AZWWA Fall Membership Meeting
Saturday, October 26th, 2019
Coco’s Restaurant
2026 N. 7th Street
Phoenix, AZ  85006
PH: 602-258-3821

8:30am – Meet and Greet
9:00am – Guest Speaker: Gary L. Hix, R.G., CWD/PI
2019 McEllhiney Lecturer for the NGWA and Groundwater Foundation

“Groundwater Management, Driller Licensing, Private Water Wells Across the USA”
Gary plans to share with us what he has learned from visiting so many other states this year, reporting on how they
manage groundwater, drilling licensing, private water wells and other issues.

AZWWA Business Meeting will follow Gary’s Presentation

PLEASE JOIN US!

Any questions? Email admin@azwwa.org or call 480-609-3999

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(Scan and email to admin@azwwa.org)

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Company:_____________________________________________________

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GOT NEWS?

Any upcoming or recent events?
Open Houses?
Other Events?
Jobsite Photos?
Articles?
New Products or Services?
Items for sale? Weddings? Births?
Obituaries?

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Proper utilization and inspection of shackles, eyebolts, hooks, and clips is of high importance when moving sizable loads. The following article provides operating guidelines and inspection-related overviews of these common rigging components, along with a review of hoists and general terminology.

**Shackles**

Manufactured in anchor and chain configurations for rigging use, shackles are available with screw pins, round pins, or safety bolts.

Anchor shackles have a rounded eye, making them suitable for attaching one or more hooks or slings. Featuring a straight eye, chain shackles are designed for connection to a single lifting device. Each shackle body should be marked with an identifying manufacturer’s name or shackle size, which is determined by the diameter of its bow or body.

Prior to conducting lifting, an operator should inspect shackles to ensure that the pin is completely seated, pin threads are not exposed, and the shackle itself shows no signs of deformation. If the pin can’t be completely seated, the shackle should not be used. If the pin can roll under a load and unscrew, in the case of a screw pin shackle, it also must not be used.

When replacing a shackle pin, never use a bolt, as they’re not intended to take the bending that is typically applied to the pin. Only a properly fitted pin should be used. Once replaced, the shackle pin should go on a hook whenever possible. If needed, washers may be used to pack the pin in order to centralize the shackle. Once in operation, shackles should never be pulled at an angle, as eccentric loading may cause them to open or distort.

(Continued on page 4)
**Eyebolts**

Available as shouldered or unshouldered, eyebolts firmly attach a securing eye to a structure and feature self-locking nuts. The minimum thread engagement between an eyebolt and its tapped hold should be 1.5 times the diameter of the thread engagement.

Used for vertical and angular lifts, shouldered eyebolts are found in many applications. When utilized for angular lifts, the safe working load must be down rated, with lifting angles of less than 45 degrees being prohibited. Unshouldered eyebolts are used for vertical lifts only, as angular lifts would bend the threaded shaft.

When eyebolts cannot be properly seated, washers or shims may be inserted under the shoulders; however, minimum thread engagement must be maintained.

Angular loading of eyebolts should be avoided. This occurs in any lift where the lifting force is applied at an angle to the centerline of the shank of the eyebolt. Again, lifting angles of less than 45 degrees are prohibited. Spreader bars, lifting yokes, or lifting beams should be utilized to eliminate angular loading when more than one eyebolt is used in conjunction with multiple-leg rigging.

To keep bending forces on an eyebolt to a minimum, a load should always be applied in the plane of the eye rather than in the other direction. If a hook will go completely into an eyebolt, a shackle should be used to avoid hook tip loading.

Lastly, slings should not be reeved through a single or pair of eyebolts, as doing so adds greater load tension in the eyebolt.

When inspecting eyebolts prior to use, ensure the shank has a smooth radius into the plane of the shoulder and is not undercut. Any eyebolt that is cracked, bent, or has damaged threads must be discarded.

(Continued on page 5)
Hooks

Load hooks are generally the weakest member of lifting equipment, bending if overloaded before any other piece of equipment fails. The safe working load for a rigging hook should be higher than the rated load of the chain wire rope or other suspension member to which it is attached to avoid bending.

It is common practice to use a shackle when two or more sling eyes are used on a hook. This allows the load to be centralized on the hook for full capacity. Hooks should also be provided with a safety latch to bridge the throat opening, which itself prevents the release of load lines.

Hook tips should point out and away from the load to assure that, when slack is taken up, the hook will not tip load. Additionally, hands, fingers, and other body parts should be kept from between the hook and load.

Prior to use, the operator must look for bending or twisting that exceeds 10 degrees from the plane of the unbent hook while also checking for wear in the saddle area of the hook. Wear exceeding 10 percent of the original dimension warrants taking the hook out of service.

