

UTAH GROUND WATER ASSOCIATION

The Advocate WINTER 2014 EDITION

LETTER FROM THE PRESIDENT

JASON LAMB — BOART LONGYEAR

Hello Everyone. It was great to see all of you who attended our conference in Mesquite. It was a wonderful turn out again with a new record number of vendors this year for a total of **28!** Wow! It created a very fun atmosphere and generated good talks both inside and outside the classroom. Among the many great speakers, my hat's off to the guys at MI Swaco who put on a top notch mud class. They brought in a full scale mud program with various viscosities and weights with multiple water loss and wall cake tests. They had four fully stocked mud kits for everyone to use and plenty of Marsh funnels and Vis cups to go around. It was a costly class to put on and would normally run between \$200 and \$600 per individual to experience a class like that. Well Done! Our auction went well; I have not gotten the results from Colette yet but expect it to be good. Although it dragged on longer than expected (something we will address before next year) it went over great. I want to say THANK YOU to all who participated. It means a lot to us and the kids who receive the scholarships created by this event. This is a huge part of our meeting in January and we appreciate it dearly. We are at a crossroads with the size of our Convention and are reviewing the possibilities of expanding into a larger accommodating facility. This is something we will be discussing at our first quarter meeting this year. If you have any comments please get in touch with one of us or contact us through the website to express your ideas or thoughts, especially if you are one of our vendors. There is a large tent across from the Casa Blanca that they may let us rent at similar prices as our room. Something to think about?

There was a good discussion thanks to Ranger "Patch" Karr regarding Insurance on not only equipment and tooling but the possibility of holes being insured while drilled. We did not come to any conclusion but it raised a great deal of debate and comments on what coverages are available and what are not. Patch, please keep us informed on the results of your hearing if and when they occur.

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LETTER FROM THE PRESIDENT (CONTINUED)

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This discussion got me to thinking. The drilling and pump business is unlike most businesses around us. The cost of doing business has increased considerably over the years. The equipment is not only expensive but the risk is extremely high. Not to mention a new employee with no experience will take a great deal of time and money to train. Because the work is so hard, hours so long, and conditions undesirable due to the cold or wet weather, the turnover rate can be high and it may seem like your efforts are useless in retaining good employees. When bidding a project, all of this must be taken into consideration. The cost of depreciation and maintenance of equipment, fuel, labor, and materials are just the start. Then you have to consider your surroundings. The access to and from a site, the distance from town, and accommodations for your crew(s) can be a puzzling experience and major expense if you don't know what to look for. All of this before you ever set up to drill or pump. Then there are the "below surface" conditions such as failing formations, flowing sands, or undersized cased wells that your pump is stuck in. You need to have experience for these hurdles and not everyone has it. My Dad always said, "If it was easy, everyone would be doing it". Case in point, not everybody does this kind of work and the rewards should reflect that. For something that is so difficult, complicated, and full of risk, the carrot in front of you should be worth your while. It all boils down to risk. If the risk is low then you should expect the margin to be low, but if the risk is high the margins should also be high. It does not matter if you did not experience troubles during your project. If the risk is present, it needs to be accounted for and charged for regardless if encountered or not. I have seen too often award winning bids at a point where the job has to go perfect with no hiccups and risk not considered or accounted for. This is sometimes referred to as survival mode and is anything but. A good way to end up out of business is get caught with your pants down and not account for the risks involved or charge for them. It is a special business and special group that we all belong to and I wish all of you prosperity in it. Make sure you acknowledge the risk involved in your daily activities and you are being compensated for them. Good Luck.

On another note, I bring this up all the time but it is worth noting again. As a member you should utilize our website for all that it has to offer. Advertising, Free Classifieds, Help Wanted, Blogs, Current Events, Photo's, Etc., so get into the habit of using it, it can be a resourceful tool. Please contact me if you have any questions or concerns. (801) 971-4471.

Until we talk again. Jason Lamb

UGWA Presentations at Rural Water

Several UGWA members will be presenting technical papers at the Rural Water Association conference in St. George on February 25, 2014. The subject of their session is *Water Wells & Pumps – Maximizing the Life Expectancy of Your Well*. Speakers will include:

- Van King of Loughlin Water Associates, LLC;
- Alan Beaudoin of Boart Longyear Drilling Services;
- Kyle Widdison of Widdison Turbine Service;
- Chris Mikell of Bowen Collins; and
- Layne Read of Delco Western.

