

# Augusta Industries' Allen Lone on leak detection technology and services for the oil and gas industry

Allen Lone, President, CEO, Director of [Augusta Industries Inc.](#) (TSXV: AAO) ("Augusta") in an interview with InvestorIntel Senior Editor, Jeff Wareham discuss their two business units, FOX-TEK Canada Inc. ("FOX-TEK") and Marcon International Inc. ("Marcon"), which both focus on maintenance repair and operations of oil and gas pipelines. FOX-TEK concentrates on leak detection, corrosion monitoring, micro cracking and bending, stress and strain in gas and oil pipelines. Marcon is involved in the industrial supply of equipment and parts procuring for clients in the oil and gas industry and the U.S. government agencies. Both Marcon and FOX-TEK operate under Augusta. Allen states though the oil and gas industry is tough, pipelines still have to operate. As Augusta focuses on the detection side of monitoring leaks, there will always be a need for their products and services. Allen then goes to explain what shareholders can expect to hear next from Augusta.

**Jeff Wareham:** Allen you have got a pretty complicated story. What should investors be focusing on with your business?

**Allen Lone:** I will start off by simplifying Augusta Industries as a holding company with two business units, FOX-TEK Canada Inc. and Marcon. FOX-TEK concentrates on leak detection and corrosion monitoring and micro cracking and bending, stress and strain on pipelines. Marcon is a contractor mostly and predominately with the U.S. government doing sales and services.

**Jeff Wareham:** The oil and gas industry has been a focus in the past and it has been a tough place to be for the last few years. Is that part of what prompted the move into Marcon?

**Allen Lone:** Marcon has been around for 25 years. That is based on oil and gas really initially and then turned into U.S. government contracting. The industry is tough, but we are in maintenance repair and operations more so than anything else. Pipelines still have to operate, oil has to flow and we are on the detection side monitoring leak detection and so on and that you always have to have a need for that.

**Jeff Wareham:** You have announced changes in corporate structure recently. What was the rationale for that?... to access the complete interview, [click here](#)

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## **Hemisphere Energy CEO on oil production increase**

Don Simmons, CEO, President and Director of [Hemisphere Energy Corporation](#) (TSXV: HME) (“Hemisphere”) in an interview with InvestorIntel Senior Editor, Peter Clausi discuss their Jenner and Atlee Buffalo oil assets located in Alberta, Canada. Hemisphere has recently gone through a strategic refinancing, giving them access to additional capital to get out and be more active in the field. Don goes on to explain, that Hemisphere has also been experiencing substantial growth as a company. In fact, during Q2 2017, Hemisphere produced on average 600 barrels of oil equivalent per day (BOE/D), a 22% increase from 2016, and have produced as much as 700 BOE/D

this year. Hemisphere's last oil and gas reserve report stated they have 4.5 million BOEs of reserve, with a value of \$66 million.

**Peter Clausi:** Some interesting events have occurred over the past few years in Alberta. How have you fared?

**Don Simmons:** It has been survival through the last few years in Canadian energy business, but certainly things are looking better these days. There is more activity and certainly we reflect that as a company. We are certainly more active than we have been in the last 2 to 3 years.

**Peter Clausi:** There is a lender out there who is very confident in you as well. There was a recent press release about a new credit facility you have.

**Don Simmons:** We have done a strategic refinancing. We have taken out our traditional lender and it has given us access to additional capital to get out and get more aggressive in the field and really get after our growth and our assets.

**Peter Clausi:** At this stage of the recovery period everyone is concerned about cash flow and debt levels. Are you happy with your degree of cash from operations versus your debt?

**Don Simmons:** I am comfortable with it today in a \$50.00 oil environment. That is something that we look to improve. As we drill and we add more production, more cash flow, more reserves we will see that debt to cash flow number come down more and more...to access the complete interview, [click here](#)

Disclaimer: Hemisphere Energy Corporation is an advertorial member of InvestorIntel.

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# Graphene for Water Treatment

If you find yourself in Manchester, UK, the Museum of Science and Industry is well worth a visit. It has a whole [gallery devoted to graphene](#). In that gallery you'll see exhibits from the continuing story of graphene. One of these is a simple filter. It looks like a fairly ordinary piece of filter paper, but is worth closer inspection, read on...

## It starts with a filter

These ordinary looking small white filter samples are coated in graphene oxide.



Image courtesy of G20 Water Technologies Ltd

The coated filters can separate salt and oil from water and were made by a start up company called [G20 Water Technologies Ltd](#), founded by the equally remarkable [Tim Harper](#), a serial high tech entrepreneur.

