$$GHG_i = \sum_j \left[\left(\frac{H \times D^2 \times \pi \times P \times N}{4 \times 101.325} \right) \left(V \times (t - 0.5) \times Z \right) \right]_j \times \left[\frac{T_{SC} \times P_{wv}}{T_{wv} \times P_{SC}} \right] \times MF_i \times \rho_i \times 0.001$$

Where:

GHG_i = Annual emissions of greenhouse gas *i* attributable to well venting for liquid unloading with plunger assist, in metric tons;
j = Well venting for liquid unloading with plunger assist;
H = Tubing depth to plunger bumper, in metres;
D = Inside diameter of well, in metres;
π = Pi, namely 3.1416;
P = Absolute pressure of natural gas, in kilopascals;
101.325 = Standard pressure, in kilopascals;
N = Number of vents per year;
V = Average flow rate of gas vented, in cubic metres per hour;
t = Time during which the well was left open to the atmosphere, in hours;
0.5 = Average venting time;
Z = Equal to 0 if $t < 0.5$, or equal to 1 if $t \geq 0.5$;
T_{SC} = Temperature at standard conditions of 293.15 kelvin;
T_{wv} = Temperature at well vent, in kelvin;
P_{wv} = Absolute pressure at well vent, in kilopascals;
P_{SC} = Pressure at standard conditions of 101.325 kPa;
MF_i = Molar fraction of greenhouse gas *i* in natural gas, determined in accordance with paragraph 3 of QC.33.4;
ρ_i = Density of greenhouse gas *i* that is 1.893 kg per cubic metre for CO_2 and 0.690 kg per cubic metre for CH_4 at standard conditions;
0.001 = Conversion factor, kilograms to metric tons;
i = CO_2 or CH_4.