If an increase in throat opening exceeds 15 percent of the original throat opening, the hook must also be taken out of use. Most hooks feature punch marks as reference points.

Cracks, severe nicks, and gouges can also eliminate hooks from service. Note that transverse cracks are more critical to a hook’s performance than longitudinal cracks.

Wire Rope Clips

Used to make an eye on wire rope, U-bolt, fist grip, and collet connection clips may never be reused, as they may not torque properly on second application. All clips utilized in the field should be legibly and permanently marked with size and their manufacturer’s identifying mark.

When installing clips, apply the first clip one base width from the dead end of the wire rope, tightening nuts evenly to the recommended torque. Next, apply the second clip as near the loop as possible and then the U-bolt over the dead-end. Turn nuts firmly, but do not tighten.

Apply the remaining clips equally between the first two, before tightening all nuts to the recommended torque. When using single grip clips, place the saddle on the live end of the rope. Always recheck torque after use of any clips.

Credit: OSHA.gov

(Continued on page 6)
Clips should not be used to fabricate wire rope slings except where application prevents the use of prefabricated slings. In these situations, the clips must be proof tested to 200 percent of the safe working load. Before use, clips should be visually inspected for damage, corrosion, wear, and cracks. The operator or person in charge must also verify that the assembled clip contains the correct size, type, and class parts.

**Rings**

Weldless, forged steel rings are standard in lifting operations. Welded rings are not recommended unless designed by a qualified engineer and subjected to testing. All rings must be visually inspected for corrosion, wear, cracks, twists, and openings prior to use.

**Turnbuckles**

Turnbuckles are rarely used in a rigging system. Those that are should be fabricated from forged alloy steel. If used in an application where vibration is present, the turnbuckles end fitting must be secured to the frame with lock pins or wires in order to prevent them from turning or loosening. Locknuts must not be used, as they increase the level of stress imposed upon the threads.

Before use in lifting, turnbuckles should be inspected for thread damage, as well as cracks and bends in the frame. The appearance of these deficiencies disqualifies a unit from use.

**Load Measuring Devices**

Used to measure loads under stress, these devices are needed with lifts where the binding or friction of the load could result in a greater stress on the hoist or tackle. These devices are also utilized when loads slated for lifting are more than 90 percent of the rated capacity of the equipment being used, or in situations where the load can’t be weighed or verified.

The load indicating system should include a means for the operator to determine that it is operational before crane use. The read-out device should be placed in a location where the operator can obtain readings from their normal working position.

**Hoists**

Available as electric, air, or hand powered types, hoists are not permanently mounted and are always allowed to hang freely.

(Continued on page 7)
Both electric and air powered hoists are pendant operated, with controls returning to the off positions when released and when motion stops. Pendant control components include power cable, pendant support, hoist drum, hoist line, limit switch actuator, block, hook, sling, safety latch, and I-beam.

Hand chain operated hoists are manually powered, and designed to automatically stop and hold a load when lifting force is removed. Chain hoists should be rigged so that a straight line between the upper and lower hooks exists. These hoists are intended for use only in a vertical or near vertical position. If rigged at an angle, the upper hook can be damaged at the shank and the throat may open. If the gear housing rests against an object while under load, it can be damaged or broken.

In general, hoists feature four basic components: bottom (load) block, drum, limit switches, and pendant station. The bottom block is the assembly of hook, shackle, swivel, bearing, sheaves, pins, and frame as suspended from hoisting ropes or chains. A cylindrical, flanged barrel on which rope is wound, the drum may be smooth or grooved.

Upper and lower limit switches are tasked with restricting the raising and lowering capabilities of the hoist through altering of the electrical circuit. The upper switch restricts the upward travel of the hoist based on the revolutions of the drum or when the block contacts a device below the hoist drum. Lower switches reduce the downward travel of the hoist in a similar fashion. When no lower switch is utilized, no less than two full wraps of rope should remain on the hoist drum when the hook is in a fully-extended position.

The pendant station is comprised of controls suspended from the hoist. These controls are used to operate the hoist unit from the ground.

### Overhead Traveling Cranes

Large cranes utilized in lifting operations are mostly of the overhead type, these being controlled by a pendant that hangs from the crane. The pendant controls the hoist motion and bridge, along with trolley travel. While types of overhead traveling cranes vary, each features three basic components: runway, bridge, and trolley.

Resembling a railroad truck, the runway is comprised of rails, beams, girders, and brackets that provide the framework and support for the crane. Traveling on the runway, the bridge is made up of two or more girders, trucks, and a drive mechanism that moves the bridge along. The trolley is carried by the bridge, moving horizontally between the runways and providing support for the hoist mechanism, which consists of the load block.