So, why did these filters attract my attention? Well, this product is an exercise in pragmatism. The filter membrane samples you can see in the image are a set of perfectly ordinary polyamide filters, except for the fact that they are coated in [graphene oxide](#). They look slightly different, the colour difference is due to the degree of oxidation of the graphene coating. Graphene is black and the more it is oxidised the lighter and more yellow the material becomes.

G20 has a granted patent "Ultrathin, molecular-sieving graphene oxide membranes for separations along with their methods of formation and use" Because the coating method is straightforward this means they also have a scalable manufacturing process. This coating enhances its properties in a number of ways. Let's look at treating water contaminated

with oil.

## Taking oil from troubled waters

Everyone knows that oil and water don't mix. Well that is not quite true. Get the oil droplets small enough and they form something called an emulsion and this is surprisingly hard to separate. A familiar example is milk, which is an emulsion of fatty droplets in water.

The standard polyamide filters have a good initial performance for separating oil and water emulsions but this declines with time because the filter becomes blocked at the surface. This is called fouling and [this paper describes the problem](#).

What G20 have discovered is that coating the surface of the filter with graphene oxide reduces this fouling problem making the filter perform better for longer. The graphene oxide coating allows water to pass through but prevents the oil. As further oil droplets accumulate on the filter they normally block it. The graphene oxide coating makes the oil droplets [coalesce](#) forming bigger drops, which float away from the filter and rise to the surface of the water. This makes the oil easier to remove and also improves the performance of the filter.

## The market

Oil in water emulsions are a problem for industry. Everything from the obvious oil and gas industry to [food processing](#) and [car washes](#) have to deal with the problem of separating oil from water. The global market segment is called industrial water treatment and is [worth \\$146.81 Billion](#) in 2016 with a growth rate of 5.4% in 2016. Within this is a sub market segment of industrial water and wastewater treatment that is estimated to be [worth \\$26.77 Billion](#) with a growth rate of 5.8%.

## More than oil in water

G20 have found that graphene oxide coatings can improve the performance of a wide range of other membranes used in the water treatment sector. They can prove a four-fold increase in the [membrane operation times](#) of Polyether Sulphone (PES) membranes that are used in bioreactors for wastewater treatment.

All this work would be impressive enough, but the company has also found that their graphene oxide coating can improve the performance of desalination membranes. The graphene oxide coating [improves the permeability](#) of pure water through the membrane while increasing salt rejection.

## Why this is important

What this all means is that G20 has developed a scalable method for coating graphene oxide on to standard filter media. The coating improves the performance of water treatment filters. This enhances the performance of the filter and potentially reduces the costs of operation too. Waste water treatment is a large global market, measured in the \$Billions, with a growth rate over 5%. We'll continue our watch on graphene activity in this sector in general and G20 in particular.

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**Hemisphere                      Energy                      oil  
production                      and                      Q2                      results**

# positive

As expected, Second Quarter 2017 [financial results](#) released August 23, 2017, were similar to the First Quarter, with some notable positive exceptions.

Quarterly average production of 600 boe/d was up modestly from the First Quarter 2017 average of 584 boe/d (barrel of oil equivalent per day), but up more than 20% over the Second Quarter 2016 report. [Hemisphere Energy Corporation](#) (TSXV: HME) recently reported estimated field production for July was approximately 700 boe/d, up 20% over the Second Quarter 2017 average, so look for more good news from the company's Third Quarter 2017 results to be released in November.

With the benchmark WTI average oil price down in the quarter (US\$ 48.27/bbl) compared to the First Quarter (US\$51.90/bbl), Hemisphere did very well to maintain average realized oil prices and in fact saw a slight increase in their oil prices from C\$46.29/bbl to C\$46.85/bbl. The company also increased realized hedging gains from C\$0.75/bbl in the First Quarter to C\$1.96/bbl in this quarter – every little bit helps!

With higher production, higher prices and better hedging gains, the net result is that revenues were up slightly quarter over quarter as was cash flow and operating netbacks, even with modest increases in royalties paid. All good news.

Operationally, the company made further strides to further potential reductions in operating costs as the Atlee-Buffalo F pool water pipeline was completed, allowing for a better distribution of produced water to all of the company's water injectors at the waterflood project. This consumed approximately C\$0.5 million of the C\$0.66 million spent in the Second Quarter, but is a long term investment in the company's key asset and improves efficiency.

And more positives to note – despite capital expenditures

slightly in excess of cash flow in the quarter, the company was able to fund these expenditures in part as a result of selling just over 4.0 million shares and [raising C\\$1.1 million](#) in flow-through equity in the quarter. In addition, the company received its' annual credit facility review in May, resulting in no changes to the C\$12.5 million bank facility nor covenants etc. Current bank debt is approximately C\$10.5 million, down slightly from the end of the First Quarter 2017.

