbs pullback, 15,000 lb winch with 2-speed motor and 2-part line setup, 5000 lb sandline winch with separate hydraulic jib, 500/200 air compressor, Gardner Denver 5 1/2 x 8 mud pump, 3x4x13 Mission Sandmaster mud pump, dual motor pipe spinner system, 24" retract table for large-diameter casing clearance, pipe rack to hold 400 feet of 4 1/2" flush drill pipe, single rod loader, 3" mud plumbing including valves and mud hose, 3" swivel assembly, 6000 ft lbs torque tophead, hinged driller platforms, hinged catwalk, stabilizer rack, and (4) leveling jacks. The DRILLMAX® 2400 is designed to drill larger diameter holes up to 1500 feet deep. It's powerful, fast, easy to operate, and weighs just under 52,000 lbs putting it in a class of its own!



Call 800-342-0234 or 352-427-7787 for more details on this and other DRILLMAX® rig models. www.drillmaxrigs.com

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Versatility Makes a Difference

Adapted from Information Provided by Mudslayer Mfg.

After spending 30 years in the drilling industry, Jim La Porte realized the need for a cleaner, simpler way of utilizing mud. He established Mudslayer Manufacturing in 2006, showcasing the Mudslayer® portable mud system.

The equipment is a portable mud cleaning, recycling, and environmental protection system for solids management. This mud shaker requires little experience to operate and has the power to move the mud and remove the solids, making well drilling more productive. A unique dual-screen setup gives the performance of post tension screens at standard screen prices, plus the self-cleaning tank design streamlines the process by eliminating manual shoveling and stirring.

This year, Mudslayer Mfg. is focusing on versatility for their customers - encouraging them to use the equipment for more than one application, thereby getting the most out of their machine for the investment. Constructed for standard drilling and geothermal applications, the M350 limited-access unit is perfect for the job. It is track-mounted and driven by remote control for high mobility on jobsites. By sending the mud directly from the cones to a separate tank (for the cleanest mud possible), the M350 is also ideal for the smaller, more delicate pumps used in the horizontal directional and geotechnical drilling fields.

One example is Mudslayer customer and dear friend from Australia's HDD Trenchless Co., Mark Redfern. Everyday, he uses his M350 with a directional drill, piston pump, and 90-gallon-per-minute mud motor, with great success.

The M350 can also support 5x6 piston pumps and 3x4 centrifugal pumps with ease. It is a workhorse capable of more than one drilling application.



The M350's versatility is second to none. This unit belongs to the Pond Doctor in Louisiana, and is used to rehab ponds.

Look for the Mudslayer ad in the Mud Systems Section of the **WorldWide SUPER MART™!**



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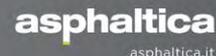
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- It is built to fit on the MidRotoSonic and the CompactRotoSonic XL-Max drills.

The company also has breakout clamps which can be mounted at the base of a drill mast for rapid, safe, and sure breaking of casing or rod connections. These heavy-duty clamps are equipped with oversized bearings, and grip bit inserts can be field exchanged within minutes.



For a link to this Web site, visit: worldwidedrillingresource.com



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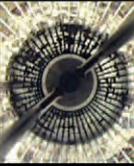
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Service After the Sale is Critical

Adapted from Information by Diedrich Drill

John Diedrich founded Diedrich Drill in 1973, as a machine shop in LaPorte, Indiana, supplying parts for the coal and mineral exploration industry. Quickly moving to the geotechnical drilling industry, the company started providing augers, drill rods, soil samplers, and associated tooling.

In 1983, Diedrich engineers worked with customers to design a superior quality drill rig which was easy to operate, maintain, and service - thus the D-50 was created. By 1989, the D-25, D-90, and D-120 drills were on the market, all designed with the customers' needs in mind.

One of the basic standards at Diedrich Drill has always been listening to clients. They know constant interaction with customers ensures production of innovative products of superior quality and design.

At Diedrich, they strive to make the most operator-friendly drills in the industry. To that end, they have been first with innovations to improve drill operator safety, productivity, and maintenance.



The company also understands one of the most critical aspects of success is after-sales service. This essential key element is made possible by their outstanding staff. Diedrich sales, service, and parts personnel have some of the most industry-specific experience in the market today. Diedrich products are sold to the United States, Canada, Mexico, South America, and Europe.

In their pursuit to manufacture the best, all-purpose drill rig on the market, the Diedrich Drill Team is tirelessly looking into ways to improve the operation and longevity of their drills and tooling.

Look for their ad on page 4.

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CELEBRATING SERVICE

Adapted from Information from
Reese Rig & Tool Company, LLC



Dick Reese has been in the oil field business since 1980, when he started working for a local distributor for Wilson Manufacturing. They sold rotary rigs, service rigs, and rig-related items, such as rig substructures, dog houses, and other items, in addition to selling high-quality, brand-name items used on the equipment. He soon shifted his expertise into oil field and water well supplies. That's when he started working with Bucyrus Erie (BE) drill rigs and Smeal pump hoists in the equipment division of the company.

Dick discovered his true passion was working in that type of business with the rigs and related equipment, in addition to helping customers with their needs one-on-one. It was a very exciting job, and he dealt with customers all across the U.S., as well some overseas. After approximately 20 years of working for the company, customers felt like family.

In the back of Dick's mind, he always wanted to do something on his own. His wife was very supportive, and had told him years ago, "Why don't you just sell the rigs and equipment for yourself?" In January of 2012, he decided to venture out and start his own company - **Reese Rig & Tool Co. LLC**. It's been over four years, and his company sells a variety of new items for cable tool rigs, such as pinions for the shafts on the BE rig, Twin Disc clutches for all makes of rigs, as well as distributing for Wire Rope Works, Inc. in Pennsylvania, a manufacturer of Bethlehem Wire Rope®, for all rigs.

Dick buys and sells all makes and models of cable tool drilling rigs and related used tooling, as well as rotary rigs. He also sells new Hunke/Smeal pump hoists, in addition to buying and selling used units of all makes and models. By working in the industry for over 30 years, he has learned the value of maintaining a good relationship with customers, and continues those relationships today.

He is very pleased with what he has accomplished in this short amount of time. As Dick puts it, "When I talk to some of my customers, it feels like I'm talking to family."

Dick says one of the questions he gets asked a lot is, "How late can I call if I have a question or problem?" His answer is simple, "You can call me 7 days a week until 11:00 p.m. Just make sure you call my cell phone and not the house phone. If the house phone rings at 11:00 p.m. and wakes my wife up, it just doesn't go over too well." With most places closing at 5:00 p.m. during the week, and being closed the entire weekend, customers really appreciate his willingness to go the extra mile to make sure he's available to help solve problems and answer questions.

"One day, I had a customer call me at 1:30 a.m. After a while, he asked me what time it was, and when I told him, he said



Bucyrus Erie 22W

'Oh, I'm so sorry for calling so late. I didn't think about the time change when I called.' and I said, that's okay, I was up just watching TV," Dick explained. "Even at that time of night, it's all about good customer service and helping people who need my help."

Look for his ad in the Cable Tool Rigs and Pump Hoists Sections of the **WorldWide SUPER MART™!**

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(Also available in motorized)

Standard Down View



90°

Fish Eye View



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Good morning Brenda!

We just wanted to let you know we received the **WWDOR** magazine and we are so happy with our ad! You all did a great job and it really stands out beautifully.

Thank you again!

Allison Ross
Director of Sales
RHR Products

BREAKING NEWS

Jet-Lube Relocates to New Headquarters

JET-LUBE®

Jet-Lube announced its relocation to a recently built, consolidated lubricant manufacturing facility located in Rockwall, Texas. The state-of-the-art manufacturing plant, research & development, and distribution center is strategically located for better customer experience, expertise, and efficiency.

The vast majority of specialty chemical products you have relied on for over 67 years will remain the same, and better. In fact, the company's production capacity will increase significantly, giving customers more of the products they need, faster. Under the CSW Industrials Subsidiaries umbrella, Jet-Lube has the opportunity to offer customers an even broader selection of products than ever before.

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WHO'S IN THE NEWS



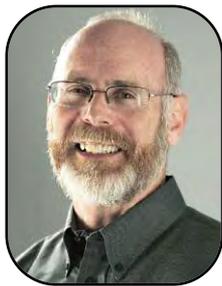
Water-Right, Inc. announced the hiring of Nathan Mianeki, who will serve as manager of the company's network of independent water treatment dealers, The Clear Choice Water Group.

"Nathan has an extensive background in consulting and supporting world-leading companies in the consumer goods and professional services markets," said Luke Java, Water-Right sales and marketing director.

Additional announcements from the **Canadian Ground Water Conference & Expo**, the **Association of Equipment Manufacturers**, and **NUMA** are online now.

Visit worldwidedrillingresource.info/Whos2.pdf

Send your Who's in the News to: promotions@worldwidedrillingresource.com



The Importance of Groundwater Monitoring and Recovery Wells Part 3

Submitted by **Wes McCall, P.G.**
Geoprobe® Environmental Geologist

The Proper Equipment for the Job

First and foremost, the project manager must understand the local geohydrology and contaminant distribution in the subsurface to properly design a monitoring well and groundwater monitoring system. Once the subsurface is understood, the proper equipment can be selected.

Direct push (DP) methods are often preferred for well installation in unconsolidated formations because of the efficiency of the method and quality of well construction. For many DP installations, prepacked screens are used to provide for accurate and efficient placement of filter media. Another significant advantage of DP well installation is, almost no waste cuttings are generated. This practically eliminates the handling and disposal of contaminated cuttings for many projects, a real cost savings and hazard reduction.

Monitoring wells are typically installed with hollow stem augers (HSA) or DP methods in unconsolidated formations and aquifers. In more challenging formations, such as glacial tills with cobbles and boulders, sonic drilling methods are commonly used to install wells. Rotary drilling methods are used in fractured rock formations for well installation.

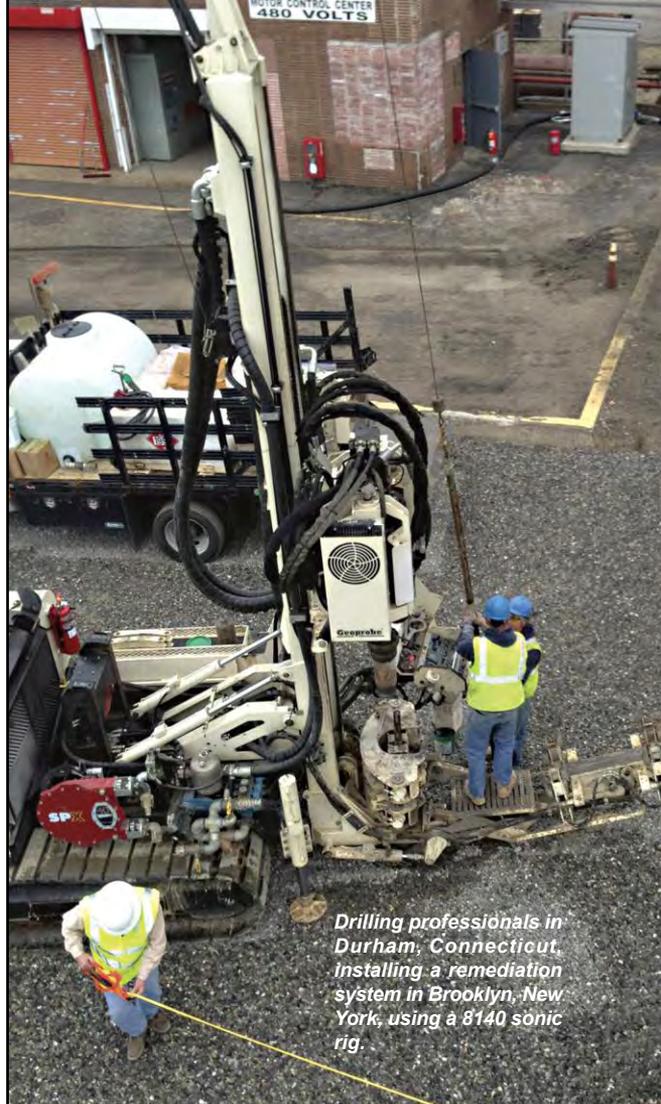
HSA methods may be needed in some settings and when larger diameter wells are necessary. Sonic methods are often required in difficult drilling settings such as dense tills or high energy stream deposits with lots of cobbles and boulders. Rotary drilling methods and rock coring are necessary for fractured rock formations.

Geoprobe Systems® manufactures direct push machines and sonic drilling equipment for the installation of monitoring or recovery wells. For most unconsolidated formations, the 78 Series machines (Geoprobe® 7822DT or 7800) can be used to install wells with DP casing or hollow stem augers. For those difficult drilling formations, Geoprobe® also builds a 32 Series combo machine, a mid-sized sonic machine, and full-sized sonic machines to help meet well installation requirements. These powerful sonic machines can be outfitted to meet drilling conditions and a full line of DP and sonic casing, tools, and equipment is ready for the project.

Having a drilling or direct push machine which is versatile and can apply either DP or HSA methods for well installation

provides advantages when working in unconsolidated formations. Of course, either augers or DP casing of appropriate diameter to install the well is required. Basic well construction materials includes PVC riser, well screens, sand, grout, grout pump, and well protection materials. Under many conditions, pre-packed screens may be used for well construction. Using prepacked well screens often reduces installation time and effort significantly, in addition to offering assurance that the filter pack is properly placed in the well.

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SOMETIMES It's NOT The Show...

When you head out to an event, especially an international one, you are eager to get there. Most times you are traveling by plane. Such was the case as *WWD*'s Marcel and Carol headed to the Canadian Ground Water Conference & Expo in Niagara Falls, Canada. It was such an exciting event for them personally as they had never been to Canada, let alone to one of the eight wonders of the world - Niagara Falls. But alas, flights were delayed from the get-go and continued the entire way there.

All the stress of their travel was washed away completely by the view from their room. Niagara Falls was roaring its way as it has done for centuries, lit up with various colored lights for a night view.

Once they arrived at the Scotiabank Convention Center, a short walk from their hotel, they met the smiling faces of Anne Gammage and Alicia Kalondi-MacMillan. Once set up, it was off to the luncheon and National Team Meeting with Dr. Alfonso Rivera of the Natural Resources, Canada.