Wire ropes connected to a motor-driven drum and threaded through the load block are used to raise and lower the load. As the load is raised to the end of the load block travel, it meets a limit switch actuator, which stops the travel of the block and prevents the crane from being damaged and the load from being dropped.

All overhead cranes must be inspected monthly by maintenance, with the procedure noted on the inspection tag.
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In Memoriam

Everett Lawrence “Larry” Coffelt (1953~2019)

We were very saddened to hear of the passing of Larry Coffelt on July 12, 2019, as a result of a jobsite accident. Larry was originally from Oklahoma and traveled with his work as a surveyor, welder, and crew chief for several companies like Brown & Root Industrial Services and Western Pacific.

Then Larry came across an opportunity to work at Trammel Brothers Drilling, and decided the water well industry was where he wanted to be. In 1985, he purchased the company, renaming it Quest Enterprises, Inc., based in Springerville.

For many years, he was active with the Arizona Water Well Association, serving in several capacities such as District Director, on several Committees and Officer positions which included Past President. During that time, he also served on the Board of Directors for the Mountain States Groundwater Expo.

Larry is survived by his wife Belinda; children Katrina (David), Levi (Siobhan), Justin (Katelyn), and Nicholas; grandchildren Sierra, Daniel, Timothy, Emma, Peyton, Audrey, and Logan; and countless friends.

A Celebration of Life Memorial Service was held Friday, July, 19, 2019, at the Community Presbyterian Church in Springerville, where several family members and friends shared stories about their times spent with Larry.

His sense of humor, work ethic and community involvement will be missed by many.
Bob Way  
P.O. Box 130  
Morristown, AZ 85342  
waysdrilling@hotmail.com

September 8, 2019

Arizona Department of Water Resources  
1110 W. Washington Street Suite 310  
Phoenix, AZ 85007  

Thoughts on Improvements in Arizona’s Water Codes

Items that require attention:

Water wells that are drilled without a permit should be abandoned under current regulations at the cost of the well owner. The benefits of this action would be to stop illegal drilling and theft of groundwater.

Pump installers should be licensed under their own category by AZDWR. Pump installers should be required to file a pump completion report, including current well static water level, after every service or install. Drillers and pump installers should be required to have continuing education. The benefit of this action would be to protect the aquifers from contamination and provide data to AZDWR; such as pumping rates and water levels.

Who is responsible for the water quality, quantity, and other items in regards to water injection into aquifers? Who handles the data and reporting?

Thank you,

Bob Way
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WE SEE WATER DIFFERENTLY
OSHA CRANES AND DERRICKS IN CONSTRUCTION: OPERATOR QUALIFICATION AND CERTIFICATION

Article reprinted from The Buck Vol 2 – 2019

This fact sheet explains the operator qualification and certification requirements of subpart CC —Cranes and Derricks in Construction, as specified in 29 CFR 1926.1427. State or local government licensing is effective November 8, 2010. Other certification and qualification is effective November 10, 2014.

WHO NEEDS TO BE CERTIFIED OR QUALIFIED?
Any person engaged in a construction activity who is operating a crane covered by the new cranes and derricks rule, except:
- sideboom cranes*
- derricks*
- equipment with a rated hoisting/lifting capacity of 2,000 pounds or less*

*Operators of the listed equipment must meet the criteria for minimum expertise described in the applicable section in subpart CC.

ARE OPERATORS OF DIGGER DERRICKS REQUIRED TO BE QUALIFIED OR CERTIFIED?
Yes, unless the digger derrick is being used to auger holes for poles carrying electric or telecommunication lines, place or remove the poles, or handle associated materials to be installed on or removed from the poles.

WHAT IS REQUIRED IN THE TESTING FOR CERTIFICATION?
Certification has two parts:
1. A written examination that includes the safe operating procedures for the particular type of equipment the applicant will be operating and technical understanding of the subject matter criteria required in 1926.1427(j).
2. A practical exam showing the applicant has the skills needed to safely operate the equipment, including, among other skills, the ability to properly use load chart information and recognize items required in the shift inspection.
3.

DOES AN OPERATOR NEED MORE THAN ONE CERTIFICATION?
With respect to certification from an accredited testing organization, an operator must be certified for the type and capacity of crane he or she is going to operate. Each accredited testing organization develops its own categories for crane type and capacity.

HOW IS AN OPERATOR CERTIFIED OR QUALIFIED?
There are 4 ways that an equipment operator can be qualified or certified and meet OSHA requirements:
1. A certificate from an accredited crane operator testing organization.
2. Qualification from the employer through an audited employer program.
3. Qualification by the US Military (only applies to employees of Department of Defense or Armed Forces and does not include private contractors).
4. *Licensing by a state or local government (if that licensing meets the minimum requirements set forth by OSHA). *When a state or local government requires a crane operator license, the crane operator must be licensed accordingly to meet OSHA requirements.