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USING YOUR GPS DEVICE—WHAT'S YOUR NAD?

GEORGE W. COND RAT— LOUGHLIN WATER ASSOCIATES, LLC

GPS devices have made it easy to locate yourself and their use has become widespread. Using a GPS device can help to determine if you and your well are in the right place. But did you know that you if your device is set to the wrong datum, your actual location can be quite different from where you think you are; possibly off by hundreds of feet.

USE THE RIGHT DATUM

Whether you are using latitude-longitude, UTM, State Plane or another *coordinate system*, you need to know what *datum* you are using. A datum is a mathematical model of the shape of the earth that allows us to calculate a coordinate of any location. In Utah, we generally use either the North American Datum of 1927 (NAD27) or the North American Datum of 1983 (NAD83). The World Geodetic System (WGS84) established in 1984 is essentially the same as NAD83. Google Earth uses WGS84 and many recreation-grade GPS instruments use WGS84 (essentially NAD83).

The mathematical models describing the shape of the earth are slightly different for each datum; therefore coordinates describing your location are not necessarily the same. For a given point on the ground, a given latitude-longitude coordinate in NAD27 may be hundreds of feet different than the coordinate in NAD83.

COORDINATE SYSTEMS

In Utah, we generally set our GPS devices to read in either latitude and longitude coordinates or Universal Transverse Mercator (UTM) coordinates. Latitude-longitude can usually be set to display either as degree-minutes-seconds or in degrees with a long string of decimals.

UTM is a rectangular coordinate system with coordinates given as a distance east (Easting) and a distance north (Northing) from the system base point. UTM is not a single map but a series of map coordinate systems, one for each 6 degree of longitude around the globe. Utah is in UTM Zone 12 (your GPS device probably already knows this). I like to use UTM coordinates because they are easier to plot on a map. Note that UTM coordinates are in meters (yes, a unit of the dreaded metric system). A meter is 3.281 feet long (approximately, depending on your shoe size).

PLS SYSTEM

The public land survey (PLS) system is based on land surveys and monuments that were placed in the ground over the past 100+ years. Locations are given as distance from a section corner (such as “100 feet north, 300 west of the southeast corner of section 3, T3S, R5E, SLB&M”). In the next issue of the newsletter, I will discuss the PLS system and using your GPS device to determine your location in PLS coordinates.

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USING YOUR GPS DEVICE—WHAT'S YOUR NAD? (CONTINUED)

THE DIVISION OF WATER RIGHTS USES NAD27

The Utah Division of Water Rights (DWRi) uses locations based on NAD27 (along with the PLS that is based on a monument system). A start card from DWRi shows the well location in PLS coordinates and in UTM coordinates. Although it may not say, the UTM coordinates are in NAD27.

As a driller, you are required to verify that your well is drilled at the State Engineer approved location. You can check your location with your handy-dandy GPS, but be sure you know what datum your device is using. If your device is displaying in NAD83, you can convert the reading to NAD27 using the location calculator on the DWRi website:

<http://utstnrwrt6.waterrights.utah.gov/mapserver/location/location.asp>

HOW ACCURATE IS MY GPS? CAN I TRUST IT?

Be careful. Accuracy of your GPS reading is affected by the quality of your GPS device, the number of satellites providing a signal to your receiver, the presence of nearby solid objects (buildings, trees, even clouds), how long you wait for a reading, and other factors.

According to the US government (<http://www.gps.gov/systems/gps/performance/accuracy/>), the GPS signal in space will provide a worst-case accuracy of about 8 meters at a 95% confidence level. "The actual accuracy users attain depends on factors outside the government's control, including atmospheric effects, sky blockage, and receiver quality. Real-world data from the FAA show that their high-quality GPS SPS receivers provide better than 3 meter horizontal accuracy".

Along with a location, my GPS device displays an accuracy reading such as $\pm$ (plus or minus) 9 feet. I don't think this reading is a true accuracy but it gives us an idea. I let the device read until the accuracy stabilizes, then record the location. Of course this accuracy is meaningless if we are assuming an incorrect datum.