They discovered they were sitting with two past OGWA (Ontario Ground Water Association) presidents! John B. Wilson and Clarke Watson, along with their wives Doreen and Donna, were interesting lunch partners. John and Clarke, along with their sons Matt and Bryan, discussed current drilling projects and shared troubleshooting information, as well as good commonsense solutions. Experienced drilling professionals certainly have more than just years in the business, they have a wealth of knowledge to pass along to the next generation and other people responsible for planning drilling projects. THIS IS TRULY WHAT CONFERENCES ARE MEANT FOR.

A short period in between events, allowed them time to get up close and personal with the Falls! One could feel their excitement as they told us about it.

Quickly, and before they knew it, it was time to head back to the hotel for the ribbon-cutting ceremony. Arriving at the convention center for the ceremony, mingling with attendees in little groups with smiles and lively chatter was their focus as everyone greeted old friends and fellow exhibitors. The evening proceeded with networking, a light reception with refreshments, and live entertainment. A day of exhibits and seminars was the order of the next day, where much was learned in the classes as well as on the exhibit floor.



Canadian Ground Water cont'd on page 22.

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Dear all,

We received with great surprise the photo you took of us at bauma 2016. We thank you very much for such a nice present.

Kind regards,
Carlos Wagenseil
TECOP, S.A.
Cerceda-Madrid, Spain

Dear Marcel good morning,

How are you? I just received your really nice pic [from bauma 2016] by post. Wow, that was so kind of you ;-). Thanks, and my warmest regards to your wife and Ronnie as well.

Have a great weekend,
Nuvia Marti
Alarcon & Harris
Madrid, Spain



Are You Learning, or Stuck in Knowing?

by *Tim Connor*

Know a "know-it-all"? There is a difference between knowing and learning. The problem is, most people feel they know something and then act according to what they believe is truth.

Let me give you a quick example. For centuries, people believed (knew from what they had heard) the world was flat, and they let this knowing impact their beliefs and attitudes. When we discovered otherwise, did everyone change their view, or remain stuck in their knowing it was not true? I don't know, I wasn't there, but I do know truth is truth and regardless our denial or being unaware of it, doesn't change the facts.

Years ago, scientists believed the atom was the smallest particle and - guess what - with time this was proven untrue. I could go on, but over time, several subsequent discoveries of the smallest particles proved to still not be true. Did everyone embrace the new truths as they emerged? Some yes and some no. Why? Well, without personal experience or evidence, all we have is what other people tell us, but how do we know what they know is the truth? We don't - so we have a choice to believe or question.

Flip a switch in your kitchen and the lights come on. Truth? Can you see the source or cause? No, but you accept what you see as truth - your personal evidence.

I could give you thousands of examples to prove there is more to life than we say we know, but the question remains: Do we let our perceived knowing get in the way of our continued learning?

Learning is more than exposure to new information. It involves a willingness to let go of previous opinions, judgments, and mindsets. Reading a book or attending a seminar is no guarantee you will really learn anything. Yes, you receive new information, but generally speaking, people resist what is not consistent with their current beliefs, values, or knowledge. (By the way, the retention of a new idea, concept, approach, philosophy, etc. is less than 3% after two weeks. Just thought I would throw it in for organizations who hire speakers/trainers to do an all-day seminar and expect behavior or attitudes to change permanently or even at all.)

As a trainer, I have observed thousands of people in my audiences take notes, listen, participate, and then change nothing. Not being critical here, just sharing what I believe is a common challenge to learning. The challenge is, being willing to accept what you have believed, no matter how vested you are in it, is no longer true, valid, or appropriate for how you live your life.

Let me ask you - have you changed any opinion about anything in the past five years? In other words, something you believed in the past is no longer relevant or appropriate for how you work, play, or just live? If your answer is no, you are in denial. We all learn - whether we are actively searching for new knowledge or not. Life often forces us to learn regardless of whether we are ready or open to new ideas. Life is a teacher and it teaches us using failure, problems, adversity, obstacles, disappointment, uncertainty, and yes, change.

We always have a choice. We can learn what life is trying to teach us and actively search for new knowledge, or we can resist life's lessons as they show up. I guarantee if you don't learn when you have the option, sooner or later a similar lesson or opportunity to learn will appear. For example, if you have never learned the lesson of disappointment I will guarantee something or someone will continue to disappoint you until you finally get it. We all face disappointment in life and we can learn to accept and manage it, or continue to live with frustration, anxiety, and fear due to life's disappointing circumstances.

Let me close with a simple concept - you are either an active life learner continually searching for new knowledge/wisdom and willing to embrace the new and let go of the old, or you are stuck blaming, whining, complaining because life isn't fair or good, or it doesn't behave according to your agendas, expectations, or schedule.

Welcome to "Life 101" folks - learn or stay stuck in your knowing or what you believe or think is true.

In His service,

Tim

To receive Tim's weekly FREE motivational booster articles, contact him at www.timconnor.com with "please add me to your free booster e-mail subscriber list" in the subject line. Or contact him via e-mail to michele@worldwidedrillingresource.com

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Adapted from Information by Drill Pipe, Inc.



After being in the industry his entire life, Tom Ronnkvist took his extensive knowledge and ideas to the shop floor and founded Drill Pipe, Inc. (DPI) in 2011. The company has grown considerably in the past five years, even with the challenging economy.

Manufacturing drill pipe is generational at DPI. The first generation leader, Ake E. Ronnkvist was awarded the National Ground Water Association *Technology Award* in 1988, for the introduction of the inertia-welded drill pipe to the water well, construction, and mining industries in the mid-1970s. Throughout the past 45 years, the Ronnkvist Family has founded several drilling tool manufacturing companies.

After founding and operating his last start-up, concentrating heavily in the oil and gas industry, Tom decided to sell his business and open DPI, shifting his focus to drilling tools for the water, mining, environmental, geotechnical, construction, and HDD (horizontal directional drilling) markets.

Problem solving is another great asset the company possesses. When 33 miners were trapped in a mine in Chile in 2010, DPI Staff designed and manufactured the drill pipe used to rescue them.

Using the highest quality material, cutting-edge heat treatment technology, multiple welding processes, CNC (computer numerically controlled) machine centers, thread gauges, and computer-assisted design tools, ensures exceptional quality even for the toughest critics in the industry. Each step of the manufacturing process is closely monitored by the company's quality control personnel. DPI products are ex-ported to countries around the world, including Canada, Brazil, Peru, Columbia, Mexico, Australia, New Zealand, China, Japan, Thailand, India, and Russia.

DPI believes the ever-challenging economic situation can lead to advantages for those who remain focused and driven, and they are eager to prove it!



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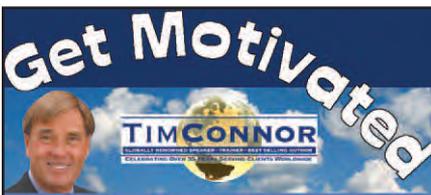
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Creating What is Needed

Adapted from Information
by MARL Technologies

Ron Innes founded MARL Technologies in 1977, based on his extensive experience as a geotechnical drilling contractor and business owner, when he saw the need for geotechnical drilling equipment to dramatically enhance reliability and production in the harsh environment of the high Arctic. No one made drills robust enough to perform well in temperatures far below the breaking point for most machinery. Extremely remote jobsites meant getting parts for repairs was difficult, if not impossible. This was the origin of MARL's philosophy that if troublesome and unnecessary components were removed, and those remaining were chosen or built with care, there would be fewer parts to break down, and fewer hazards for the operator.

A pioneer in the industry, Ron introduced dry auger drilling to western Canada in 1959. He always embraced the idea that investing in state-of-the-art equipment which outperforms the competition through superior technology and reliability, pays off. This philosophy remains the guiding principle at MARL. Faster hole completion times, less downtime due to drill failure, and good value for the client is the benchmark the company uses to measure its success. As a result, they have eliminated high-maintenance components such as deck engines, clutches, transmissions, Kellys, Kelly bearings, and right-angle drives. Owners appreciate the fact they never have to repair those old technology items, or worry a part will let them down on the job.



Early photo of Ron with the small heli-portable drill he designed for work in the high Arctic.



MARL M 10 auger drill.

Over the years, MARL's client base expanded from the geotechnical community to firms in other drilling industries, including water well, environmental, geothermal, cone penetration testing, construction, and mining. MARL became the North American dealer of the Fraste line of rotary drills to offer the depth of quality drills their clients were looking for. The company provides an alternative to those seeking a drill to make them stand out from their competition. While not as large as some of the better known brands, once a buyer discovers the value they get, not only from their MARL or Fraste drill, but from the after-sales support and service team, they are hooked. Nearly 100% of clients become repeat customers.

MARL's focus on technology has also allowed them to offer many safety features not found on other drills, such as the electronic safety curtain; as well as safety features like auto-stop rotation levers, emergency stop buttons both on the back of the drill and the truck cab, certified drill towers, and engineered hoisting/lifting bales, to name a few. As part of their drive to harness technology to make better drills, they developed a revolutionary patent-pending product called the eSPT, which in geotechnical applications automatically counts SPT (standard penetration test) hammer blows, and offers unprecedented data access to project managers, in real time, anywhere with Internet access. The eSPT allows drill operators to offer value-added information unlike anything the competition can provide. The MARL Team continues to build upon the foundation of innovation and excellence, and is very excited about feedback from clients on the new eSPT system.

Both the M-series auger drills and Fraste rotary rigs can be found worldwide. MARL's manufacturing facility is in Edmonton, Alberta, Canada; and the U.S. division is in Littleton, Colorado. Fraste drills are manufactured in Nogara, Italy.



Ron visiting the Fraste plant in Italy.

MARL Technologies plans to continue doing what they do best - design and build better, safer drills which provide clients with outstanding value.

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Exhibitors prepared for the OGWA Contractors Meeting and Annual General Meeting at 3:00 p.m. and 4:00 p.m. NOW, remember how this began? It was NOT all about the SHOW - oh no! This conference had a point to it - sustainability! Actually, it could have been "How NOT to kill a GOOD ASSOCIATION". You see, this was, and continues to be an effort to bring all of the Canadian Water Well Drilling Professional Contractors back together. As some may remember, this type of event was touted as THE EVENT held every two years and rotated across the Canadian countryside - from province to province - and was enjoyed by all who attended.

The meeting began, as Marcel and Carol told us, with a standard format of minutes to be read, motions to approve, etc. There were two directors who wished to remain and two new members also wanted to join (things were looking up).

Then came a discussion of the convention and golf tournament:

As with many association events we cover, the concern was turnout along with the size of the trade show. **Discussion ensued:** How to motivate members to attend? Members working in isolation rather than reaching out to others. Perhaps it is the competitive nature; but collective reasoning to solve problems is always good.

Maybe a letter to those members, along with a survey to see what members want? Perhaps a change of time of year and change to lower priced accommodations to hold the event and those attending and exhibiting? Remind them how much money they are saving due to the activities of the association - these savings should allow them to come to the convention. [But do they know what the association is doing for them?] Savings in insurance also, from being members, but not returning the favor? Create a women's division - they get things moving! When they want to come, it happens! [This was addressed in a previous series in *WorldWide Drilling Resource*® - "How to Kill a Good Association" - it proved that women like to come to conventions and visit with old friends and make new ones each year.] Need cooperation from the provincial governments?

So here were some answers: Regarding Pricing - Identified as an issue by informal vote. But, show members value - what they get for their money - people want to see this, realize this. Time of year? Suggestions - Question - How many had to take time off to come? Idea posed: Cut off - Load Limit Time - before middle of May?

There was disagreement to this: Doesn't matter - people will find excuses if they are not a strong association member. Maybe in the fall? There is always work to do! **FACT: For the past 20 years, every month has been used except the fall.** Company size may be a factor also - small companies may not be able to spare workers. Maybe a day shorter for the convention - cut length? No problem with regional meeting attendance because they are mandatory and provide Continuing Education (CE) credits, which they must have. Maybe make attendance mandatory for convention? Make attendance a goal - the trade show will grow if more attend - People must lose something (and realize that) if they don't go.

The thought about running a CE course during trade show - but didn't have approval except for the disinfecting course. Maybe have two CE courses so members would be more motivated to come? Regional meetings are larger than conventions because people have to be there!

Idea: Upping membership dues by \$1000 and if you attend convention, you get a credit? To renew license? Some don't join because they say they don't get anything out of it. Idea: Tier membership? Maybe: 3 = residential, 2 = industry members, 1 = full membership. Maybe this would attract more than just contractors?



No the police were not called to settle the discussion - this was a training exercise.

Maybe a coordination with the septic/wastewater businesses? Could be a unified trade show - there have been meetings to discuss this including issues that overlap both industries. Each affects the other - members thought it was an excellent idea for broadening the show. Water In - Water Treatment - Water Out.

Hit the government on issues from both sides. New concepts in septic systems (setbacks) are an issue. Bigger crowd = BIGGER VOICE!

Historically, the organization was just drilling contractors, then pump installers, then scientists, always branching out to coordinate.

It was determined the association directors would continue fact-finding to put the puzzle together . . .

The changes in membership this past year were also brought up.

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Thoughts on Complexity and Reliability

by Britt Storkson
Owner, P2FlowLLC

As a computer controls developer, I am constantly amazed (and often dismayed) at the complex, very costly computer control systems I am asked to evaluate from time to time. Often, these are one-of-a-kind creations whose functions exist solely in the minds of the programmers/developers. If they retire, move away, or otherwise expire, the owner must scrap the entire system and start over again - at great expense - even if the problem is nothing more than a blown fuse.

One of the things which motivated me to learn how to develop computer controls was rebellion. I rebelled against the status quo of using a complex, difficult computer to do simple tasks. Sure, the computer has its place, but using a complex machine to do a simple task presents and exacerbates all sorts of problems. User confusion goes up while durability, reliability, and repeatability goes down. And the trending is exponential, not linear. Twice the complexity results in at least four times the confusion.

Perhaps the following quotes explain some of this:

"Increasingly, people seem to misinterpret complexity as sophistication, which is baffling - the incomprehensible should cause suspicion rather than admiration. Possibly this trend results from a mistaken belief that using a somewhat mysterious device confers an aura of power on the user." ~ Niklaus Wirth

"Simplicity is hard to build, easy to use, and hard to charge for. Complexity is easy to build, hard to use, and easy to charge for." ~ Chris Sacca

One day, I was called to check out a water pump that wasn't working right. The system was more than just a simple pressure switch as it had a few more things attached to it, but it wasn't super complex. I asked the maintenance people how the system worked when it was working right. They didn't know. They called the architect who was responsible for coordinating the various mechanical and electrical systems when the building was built. They didn't know either. How was I going to make

the system work right when I did not know how it was when it was working right? That's when I decided to build water pump control systems to serve a specific function. For example, if a customer needed a one-pump on-off pump function with time delays for stability, that's all they would get. It's also all they needed to know.

