

Where does propane come from?

There are no propane drilling rigs so where does it come from? As we follow the molecule from the natural gas and oil wells we can find most of the propane that cooks our food, and in many places around the world heats our home, in the natural gas liquids that come from the earth with both oil and gas as associated liquids. Only a small portion, less than 15% of propane comes from petroleum refineries that turn crude oil into various energy products. Most of the propane is mixed with other NGLs produced alongside natural gas. The propane needs to be fractionated, or separated, from the other molecules. This is done through distillation, a process where the mixed liquids are heated to a vapour in a distillation column or tower, then removed as a separate gas and cooled into a separate stream of propane. At atmospheric temperature, propane is a gas but with slight compression it is stored as a liquid in cylinders that make it to our homes and to industry. In western Canada, most of this fractionation process occurs in Edmonton Alberta, in what is called Alberta's Industrial Heartland (more on the AIHA to come soon!).

But why are most fractionation facilities located here? The answer is...salt! Deep underground, more than one kilometre, are what are called bedded salt formations. Layers of stratified salt deposits from millions of years ago when oceans evaporated and left salt deposits over 100 metres thick. Salt had long been mined in other parts of the world mechanically for commercial use. In more modern times this salt is solution mined to bring liquid brine to the surface then making table and road salt (more on salt mining soon.) Some very smart people in the last century then devised a plan to use the voids created in the salt for solution mining to store large volumes of liquids and gases. This became an economic way to store various products waiting for seasonal demand. That storage opportunity is ultimately what justified locating fractionation facilities on the surface above.

*Follow the Molecule!*