A GPS reading can give us a good idea of whether we are at the right location, but is not exact. Also realize that converting a GPS reading to a PLS location depends on having a correct coordinate for the reference section corner. The DWRi has a large database of section corner locations, but these locations are not necessarily accurate. Many corners are not actual surveyed locations. A licensed professional surveyor is needed to provide us a truly reliable location.



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SCHEDULE OF EVENTS

FRIDAY, JUNE 6th

9:00 am - 11:00 am CEU Classes

12:00 pm Lunch

1:00 pm - 3:00 pm CEU Classes

5:30 pm BBQ

SATURDAY, JUNE 7th

8:00 am River Rafting Trip



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UV DISINFECTION FOR RESIDENTIAL WATER WELLS

BY STEVEN D. PRICE—WESTERN HYDRO CORPORATION

The subject of residential water well disinfection has, at times, touched a nerve with all water well drillers and pump installers. No one wants to admit that there could be a problem with a well they drilled or pulled a pump from. The fact of the matter is that some water wells have issues from turbidity to funny smells or a strange taste. This is not a reflection on the contractor but a fact of life in the state of Utah. Since Utah is one of the driest states in the nation we have been pumping and using water from wells since the pioneers first settled in the valley. With the long history of volcanic activity first creating the mountains to the mining and farming since the area was settled, it's no wonder we have water problems. I will attempt to address some of these issues through the use of UV disinfection.

A common but serious water quality problem is contamination by bacteria or other microorganisms. Although we conduct, and the State requires, disinfection using chlorine upon completion of a well or well work, bacteria may return and require on-going disinfection by the user. UV disinfection is a method to accomplish this.

To help understand UV disinfection we should first look at the history and how UV came to use as a way to help clean up water supplies. We then will look at the need for disinfection and the techniques used to accomplish this goal. I will describe what UV is, the process involved, the proper way to calculate the dose of UV light, the type of microorganisms we are trying defeat, cover some basic drinking water regulations and why UV disinfection is a preferred method of treating water. At this point I would like to thank Viqua for providing me with many of the statistics I will quote and allowing me to use some of their sales literature for reference.

First, a little history about water disinfection. Chlorine was used early in the 1900's to combat the three most common types of bacteria-caused diseases in water: Typhoid Fever, Cholera and Dysentery. UV disinfection was first used to treat industrial process water used in manufacturing. By the time the 1980's rolled around UV was the process of choice for wastewater installations. The United States Environmental Protection Agency (EPA) began considering UV as the main disinfectant for all municipal drinking water applications in the 1990's. By the end of the 1990's, UV was being tested as a potential treatment for both *Cryptosporidium* and *Giardia*. By 2003 UV was treatment of choice and was written into the drinking water directives for both the EPA and Canada.

It has been estimated that there are almost 20 million cases of endemic waterborne diseases diagnosed each year. That works out to over 53,000 cases per day! Children, the elderly and those who are chronically ill are all more likely to be affected by waterborne disease than others. According to the American Water Works Association (AWWA) and the American Water Works Association Research Foundation (AWWARF), public water systems lose more than 10% of the total water produced because the supply lines leak. What steps are being taken down-line to prevent problems later on? With over

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UV DISINFECTION FOR RESIDENTIAL WELLS (CONTINUED)

(Continued from page 10)

11,000 surface water supply systems now supplying water to consumers and over 42,000 community water systems on groundwater there is a need for protection. A study done in the late 1990's determined that of the 199 groundwater supply sources tested, between 5% and 45% of the different well types tested, tested positive for *Cryptosporidium*.

Disinfection can be accomplished in two ways, physical and chemical. Disinfection is defined as: to cleanse as to destroy or prevent the growth of disease carrying microorganisms. A chemical agent, such as chlorine, iodine or ozone is added to the water in order to chemically treat the system. This method may alter other characteristics of the water such as taste and may cause other organisms to form. To disinfect physically is to remove or alter the bacteria in some way. UV light, boiling and filtration fall into this category. One important fact to remember is UV light does not alter the water. Taste, smell or pH will not change; only the bacteria is affected.