Likewise, if the customer needed a two-pump alternating control, meaning when the pump turned on, pump 1 would come on. When it turned on again, pump 2 would come on, and so on. That's all they would get. It's also all the customer needed to learn. The control unit contained nothing more to confuse the customer.

If we can use two wires to detect whether a fluid level is above or below a certain point, why not do it? If it's durable, reliable, and does what we need it to do, why go any further?

Britt

Britt Storkson may be contacted via e-mail to michele@worldwidedrillingresource.com

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Donnald and Simon (far left & far right) from Nordic Drill / Puitbec Group of Québec, were pleased to stand with John and Kevin of Insitu Contractors, Inc. of Ontario, who purchased a Nordic Drill DRC-10-A.

Drilling Engineers in Fort Collins, CO, designed a barge specifically for their Geoprobe® 7822DT to complete a pre-feasibility study on Erie Lake Reservoir in Erie, CO, to examine the potential for the construction of a new dam. The geotechnical investigation will also help determine if future expansion of the reservoir is feasible.

According to Rick Rogers, Owner of Drilling Engineers, "The 7822DT and barge setup worked beyond our expectations."

The purpose of the study was to obtain samples of soils and bedrock inside the existing footprint of the reservoir to evaluate whether the material was suitable for building a new dam. "Core rods were used as spud bars to hold the barge in place while we drilled," Rick explained. "We used our 7822DT and advanced 3.25-in. ID hollow stem augers to approximately 30- to 40-feet in depth or 10 feet into the underlying claystone bedrock." Soil samples were obtained with split spoon and other samplers.

Drilling Engineers designed the barge so it could be transported with their equipment carrier. They can unload, assemble, and load the drill in one day. The barge is equipped with a five-horsepower engine.

"Because of its small size and light weight, we can complete multiple projects that could not be accessed with a truck-mounted rig," Rick added. As well as the geotechnical barge drilling project, Rick said they hope to complete river/estuary sediment sampling with the 7822DT/barge combo for environmental investigations in the coming year.



A total of three holes were drilled to approximately 40-50 feet below the water surface into underlying bedrock to collect soil and bedrock samples. Drilling Engineers used 3.25-in. hollow stem augers with their 7822DT on a barge built for the project on Erie Lake Reservoir in Erie, CO.

Geoprobe®

"Drilling Engineers purchased our 7822DT in 2009, and we've found it to be versatile in its design for both environmental and geotechnical drilling projects. Because of its small size and light weight, we can complete projects that can't be accessed with truck-mounted rigs."Rick Rogers, Owner, Drilling Engineers, Fort Collins, CO

7822_{DT} Fits Drilling Engineers' Needs



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A Dual Winch Kit for the 7822DT machine consists of a primary winch with 2,600 lbf of pull with 8 mm wire rope and a secondary winch with 1,100 lbf pull with 5 mm wire rope.

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The secondary winch is designed with a Geoprobe® Exclusive Quick Change Hook and Overshot Clevis ... a quick and simple method of attaching accessories to the wire rope.

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A Geoprobe® Quick Change Hook and Overshot Clevis Assembly adds to the multipurpose function of the dual winch kit now available for the Geoprobe® 7822DT. If you're setting up for rock coring, you'll immediately see the benefits of a secondary winch dedicated to wireline work. Check out our website to find out other reasons why the 7822DT is the most popular direct push machine in the world!

geoprobe.com/7822dt





Camp on a Mountain, Part 1

by Art Beatty
Antofagasta,
Chile

I would like to tell a story this time about a place we worked one summer which was up in a wilderness area. It was really an experience, even for someone like me who worked in many small towns and in the high country.

When we left the last little town, we were on a road the map showed would lead to our destination, which was a camp. There was a large billboard sign warning we were entering a wilderness area and it advised to proceed with a guide, but we went on. The road was very narrow for the rig to go over, so the travel was slow. We would go up one summit, then down, then up again. It took the better part of the day to get to this camp from where we spent the night.

My father-in-law was my helper and I had my wife with me, who was a little bit pregnant at the time. We were warned to get out of there early because even after just the first snow, we may not be able to get back to town until spring.

The elevation of the camp was where the spruce trees were fading and the aspens were taking over. The camp was a two-story building made of planks instead of logs, but it was still windproof. Upstairs was the workers' bunkhouse, with the stairwell outside the building. The bottom floor was another two bedrooms, large kitchen, and a pantry area, with a huge cookstove. I had seen many wood-burning stoves, but nothing compared to this monster. It had a large woodbox, so you could bank a fire at night and still have hot coals in the morning.

The freshwater was as cold as ice and came from a spring way up high on the side of a mountain. It was an artesian well, and they had it covered, which kept the rats and bugs out of it. The water ran all the time. It first went upstairs, then as it came down, it had more pressure going to a T to let the air out, then it kept flowing into a natural drainage area. The giant cookstove also warmed the water for the house, but was unpredictable on the heat, so sometimes the water would be too hot to touch, and other times would be almost cool.

The purpose of our trip to the camp was preliminary drilling, looking for gold. Sometimes when the rig wasn't running, we

could hear the horns clashing from mountain goats fighting. There were also mountain lions, bear, and deer, but we didn't have any trouble from them. Unfortunately, there was not enough evidence of gold for the people I was working for, but the camp was well worth the trip. I don't have adequate words to say how beautiful the site was. There was an abundance of colors; and the quiet up there was fantastic. We really enjoyed the months we were there. I'll tell more about it in the next issue.

Art

Art Beatty may be contacted
via e-mail to michele@worldwidedrillingresource.com





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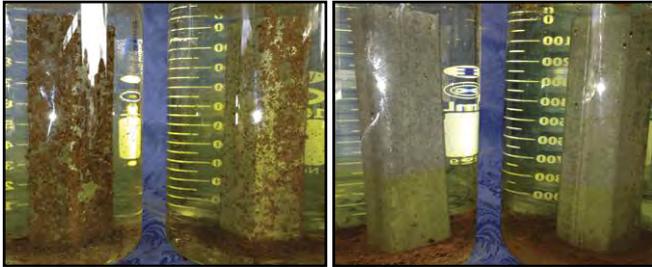
Solutions to Water

Adapted from Information Provided by HCT, LLC

HCT is based in Scottsdale, Arizona, with manufacturing facilities in California, Texas, Florida, Maryland, Michigan, and Toronto, Canada.

The company developed Well-Klean® and WaterSolv, chemical solutions which are making a substantial difference in both the cleaning efficiency of water wells and converting minerals in hard and brackish water to nutrients in the agriculture, horticulture, and turf industries. In water wells, HCT's solutions are also shown to improve the efficiency of acids and biocides, without corrosion, where in the grow industry HCT's solutions render mineral salts soluble, ionic, and stable to an available nutrient for plant uptake.

HCT's products are founded on solubilization chemistry as opposed to dispersion chemistry; solubility reactions similar to how the body produces chemistry to prevent scale and crystal formation in the digestive tract.



The first image shows a rust sample before treatment, the second image shows the sample after treatment.

With these products, working through drilling and pump companies, HCT has helped rehabilitate and restore over 300 water wells plagued by scale and/or biomatter with a miraculous success rate. Their salt remediation chemistry for water, drip lines and soil for agriculture and horticulture now treat over 50,000 acres resulting in increased plant growth volume, rate and duration, and hydration with 12% less water, simply by chemically stabilizing cations. Most of HCT's product use has been throughout the western United States.

HCT's chemistry is certified under the National Sanitation Foundation NSF/ANSI Standard 60, accredited by ASTM and the Standards Council of Canada. HCT's agricultural labels are registered with the California Department of Food and Agriculture.

HCT has recently expanded into the car wash industry after two years of field trials, increasing the usability of reclaimed wash water fivefold by chemical addition.



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Drilling Into Money Not Boring

by Mark E. Battersby

Self-Insurance: 101

As the economy slowly improves, insurers have begun raising business insurance premiums while reducing available insurance coverage. One increasingly popular option is a "self-insurance" program or insuring the operation's own risks.

If self-insurance is right for your business, the potential benefits can include:

- ▼ Lower insurance premiums
- ▼ Better insurance coverage
- ▼ More reliable insurance
- ▼ A safer workplace
- ▼ An improved bottom line

By self-insuring, a drilling business, distributor, manufacturer, or supplier becomes its own insurer for either a certain level of risk or certain types of risk. Obviously, some risks cannot be self-insured without being approved by state regulators.

Workers' compensation can, for example, be self-insured, but must meet certain guidelines and usually requires approval. Mandatory auto liability insurance can be self-insured only by meeting state requirements.

For many drilling operations however, self-insurance makes great sense. After all, why pay an insurer when you can pay yourself? Plus, in most instances the business is not insuring the entire risk. Instead, it is self-insuring only a portion of the risk.

Self-Insurance can also help a drilling operation obtain insurance coverage which would not otherwise be available. Since a self-insurer pays its own claims, policies can be tailored to an operation's specific needs with less impact from the inevitable changes in the traditional insurance market.

A "captive" is an insurance company which insures the risks of its owner, affiliated businesses, or a group of businesses. Although captives were initially used only by large multinationals, the concept has caught on, and today captives are found in a wide variety of businesses.

U.S. tax laws recognize insurance companies receiving premium dollars upfront, may not pay out claims (associated with those premiums) for many years. Therefore, the tax laws allow insurance companies more generous current deductions.

While some tax advantages result with a properly planned captive, achieving such advantages should not be a key goal for any drilling contractor. Self-insurance is by no means appropriate for every business and a feasibility study and/or professional assistance should play a significant role in determining the suitability of self-insurance.

Self-insurance can lead to significant savings for some drilling businesses. While recent Internal Revenue Service rulings have made captive insurance arrangements somewhat more complex, some states now allow individual businesses and groups to band together to obtain difficult to purchase types coverage. Overall, however, the associated benefits of self-insurance and captive insurance companies continue to outweigh their negative aspects.

Mark

Mark E. Battersby may be contacted via e-mail to michele@worldwidedrillingresource.com



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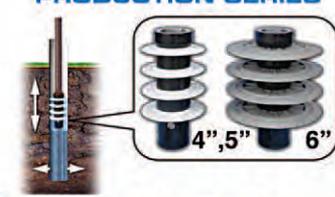


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Drilling Commences at Idaho Geothermal Project

Adapted from Information by U.S. Geothermal, Inc.

U.S. Geothermal, Inc. has started drilling a second leg to its existing production well, RRG-2, at the Raft River project in southeast Idaho. It will be drilled out of the existing wellbore at approximately 3500 feet below surface, to a planned final depth of approximately 5600 feet, and is expected to cross the main production zone between the original leg of Well RRG-2 and production well RRG-1. Once drilling is complete, the well will be tested and a new pump will be designed, manufactured, and installed based on the new production characteristics. The total project is expected to cost \$3 million, and the well is expected to be placed back into production during the third quarter of this year.

The Raft River Geothermal Power Plant is located about 200 miles southeast of Boise, at the site of a former U.S. Department of Energy geothermal installation. Although it has a design capacity of 13 net annual average megawatts, the project is currently operating at annual average of approximately 9.4 megawatts. Reservoir modeling indicates the geothermal reservoir can support the full 13-megawatt contract. Further production from the additional drilling could potentially increase plant output to its full contract limit.

"Drilling of this well, which had been planned for many years, is expected to considerably improve the profitability and cash flow from our Raft River project," said Dennis Gilles, CEO of U.S. Geothermal, Inc. "The acquisition from Goldman Sachs this past December unlocked the ability to consider capital upgrades like this one that should increase output from the facility and potentially reach its design capacity of 13 megawatts."



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The California Groundwater Association will hold its 68th Convention & Trade Show at the Peppermill Resort Hotel in Reno, Nevada, October 20-22, 2016.

The event starts with a golf tournament on Thursday morning. Several seminars are offered beginning at 1:00 p.m. Topics include discussion on the effects of speed on pumps and motors, and water treatment. A meet and greet with exhibitors is at 5:30 p.m., followed by dinner and game night.

Friday, the exhibit hall of product displays is open from 8:30 a.m. to 4:00 p.m. Meetings begin at 4:15 p.m., then the banquet and auction commence at 7:15 p.m.

The schedule for Saturday includes the McElhiney Lecture, general membership meeting, several seminars, craft beer testing, and a blackjack tournament.

Go to www.groundh2o.org for more details.

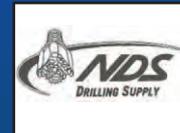
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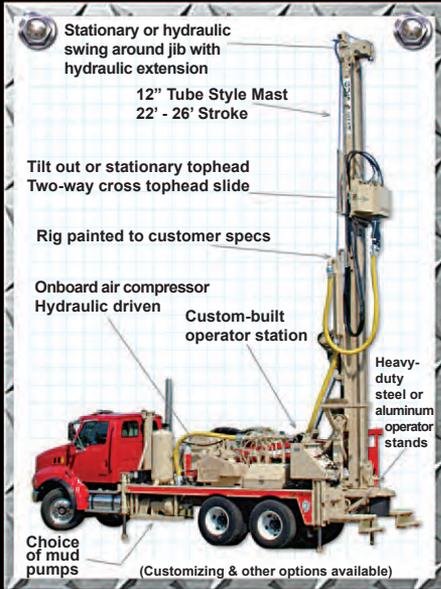
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Centralia Fundraiser and Cleanup

Adapted from Information Provided by centralia.org

On September 24 of this year Centralia, Pennsylvania, will host a cleanup day in the town. Organized by Bobby Hughes of the Eastern Pennsylvania Coalition of Abandon Mine Reclamation (EPCAMR) and Joe Sapienza II, the effort to remove illegally dumped trash will begin at 9 a.m. Volunteers and donations are needed to make the cleanup happen.



Highway leading into Centralia.
 Photo courtesy of Doug Kerr.

Each year, visitors to the town neglect to dispose of their trash. While each individual occurrence sounds insignificant, every piece of litter gradually adds up to tons of garbage being dumped in the area, which was abandoned after a mine fire began in 1962, and continues to burn to this day.

The EPCAMR is initiating the effort.