Accredited crane operator testing organization.
The testing organization must be accredited by a nationally recognized accrediting agency and test according to the criteria listed at §§1926.1427(j)(1) and (j)(2). This certification is portable from employer to employer. The testing organization must have its accreditation reviewed every 3 years. The certificate must note the type and capacity of equipment for which the operator is tested and certified. The certificate is valid for 5 years.
Audited employer program. An employer may provide a crane operator testing program under the oversight of an independent auditor. An accredited crane operator testing organization must certify the auditor to evaluate the administration of written and practical tests. The auditor must conduct audits of the employer’s program according to nationally recognized auditing standards. Crane operator qualification under an employer program is only valid while the operator is an employee of the employer and operating a crane for the employer. The qualification is valid up to 5 years.

U.S. Military. This qualification applies only to civilian employees of the Department of Defense or Armed Services and is not portable. This qualification does not include employees of private contractors.

Licensing by a government entity. This license is obtained from a government entity, such as a city or state that has a required certification program. When this license meets the minimum requirements of 1926.1427(c)(2) and (j), OSHA requires a crane operator to have this license when operating in the applicable city, county, or state. This license is not portable outside the boundaries of the government entity that issues the license, and is valid for a maximum of 5 years.

With respect to certification from an accredited testing organization, an operator must be certified for the type and capacity of crane he or she is going to operate. Each accredited testing organization develops its own categories for crane type and capacity.

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A special “Thank You” to Marcus Donaldson with Mount Sopris for a great presentation on Borehole Magnetic Resonance: A Radiation-Free Porosity and Hydraulic Conductivity Measurement.
‘THANK YOU’

To the following who contributed to our 2019 Picnic!

2M Company for providing our picnic lunch which included grilling the hamburgers and hot dogs in addition to serving salads, condiments and cookies for dessert.

Mitchell Lewis & Staver for once again providing us with several coolers of various beverages and bottled water.
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Draining Arizona: Residents Say Corporate Mega-Farms are Drying up their Wells

Those who can afford to drill the deepest wells are the ones who get the water while those who can’t, are forced to abandon their property.

Mining for water in the desert leaves wells dry

Reprinted from NBC News; By Andrew Stern
Submitted by Jesse Richardson, Water Systems Council

WILLCOX, Ariz. — Lynda Reynolds dreamed of retiring in the Arizona countryside. After living in the state for 32 years, she finally bought a house in the small town of Elfrida that had “million-dollar views” and farmland to grow crops.

A few years after moving in, in 1997, though, her well went dry. Like all homes in Cochise County, hers depended on underground water, so she took out a $15,000 loan to deepen her well. Seven years later, it went dry again, and she couldn’t afford to borrow the $35,000 to drill a new, deeper one.

“I saved all my life, I saved in the military, I saved as a teacher, I saved, and saved, and saved — that’s the way I was brought up,” Reynolds, 73, said. “And I lost everything.”

She was forced to abandon her home, move back to Bisbee, a city 30 miles southwest where she had lived previously, and put her house on the market. Eleven years later, it’s still for sale, and she’s still paying off the loan on that dry well.

Over-pumping of groundwater has been a problem across rural Arizona for generations. Historically, as groundwater levels inched lower, wells like Reynolds’ went dry here and there.

But in certain areas, the groundwater is dropping faster than it has in decades, driven by a recent influx of corporate farms that are placing intense stress on the aquifer, experts say.

That’s set off a battle for water in this dry region, pitting some longtime residents and family farmers against big corporations. In this competition for a scarce natural resource, those who can afford to drill the deepest wells are the ones who get the water, while those who can’t are forced to abandon their property.

That’s what’s happening in Cochise County, in the southeastern part of the state, particularly the area around Willcox, a small city along I-10 that’s home to much of the county’s agriculture industry.

Near Willcox, there’s no surface water whatsoever, so homes, cities and farms all rely on pumping water from the aquifer. The cheap land here, paired with a four-season growing year and lax laws regulating water pumping, have drawn multiple major corporate farms to the area in the last 20 years, where they’ve competed with residents and existing farms for groundwater.

The largest of these industrial transplants is Riverview LLP, a dairy and beef conglomerate headquartered in Morris, Minnesota, which began buying land in Cochise County in 2014. Such large operations need to pump significant amounts of water to hydrate their cows and grow food for them.

(Continued on page 20)
To ensure a constant stream of water, these farms have drilled deeper than wells in previous decades. Whereas 20 years ago, wells averaged about 270 feet, Riverview has drilled dozens of its wells deeper than 1,000 feet, according to the state’s well registry. Of the 92 wells drilled that deep in the Willcox Basin since 2015, 60 of them are Riverview’s. In that time, no other company drilled more than five, according to the registry.