UV disinfection destroys the bacteria and viruses in the water by altering the basic DNA structure of the bacteria. This process is called Thymine Dimerization. The microorganisms in the water are rendered inactive and unable to reproduce. If you are outside in the sun for too long you get burned. This is basically what happens to the bacteria and viruses in the water.

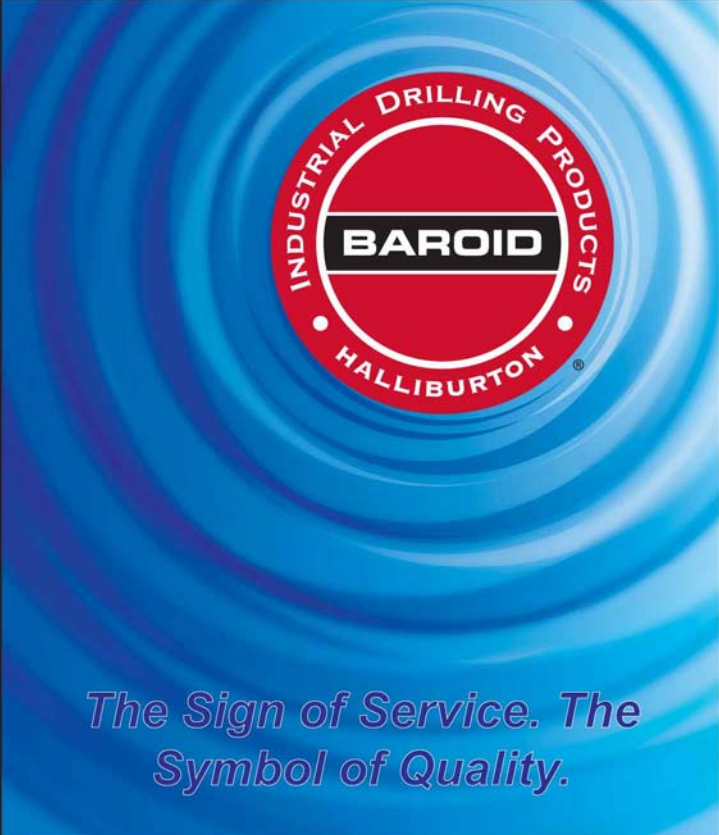
The key to effective UV light disinfection is dosage. UV dose is measured in intensity and time.

$$\begin{aligned}\text{Dose} &= \text{Intensity} \times \text{Time} \\ &= \text{millijoules}/(\text{sec})(\text{cm squared}) \times \text{time}\end{aligned}$$

Flow rate also effects the contact time. Fast flow = low dose, slow flow = high dose. Ultra Violet transmittance (UVT) needs to be greater than 75%. For example, UVT values of DI/RO water is 99%. That means of the water that is coming into contact with the UV light, 99% of the light is passed thru the water and neutralizing the microorganisms present. Well water can be anywhere from 75-95%. The turbidity of the water greatly affects the effectiveness of the UV light. While the formula for a public drinking water system is quite complex, a single family home must have a water quality test done. This will determine the contact time to successfully eliminate any microorganisms. What is the accepted dose for effective results? 16 millijoules per cm squared is acceptable for safe water. 30 millijoules per cm squared is the standard dose used for most UV systems. 40 millijoules per cm squared is required by the EPA and National Sanitation Foundation (NSF) to meet their requirements.

There are six basic types of microorganisms that are found in drinking water supplies. They are: *Cryptosporidium*, *Bacillus*, *E. Coli*, *Cyanobacteria*, *Polio*, *Shigella*. Most of these microorganisms are resistant to chlorine. UV is very effective. UV disinfection is so effective that the EPA accepts it for conformance to the UVDGM (Ultra Violet Disinfection Guidance Manual) 2006. However, proof of performance must be provided upon request. Some states and local governments may require a third party validation of performance. NSF55 is such an example. Schools, churches, hospitals, resorts, apartment complexes and nursing homes are

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LETTER FROM THE MEMBERSHIP VP

JIM WANKIER — MITCHELL LEWIS & STAVER

Once again we have wrapped up another UGWA Conference and expo, and once again it was a huge success thanks to all of you. With record numbers of participants it looks as though the Utah Ground Water Association is growing, and I offer a warm welcome to all the new members.