Past cleanup events in Centralia have helped rid the town of old tires, household goods, furniture, plastics, bottles, cans, glass, vacuum cleaners, baby diapers, carpets, refrigerators, sinks, toilets, and other unwanted junk. Signs prohibiting the dumping of trash have been posted, but to no avail - which is why public support is so important.

Spanning the last two years, EPCAMR has built a coalition of partners which includes: several of the remaining local residents; Tom Hynoski, Centralia's fire chief; regional college students; local high school students from North Schuylkill; girl scouts from Mount Carmel; the Aristes Fire Company; former Centralia residents; and volunteers who share a passion for cleaning up the borough of Centralia.

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Photo of star trails above the Hobby-Eberly Telescope by Ethan Tweedie Photography, courtesy of The University of Texas at Austin.

Star Light, Star Bright

Compiled by *WorldWide Drilling Resource*®

Since its establishment in 1932, atop Mt. Locke in west Texas, the McDonald Observatory has had a history full of discoveries. Surrounded by some of the darkest skies in North America, the observatory is home to the largest telescope on the continent, the Hobby-Eberly.

The secluded spot attracts nearly 75,000 stargazers annually, along with professionals who have made astonishing discoveries, including the most massive black hole ever detected.

With the observatory's relatively close proximity to Texas oilfields, a growing concern has been emerging in the Permian Basin. As oilfields expanded, so did the amount of reflected light, or "light pollution" in this protected night sky region.

Astronomers have found allies in protecting the dark from none other than the petroleum industry. The Texas Tribune reported companies and industry groups have been partnering with the observatory to educate operators, drilling professionals, and other service providers on reducing the glow, and possibly cutting energy costs at the same time.

A major leader in the oil industry's efforts has been Pioneer Energy Services. Stacy Locke, the company's president and CEO also happens to be a huge supporter of protecting starry nights in Texas. When he was approached by Bill Wren, a spokesman for the observatory, Locke began working with Pioneer to curb the lighting problem. He said operators "like to do the right thing."

Working together, Locke and Wren implemented new lighting on Pioneer's newest drill rigs to make them "dark sky compliant". The two also published a study together in hopes of leading the industry to best practices concerning lighting.

The fixes are actually quite simple. Lights on well pads and drill rigs are pointed down. Bright lights have been exchanged for warmer-colored bulbs and LEDs with shields. As an added bonus, workers' eyes are protected from harsh glares. Advocates say these changes are making jobsites safer.

Major oil and gas producers are committed to safety, cost efficiency, and environmental protection. Vigilant and innovative use of lighting can improve all three aspects. Lighting nighttime operations in a way that increases visibility and reduces glare is a win-win opportunity for the industry and stargazers.

[through Facebook]

Hey guys, we just got your August issue and appreciate the info very much! Cheers!

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Quality, Innovation, and Selection Come Together

Adapted from Information from Merrill Manufacturing



After leaving a company which would not consider quality improvements, innovator Noel Merrill Anderson started from scratch in his one-car garage at his home in Clive, Iowa. In 1949, he founded Merrill Manufacturing Company, and his first product was the Any Flow® yard hydrant, which is still one of the highest quality yard hydrants available today.

In 1957, Merrill relocated to a facility in Storm Lake, Iowa. Noel continued his inventions, designing and engineering pitless units which were introduced in 1959. The units were created to be used with submersible pumps to eliminate the need for a pump house or well pit. The manufacturing plant expanded again, and he invented the tank float, which was the front-runner of the contained air tanks widely used today.

Noel's son Stephen went to work in the family business in 1976, after gaining an engineering degree plus experience with an engineering firm. He became company president in 1981. To better serve customers and grow into a one-source supplier, Merrill added several hundred water well accessories to complement their manufactured items. Under Stephen's leadership, the company moved forward at a rapid pace. Like his father, Stephen designed and engineered many company products. The company currently holds 24 patents, with others pending.

The next enlargement came in 1997, with an additional 36,000-square-foot facility coming online. The office also expanded in 2012. Customer service is of the utmost priority to the company. Each team member is well-trained, efficient, and dedicated to clients whether it's in-house sales, assisting distributors, or showcasing Merrill products at over 100 events each year in the U.S. and Canada.

Merrill Manufacturing has always been a developer of improved or unique products to provide water well and other drilling industries better options which are more reliable and easier to install. Merrill is well-known for their tank tees, splice kits, and insert fittings for poly pipe. They believe several options are necessary for the changing needs and different areas around the country, and around the world. Products are marketed

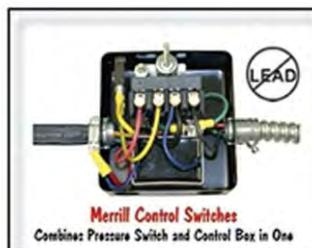


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Merrill Control Switches
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across North America and most of the European countries, including Russia and parts of what was once the Soviet Bloc.

The company maintains membership in the Water Systems Council, National Ground Water Association, Water Well Trust, and numerous state water well associations. Stephen also serves on various advisory boards and committees. To assist customers with the Federal Reduction of Lead in Drinking Water Act compliance, Merrill added over 3000 no-lead products to their offering. This ensured many options were available for potable water applications.

Innovating yet again, Merrill recently introduced the Multi-Size Wire Connector along with another new improvement for the industry, the Control Switch, which combines a control box and pressure switch. The product line is in process to be expanded for additional applications.

Merrill Manufacturing Company strives to be the best supplier in the water well industry by offering a wide variety of products, and anticipating demand by creating innovative solutions.

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However, if the job is on main street, the rubber tires will not damage most paved surfaces. A front axle disconnect allows you to shift from 4-wheel to 2-wheel drive to prevent axle wind-up when driving on hard pavement.

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Blue Demon's Replaceable Blade Systems

*Adapted from Information
by Blue Demon Company, Inc.*

Blue Demon Company was started in 1948 by Herb Hawthorne as the Hawthorne Bit Company.

It was the first company to develop a replaceable drag bit for use in water wells, shallow oil and gas wells, and construction holes with a mud rotary drill rig. The company was awarded a patent for it in 1948.

In 1960, the company was sold to Hughes Tool Company where it remained a part of this company until 1987, when it was sold to Sandvik Rock Tools.

In 1992, former employees of Hughes Tool purchased the company back and decided to make the product name the company name - Blue Demon.

The production facility was moved to Sedalia, Missouri, where it continues to produce the original replaceable blade bits, BD drill heads, as well as directional pilot bits and replaceable back reamer bits. The company supplies numerous OEMs (original equipment manufacturers), and distributors.

The company offers replaceable blades and rotary drag bits for water well, quarry, seismic, shallow oil and gas, and construction applications, as well as auger bits for vertical and horizontal drilling, and directional pilot bits and reamers for horizontal boring. Blue Demon products are shipped around the world.

In addition to its own product line, the company also produces carbide parts for a number of manufacturers in allied businesses.

The company plans to expand the plant to accommodate the addition of new products for both the vertical and directional drilling product lines.



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Environmental Monitoring

by Thomas Kwader, Ph.D., P.G.



The Importance of Surface Casing

The purpose of surface casing is to hold the unconsolidated materials from collapsing into the hole around the drill rod while advancing the borehole. You don't want your borehole to keep "growing" while you are drilling into a funnel-shaped hole, which can eventually upset your drill rig.

There is another reason why all types of drill rigs should use a surface casing. If you are drilling with fluids (water, drilling mud, etc.) and you encounter a void (crack, crevasse, cavern) you could lose all your fluid and loose sands down the borehole into the highly permeable zone. If this void begins to "mine" out large amounts of material from beneath the drilling rig, there is a good chance the rig will sink into the new hole growing under it.

If the cavity or void is relatively close to land surface, the surface depression will likely be "small" and cause little damage. Depending upon the type of strata near the surface, i.e., clays, cemented sandstones, etc., and their thickness and depth, the void could "grow" to a void larger than the drilling rig itself, and the damage could be catastrophic. I personally know of three rigs lost to an unretrievable depth, and four drill operators who lost their lives when the collapse was sudden and deep.

If surface casing would have been set into a competent rock or dense clay lay or the circulation of drilling mud and cuttings would have been maintained, it is likely little or no damage would have occurred.

The depth, diameter, and number of the surface casings depend on where the lost circulation zone is located, how many zones may be present, and the anticipated depth of the completed well. If a lost circulation zone is believed to be at 10 feet and 50 feet below land surface and the final well diameter is intended to be 4 inches, the first casing should be a 12-inch casing and seated into the competent layer below 10 feet; and the second surface casing set below 50 feet into a low-permeability zone. The next boring will be about a 7½-inch bit to set the final 4-inch casing inside the 8-inch casing with grout.

Surface casings are a wise investment in areas where lost circulation zones exist.

Tom

Tom Kwader may be contacted via e-mail to michele@worldwidedrillingresource.com

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Our Tribute to an Angel, in the Loss of a True Friend . . .

by Veronica I. "Ronnie" Jones, Managing Publisher

It seems more and more, I have to come to you with sadness in my heart. That is not what I really want to do and that is NOT what I will do for my dear true friend, Nelda. All one has to do is glance at these photos to know she loved life, she loved work, and she loved her family most of all.

One should never be sad when such a person leaves us, but rather happy we had them for a while in our lives to share excitement with; the birth of a grandchild, the birth of a company, the moments we have with our spouses or friends. Those are the things we must always keep in our hearts, for those are the things that make life worthwhile and which can never be taken away from us.

As the days go by, some say the pain of not being able to speak with our loved ones who are not right next to us is a terrible way to live. I say, go ahead and speak with them, for they are only an earshot away. Remember, unspoken words are sometimes the best words - for when we speak to our loved ones not here on earth anymore, they hear us, we just cannot hear their replies. So let's all take a moment and smile for our dear friend Nelda, who suffers no longer the heartache of not having Waymon next to her any longer down here, for God knows, she has him next to her in heaven. That's where all angels go!

This top photo was taken several years ago, with Nelda's daughter, Andrea, Nelda, Hunter, Kylee, and son-in-law Danny during the South Atlantic Well Drillers Jubilee in Myrtle Beach. I can still remember the tremble in her voice that day as she (patiently?) waited for them to arrive for this photo to be taken. She truly loved this family more than life itself.



The love of her life we all know was Waymon, her husband of 34 years, pictured here to the left at a Pacific Northwest event out in Portland, Oregon, many years ago.

I first met Nelda while working with Doc Faison in the late 90s at his second magazine. She, at the time was employed by King Oil Tools and was learning the ropes from the ground up. She was eager to learn for sure and didn't falter when asked to attend an event to show the ware of the company. Oh how she loved that job - but really to her it was NOT a job - it was fun.

Of course time does not stand still and things change, so with the changes made at King Oil Tools, Nelda moved on to continue her career in the specialty drilling tools made by Western Rubber & Mfg. She was a valued asset to the company for she knew all about the swivels, rubber rings, etc., that go into making the job work in the oil field, as well as the

water well drilling industry. So off she went again to many shows. It took a while for people to understand she wasn't with King Oil Tools anymore, but they knew and trusted her and soon many of her customers followed her. This company was close to home and made it easier for her to be with her love Waymon, as well as her daughter and grandchildren. She was so happy about that.

She became a stockholder in this magazine at its inception, not blinking an eye when asked by Doc if she wanted to be a part of it. She knew from the get-go, the drive and determination in the eyes of the founders was enough for her to know, this magazine wasn't just a whim, as some thought and prayed it wouldn't last six months. Not Nelda, she always believed in it and looked for those red jackets at every event.

She even took a trip with me to CHINA! Yes, we went to Shanghai for a bauma event many years ago. That was a true trip for sure. We had many laughs as always, but that was a special adventure for both of us. No, we don't speak the language, but oh well, that's the way we roll at *WDR*. She had a great time.

As I sit here looking at this last photo I chose, her vibrant smile looking back at me, I too shed many tears, for there are not many times when such an angel and friend comes into your life and spreads a little joy your way. That was Nelda for sure, always there, always wanting to help any way she could, even if it was just a word of encouragement, which we all need from time to time.

So with this I say, talk to you later Nel . . .



LEST WE FORGET . . .

Celebrating Nearly 60 Years of Bit Development

Adapted from Information by Palmer Bit Company

It was 1957; Elvis Presley and Buddy Holly were on the radio, *12 Angry Men* and *Old Yeller* were playing at the theater, and Robert Palmer launched **Palmer Bit Company**. The company's original product was the Red Devil drag bit which Robert



first developed for the water well and seismic industry.

The company thrived, and when Robert passed away in 1978, his son Richard took over.

Richard decided to allow longtime employee Kevin Christensen become a partner in the company in 2005, and when Richard retired in 2012, Kevin became the new owner.

Over the years, the company has shifted its focus to other drilling-related fields. While manufacturing PDC bits, they noticed an increased demand from the emerging geothermal industry, and were quick to respond. After working with some monumental geothermal projects, the company was able to design and develop the Diamond Devil™ PDC bit in 2008. Made in the USA, with U.S. steel, this bit is capable of chewing through tough formations with faster penetration rates and longer bit life, at a lower price.



This Diamond Devil™ PDC bit was sent to Palmer Bit for repair after drilling 72,000 feet. As you can see, the diamond cutters are mostly intact.

The company's six-wing Diamond Devil PDC bit was able to lower bit costs even more. Geothermal drilling contractors around the world continue to be pleased with the fuel savings and the incredible impact the Diamond Devil PDC bit has on their bottom line.

Progress never stops at Palmer Bit, plans to expand the PDC bit line into the horizontal directional drilling (HDD) industry is underway. The Diamond Devil HDD PDC bit leverages the design of the Diamond Devil open-wing PDC, with double the carbide on the gauge for HDD applications.

Palmer Bit's focus on lowering bit costs and increasing penetration rates has made them a vendor of choice for high-quality bits and superior customer service. The knowledge gained is shared throughout the industry as drill operators around the world learn which bits work best in each formation through the numerous seminars and classes the company provides.

Being available to help customers 24 hours a day is important to the Palmer Bit Team; after all, most drill sites don't stop working at 5 p.m.

In addition to bits and technical support, the company offers re-tip service for both rock and drag bits in addition to restoring button bits in-house. With the drilling professional always in mind, the company also carries drilling tools from other manufacturers to provide a complete line of tools. They repair not only their own PDC bits, but all PDC bits with a customary one-day turnaround, striving to match each drilling bit to its unique formation and situation.

