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Aqua-Pure is the First Company to Make Recycling of Wastewater for Shale Gas Companies Competitive with Disposal – Solving a Huge Problem

Technology
Wastewater Treatment
(AQE-TSXV)



Brent Halldorson, P. Eng
Chief Operating Officer

BIO:

Brent Halldorson is Chief Operating Officer for Aqua-Pure, a Canadian public company that specializes in oilfield related water treatment. Aqua-Pure pioneered the use of evaporator technology in Alberta's heavy oil industry. Mr. Halldorson also manages Aqua-Pure's US-based service company, Fountain Quail Water Management. Mr. Halldorson is a professional engineer that has been with the company since 1999. He has been instrumental in the development of Aqua-Pure's mobile NOMAD evaporator treatment system for shale gas operations and other mobile treatment solutions for oil and gas operations throughout North America. Fountain Quail has recycled close to a billion gallons of shale gas wastewater back into freshwater for re-use in the Bar-

nett Shale and has recently expanded operations into Pennsylvania and Arkansas. Brent currently lives in Ft Worth Texas with his wife and three children.

Company Profile:

Aqua-Pure is dedicated to developing and commercializing technology able to process wastewater beyond the capabilities of conventional treatment. The company is focused on creating predictable and profitable markets for wastewater treatment too difficult or expensive to treat with traditional technology. Through the application of innovative equipment, Aqua-Pure has tapped into untouched market sectors and provides higher efficiency, lower cost systems than previously available. Aqua-Pure is working to transform wastewater from a liability to an asset by making recycling both available and affordable.

Interview conducted by:
Lynn Fosse, Senior Editor
CEOCFOinterviews.com

CEOCFO: Mr. Halldorson, what is the grand vision of Aqua-Pure?

Mr. Halldorson: Aqua-Pure is a water management company that is focused on delivering solutions to the oil field industry primarily. Aqua-Pure is based in Calgary Alberta. What we have done is develop a service company in the United States called Fountain Quail Water Management, which actually provides the services to the oil and gas industry and we are now the leaders in shale gas water treatment.

CEOCFO: Would you explain what services Aqua-Pure provides?

Mr. Halldorson: What we are doing is providing water management ex-

pertise to the shale gas industry primarily, but also to any other oil and gas related industry.

Our goal is to basically bring sustainability into this industry by taking a waste, usually oil and gas wastewater and turning it into either an asset or reducing the volume for disposal. What we are doing in Texas, for example, 700 million gallons of wastewater that would otherwise would have been disposed of; we have turned back into fresh water for reuse. Every drop of fresh water that has been recycled is a drop of water that did not need to be taken out of the potable water system.

CEOCFO: Are you the first ones to come up with a recycling system of the wastewater created in oil and gas development and production?

Mr. Halldorson: We are the market leader in this. We are the first ones to really make recycling competitively with disposal. The traditional method of handling this water has been to dispose of it.

CEOCFO: How are you able to provide this recycling in a cost effective way?

Mr. Halldorson: In laymans terms what we do is based on a thermal system. So we are actually boiling the saltwater/wastewater and turning it into fresh water. On the surface that sounds very energy intensive and traditionally it has been energy intensive. What Aqua-Pure has done is develop a very compact efficient way to turn saltwater back into fresh water. The key differentiator with our technology is that even though it is based on a process that is one hundred years old, we have made it more compact, more efficient and really

able to be easily opened, cleaned and serviced, so that it can handle the rigors of oil field water treatment.

CEO CFO: Are oil companies actively looking for an alternative method to handle wastewater?

Mr. Halldorson: The biggest driver in this business is economics. We are working in the shale gas industry primarily and gas prices are very low largely because we flooded the market with cheap gas since we discovered shale gas. So it is our job really to make recycling cost effective with disposal and that is a challenge, but we have been doing it now for seven years and proven that we can be cost competitive with disposal. What we see going forward in the future is that regulations and the public perception of water use are tending to drive this industry towards stricter water rules and regulations and we think we are very well poised by being a recognized leader in this market now. The increased regulation is going to help our business over time. We are not going to count on it, but we do expect it to come in the future.

CEO CFO: Would you tell us about your recent agreement with Layne Christensen?

Mr. Halldorson: Being a relatively small Canadian company we are trying to maintain our lead and part of what we are doing is reaching out to companies that have business development strength and complimentary technologies and Layne Christensen fits the bill perfectly. They are a very well respected financially, are quite a large company that has the ability to fill out our product offering. None of our products really overlap, we tend to have very complimentary products. Layne Christensen acquired a company last year called Intevras and Intevras' equipment and Aqua-Pure's equipment fit sort of hand-in-glove. Therefore, it was a natural fit. What we are very excited about with our relationship with Layne is jointly our business development teams can now go and offer a full suite of services, the combined technologies of Layne Christensen and Aqua-Pure to the market. What we are finding is that

are finding is that the gas producers needs change over time, so they may need one of our technologies today, and they may need a different technology a year or two years from now. So by offering a full spectrum of technologies we can be a one-stop shop for this industry.