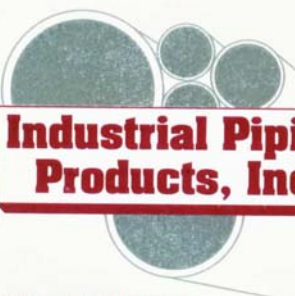
While at the show this year I couldn't help but notice the way we all seem to mingle and get along, offering advice and help to one another. This is the one thing that I love most about our organization, the friendship and camaraderie that seems to exist even among competitors. And for some reason it reminded me of a story. I come from a family of Baseball players. My father and all his brothers played Baseball and loved it with a passion. I used to love to hang around with them as a young boy and listen to the stories that they would tell about the 'good old' days and Baseball, how they loved that game. I often wished that I could have seen them play. One story that always stuck out in my mind was one about a couple of major league catchers and an umpire in the 1930's.

The umpire was a man named Emmett Ormsby; the catchers were Birdie Tebbetts of the Detroit Tigers and Mike Tresh of the Chicago White Sox. Emmett had served in World War I and had inhaled a whiff of phosgene gas that had seared the lining of his lungs, which by the 1930's left him gasping for air and disoriented. It was said he had about 14 kids that he struggled to feed (I never knew if that was true but let's just say he had a lot of children). On an umpire's salary in the 1930's he would have earned around \$250 to \$300 per month but only during the season, and anyone who had a job in those days was lucky to have it.

So the story goes that during a Sox-Tigers game there was a ball hit up the right field line, and Emmett ran up the line to call it. When he came back to the plate he said to Birdie Tebbetts who was behind the plate that he was getting very dizzy from his bad lungs and that he couldn't see. Emmett and Birdie both knew that if he couldn't call a game that he would lose his job and would not be able to support his family. Birdie asked him if he could be steady on his feet and stand behind the plate and Emmett said he could, so Birdie told him "When I raise my right hand it's a strike, and when I raise my glove it's a ball". Before Emmett could answer Birdie dropped down and called for a pitch. When the pitch came in Birdie raised his right hand and Emmett called out "Strike!" On the next pitch Birdie raised his glove and Emmett called out "Ball!" and they went through the hitters of the inning that way.

With the White Sox retired for the inning out comes Mike Tresh, their catcher, to take over from Birdie. How would Emmett fare now? No problem, it seems. Those were the 'good old' days, and it was said that Emmett Ormsby was an awfully nice man that everyone liked. So, Birdie thought nothing of asking Mike to join in the charade aimed at preserving Emmett's reputation and job. The conversation sealing their agreement went something like "Mike, Emmett is sick and he can't see. If you raise your right hand it's a strike, and if you raise your glove it's a ball". Mike just looked at Birdie and nodded. Birdie watched as Mike went through the raising of the hand and glove for a couple of hitters and then stopped. Mike looked over at Birdie and nodded. Birdie got the message - Emmett had regained his sight and was able to call his own balls and strikes...thanks to two opposing catchers that conspired to get their umpire out of a scrape.

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LETTER FROM THE MEMBERSHIP VP (CONTINUED)

(Continued from page 14)

I have always loved that story; it reminds me of what people really ought to be. We may not always find ourselves on the same team, but we are all human beings trying to make a living and working very hard at it. Some say that this sort of thing doesn't exist anymore but I say that it does. We see it all the time within the Utah Ground Water Association. Thanks to everyone for all that you do.

Jim Wankier, VP Membership, UGWA

UV DISINFECTION FOR RESIDENTIAL WELLS (CONTINUED)

(Continued from page 12)

examples of where validation would be required. The Utah Division of Drinking Water follows the guidelines laid down in the EPA's UVDGM 2006. This requires a UV lamp sensor, flow rate monitoring, lamp status indicators, ability to verify all calibrations and accurate service records. A private residence does not always fall under these guidelines. A check with your state would be needed. I was unable to find a standard for the state of Utah concerning a private residence. Again, a water quality test should be done. A separate test for arsenic should also be done at this time. Some states require a test if a sale of the property is conducted. UV disinfection is an ideal way for home owners who may be concerned about their water supply to help ensure that there are no water borne microorganisms present. Systems are simple to install and use. Yearly maintenance is required to maintain system integrity.