A lot of companies may talk about customer service, but Palmer Bit Company delivers! Expedited production and shipping for U.S. and international customers is top priority. In fact, you will find Palmer bits at jobsites in over 17 countries around the world. The company understands time spent waiting for a bit is lost revenue, so they carry a large inventory to meet quick turnaround times.

The company continues to research and develop new bits for the industry. Currently, they are adding a new tungsten carbide gauge to all bits. You can count on Palmer Bit Company to lead the industry in drill bit development.

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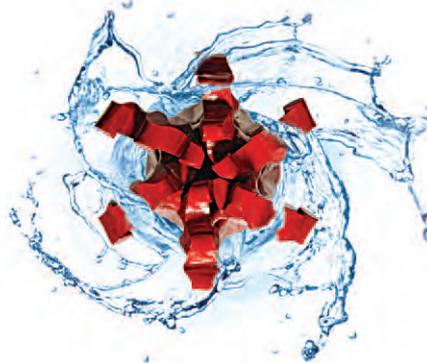


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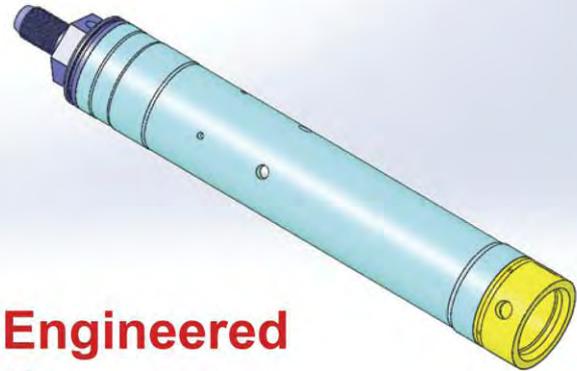
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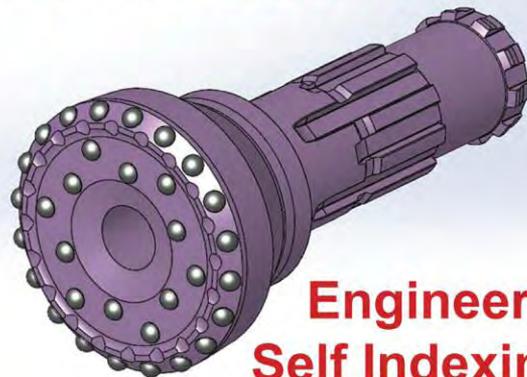
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The "Idiots" Corner by "Billy Bob Smith"

"They need to build a fence around Washington D C and call it off limits for anyone with common sense"
~Mark Twain

I know , I know - I have talked about this stuff before regarding stupid things politicians have said over the years, but enough is enough. If I hear one more line of lies from a politician, I think I will jump off a cliff. Since we are knee deep in political season and it seems the only thing on TV now is politics, I thought I would finally get the following off my chest.

My TV remote needs a special button to mute anything anyone in politics, who calls themselves an American, says when all they really care about is putting their party first and America second. Why do politicians keep saying what they think we want to hear, rather than truth? Yes, I know they just want to get elected or keep their job. Well, I gotta tell you I'm sick and tired of being treated like a 10-year-old. Don't believe me? Here's a few examples:

President Barack Obama: The Keystone XL pipeline "bypasses the United States." For the Obama administration, it has become increasingly difficult over the years to pretend the failure to make a decision on whether or not to allow the construction of the controversial Keystone XL pipeline was anything other than political. In 2015, one of the president's go-to lines was this one.

Senator Cruz: The reason "Obama has not bombed ISIS oil fields is they're concerned about global warming." Maybe you don't admire his decision to misquote a CIA official, which he did with that statement.

Senator Bernie Sanders: "Climate change is directly related to the growth of terrorism." Misrepresenting the history and status of the battle against terrorism to press an unrelated agenda is not limited to one party, or to climate change denialists. Witness Sanders, Hillary Clinton's top rival for the party's nomination, discussing terror.

Hillary Clinton: "Ninety percent of my e-mails as Secretary of State were, according to the State Department, already in the system." Clinton, under fire for her highly questionable decision to endanger national security by using a personal e-mail address for work correspondence while serving as Secretary of State, tried to convince a congressional panel the vast majority of e-mails that moved through her account were also archived by the State Department. Except no, they weren't.

Jeb Bush: Planned Parenthood is "not actually doing women's health issues. They are involved in something way different than that." You don't have to like Planned Parenthood. You don't have to vote to spend government money to fund Planned Parenthood. There are plenty of arguments you can make to support either side.

Senate Minority Leader Harry Reid: Planned Parenthood "is the health care backbone for American women during their lives. In fact, it is the only health care that a significant number of women get. About 30% of women, that's their health care." No. This is just not true. Here, Reid was pretty plainly making up statistics. Even Planned Parenthood itself only claims one in five women - 20% - visit one of their clinics during their lifetimes.

President Barack Obama: After the implementation of the Affordable Care Act, "One hundred twenty-nine million people who could have otherwise been denied or faced discrimination now have access to coverage." Really, in this day and age, what collection of untruths could be complete without at least one reference to Obamacare? The controversial health law has generated an extraordinary amount of nonsense from partisans on both sides of the aisle. Nancy Pelosi, the former Speaker of the House and current Minority Leader, was found to be untruthful 40% of the time. One of her statements found to be false was: "Under the health care law, everybody will have lower rates, better quality care, and better access."

Had enough? Am I the only one who is tired of this junk?

Billy Bob

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California's Water Windfall

Adapted from Information from Stanford University

Scientists at Stanford University have discovered California's Central Valley is concealing three times more groundwater than previously estimated. "It's not often that you find a water windfall, but we just did," said study coauthor Robert Jackson, the Michelle and Kevin Douglas Provostial Professor at Stanford. "There's far more freshwater and usable water than we expected."

The research, published in the journal *Proceedings of the National Academy of Sciences*, highlights the need to better characterize and protect deep groundwater aquifers not only in California, but in other parched regions as well.

"Our findings are relevant to a lot of other places where there are water shortages, including Texas, China, and Australia," said study coauthor Mary Kang, a postdoctoral associate at Stanford School of Earth, Energy & Environmental Sciences.

Previous estimates of groundwater in California, are based on data which is decades old and only extends to a maximum depth of 1000 feet or less. Until now, little was known about the amount and quality of water in deeper aquifers.

"Water a thousand feet down used to be too expensive to use," said Jackson, who is also a senior fellow at Stanford Woods Institute for the Environment and at the Precourt Institute for Energy. "Today it's used widely. We need to protect all of our good quality water."

This is great news for California, which is in the midst of its fifth year of severe drought, even leading Governor Jerry Brown to declare a drought emergency for the state in 2014.

In the new study, Jackson and Kang used data from 938 oil and gas pools and more than 35,000 oil and gas wells to characterize both shallow and deep groundwater sources in eight California counties.

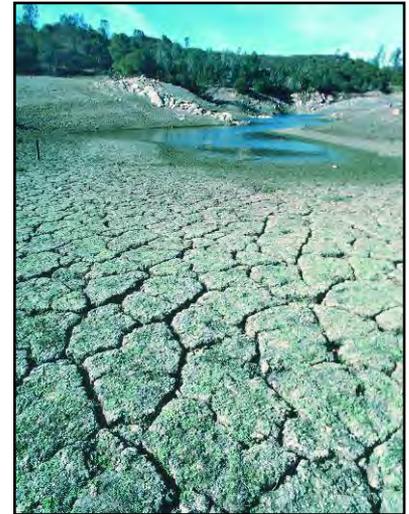
The researchers concluded when deeper sources of groundwater are factored in, the amount of usable groundwater in the Central Valley increases to almost triple the state's current estimates.

The findings also raise some concerns. First, much of the water is 1000-3000 feet underground, so pumping it will be more expensive. Without proper studies, tapping these deeper aquifers might also exacerbate the ground subsidence - the gradual sinking of the land. Groundwater pumping from shallow aquifers has already caused some regions to drop by tens of feet.

Furthermore, some of the deep aquifer water is higher in salt concentration than shallower water, so desalination or other treatment will be required before it can be used for agriculture or drinking.

Another concern is oil and gas drilling activities occurring directly into as much as 30% of the sites where the deep groundwater resources are located. For example, in Kern County, one in every six cases of oil and gas activities was occurring directly into freshwater aquifers. For useable water - water the U.S. Environmental Protection Agency deems drinkable, if treated - the number was one in three.

Jackson and Kang stress just because a company has hydraulically fractured or used some other chemical treatment near an aquifer doesn't mean the water is ruined. "What we are saying is that no one is monitoring deep aquifers. No one's following them through time to see how and if the water quality is changing," Kang said. "We might need to use this water in a decade, so it's definitely worth protecting."



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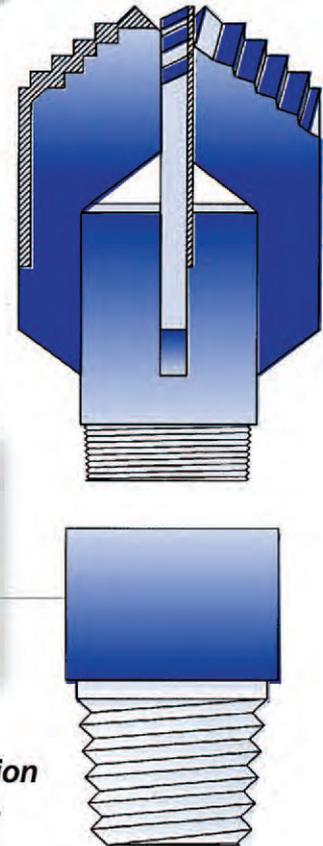
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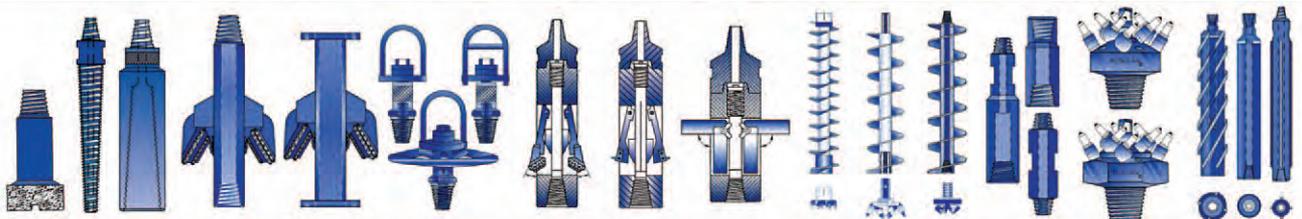


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Geologic Hazard Primer

by Scott Cosby

This month's article is a primer on geologic hazards. In every job, there are hazards to be aware of. This is especially true in the drilling industry. Hazards come with many consequences, such as time, money, property damage, and/or potential personal safety issues. Drilling crews need to have a basic understanding of these hazards. First we define them, then examine examples, and discuss the need for a complete site investigation.

A geologic hazard is one of several types of adverse geologic conditions capable of causing damage, or loss of property and life. These hazards consist of *immediate* and *gradual* phenomena.

Examples of the immediate phenomena include:

- Avalanches
- Earthquakes or seismic events
- Forest Fires
- Landslides (one of the most common hazards in Oklahoma)
- Rock falls, rock slides, and debris flows
- Volcanic eruptions, lahars (moving fluid mass of volcanic debris and water), and ash falls

Examples of gradual phenomena include:

- Alluvial fans (e.g. at the exit of canyons or sand dunes)
- Catastrophic development (related to volcanoes)
- Ground subsidence, sags, and sinkholes
- Liquefaction (settling of the ground in areas under a highly loose saturated sand/silt during an earthquake event)
- Shoreline and stream erosion
- Thermal springs

Some of these hazards are caused by man through the casual location of developments or construction in which the conditions were not taken into account. A detailed reconnaissance and documentation of a potential drilling site is imperative to avoid these hazards during drilling, or in the future when the development is complete.

Consult search engines for more information on this topic. Be sure to provide in-house training on this subject to all operators and crews on this topic - they will be the first to encounter any geologic hazards in the field!

Scott

Scott Cosby may be contacted via e-mail to michele@worldwidedrillingresource.com



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Grout Pump

Water For Life International

by Tim Rasmussen

Car P xey looked over the co ect on of too s and mach nery c uttered around h s shop and on the approach from the road. "There s a ot of h story here," he sa d, as we wa ked toward the o d dr ng



r g sunk near y ax e deep n the earth. The truck carry ng the 22W ooked very t red. It was an ear y 1940s m tary 6x6. The tres were st ho d ng a r, but not much e se. Open ng

the door nv ted attack by the hornets and bees wh ch had taken up res dence ns de the o d truck.

Gary ooked over the o d r g. It dated from the ear y 1940s, as we . Some th ngs cou d be sa vaged; perhaps the r g tse f was okay. The motor on the r g was probab y junk, though. The exhaust p pe was open to the sky, co ect ng a the ra n and snow over the ast 15 or more years. Most ke y the eng ne was se zed and cou d not be started, but the cab es were st good and appropri ate areas were st grease covered.

Gary and I had travel ed about 80 m es south of Spokane just across the border nto Idaho to the home of Car P xey. He had wr tten and nv ted us to come down and ook at the too s he had, and was w ng to donate to Water For L fe. Gary had gone down to meet Car when there was snow on the ground, but had not been ab e to rea y ook over the yard. We were there to get what we cou d and make arrangements for gett ng the heavy tems ready for the owboy tra er we were go ng to send ater.

Car had ment oned there was some cas ng p pe we cou d have and po nted out where t was, down n a tte swa e covered w th brush and nv s be from where we stood. Gary waded nto the brush and found 14 engths of new s x- nch ste e cas ng p pe. It was st banded and some of the p pe had factory caps st protect ng the ends. Th s was a good f nd.

Gary en sted a ne ghbor w th a sk d-steer on tracks and w th n about 15 m nutes had the p pe oaded and secured on the tra er we had brought. The 5000 pounds of new p pe was about a the tra er cou d take, but we were ab e to pu t out of the ow spot and up onto the road.



Th s p pe s go ng on a journey. W th n s x months, we w oad t n nto a conta ner and send t to Guatema a where one of our vo unteer dr operators w nsta t n severa remote v ages. Car P xey s o d but new p pe w he p a ot of peop e.

We are constant y seek ng donat ons of p pe, equ pment, mater a , and vo unteers. If you, ke Car , have mater a st t ng unused n your yard or shop and you wou d ke us put t to use, please et us know. It s on y through the generos ty of w ng fo ks that Water For L fe can br ng cean, safe water to fo ks who otherw se wou d have none. Please he p us.