These deeper wells that companies have drilled over the past several decades have essentially undercut existing well owners and pushed the entire water table down, 200 to 300 feet below 1950s levels, said Jeff Inwood, chief hydrologist at the Arizona Department of Water Resources.

“That trend is going to continue,” Inwood said. “These are large production wells, so they will have a major impact over time.”

Riverview defends its decision to set up operations in Willcox. “We were aware of the water situation and did our due diligence of scoping out the area for sure,” Kevin Wulf, a Riverview community relations and education representative, said. “We’re not here to build dairies, suck up all the water and leave in five years.”

Some residents and local political leaders welcome large farms like Riverview as significant tax contributors, offering an economic boon to the area.

A rig rolls slowly around the circular field, watering the crops below. Andrew Stern / NBC News

“What they’ve done is revitalized the agriculture community here,” Peggy Judd, the county supervisor who represents Willcox, said. “There are hundreds, literally thousands of people in this valley that appreciate them for what they are.”

But other residents see the corporate water drilling as greedy. Along with experts such as Inwood, they fear it’s only a matter of time before Riverview, and companies like them, pump the water beyond the reach of residents for good.

**When the corporate farms came to town**

Arizona’s groundwater law largely does not apply to rural areas like Willcox, which means that land is particularly attractive to large farms. Companies can pump as much water as they want; they don’t even have to monitor how much they use.

The lax water regulations have drawn an influx of corporate farms, including pecan growers such as Chase Farms and the National Pecan Company. But in the Willcox area, the new arrival that has alarmed some residents the most in recent years has been Riverview, particularly as the full scope of its plans came into view.

In 2012, Cochise County loosened its agricultural permitting regulations, making it easier to set up large cattle farms. Riverview arrived shortly afterward, in December 2014, and went on a land-buying spree.

Riverview’s first purchase was an 8,000-cow dairy farm for $38 million. Since then, the company has bought at least 166 parcels of land in 59 separate transactions totalling at least $129 million, according to property records reviewed by NBC News. Riverview now owns 20,000 acres of farmland in Cochise County, according to the company.

In some cases, Riverview formed holding companies to execute the land deals. In February 2015, for example, Riverview CEO Gary Fehr set up a limited liability partnership called Mountain Vista Farms with a local farming family, and they purchased a $7.7 million property together. Mountain Vista Farms had the same corporate address as Riverview, and once the land was purchased, ownership was transferred to Riverview in December 2017, according to property and partnership public records.
Riverview declined to comment on the specifics of any land deals. “If anybody wants to come and see what we’re doing, come and see what we’re doing,” Wulf said. “We’re happy to show people around, and we’re happy to be transparent and answer questions that they have.”

As Riverview grew, it drilled deeper wells on its new properties, and nearby residents began noticing their shallower wells drying up, six residents told NBC News. (The state does not comprehensively track reports of wells drying up, Inwood said.) That pattern, combined with what residents described as Riverview’s above-market offers for land purchases, left some holdouts feeling they had only one option — sell.

“The longer you stay, the less money you’re probably likely to get,” said one resident, who spoke on the condition of anonymity for fear of losing his job and being ostracized if he criticized Riverview. “And they’re going to get it anyway,” he added of the company’s appetite for land. “Everything that they’ve done, they’ve done in mass amounts and with such speed and vigor that it’s like a freight train.”

(Continued on page 23)
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A battle over water regulation

As the water table drops, industrial operations like Riverview are forced to drill deeper in search of guaranteed water. The Willcox Basin sports 7,453 wells, according to the state well registry. Of those, only 368 are deeper than 900 feet — and Riverview owns 102 of them. The cost to drill a hole that deep can easily surpass $500,000, local drilling companies told NBC News.

Victoria Sky, 70, is an artist and musician who lives a few miles from Riverview’s second dairy and heifer raising operation — Turkey Creek Dairy — which is set to open this month, according to the company. She said she’s terrified the company’s newly drilled wells could encroach on her property’s water supply. “They could kill this place, literally,” Sky said. “This could sink me. It could. It’s just the truth. I mean, the way things are going and they’re not checked.”

Some residents and family farmers have asked the state for compulsory monitoring of wells and water pumping. Last year, the state Department of Water Resources proposed requiring that all wells pumping more than 35 gallons a minute monitor and report their water use.

But additional regulations have faced opposition from some agribusinesses and the Cattle Growers Association, a lobbying group, as well as elected officials including state Rep. Gail Griffin, a Republican who chairs the Natural Resources, Energy and Water Committee in the Arizona House of Representatives. Thomas Buschatzke, director of the Department of Water Resources, said he couldn’t convince the legislature to consider the water monitoring bill.