There are several advantages to UV disinfection. There is no need to handle dangerous, toxic or corrosive chemicals. Nothing is being added to the water. It is cost effective and maintenance costs are low. No moving parts to wear out or break. Contact is immediate, no extra space required for retention. UV is proven and trusted by the NSF and the EPA.

Remember that UV can only be effective if it is absorbed by its target, the microorganism. Minerals or other properties in the water may hinder the UV light. Iron, manganese, turbidity, hardness and tannins all need to be measured before any systems are installed. There are many treatment options available if a home owner finds that they have issues that would affect UV treatment. Turbidity, hardness, tannins and iron can all be successfully reduced or eliminated through additional treatment methods. Always have a water test done on the entire system before installing any treatment options.

Annual Conference and Expo



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RENEW or JOIN ON-LINE at WWW.UTAHGROUNDWATER.ORG or
MAIL THIS COMPLETED APPLICATION WITH YOUR PAYMENT of \$60 to:
UGWA 5577 Walden Glen Dr, Murray UT 84123-7942

MEMBERSHIP TYPE (CIRCLE ONE): A B C D E F

DRILLING LICENSE # _____ **CONTRACTORS LICENSE #** _____

NAME _____

PROFESSIONAL DESIGNATIONS _____

COMPANY _____

MAILING ADDRESS _____

CITY/STATE/ZIP _____

PHONE (_____) _____ **EMAIL** _____

HOW DID YOU HEAR ABOUT US _____

Membership Types

- A. **CONTRACTOR:** Any person doing business and licensed to drill, either water wells or ground water monitoring.
- B. **PUMP INSTALLER:** Any person doing business and licensed to install ground-water pumping equipment.
- C. **MANUFACTURER:** Any person engaged in the manufacturing of equipment, or materials used in the ground water industry.
- D. **SUPPLIER:** Any person engaged in the sale of equipment or supplies associated with the ground water industry.
- E. **TECHNICAL:** Any hydrologist, geologist, or engineer involved in teaching, research, consulting and or government services associated with the ground water industry.
- F. **ASSOCIATE:** Any person engaged in the support of the UGWA who does not accurately fit in any of the above.

This membership allows the joining of one individual to benefit from all the privileges of membership in the Utah Ground Water Association. Annual membership dues are \$60.00 per year. These dues cover membership only in the Utah Ground Water Association. The Utah Ground Water Association is affiliated with the National Ground Water Association and the Mountain States Ground Water Association. **All memberships are annual and run July 1st thru June 30th. Memberships purchased mid-year will have the 2nd year pro-rated to bring them compliant with this format.**

UTAH GROUND WATER ASSOCIATION

ADVERTISING FEE SCHEDULE

NEWSLETTER

(per quarterly issue)

DESCRIPTION	MEMBER	NON-MEMBER
1/8 Page or Business Card	\$25	\$30
1/4 Page	\$50	\$60
1/2 Page	\$75	\$90
Full Page	\$100	\$120

WEBSITE

(per calendar month)

DESCRIPTION	MEMBER	NON-MEMBER
Classified (no pictures)	\$0	\$10
Classified w/one picture	\$0	\$15
Careers/Help Wanted	\$0	\$0
Bronze Sponsor	1/8 page included with Annual Contract	
Silver Sponsor	1/4 page included with Annual Contract	
Gold Sponsor	1/2 page included with Annual Contract	
Platinum Sponsor	Full page included with Annual Contract	

BRONZE LEVEL SPONSOR: One UGWA membership (\$60 value); One full color ad on the UGWA website, www.utahgroundwater.org with link to your website or email; One 1/8 page size/business card size ad in The Advocate, the UGWA's quarterly newsletter (\$100 value); Recognition at all UGWA events.

SILVER LEVEL SPONSOR: One UGWA membership (\$60 value); One full color ad on the UGWA website, www.utahgroundwater.org with link to your website or email & reoccurring HOME page placement; One 1/4 page size ad in The Advocate, the UGWA's quarterly newsletter (\$200 value); 10% discount at all UGWA events (\$40 off annual conference sponsor registration); Recognition at all UGWA events.