If you wou d ke to he p, contact Gary Bartho omew at 509-466-5075 or 509-939-1941

Tim

Tim Rasmussen may be contacted via e-mail to michele@worldwidedrillingresource.com



Exceptional Performance and Diversity

Adapted from Information by Foremost



It was June 1996, when a tourist spotted a sinkhole on the crest of Canada's W.A.C. Bennett earthen dam in northern British Columbia. Since this dam, built in the 1960s, retains one of the largest reservoirs in the world, extra care had to be taken

when figuring out what to do to correct the problem. Although immediate repairs were necessary to avoid catastrophe, nothing was allowed to penetrate the fragile formation - not compressed air, water, or drilling mud - for fear the pressure would cause the dam to fracture.

The main contractor, Hayward Baker, approached Foremost Industries and a few of their customers to develop a drilling method to repair the 23-foot void in the dam.

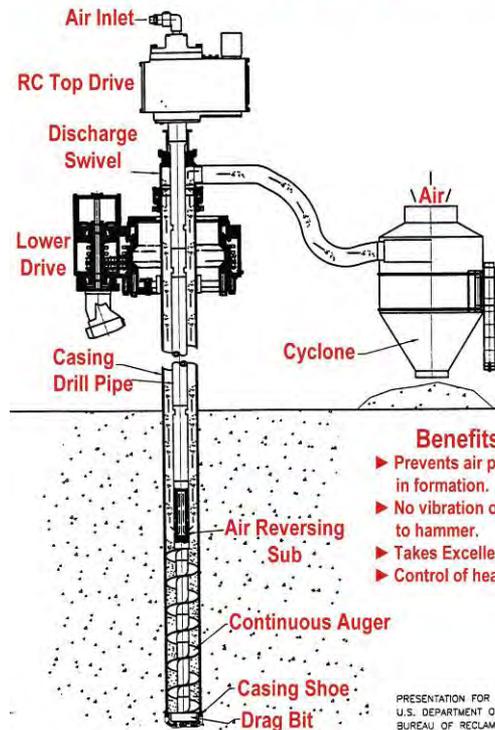


Foremost developed an air lift auger system which would permit drilling down to consolidated earth while not allowing anything to escape into the existing formation.

The only rig allowed on-site was the Foremost DR24 drill. There were a total of six drills operating at the dam at one point. Once the cased auger system reached the undisturbed consolidated formation, which at its deepest spot was about 350-400 feet, the inner

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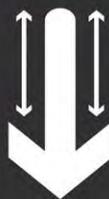


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SEPTEMBER 2016



Drilling Fluids are not Bad, or are They?

by John Christ
J.C.'s Drilling Consultant

There has been press about hydraulic fracturing done in the oil and gas business. Oh, and it's bad! No, it hasn't been in many years. Too many regulations, rules, and costly punishments when, not if, caught. Before anything happens down hole, a plan has to be submitted and approved. Then what does come out of the hole must be disposed of with regard to local, state, and sometimes federal laws. So hydraulic fracturing is really not bad, even though it was done with horizontal directional drilling.

The real problem is, it has affected another industry adversely. The utility and pipeline installation businesses, which use horizontal directional drilling.

There is a drill in a neighborhood and it's installing some kind of utility - water lines, sewer lines, or cable TV, doesn't really matter. To increase the chance of it being installed with minimal problems, drilling fluid additives should be added to the drilling water. For all the normal reasons, such as removal of cutting to the surface and soil stabilization, it will accept whatever is being pulled in. Since the hydraulic fracturing fluids are contaminated, the utility installed mud must be too. No, not true. Most drilling fluid companies have made the investment into NSF. This stands for National Science Foundation, which was founded in 1944. Their mission is to protect and improve global human health. This is not a government entity. It is made up and funded by manufacturers, regulators, and consumers. They develop public health standards and certifications which help protect food, water, consumer products, and the environment. So with this said, most of the additives to this kind of drilling fluid meet this certification. Then why is fluid disposal such an issue?

Back in the 90s when I got involved with this drilling discipline, I went to Oklahoma to see a big drill running. I kept seeing a vacuum truck at pit sucking up the used drilling mud. I asked what was happening. Well, the contractor said they paid a guy to haul off their spent drilling fluid. Then I wondered what happened, so I asked, and was told it was sold to a farmer down the road. It added nutrients and traits to his soil, which helped with water retention and having better crops. During all the "Level 3" communications work, the spent drilling fluid was left on the ground - spent out and diluted with some water. Here in the Midwest, with most private water wells drilled with drilling mud, it is disposed the same way. The grass is always much greener where the drilling fluid was. Then the dreaded hydraulic fracturing came to the surface and it was becoming harder and harder to dispose of drilling mud, no matter what industry you were in.

A great installation method, horizontal directional drilling is getting harder and more costly because we are not using common sense. It's not just this method of drilling, it's anyone one who uses drilling mud and has to dispose of it. I look forward to getting some feedback on this subject. Not just that you agree or disagree, but how we can resolve this issue.

Do you know why more of our utilities are not underground today? It costs too much due to the fact there are additional costs to dispose of spent drilling mud. It takes time, wear and tear on equipment, and the cost of disposal. The fact is, this installation can last much longer before needing replaced versus surface-mounted utilities. We could just about do away with electrical problems during windstorms if they were underground. Think about it. Think how nice our neighborhoods would look if the surface-mounted utilities were underground. What about if someone decides it's not a good option to install sewer lines by horizontal directional drilling methods and now a trip to the market takes us on detour? I'm just saying we need to use some common sense when it comes to drilling fluid disposal. Thanks, and let me know what you think!

*The statements and comments in this article are based on information and references believed to be true and factual. If you have any questions or comments, please forward them to me in care of **WWD.R.***

John

John Christ may be contacted via e-mail to michele@worldwidedrillingresource.com



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Morale is when your hands and feet keep working when your head says it can't be done.



Knowledge is an Important Part of Service with Ryan Hydraulic Service

Adapted from Information from Ryan Hydraulic Service

Ryan Hydraulic Service started as a small company specializing in winches and hydraulic parts for the fishing industry and soon realized drilling professionals were also great users of the Pullmaster winches and assorted parts.

When the company discovered drill operators often needed a winch quickly to avoid downtime and lost revenue, it began stocking more winches and kept increasing its inventory to make sure customers were able to get exactly what they wanted and needed. As equipment, people, and circumstances changed, drill operators were also in need of expert advice to help determine the best winch for each particular situation. Ryan Hydraulic was glad to provide the expert assistance necessary to finish the job. Over the years, the people in the drilling industry have come to rely on Ryan Hydraulic Service for expert assistance, quality products, and its honest desire to supply both.

Getting easy access to expert help is almost nonexistent today, however, each Ryan Hydraulic sales associate has 35 years or more of experience helping small and large drilling companies with quick, knowledgeable answers and solutions designed specifically for them. Not to mention, customers appreciate the quick shipping, with most products shipped the same day; leading to less stress and downtime.

Ryan Hydraulic Service inventories and sells quality winches and products all over the world. Great for the drilling industry - expert help, quality products, and prompt deliveries are just a call away.



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The Un-Comfort Zone II

by Robert Evans Wilson, Jr.

Four Easy Ways to Exercise Your Creativity Stimulate creative thinking from the comfort of your desk.

Recently, I was contacted by a reader asking if I would suggest some exercises he could use to think more creatively. The request inspired me to write about some fun ways you too can exercise your creative mind.

The purpose of these exercises is to condition your mind to quickly make new connections or combinations between two or more existing items or ideas. When this becomes second nature, you will begin to automatically notice connections you never saw before. Some of these may even turn into money-making opportunities.

Find New Uses: Select a common item such as a bottle, comb, fork, or chair, then come up with ten or more alternate ways you use the item. I saw a product online called an Onion Holder (for holding an onion while you slice it); it looks like someone found a new use for a metal hair pick.

Make New Connections: Pick two random objects and think of a way you could combine them to come up with a new product. Start right now with the items on your desk: pen, pencil, tape dispenser, stapler, lamp, phone, paperweight, in/out box, paper, and so forth. Have fun here; be as unusual or unconventional as necessary to force these items into something new. Take for example the Roller Buggy, which combined a baby stroller with a scooter, and allows parents to have fun riding with baby.

One of my favorite ways to make new connections is to make up jokes from stuff I hear on the news. A joke is really just a story with a surprise ending. I especially like non sequitur jokes beginning with a logical sequence of thought, then take an unexpected direction (sometimes called "being led down a garden path"); such as this one by Ellen DeGeneres, "My grandmother started walking five miles a day when she was sixty. She's ninety-seven now, and we don't know where the [heck] she is." Jokes are frequently a play on words which have two or more meanings; like this one by Natalie Wood, "The only time a woman really succeeds in changing a man is when he's a baby." And, then there are double entendres such as this classic "Police station toilet stolen; cops have nothing to go on."

Solve Riddles: Solving riddles exercises your creative-thinking in a similar fashion to making up jokes. Riddles are not only fun, but they stimulate your creativity by forcing you to consider the clues from a perspective which is different than normal (riddles, like jokes, often use double entendre or double meaning). Here are two I found online: "What relation would your father's sister's sister-in-law be to you?" and "What ends in a W, but has no end?" (* answers at end of article).

Complete the Picture: Mr. Squiggle was a television show that originated in Australia. The title character was a marionette with a pencil for a nose. Viewers would scribble a few marks on a piece of paper and mail it into the show. Mr. Squiggle would then use his pencil nose to complete the drawing into an object children would recognize. You can do this same exercise at home or the office. Take pen and paper, and make your own arbitrary squiggles, lines, and shapes. Look at them until you can visualize a recognizable object, then fill in the lines to make the drawing. Alternatively, you can select three or four random words from a dictionary, then come up with a sentence using all of them.

In previous articles, I suggested what I consider to be the most important method for stimulating your creative thoughts. It is to regularly expose yourself to new stimuli - in short - new experiences. Whether you take a trip to someplace you've never been, or take a class in something you know little or nothing about, or read something different from what you normally read, you will expose yourself to new information. This new information creates new neural connections in your brain which in turn, gives you more data to make new meaningful connections with.

The purpose is to get used to seeing connections where you never noticed them before. Then when you need to solve a problem, you'll be prepared.

* Riddle answers: your mother; a rainbow.

Robert

Robert is an author, humorist, and innovation consultant. He works with companies that want to be more competitive and with people who want to think like innovators.

For more information on Robert, visit www.jumpstartyourmeeting.com or contact him via e-mail to michele@worldwidedrillingresource.com

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Do Well with Simmons

*Adapted from Information by
Simmons Manufacturing Company*



Upon graduating from Georgia Tech with a degree in industrial engineering, Robert F. Engeman, Sr. initially worked for a foundry which sold its castings to Simmons Pump Company.

Simmons Pump Company sold products directly to contractors and was in distress at the time. Robert had the opportunity to purchase Simmons' equipment in 1957, the same year his son Robert F. Engeman, Jr. was born. The company started with one small building, only 4000 square feet. In 1960, Robert purchased an 18.6-acre property with a building and expanded the business.

Robert began selling pumps he made to contractors. His pump sales allowed him to work directly with installers and contractors which led him to pursue valves as his next manufacturing venture. In the early 1960s, the company stopped selling pumps and decided to focus more exclusively on valves, and a distributor network was created. Throughout the 1970s, Robert enlarged the product line adding pitless adaptors, hydrants, well seals, well points manufactured in-house, as well as other accessories, including switches, gauges, and fittings.

By 1985, the company had grown exponentially and its largest addition, a 25,000-square-foot facility was completed. Over the last 59 years, the company has expanded the space ten times, and the facility is currently 80,000 square feet. Robert F. Engeman, Jr. has since taken over management of the company and has been guiding its continued success for over 25 years.

As a leader in high-quality, American-made water well supplies, the company recognized the need for lead-free products early, and has been producing them since 1997. Over the years, the company's forward thinking has led to the creation of several new products including, custom well seals, VFD valves, stainless steel check valves, yard hydrants with stainless steel pipes and rods, and yard hydrants with a 1-inch inlet connection, just to name a few. Rather than offering a 1-5 year warranty like other companies, Simmons is one of the only manufacturers that backs its well products with a **lifetime warranty**. After all, when your product is better, you can back it better!

Every Simmons employee knows the best customer service, product quality, and total value are vital to success. They have the knowledge and expertise to establish and maintain an ideal resource partnership with customers, and look forward to exploring new product opportunities in the industry and around the world.

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It was 2007, and North Carolina was struggling with drought conditions similar to the one California is experiencing now. Physicist Steve Judd's family horse farm relied on well water, and wells in the area were drying up. He wanted to find a way to monitor his well's water level using a noncontact technique, but he was unable to find any appropriate methods. So, he decided to create one!



Using his experience, as well as his Massachusetts Institute of Technology education, he developed a well sounder which detects low-frequency sound waves. His tireless efforts led to the creation of a system capable of accurately measuring water levels down to 4000 feet in a well.

Traditional water level measurement methods, such as water level tapes, are time-consuming, and since they make contact with the water they need to be decontaminated before each use to prevent cross contamination. They are also very subject to the well's configuration and tend to get stuck in the pump equipment, causing them to be replaced often. This is where noncontact measurements excel. The sound waves can travel around 90-degree angles, past well obstructions, and even work when the pump is running. The best part is, the meters provide readings in seconds, saving time and money.

The company now offers a portable line with the Well Sounder 2010 PRO which is battery powered, has a built-in data logger, and is flow meter compatible for capturing all of the necessary well data. This is what makes the Eno Scientific Well Sounder one of the most advanced sonic well measurement systems in the world.

The company's permanent line, Well Watch 600, is designed for easy installation and long-term monitoring. They also have an optional data logger and various outputs including RS232, RS485 (Modbus), 4-20mA, 0-5V, 5V Alarm, and USB.

Not only has Eno Scientific raised the bar in its ability to use very low-frequency pulses to measure the depth to the water, but also in the standard features included to make the job easier. Features such as the built-in data logger to automatically record those measurements over time, as well as data from external devices like associated flow meters. It has the ability to transmit measurements over serial data links and analog levels to remote data systems. The powerful internal software is intuitive and easy to use with many advanced functions, such as the ability to compensate for methane gas, or use in small tubes, and the ability to measure flow rates and calculate recovery rates while the well is pumping down.

