

## Incident Summary #II-740996-2018 (#8516) (FINAL)

SUPPORTING INFORMATION	Incident Date	September 6, 2018	
	Location	Deroche	
	Regulated industry sector	Gas - Propane system	
	Impact	Qty injuries	0
		Injury description	NA
		Injury rating	None
	Damage	Damage description	An underground plastic gas line was punctured resulting in an uncontrolled release of propane gas. The line had to be cut and capped for future repair
		Damage rating	Moderate
	Incident rating	Moderate	
Incident overview	A homeowner digging a hole for a protection post for the propane gas meter on his mobile home hit the underground line. The resulting gas leak required the gas to be shut off to the entire mobile home park.		
INVESTIGATION CONCLUSIONS	Site, system and components	<p><b>Gas distribution system</b></p> <p>The mobile home park where the incident took place has propane supplied to the 109 individual sites by a privately owned distribution grid. The grid is supplied by an 18,000 US Water Gallon propane storage tank. A gas fired propane vaporizer is installed in the system to heat liquid propane and convert it to propane vapour to ensure enough propane vapour can be supplied during the high demand cold winter season. During the lower demand warmer seasons the propane vaporizer is bypassed and propane vapour is supplied directly from the top of the propane storage tank.</p> <p>Propane vapour flows to a underground plastic (polyethylene) gas line that is run continuously throughout the mobile home park. The gas is supplied to the underground line at a pressure of approximately 10 psi (pounds per square inch) by the utilisation of a gas pressure regulator. The underground lines are stubbed out to each individual site location where they are connected to a gas line riser that connects the plastic gas line to steel pipe before it turns and rises above ground and connects to the gas meters. The gas meters measure the amount of gas that passes through them for billing purposes.</p> <p>Underground piping and tubing is required to be buried a minimum of 15" below ground or 24" below a commercial driveway or parking lot, except when it rises above ground at the point of connection to a building.</p> <p><b>Excavating procedures</b></p> <p>It is both a provincial regulatory requirement and a community guideline that no excavations should be done in the vicinity of an underground gas installation until the lines can be located and identified.</p>	

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<p>Failure scenario(s)</p>	<p>The owner of a mobile home in a mobile home park had a new concrete driveway installed earlier in the year. The owner was concerned that a vehicle may hit the gas meter for his mobile home while parking. He wanted to install a protection pipe known as a bollard next to the meter to protect it from potential vehicle contact.</p> <p>On Thursday September 6<sup>th</sup> 2018 a hole was cored through the concrete driveway approximately 3' to the south of the gas meter. The hole was approximately 6" in diameter and was cored through a section of the concrete that was 6" thick. The gas meter was located on the Southwest corner of the mobile home. Due to some recent markings of gas line location on the street to the East of the mobile home, the owner assumed that the underground gas line from the meter traveled directly East from the meter to the marked location on the street. He did not ask the utility owner or the Park manager to identify or locate the underground line from his meter before excavating.</p> <p>After the hole in the concrete was cored, he augured a hole in the gravel approximately 12- 14" below the bottom of the 6" thick concrete. He did not spot a gas line in the hole. When the round steel post was inserted into the hole it stuck the plastic gas line and punctured a small hole in the side of it. Propane gas at a pressure of 10 Psi began to leak out of the hole in the gas line.</p>
<p>Facts and evidence</p>	<p>Pictures</p> <ul style="list-style-type: none"> <li>• Location of cored hole in relation to the gas meter</li> <li>• Thickness of concrete</li> <li>• Depth of gas line</li> </ul> <p>Homeowner statement</p> <ul style="list-style-type: none"> <li>• He did not inform the park manager or the utility owner of the excavation and the underground gas line was not located or identified prior to him excavating.</li> <li>• An independent contractor cut and capped the damaged underground gas line.</li> </ul> <p>Property manager statement</p> <ul style="list-style-type: none"> <li>• The fire department was called and arrived on scene to shut off the flow of gas to the entire mobile home park.</li> <li>• There was no request made from the homeowner to permit excavation near the gas meter</li> </ul>
<p>Causes and contributing factors</p>	<p>It is very likely that the failure for the homeowner to have the gas utility or the property manager locate and identify the location of the underground gas line, resulted in the gas line being hit and the uncontrolled release of propane gas.</p>

Photos or diagrams (if necessary)



Capped gas line (Picture submitted by notifier)





Concrete core



Propane storage tank and vaporizer location





Propane gas meter and location of line hit.