GOLD LEVEL SPONSOR: One UGWA membership (\$60 value); One full color ad on the UGWA website, www.utahgroundwater.org with link to your website or email, HOME & SPONSOR tab placements; One 1/2 page size ad in The Advocate, the UGWA's quarterly newsletter (\$300 value); 15% discount at all UGWA events (\$60 off annual conference sponsor registration); Recognition at all UGWA events.

PLATINUM LEVEL SPONSOR: One UGWA memberships (\$60 value); Full color ad on the UGWA website, www.utahgroundwater.org with link to your website or email, Platinum all tabs placement; One full page size ad in The Advocate, the UGWA's quarterly newsletter (\$400 value); 25% discount at all UGWA events (\$100 off annual conference sponsor registration); Recognition at all UGWA events.

For More Information Contact:

Colette Read at 801.541.7259, colette@utahgroundwater.org or www.utahgroundwater.org

UGWA Scholarship Program

Instructions for Application

The UGWA Scholarship Fund is made available to assist and encourage the education of qualified active UGWA members, their spouse, children and/or grandchildren.

The Program is funded by donations from the [National Ground Water Association](#), the [Mountain States Ground Water Association](#) and our members. The fundraising auction held at the annual UGWA Conference & Expo is enthusiastically supported by our members & all proceeds benefit this program.

ELIGIBILITY:

- * **An** active UGWA member, their spouse, child or grandchild;
- * **And** the sponsoring UGWA member has been in good standing for a minimum of two (2) consecutive years prior to application;
- * **And** a student who is currently enrolled or planning to enroll within 6 months from award, in a full-time course of study at an accredited two or four year college, university or vocational-technical school;
- * **And** who is accepted by that institution during the year which the scholarship is given;
- * **And** have completed the Association's scholarship application with required supporting documentation;
- * **And** complete application is received by June 15 of each calendar year in which scholarships are awarded.

HOW TO APPLY: You must submit all information in the format you feel will best show your achievements and accomplishments during your scholastic career. Scholarship selection will be based on the following information submitted for review:

- ⇒ Fully Completed UGWA Scholarship Application Cover Sheet;
- ⇒ Academic Record/Grade Transcripts;
- ⇒ Minimum of 3 Current (6 months or less) Written Recommendations from Teachers, Advisers or Counselors;
- ⇒ Demonstrated Leadership and Extracurricular Accomplishments;
- ⇒ Statement of Economic Need;
- ⇒ Educational and Career Goals;
- ⇒ And Work Experience and History.

DEADLINE: All applications must be **RECEIVED no later than June 15, 2014**. Incomplete applications will not be considered. Scholarship awards will be based on the selection process made by an independent auditor such as the Salt Lake Community College, Office of Financial Aid. All submittals will be confidential. No UGWA members will be involved in the selection procedure. The number of awards will be based upon the financial strength of the Association's Scholarship Fund.

SCHOLARSHIP AWARD: The scholarship award will be no less than \$500 and no more the \$2,000. Scholarship value will be determined upon financial strength of the fund and the number of qualified applicants. All awards will be made by check payable jointly to the student and the sponsoring member and must be endorsed by both.

SUBMIT COMPLETE APPLICATION TO:

Utah Ground Water Association
5577 Walden Glen Dr
Murray UT 84123-7942

NOTICE: All applications are independently evaluated by the Financial Aid Department of the Salt Lake Community College in Taylorsville, UT. At no time are any members, board members or staff of the UGWA involved in the selection process. Every effort is made to ensure the fair and equal consideration of all applicants.

DEFERANCE: In the event community/civil service prevent an applicant from timely submitting an application for a current school year, consideration may be given for a future year's consideration. Applicant must submit a request and explanation for deferred consideration, along with any supporting documentation, with their completed application. Deference will be reviewed on a case by case basis by the current year's UGWA Board.

If selected, you will be asked to provide: applicant's date of birth, social security number and a 4x6 photograph prior to receipt of funds.

UGWA Scholarship Application
Cover Sheet

ABOUT THE APPLICANT

NAME: _____
first middle last

ADDRESS: _____
street address

city state zip

EMAIL: _____

PHONE: () _____

ABOUT THE SPONSORING MEMBER

RELATION: _____
how is applicant related to member?

NAME: _____
first middle last

ADDRESS: _____
street address

city state zip

EMAIL: _____

PHONE: () _____

U

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