Although the company is based in North Carolina, water level monitoring is a universal need and the ease of the measurements attracts all types of users, including drilling, scientific, municipal, irrigation, and residential customers. In the past year, Eno Scientific has added over 20 new distributors around the world.

The company currently has several products in the prototype stage with the potential to revolutionize the groundwater monitoring industry.

Look for their ad on page 23.

This Month in 1916

- ▶ Piggly Wiggly, the first true supermarket, was opened by Clarence Saunders in Memphis, Tennessee.
- ▶ President Wilson signed the Federal Employees' Compensation Act, the basis for the workers' compensation system.
- ▶ Manfred von Richthofen, The Red Baron, a flying ace of the German Luftstreitkräfte, won his first aerial combat near Cambrai, France.

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Be Inspirational

by Kyle Rehme

VolkBell Property & Casualty Insurance, LLC

Kyle Rehme uses his personal knowledge of the water well, drilling, and environmental industries to provide customers with practical insurance solutions.

Attitude and actions will speak louder than words, but results will speak for themselves!

Has someone's good attitude and sound character made a bad day better for you? Did a mentor's pleasant disposition somehow make an impossible challenge

possible? Maybe even changed your life? Was there a time when a friend, employee, or coworker's positive respect even saved a life? Have you ever had the joy of working with someone who truly inspired you? Do you recall how they did that?

It's often said, a person's character is defined by what they do when no one is looking, which includes showing respect and having a positive attitude. When you get right down to it, integrity in a hardworking person, with character and a positive attitude, can have a powerful influence on those around them - more especially considering all the hazards on a jobsite - and MOST especially when working with someone who is young, new to the job, or to the industry. Indeed our words, actions, attitudes, integrity, and respect for others can manifest itself in many ways and leave a profound legacy of success.

As you press onward this month and face the challenges of life and business, it's my hope this poem helps remind you to be inspirational in whatever you do.

It Couldn't Be Done

by Edgar Albert Guest

Somebody said that it couldn't be done
But he with a chuckle replied
That "maybe it couldn't," but he would be one
Who wouldn't say so to the tried.
So he bucked right in with the trace of a grin
On his face. If he worried he hid it.
He started to sing as he tackled the thing
That couldn't be done, and he did it!

Somebody scoffed: "Oh you'll never do that;
At least no one ever has done it;"
But he took off his coat and he took off his hat
And the first thing we knew he'd begun it.

With a lift of his chin and a bit of a grin
Without any doubting or quiddit
He started to sing as he tackled the thing
That couldn't be done and he did it.

There are thousands to tell you it cannot be done
There are thousands to prophesy failure
There are thousands to point out to you one by one
The dangers that wait to assail you.
But just buckle in with a bit of a grin
Just take off your coat and go to it;
Just start in to sing as you tackle the thing
That "cannot be done" and you'll do it.

Kyle

Kyle Rehme may be contacted via e-mail to michele@worldwidedrillingresource.com

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Adapted from Information by GeoPro, Inc.

Prior to founding GeoPro, Inc. in 1995, Charles Remund, Ph.D. conducted research at South Dakota State University looking at the effect grouting materials had on ground heat exchanger performance. This research showed there was a need for a thermally-enhanced grout - Thermal Grout (TG) to help drive costs down and help move the industry forward. In 1996, GeoPro introduced the first version, Thermal Grout 85, to the geothermal heat pump industry.

Using TG products, drilling contractors are able to reduce the initial installation costs of a ground heat exchanger by decreasing the total length of installed bore. These savings promote more cost-effective systems, which in turn, drives demand for geothermal systems, providing more work for all drilling professionals.

The unique blend of bentonite found in TG Lite and TG Select products is specifically designed to optimize the performance of ground heat exchangers for the geothermal heating and cooling industry.

The recent introduction of PowerTEC^{XX} has made GeoPro's Thermal Grout products even more user friendly and cost effective by eliminating or significantly reducing the need for silica sand on the jobsite.



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GeoPro's Thermal Grout and PowerTEC^{XX} products are certified by NSF to conform to ANSI/NSF Standard 60. GeoPro

is the only grout manufacturer to publish third-party permeability results in the industry.

The products are proudly manufactured in the United States. Over the years, the company has developed a modest demand for this product overseas, but the majority of its customers are American companies operating in the U.S.A. The company's internal quality control program ensures each production run is done to the highest standards. This leads to the kind of product consistency expected by its customers, which is why the majority of customers are repeat users of TG products.

When it comes to thermally-enhanced grouts, GeoPro continues to set the standard by which all others measure their success.



Product Spotlight

Heavy-Duty Pressure Switch



Innovations from Merrill Manufacturing

Merrill Manufacturing introduced the Multi-Size Wire Connector as an answer to an old problem. The product will connect wire sizes #4 or #6 to #10 or #12 to make heavy wire down to the pump easy to splice to pump lead wires.

The company also has two new lead-free heavy-duty pressure switches; and the new control switch design combines a heavy-duty pressure switch and pump control box into one piece.

Control Switch





Multi-Size Wire Connector





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Through the Back Door!

by Jim Kuebelbeck



My Firm Belief

For a number of years, *WorldWide* has graciously published my submitted articles in its monthly magazine. Although most of my articles have related to my work as a successful water dowser, I have at times interspersed my submissions with accounts of some of my life experiences unrelated to water dowsing. I have many written accounts of my experiences in life, but space limitations in the monthly publication preclude my submitting them. Some are far too lengthy for a single issue, and I believe "to be continued" articles often become less interesting to readers.

One's experiences in life make us who we are, and what we have become. With this in mind, I would like to share the following words from an article I wrote many years ago:

I happen to be a water dowser. It's not the easiest way to make a living, but it is extremely rewarding. I get a special feeling of satisfaction and amazement every time I am able to help someone with my God-given ability. Often, I take a few minutes to thank God in private (all the time thinking, "How is this possible?"). Nothing can compare to the feeling I get when I hear the kind words of appreciation and thanks from people who benefit from my efforts, but how do I accept praise when being fully aware that what I am able to accomplish is not of my own doing?

It is my firm belief, based on my lifetime thus far, that each and every one of us has been endowed with special talents and abilities from our Creator. Further, I believe it is our duty and responsibility in life to try to discover what our unique talents and abilities might be.

God gives us all special abilities, but it is up to us as individuals to develop these abilities to a level whereby they can be of use to ourselves or others. As individuals, however, how we use our in-born talent is up to us. I believe God gave this special talent to me to carry out his will for the good of others so those who see and benefit from my efforts will appreciate our Creator even more.

So when I say the work I do is "not my own work", what I mean is it isn't "me". I believe it is the Creator working through me. If my water dowsing ability is part of God's master plan for me here on earth, so be it. If I am able to help others along the way, God's plan will have been fulfilled, and I can someday say I did not waste the special talent I had been given.

*The statements and comments in this article are based on information and references believed to be true and factual. If you have any questions or comments, please forward them to me in care of **WDDR**.*

Jim

Jim Kuebelbeck may be contacted via e-mail to michele@worldwidedrillingresource.com

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Jet-Lube, Inc., a CSW Industrials Company, has been helping people solve equipment maintenance issues since 1949. The company is recognized as a world leader in manufacturing lubricants for the oilfield, water well, geothermal and industrial MRO (maintenance, repair, and overhaul) customers around the world. Jet-Lube's diverse line of products include some of industry's highest quality drill pipe compounds, thread sealants, extreme pressure greases, aerosol products, valve lubricants, antiseize compounds and anaerobics for demanding applications. Leading brands include KOPR-KOTE® and Jet-Lube 21®.

When customers began requesting environmental products in the 1980s, the company answered by developing compounds, which were environmentally compliant while exceeding expectations for performance. After years of reformulation and testing, Jet-Lube has established itself as a leading manufacturer of environmentally safe products for industries around the world.

Using its in-house research and development tools, Jet-Lube is constantly working to create and develop new products while continuing to improve existing ones. Coupled with the shared information and expertise from the company's locations in the U.S., Canada, and the U.K., Jet-Lube takes great pride in providing distributors and end users around the world with the very best solutions in lubrication technology.

Jet-Lube acquired Design Water Technologies - a leading manufacturer of a new generation of chemicals for the water well and pipeline industries. By 2015, the company, along with other U.S. drilling industry members and a couple of Christian charities, used donated equipment, supplies, and expertise to rehabilitate a partially blocked primary water well to full capacity in Ethiopia. Using the Jet-Lube/Design Water Technologies' Unacid Catalyst, they were able to restore this primary water source for its 15,000 residents.

Recently, the company moved to a new state-of-the-art facility in Rockwall, Texas. Jet-Lube has combined forces with Whitmore, also a Specialty Chemicals, CSW Industrials Company, to offer its customers an even broader product offering.

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PL G at work in California



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It was suggested the municipalities and conservationists may participate as honorary members, but some have sent in checks to become full members. Every municipality in Ontario Province has someone in charge of water issues. If these were members, they could attend and find out information first hand - GOOD IDEA?

The meeting adjourned with a great deal of information floating through everyone's head.

They hurried to freshen up for the anticipated trip to the Vineyard Estates Winery for a tour and dinner! Upon arrival, they were greeted by the winery hostess and escorted downstairs to the facilities where the wines are made. Knowledgeable workers explained the processes for creating the various wines and provided

samples to onlookers. Subsequently, they went into the dining room lined with casks of wine and lit by candlelight for an evening to remember.

Good-byes were said, as Marcel and Carol reluctantly departed Niagara Falls on Sunday, glad to be returning home, but a little sad to leave such a beautiful place and the friendly people they had met and now consider friends.

First impressions usually are correct, and thus they were - Marcel and Carol both admitted, theirs of the Ontario Ground Water Association Convention and Exposition were positive despite the moderately-sized show, the membership's genuine enthusiasm and commitment to a SUSTAINABLE GROUNDWATER SUPPLY was contagious!

Quite like a large extended family, the members, through their many productive conversations about their future, showed their willingness to do their best individually and to work cooperatively to ensure sustainability.



Ronnie,
Want to let you know that I enjoy Harold White's contributions.

Bill Copeland
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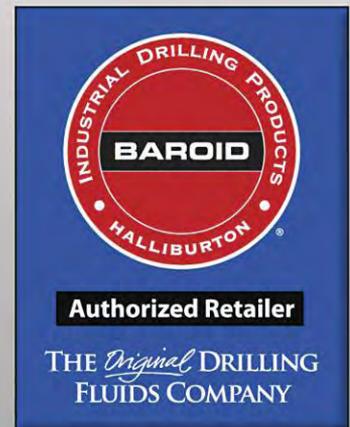
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Starts Per Day, Part 1

by Bill Corey

Pentair Water Training Institute

If you were to look at anyone's electronics manual, it would tell how many starts per day a motor can take. I got a call one time from a man in Connecticut, who had been to our factory school. He started out by saying, "I don't know what I'm doing wrong, but I've burned up two 50-horsepower motors and I don't understand why. I've stayed within my starts for the day, so what's happening?"

His words "I've stayed within my starts for the day" made me stop and question what the starts for the day were. So I looked it up and the manual said *100 starts in a 24-hour day*. Needless to say, I had to ask if he was talking about a 24-hour day. He of course said, "No, an 8-hour work day." Well, it was the hint I needed.

Remember, I spent 15 years making four- and six-inch submersible motors. I know how they are made. What most don't understand is, it is the water movement past the motor that cools it. Like air, water is made of molecules, and those molecules being pulled past the motor carry away the heat. If you don't have enough molecules moving past the motor shell, you don't have enough cooling. The motor will get hot and the varnish insulation will break down, allowing the copper wires to touch and short out.

At this point, I hope you like math. Remember, the manual said 100 starts in 24 hours. If you divide 100 by 24, you get 4.2, which means 4.2 starts an hour. With 60 minutes in an hour, it comes out to about one start every 15 minutes. Now let's do what he was doing, divide 100 by 8 and you get 12.5, which is about one start every 5 minutes. Heat is the killer of any motor because it breaks down the varnish. Varnish is the only thing separating the copper wires in the slot. So needless to say, when it breaks down far enough, there is no insulation. The bare copper wires touch and short out. Yes, there is fire and smoke - maybe not much because there isn't much to burn in motor winding, but they do burn.

I'll tell you how we fixed the problem next month.

Bill

Bill Corey may be contacted via e-mail to michele@worldwidedrillingresource.com



In Memoriam

Robert Herman "Bob" Schmidt

The Missouri Water Well Association reported the loss of its former president Robert Herman "Bob" Schmidt on July 1, 2016. Bob enjoyed coon hunting, riding mules, and singing for "Possum on the Run" karaoke. He also enjoyed auctioneering and had a love for softball. He was 73 years old.

Bob is survived by his wife Carol; daughters Tina (Jim) and Kathy; sons Rob (Chris), Jody (Laura), Scott (Daria), and David (Vickie); 11 grandchildren; four great-grandchildren; and other extended family.

The management and staff of *WWD&R* extend their condolences to Bob's family and friends.

Clair Bushong, Jr. (1924~2016)

The Ohio Water Well Association sadly informed of the passing of member Clair Bushong, Jr. on July 22, 2016, at his home in Marysville, Ohio. He was affectionately known by his many friends as "Pee Wee", a name he carried with him from childhood.

He was the owner of Bushong Well Drilling, retiring after 62 years serving as a well drilling professional throughout Ohio and surrounding states. Clair loved well drilling, water pump repair, and stone quarry drilling. What brought him the most joy was being with his family and traveling together to different places.

Clair is survived by his devoted wife of 69 years, Pearl; their children Linda (Ron), Connie, Rick (Sandy), Vicki (Mark), and Doug (Teri); 12 grandchildren; 15 great-grandchildren, plus other family.

The management and staff of *WWD&R* extend their sympathies to Clair's family and friends.



Lest we forget...

SPOTLIGHT ON...

PRINOTH

PRINOTH was originally founded by Italian race car driver Ernst Prinoth. Back then, the company's major activity was building snow groomers. PRINOTH later bought Bombardier Industrial (Camoplast) which already had a successful line of tracked carriers and snow grooming equipment. Today, PRINOTH's business units include snow groomers, tracked utility vehicles, and vegetation management products which are sold worldwide. The company holds numerous patents.

PRINOTH specializes in off-road tracked vehicles and undercarriages. The company's contribution to the drilling industry was put to good use when the PANTHER platform was designed. The leading design of the PANTHER series currently offers five vehicle sizes with payloads ranging from 12,000-46,000 pounds, and three undercarriage units with payloads ranging from 17,000-30,000 pounds. The vehicle chassis were created to ease the installation of drills and decks for support vehicles.

