

Turning reserves into reliable supply

Startup of second plant will see **North American Helium** produce 60 million cubic feet of helium per year

By Nick Parkinson

It is an exciting time for North American Helium (NAH), but for CEO and Chairman Nick Snyder the focus is to make the upstream helium exploration and production business “boring”.

“The upstream segment of the helium industry has always been an exciting, swashbuckling place where plants have unexpected outages or don’t perform as expected and there are a lot of geopolitical issues,” Snyder told gasworld. “It’s all very exciting, but it’s not why we are here. We aim to make the upstream segment of the helium industry a reliable and predictable business and what some people would consider boring. We think this best serves our customers and the end-users, for whom helium is mission critical.”

Saskatchewan is a hotbed of helium exploration activity, and NAH is among the busiest in the Canadian province. The Calgary-based company started up its first helium production facility at its Cypress field in July and is currently building a second plant at Battle Creek

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(Canada’s largest) which it expects to come online in the second quarter of 2021.

The Cypress field is producing 10 million cubic feet per year (Mcf/y) of helium and when Battle Creek – about 15 miles from the US-Canada border – starts up it will produce a further 50 Mcf/y. NAH’s entry to the market is a welcome development for helium supply amid recent shortages, the potential for a rise in helium demand and with the depletion of the US Federal Helium Reserve which will lead to overseas helium extraction facilities becoming the main sources of supply for world helium users by 2025.

“There’s a large unmet need for new reliable helium supply in North America,” Snyder said. “Cypress and Battle Creek will produce 60 million cubic feet of helium per year combined, which is a small percentage of helium demand in North America. There is a lot of interest in new supply sources, because the industry is focused on finding a replacement for declining production from the legacy hydrocarbon sources of helium in North America.”

Non-hydrocarbon sources

NAH’s helium comes from non-hydrocarbon sources and is conveniently located for North American customers, which both contribute to a smaller

environmental footprint. International customers have also been attracted to NAH for extracting helium from nitrogen sources, its low-risk location, and focus on reliability.

“We have found that even international customers that are geographically closer to some of the major hydrocarbon-based helium sources around the world are concerned about sustainable supply, whether in terms of logistics, geopolitics or emissions,” Snyder said.

“We are seeing increasing awareness around emissions and for that reason we have received a lot of interest from distributors looking to source at least a portion of their helium from our nitrogen-based fields in North America. Between the downturn in oil and gas prices and the temporary blockade of helium from Qatar, the industry is focused on the reliability and sustainability of their supply chain. We aren’t getting our helium from hydrocarbon sources, so we are able to cut the full cycle emissions from our helium production by 90% compared to other global helium sources and we aim to get that figure to 99%.”

Snyder continued, “Our company was founded with the goal to ensure that science and industry are supported by reliable helium supply from non-hydrocarbon sources. To the extent

that other companies are contributing towards that goal, we certainly support that, but we think it's important that companies don't over-promise and under-deliver in terms of production expectations. That is really counter to our goal because it pushes the industrial gas distributors towards riskier international helium sources which are hydrocarbon-based and have higher emissions. That's bad news for the end customer that just wants reliable supply into the future."

Snyder, who founded NAH in 2013, outlined three key ingredients to bring a helium project into production. First, a helium resource must be 'proved up' as reserves, which requires drilling, flow testing and third-party evaluation; then companies need to find an engineering solution to ensure the project is economically viable and that a reliable purification plant can be built; finally, companies need to find investors with the proper time horizon to see a project like this through.

"We are very fortunate on the engineering front because helium sources from nitrogen are very economic and don't require building large pipelines to dispose of natural gas, carbon dioxide or hydrogen sulfide," Snyder said.

In commercializing the Cypress field, Snyder said it was important that NAH's first production plant start-up on time and could ramp up to full capacity in July. "We aim to always have all of our wells drilled and reserves in place before we build a plant so we can immediately start it up at full capacity and run it at full capacity for a long time because our customers come to us for our reliability," Snyder said. "They are not looking for variability of supply, and we only have long-term customers."

More to come

The Cypress field became the second modern helium production plant in



© North American Helium | Production from NAH's Cypress Field helium purification facility



Saskatchewan after Weil Group started up one at Mankota in 2016 that can process 40 Mcf/y. For NAH, Cypress is just the start as it plans to use the C\$120m equity financing secured earlier this year to prove up additional reserves and bring other assets into production. NAH claims to be the most active driller for new sources of helium and has already drilled 20 wells in Saskatchewan, and also has a promising resource in Utah, which it hopes to move into the reserves category by early 2021.

"We have a major exploration program underway, drilling 15 wells, which is probably the largest-scale helium exploration effort ever undertaken by one company," Snyder said. "We are excited to grow our business and better serve our customers,

and we plan to announce additional reserves and new production facilities by the middle of 2021, depending on the results of our drilling program. The current drilling program is focused on our large acreage position in Southwest Saskatchewan. We have four million acres of long-term helium rights and have already discovered multiple new fields through the drill-bit, so the potential is tremendous. We are confident we will be in a position to add incremental production capacity in 2022, but we don't want to make claims about this until we have the wells drilled and reserves evaluated. Our focus is really on being reliable and keeping our promises to the industry and we are working as quickly as we can while maintaining that conservatism." [gw](#)