“We don’t think wells should be metered at all,” Gaither Martin, executive vice president of the Arizona Cattle Growers Association, said. “Our point of view is once it starts, where does it stop? It becomes like every other policy issue that becomes a slippery slope.” Griffin’s office did not respond to requests for comment. According to policy experts, that conflict is nothing new.

Kathy Ferris, former director of Arizona’s Department of Water Resources, has been pushing for regulations for 40 years. “And all that’s happened in that 40 years is that the problems have worsened, but many of those same people, or they’re the same kind of people, still want to believe there isn’t a problem,” Ferris said. Ferris fears companies like Riverview will “mine” the groundwater until it dries up.

Riverview contests that characterization. “We want to be here just as long term as everyone else does,” Wulf said. “So we want to make sure that we’re doing the right thing by the water and using the water in a sustainable way.”

But some locals don’t trust the company’s pledges. “They’ve just taken the water,” Reynolds, the Bisbee resident, said, “and when they use up the water, they’ll be gone.”

NOTE: To see more photographs and watch the video that accompanied this article, go to https://www.nbcnews.com/news/us-news/draining-arizona-residents-say-corporate-mega-farms-are-drying-their-n1052551
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New Arizona Law Offers Added Protections for Verde Well Owners
By Howard Fischer, Capitol Media Services | azcapmedia

PHOENIX -- A new law signed by Gov. Doug Ducey is designed to provide legal protections to those who drill wells into underground streams they are not legally entitled to tap.

The measure repeals existing laws that make it a crime when a well owner “uses water to which another is entitled.” That law, until now, has subjected violators to up to four months in jail and a $750 fine.

Now, that criminal penalty will be available only when someone knew they were breaking the law.

But that exception bothered several lawmakers. Rep. Noel Campbell, R-Prescott, said he has no problem immunizing those who already have put wells into the ground, only to find out that they have dipped into a subsurface flow that doesn’t belong to them.

Campbell, however, said he wanted a provision included in the legislation to tell those who have yet to drill a well that they would be subject to criminal penalties if they ended up tapping into someone else’s water. It was not included.

Rep. Isela Blanc, D-Tempe, said she fears the new law will create a loophole for the unscrupulous. She pointed out that it would be a defense to criminal charges that the well was drilled without knowledge that it was actually taking water from a subsurface flow. “That would make it very easy for certain groups or organizations or people to do something unethically and get away with it,” Blanc said, by claiming “I didn’t know this was against the law.”

And Rep. Kirsten Engel, D-Tucson, said the law “undercuts private property rights.”

The legislation was pushed by House Speaker Rusty Bowers, R-Mesa. He argued that those who drill wells don’t -- and can’t -- know whether they’ve actually tapped into a subsurface flow. And that water, like surface water, is allocated not based on who owns the land but on different laws about who has the right to use it.

Bowers said the state is still trying to determine who has the rights to certain surface and subsurface waters. He said some of the water rights at issue actually could turn out to belong to tribes. Bowers said there’s no reason to subject well drillers to criminal liability if it turns out that what they’re pumping “contains one molecule of subflow.”

That includes Bowers himself who said he drilled a new well two years ago. “We don’t know where that water comes from,” he testified during hearings earlier this year. “It could be coming from the river, being forced up by capillary action.” But Bowers said there are “tens of thousands of people” who face similar risk, especially in the Verde Valley and the San Pedro watershed.

Courage is being scared to death but saddling up anyway. --John Wayne
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Boart Longyear Achieves 10 Million Man-Hours and 1 Year LTI-Free

SALT LAKE CITY, Utah — 9 July 2019 — Boart Longyear is pleased to announce its company-wide global accomplishment of more than 10,000,000 consecutive man-hours worked with no Lost Time Injuries (LTI) and one-year completely LTI-free as of 5 July 2019. Boart Longyear employs approximately 4,900 personnel including supervisors, drillers, driller assistants, mechanics, technicians, and welders, manufacturing plant personnel, distribution centers and warehouse personnel, and support staff that are clearly committed to working safely every day. In 2018, the company-wide LTIR matched an all-time low at 0.10 LTIR, and lowest number of Lost Time Injuries on record.

Boart Longyear’s new critical risk management programs and simplified company field standards support employees in understanding, embracing, and practicing an exceptional safety culture. The Company focuses on safety programs like THINK (Take the time, Hazard recognition, Identify the risk, Necessary controls applied, and Keep safety first), Stop Work Authority (authorizes and mandates employees immediately stop any work that does not comply with safety standards), the Golden Rules of Safety, the Rules of the Road, and Make it Personal Cards with safety program basics, a signature for their commitment to work safely, and a place for a photo of why they are working safely.