PANTHER carriers can work in harsh environments from extreme heat at 122°F (50°C) to extreme cold at -49°F (-45°C). The vehicles exert very little pressure on the ground, which is why they can be used in places other wheeled vehicles would quickly get stuck. Minimal maintenance is part of the design, and the unique two-person cab offers leading safety features.

PRINOTH is enthusiastic about building vehicles designed and dedicated to the drilling market. They have over 300 employees in North America, five points of service, and a manufacturing plant in Granby, Quebec, Canada. Plus, the company has 81 global service points committed to providing support.

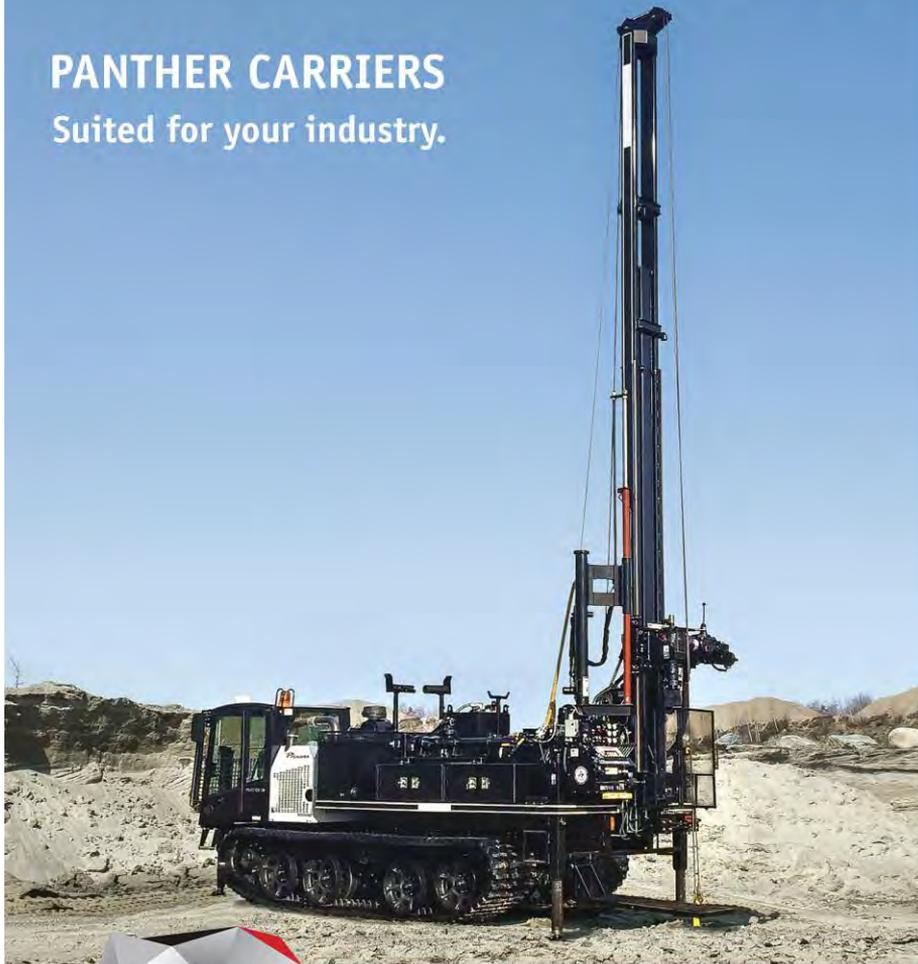
The knowledgeable staff of engineers, technicians, and field experts work alongside customers to effectively respond to the latest technological requirements, including TIER 4 compliance, keeping in mind the regulations are not the same globally.

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Mine Mules

by Harry W. Short, Engineering Geologist

Early on, horses were used to pull barges loaded with coal in canals to market. On hot days, the horses would jump into the canals to cool off. The drovers would drown if they were dragged under by the horses. Mine owners switched to mules when it was discovered mules didn't care for canal water. Treated with kindness and proper care by the mule skinner, the mules were better workers than horses.



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Michele,

I would like to thank the magazine for continuing with Harry's articles. He was always my first read and he will be missed.

Again thanks,
Rich Bacon
Geologist

Open-pit and underground mines evolved and mules were the first choice to be put to work there. The mules were lowered underground via the mine shaft. The mules faced the same hazards as the miners from dust, bad air, and methane gas to falling into shafts and roof collapses. After about three years underground without lights the mules went blind.

The mules had their own work ethics. They bit and kicked any mule skinner who mistreated them, and many miners met their death this way. Another mule trick was to squeeze the miner into the drift wall, killing him to get even for mistreatment. Many mules refused to work for certain miners. Some were just lazy, but could be enticed to work with treats such as apples, candy, and chewing tobacco. Management recognized the mules' idiosyncrasies and assigned them to miners with whom they were compatible. There were mules that would only pull a certain number of ore carts. One would lie down in the drift and go to sleep until the extra carts were removed from her train. Another pulled the same stunt until given a chew of tobacco.

Each animal had a name which they responded to when called by the mule skinner. A mule named Babe was addicted to tobacco smoke and inhaled the miner's noon pipe. Sharkey set the switches off on his level and refused to move until they were reset.

The mines employed men to work underground tending the mules to see they were properly nourished, had drinking water, their underground stables were well lit, and cleaned of manure. The mules' hooves were given careful attention since they were susceptible to disease caused by dampness and moisture below-ground.

Any miners caught abusing the mules were fired since mules were company property and considered employees. It seems inappropriate to call mine mules stupid, don't you agree?

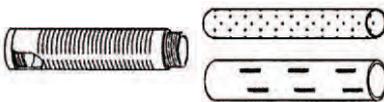
It seems inappropriate to call mine mules stupid, don't you agree?



Descendants of the mules that worked the Gold Road Mine roam the streets of Oatman, Arizona, seeking treats from tourists.



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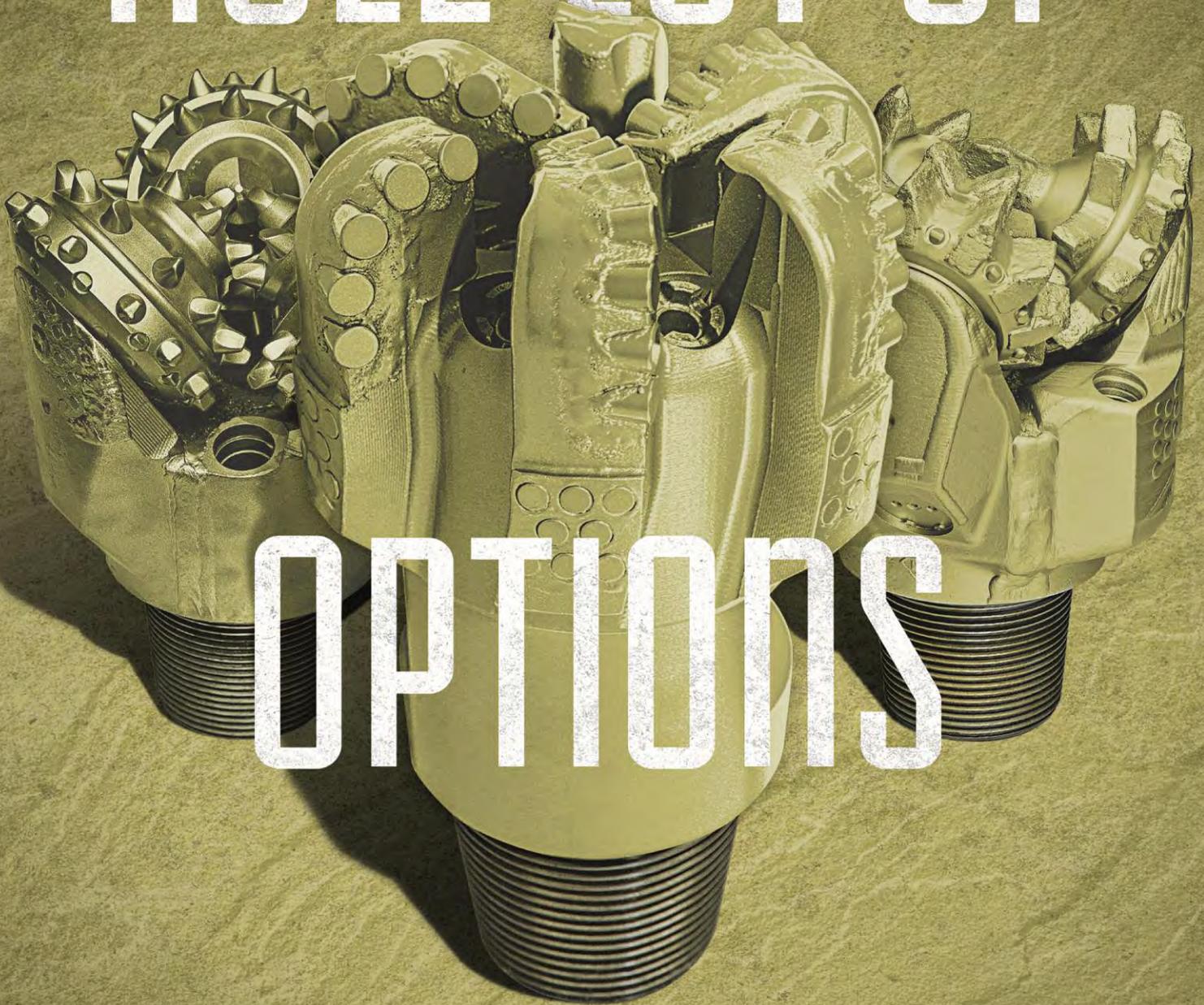
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Oil/Water Exploration

by Harold White

People have been trying to locate underground water reservoirs, ponds, lakes, and so on for thousands of years. The ones who have become well-known have been tested and the scientists have failed. It is probably because the scientists doing the testing do not know how to test something they know nothing about.

To start, geologically there is a slim chance a reserve beyond the water moving in, saturating the ground at three to eight inches per year, even it moves - and anything moving has to have a place to go. It can only go down so far and it turns to steam, and the depth was reached millions of years ago. After an underground lake has been there for awhile, it has probably filled with mud, sand, and rocks.

The thing which can happen is the water going through a lake has taken its first line of resistance and become a creek, the water which settles down to a level deep enough or hot enough to turn it into steam. Often, it then comes back with pressure enough to blow like a volcano. Did you ever wonder how springs and creeks get to the top of mountains? Maybe steam pressure. No matter what route water takes, it gets back to the ocean; and it has been doing this since the beginning of its time - rain coming down purifying the land as it goes down, taking salt and stuff with it to an underground creek or river, to take the floating impurities to the ocean.

The purifying of the rain cycles has been washing the land for a long time. The land needs purifying, desalted. The rain has been doing this since the salt-water ocean left the land. There is still a lot of saltwater creeks going to the ocean.

We used to drill a saltwater well every so often. Then I learned how to detect a saltwater creek, and I thought it was the end of saltwater problems. Not so. It was just the end of drilling the ones I could detect. A creek has to have so many parts per million of salt before I can detect it as a salt creek, and there are a lot of salt creeks. After millions of years, the rain cycle is still at work.

*The statements and comments in this article are based on information and references believed to be true and factual. If you have any questions or comments, please forward them to me in care of **WDR**.*

Harold

Harold White may be contacted via e-mail to michele@worldwidedrillingresource.com

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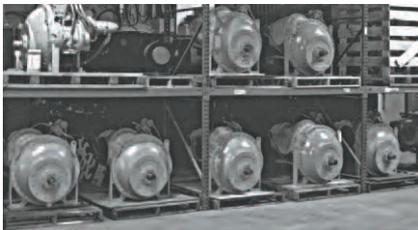
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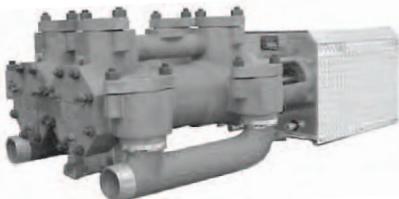
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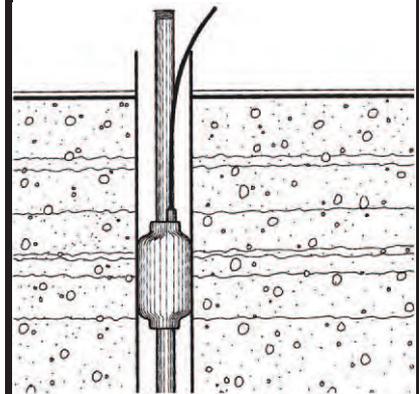
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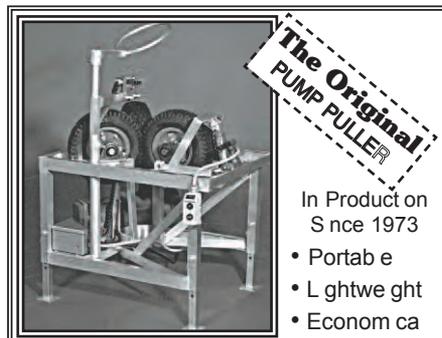
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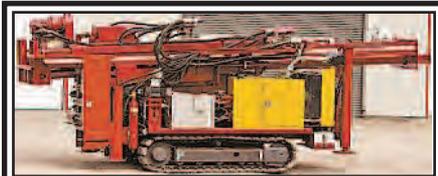
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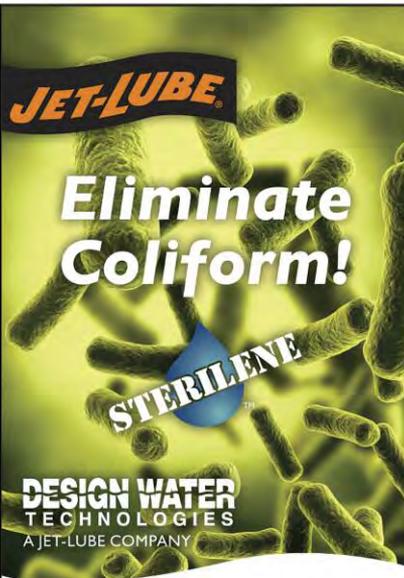


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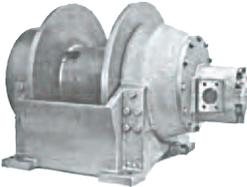
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