All in all, shareholders should be pretty happy with this quarter and the near-term future. Despite the current unstable global oil price environment, the company continues to make progress with good assets and good results from efficiency gains and cost controls. With further drilling targets that have upside potential as well as ongoing development of existing assets, management of the company believes that Hemisphere has considerable growth upside.

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## **Hemisphere Energy's field production up more than 40%**

Ahead of its' Second Quarter 2017 financial report, Hemisphere Energy Corporation (TSXV: HME) has just [announced](#) a production and operations update and the news is positive. Estimated field production for July was approximately 700 barrels of oil equivalent per day (boe/d), up nearly 20% from the First Quarter 2017 average of 584 boe/d, but up more than 40% over July 2016.

The company continues to focus on the core area in south east Alberta. Recall that the company has two properties – one at Atlee-Buffalo and a second at Jenner, just 25 kilometers

southwest of Atlee-Buffalo. These 100%-owned properties are predominantly shallow, medium gravity oil with associated water production and are being developed with horizontal wells (no fracs required). Drilling locations are identified by 3D seismic and the oil pool production is supported by waterflooding the reservoir to maximize reserve recovery and maintain or grow oil production.

Through 2016, the company made significant expenditures on facilities for water handling and reinjection in addition to drilling new wells. In 2017, the company has focused on enhancing the waterflood projects in Atlee-Buffalo "F" pool to support field production.

Further potential production growth is anticipated in 2017 as a new facility is planned for the first well in the Atlee-Buffalo "G" pool, drilled in August 2016 but constrained by facility capacity. In addition, up to two further wells are planned for the Atlee-Buffalo area for the remainder of 2017 which should allow for additional new production. The company has a lot of room to grow production on both of their oil fields by drilling more new wells.

The company plans to release Second Quarter 2017 financial results on August 22, which should be similar to First Quarter 2017 results, but are expected to reflect the company's good financial position and the continued work done by the company this year.

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## **Hemisphere gets a glowing Oil**

# Report

[Hemisphere Energy Corporation](#) (TSXV: HME) (“Hemisphere”) recently [announced](#) highlights from its independent reserves evaluation by McDaniel & Associates Consultants Ltd. on its Atlee Buffalo project in Alberta, which concluded with significant additional reserve value being added. Hemisphere’s production methods have also yielded excellent results throughout the year, culminating in a great opportunity to get involved with Western Canadian Select at the end of a troublesome stretch for oil.

Positive, if slow, gains to prices this year, and Trump’s overt support for all-things-digging, is a warm glow on the horizon for the oil world. It likely feels for most as if it has been an impossibly long winter spent squirreling-away as much as possible, preparing for the inevitable boom period when everyone can have cake again.

When commodity prices are low, it is wise to hold off on spending and concentrate on growing reserves and value as cost-efficiently as possible. Refinements can be made to processes to maximise profit during this time, and Hemisphere’s chosen innovations have served them well this year. We have previously discussed waterflooding and horizontal drilling as tools for accessing crude reserves, and Hemisphere is currently striving to demonstrate these, along with unique liners to control sand production, as viable commercial processes. Many are pushing tech-development to stand a chance of competing with the big guys, which have long-forced companies to either innovate or suffocate.

The procedures performed above expectations in both the Atlee Buffalo F and G Upper Mannville Pools. Despite only one well actually being drilled in 2016, Hemisphere has achieved some impressive results indeed; the bump to Proved plus Probable reserves was 16%, meaning it is now sitting pretty at

4,564Mboe. Net present value climbed by 36% to \$65.9 million, and 427% of their 2016 production has been replaced. According to the report, the project has a total reserve life index of 23.7 years; plenty of time to make good on crude's recovery.

Additionally, relatively little has been spent on the site even though a considerable amount has been achieved; an average corporate production rate of 526 barrels of oil per day was estimated, and only \$2.4m of development capital was necessary to get there. The cash was spent mainly to further develop its first producing drill hole in the Atlee Buffalo G Pool, and the construction of a water reinjection facility at the Atlee F Pool that will be sure to further drive pressure and speed up production.

Looking forward to 2017, Hemisphere's corporate strategy is to begin active development in Atlee Buffalo. The concepts of horizontal drilling, liners to control sand production, and waterflooding, when applied to these pools, have been demonstrated as a commercially sustainable method of production. The company should continue to see meaningful growth in production and reserves throughout the year, with continuing successful development of its core properties, all while watching the market recover.

Oil prices hit an all-time low in January 2016, but have been regaining ground ever since. The progress may be creeping right now, but these sorts of trends don't stay sluggish for long. It only takes confidence to send the price skywards, and Hemisphere seems to be doing a rather fine job!