“I am incredibly proud of the employees at Boart Longyear. I acknowledge each one of them for their hard work, for embracing and living our high safety standards and world-class safety programs, and the way everyone takes responsibility for their own safety and keeping each other safe. This is a significant accomplishment for Boart Longyear and is a great outcome resulting from the efforts of everyone in the Company living and breathing our safety culture,” said President and Chief Executive Officer, Jeff Olsen. “I congratulate every Boart Longyear employee for this prestigious achievement.”

(Continued on page 33)
The Company acknowledges the participation, collaboration, and contributions from every level and department within Boart Longyear. Denis Despres, Chief Operating Officer stated, “On a site level, we value the everyday procedures from standardized pre-start information meetings that focus on daily job tasks and associated hazards and risks, our online data management system including the system’s mobile app, and the daily team and individual based field level risk assessments. At Boart Longyear, it is everyone’s responsibility to work safely.”

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Boart Longyear is headquartered in Salt Lake City, Utah, USA, and listed on the Australian Securities Exchange in Sydney, Australia (ASX:BLY). More information about Boart Longyear can be found at www.boartlongyear.com. To get Boart Longyear news direct, follow us on Twitter, LinkedIn and Facebook.
In 2019, Gicon Pumps & Equipment will be celebrating 40 years of quality customer service to the water well industry! We appreciate and recognize all of the relationships and commitments from our business partners, as well as our employees that have contributed to our longevity.

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Water Well Trust Brings Safe Drinking Water to New River Resident

The Water Well Trust, a nonprofit created by the Water Systems Council to help Americans living without access to water, was a beneficiary of a $5,000 donation from the Even Collinsworth Jr. Trust earlier this year. Collinsworth, who died in December 2016, was a graduate of Harvard Business School and a successful international executive throughout his career, serving as president of Velsicol and Axia Corporations and on numerous public and corporate boards based in the U.S., Mexico, Canada, the U.K., and Italy.

His eldest son, Even Collinsworth III, is a wildland firefighter with the U.S. Forest Service in southeast Arizona. He gets his electricity from a co-op in New Mexico and had read about the NM Water Well Trust projects in their newsletter. Living in the desert, Even has a great appreciation for water and WWT's work appealed to him.

Even contacted Water Systems Council's ED Margaret Martens, telling her that his father was a "socially responsible capitalist" who followed the promise he made to his father to leave the world a better place by giving back during his lifetime and after, through the Trust. Donations from the Even Collinsworth Jr. Trust to the WWT will be given annually, and the amounts will increase each year.

Martens reached out to AZWWA to identify potential candidates for these grant monies. At the same time, AZWWA was contacted by a New River resident needing assistance:

According to our recollection of our real-estate records, our 450' deep well was installed in 2004. This well has been meeting the needs of the attached 4-bedroom 2 bathroom mobile home since that time. Last week we ran out of water. The 2400 gallon holding tank was empty, and it's always been 3/4 full previously. We troubleshooting the controller and PumpSaver, and flow rate. Eventually we determined that we have two problems: 1) High well pump current, where it should be 8-11 amps, and is measuring 16 amps. It's a 1.5 HP motor. 2) Very reduced flow rate, about 5 gallons per minute initially after sitting overnight, reducing to an intermittent flow of less than 1 gallon per minute when cycled every 30 minutes.

A local well company has quoted us $2,450.00 to replace the well pump with exactly the same 1.5 HP well pump motor, with no guarantees that this well isn’t drying up. I'm concerned that our well may now be “low yield”, which would probably require a different well pump size, PumpSaver recalibration, and possibly an appropriate flow restrictor which matches the current well output.

Please let us know if AZWWA can provide referrals to reputable well service companies which can help this low income household restore some functionality to the well? Also, please let us know if there are any local, county, or state water benefits for low income households?

(Continued on page 45)
In response to his plea, the WWT reached out to the family and offered financial assistance. Their new pump was recently installed and the family again reached out to AZWWA:

I just wanted to thank you for the referral to Margaret Martens at the Water Systems Council, and to give you some great news on this beautiful AZ Friday afternoon.

The new well pump is working great, it's flowing around 5 gallons per minute, very clear and fresh water has filled our holding tank now. The well turned out to be 600 feet deep, and we were so pleased to discover that the standing water height in the well is 300 feet deep.

Margaret Martens at the Water Systems Council has been wonderful to work with all along. She was able to secure a grant to cover this $2,450.00 expense for our family, and our whole family is truly grateful.

The Water Well Trust is a 501(c)3 organization created by the Water Systems Council and serves Americans living primarily in rural, unincorporated areas or minority communities that may be isolated and difficult to reach, assisting low income families that cannot afford to pay for public water supplies and those who live in areas where the extension of public water supplies to serve them doesn't make economic sense.

For more information, visit [www.waterwelltrust.org](http://www.waterwelltrust.org).