CEO CFO: You selling a service and a technology; how does it come together?

Mr. Halldorson: We are primarily a service business. That is why the two companies are Aqua-Pure and Fountain Quail. Fountain Quail is a service business. It allows us to do a complete fee for service type business model, so we can handle any type of wastewater treatment and disposal. On the other hand there are certain industries and certain customers that want to own and operate the equipment and we do have the ability to do

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that as well, so we do have the ability to supply technology alone through Aqua-Pure. However, our preferred business model is with the recurring revenue of the service business with Fountain Quail.

CEO CFO: Are the commitments generally long-term or short-term?

Mr. Halldorson: The needs are different in every shale play. Long term is a very short period of time in the oil industry. In the Barnett shale there is really no such thing here as a long-term commitment; you might get a year or two years. In Pennsylvania right now we are finding that the options are very limited and people are signing up for longer-term commitments, five years for example. So we work with the producers to come to something that meets their needs. We do not mind working on a short-term

basis, we would prefer longer term type agreements at least a year.

CEO CFO: What happens after the wastewater is recycled?

Mr. Halldorson: The salt that comes to us would normally go for disposal. In Texas, for example we take that salt water and turn 85% of what comes to us back into fresh water for reuse. That is pure distilled water that is cleaner than drinking water and can be reused. The other 15% is concentrated salt brine, so it is saturated salt brine. It also has reuse in areas such as "kill" fluid or well servicing fluid. If it is not needed it will go for disposal, but it is at a drastically reduced volume from the original volume. In Texas, every drop of fresh water is reused because fresh water has value. In other shale plays, the drivers are different. In areas like Arkansas for example, they do not require fresh water. They have ample fresh water, so in that case what we do is recycle over 90% of the salt water. The 90% that we recover can go for environmental discharge. We have a permit to put that water back into the rivers because it is so clean; it is actually cleaner than what is in the rivers. We evaluate the needs of the customer in every different geographic location and we work with them to meet their needs.

CEO CFO: What is the market potential?

Mr. Halldorson: This market is definitely in its infancy. We have seven years of experience in the Barnett Shale with Devon Energy. Devon is one of the largest gas producers in the Barnett Shale and we recycle most of the flow-back water and some of their produced water as well. They are a main flagship customer here in Texas. Up in Pennsylvania through our partner Eureka Resources, their facility in Williamsport where our equipment is located, we are treating water for customers that include Chesapeake, Range Resources, XTO, Southwestern, and a number of other customers in that area. We are expanding our base of customers drasti-

cally, especially since we have made the move into Pennsylvania.

CEOCFO: What is the competitive landscape?

Mr. Halldorson: There are a number of companies that are starting to move into the shale gas water treatment. Our main competitor right now remains disposal, so we have been sort of standing alone for a long time. There have not been many other technologies that have made a breakthrough in this industry. Companies like GE and Aqua Tech are just starting to develop treatment technology, but they have yet to have any real experience in the market. Therefore, there are people moving into the market, but we feel like we have a significant advantage in that we have been handling this highly variable wastewater for a long period of time and we have learned much over seven years, about how to manage the rigors of treating this water.

CEOCFO: What would surprise people most about the challenges in handling a project like that?

Mr. Halldorson: This entire industry is incredibly dynamic, and the needs change. What most people do not recognize is every single well has different water and every single day that water is different. When you talk about variable water, every truckload of water that is rolling around is completely different. Therefore, it is a very difficult challenge in treating the water. The other thing that is very unique in this industry is that the customer's needs change over time. Early on, companies may be reusing a lot of salt water, so they are looking at one type of technology. However, as more and more gas wells are producing and there is more of the associated produced water that is flowing, companies need different types of technologies because now they have to take the salt out of the water. Over the lifecycle of these projects, the needs are changing and the water is constantly changing, so it is a very dynamic situation. With gas prices being low companies are always looking for the low-cost solution and then there are a number of wild cards out there

such as regulations, which we think are going to also change the landscape of how water is treated. Right now the biggest challenge in this industry is maintaining our flexibility and being able to move as the industry changes over time.

CEOCFO: Is there a human component as to deciding what is done?

Mr. Halldorson: Actually, it is more challenging than that because what a lot of people do is they take a snapshot in time. They look at water and do an analysis and the reality is you do not have the luxury of dealing with water that has that snapshot; you are dealing with water that is changing all the time. What we do is we have the ability to treat the worst case water that can be thrown at us and what we have developed is the ability to react in changes in the water, to be able to very easily clean and service our equipment when upsets occur. We have to be able to be continually in-

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creasing our uptime on our equipment, so we are always being able to handle the water when it comes in.