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2019 Chili Cook-off

We had 2 Entrees for our 2019 Chili Cook-off this year: Mike Ball with ADWR and the granddaughters of Mr. & Mrs. Fred Tregaskas. It was a very interesting contest with both being excellent choices but the Winners were the Granddaughters of Mr. & Mrs. Fred Tregaskas!
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He was very much looking forward to his retirement and had already made plans to travel but mostly, just enjoying life with his wife and family. He will certainly be missed by many of his co-workers, customers and friends that he had met and/or worked with during his career.
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The Arizona Capitol Times – host of the “Morning Scoop” panel discussion on water issues -- promoted its September 12 breakfast gathering with an announcement that there would be some big news revealed. Editor Luige del Puerto tweeted out that attendees would be hearing about “an important news development” regarding water policy in Arizona. As it turned out, he wasn’t joking.

As promised, Morning Scoop panelists Tom Buschatzke, director of the Arizona Department of Water Resources, and Ted Cooke, general manager of the Central Arizona Project, announced their plans for “data-gathering and listening” to key water-community stakeholders and elected officials regarding upcoming revisions to the management of the Colorado River system.

Director Buschatzke told the audience of about 100 that he and Ted Cooke would be “putting together a process” for reaching out to former Steering Committee members, elected leaders and others. The goal, he explained, would be to learn from stakeholders what expectations they may have for the coming rounds of inter-state negotiations over management of the vital river system. In short, they want to know what Arizona expectations are for what’s next in Colorado River management.

The Colorado River system, including Hoover Dam and Glen Canyon Dam, is managed by the Secretary of the Interior through the Bureau of Reclamation. Currently, Reclamation is operating under a temporary set of guidelines approved in 2007 for dealing with any shortages that may be declared.

As described in the introduction to those “’2007 Interim Guidelines,” the Interior Department had never before developed operational rules governing shortage conditions at Lake Mead and Lake Powell “because these types of low-reservoir conditions had simply not yet occurred.” The long, harsh drought that existed in 2007 – and which continues to this day – made the ’07 Guidelines necessary.

The introduction further described the “unique and remarkable consensus (that) emerged in the (Colorado River) basin among stakeholders,” including the Governor’s representatives of the seven Colorado River Basin States. Those Interim Guidelines expire in 2026. The goal now for Director Buschatzke and General Manager Cooke is to replicate the spirit of cooperation that surfaced both during those negotiations in 2007 and, more recently, during Arizona’s own negotiations that culminated early this year in the Drought Contingency Implementation Plan.

Their plan is to get input from Arizona leaders and water stakeholders on their views about the effectiveness of the existing operational guidelines, including the Drought Contingency Plan overlay that was approved by representatives of the seven Basin States on May 20 at a ceremony atop Hoover Dam.

As they explained at the Morning Scoop breakfast, they intend to meet first with the elected leaders who contributed so much to the successful Steering Committee process. Then, they will sit down with other delegates, including those representing Arizona tribes, cities, agriculture, mining, development and the NGO community.

“This will ensure Arizona is a strong voice among the Colorado River Basin states and the federal government as we hammer out the next set of agreements for management of the Colorado River Basin beyond 2026,” they said in a recently published op-ed. “That is our next step. It’s a big one and we must be prepared. And we will be, because Arizona truly is stronger together.”
## Events Calendar

<table>
<thead>
<tr>
<th>Event Date</th>
<th>Event Description</th>
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<tbody>
<tr>
<td>October 26, 2019</td>
<td>AzWWA Membership Meeting</td>
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<tr>
<td></td>
<td><strong>Location:</strong> Coco's</td>
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<tr>
<td></td>
<td>2026 N. 7th Street</td>
</tr>
<tr>
<td></td>
<td>Phoenix AZ 85006</td>
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<tr>
<td></td>
<td>For more information, <a href="mailto:admin@azwwa.org">admin@azwwa.org</a></td>
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<tr>
<td>December 3 - 5, 2019</td>
<td>National Groundwater Week</td>
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<tr>
<td></td>
<td>Las Vegas, NV Convention Center</td>
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<tr>
<td></td>
<td>3150 Paradise Road, Las Vegas, NV 89109</td>
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<td></td>
<td>For more information or to register, go to</td>
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<tr>
<td></td>
<td><a href="http://www.NGWA.org">www.NGWA.org</a> or call 800-551-7379</td>
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<tr>
<td>January, 2020</td>
<td>AzWWA Membership Meeting</td>
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<td>Date to be determined</td>
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<tr>
<td>February 6 &amp; 7, 2020</td>
<td>Mountain States Ground Water Expo</td>
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<td>Aquarius Casino Resort</td>
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<td>Laughlin, NV</td>
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<td><a href="http://www.mountainstatesgroundwater.com">www.mountainstatesgroundwater.com</a></td>
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