CEOCFO: How do you reach various customers?

Mr. Halldorson: We find that our best sales tools are our customers because we attend a lot of conferences. When people start to looking for solutions with this type of wastewater there is really only a handful. What they will do is talk to us about our solution, but ultimately they will go and talk to our customers. Therefore, we find that our best sales tool is a happy customer. If we are doing our job and making our customers look good and keeping the cost down, well that has always been our best tool because when people talk to our customers and they get a glowing recommendation, it helps us grow and spread. We are very cognizant of the fact that if you have bad reputation in the oil industry, it will follow you wherever you go. However, if you have a good reputation it will also fol-

low you where you go. We are building off our experience in the Barnett Shale and people whenever they phone and talk to a customer and look what we have done, they are going to get a positive feedback. It is really helping us to grow in other areas because we are dealing with the same customers every different geology.

CEOCFO: What is the financial picture for Aqua-Pure?

Mr. Halldorson: The financial picture over the last five years has been very tricky because we have been really stuck in a low-margin market. We have been in the Barnett Shale and we have been the only treatment company in the Barnett shale because we are the only ones to get our costs low enough to compete with low-cost disposal. That is the reason no other technology company has been established here in the Barnett Shale. Other companies have made announcements that they would do it and have tried, but nobody has been able to be as efficient as we have. We have been in survival mode as we have been developing the technology and learning how to handle the water. The

good news is because we have become so efficient in the Barnett Shale in this low-cost environment, as we now expand into other areas the financial picture is wonderful because we have become extremely efficient. Therefore, we can go out there to a higher margin territory and still be the low-cost solution, but be making far more attractive margins. It has been an incubator for our development that has gotten us to a point where we are very experienced and seasoned. Now as we go into other areas like the Marcellus, the Fayetteville, the Eagle Ford, the Haynesville, the margins for our company will be far better and we will build off this great efficiency that we have built up over time.

CEOCFO: Do you have the personnel and equipment should everybody wake up tomorrow and decide they need your systems and treatments?

Mr. Halldorson: That is one of the challenges, but one of the things that we have developed is not only the technology, it is the training programs,

and the ability to bring in people. We have developed a four-level operator training program for example that allows us to bring in people very quickly and evaluate how they are doing. We can also train them rapidly so that if they have the drive, desire, and intelligence, they can move up very quickly to becoming a lead operator. This facilitates us being able to rapidly deploy equipment into other areas. You are right it is a challenge, but that is part of what we have been developing over these years. It is the ability to ramp-up and the ability to deploy equipment quickly.

CEOCFO: Is the investment community paying attention?

Mr. Halldorson: We find that the investment community is very interested in anything associated with water, oil field services, or clean tech. Those all get tremendous interest, but what we have found in our own company's perspective is the earnings have not been there yet to get anybody's substantial interest. We have had everything except for the positive earnings that say what we are doing is going to make the money that we projected that we can make. What I am excited about now is we are finally breaking into that area, by having equipment in Pennsylvania, by expanding into other areas and other

markets beyond oil and gas, which we are starting to do now. We are starting to see that we are generating positive income and as we do that I think it is going to be a story that will be extremely attractive to investors.

CEOCFO: What are you looking at beyond oil and gas?

Mr. Halldorson: The main markets that we have, because we are oil and gas people, focus on the oil and gas market, so shale gas is one of the first ones we have tackled. We have done technology in Alberta heavy oil for example, any oilfield wastewater worldwide we see that as a key market for us. We are also looking at getting into the power industry, and the mining industry. Those are the three main industries where our type of technology has a significant advantage. Any market where there is highly variable wastewater that you need to get a very high recovery on, is where we are really going after.

CEOCFO: A lot of potential there!

Mr. Halldorson: Yes and we are very excited. We have just actually hired a new VP of business development up in Pennsylvania. Our new VP is working with Layne Christensen people helping us develop our plans to grow and expand our business development efforts into the market.

CEOCFO: In closing, why should potential investors choose Aqua-Pure out of the crowd?

Mr. Halldorson: Our key differentiator is our experience. A lot of people are talking about getting into this market, but they are starting out where we were seven years ago and quite frankly we have learned an awful lot over the last seven years. Therefore, we are far beyond where many companies are starting at now. The other real differentiator that we have is we understand the oil field industry because that is where we come from. We see many people coming at this from the water industry and they do not understand how the oil industry works, they do not understand the needs and the drivers for these customers. We find that we understand them because that is our background and we understand that we need to have a common sense, low-cost alternative to disposal. A number of other companies have come out with very nice, fancy solutions, but they have always been to high-cost and they have never worked. We are the low-cost alternative to disposal and we think we are poised for fantastic growth going forward.

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