

Map of Average H2S Percentage by Field

BCER

Map is for representation purposes only. The BC Energy Regulator assumes neither responsibility for inconsistencies or inaccuracies in the data nor liability for any damages of any type arising from errors or omissions.

1:1,700,000

0

20

40

80

km

Date:
Coordinate System: NAD 1983 BC Environment Albers

We acknowledge and respect the many Indigenous Territories and Treaty areas, each with unique cultures, languages, legal traditions and relationships to the land and water, which the BC Energy Regulator's work spans. We also respectfully acknowledge the Métis and Inuit people living across B.C.

Legend

Acid Gas Disposal Wells/Plumes
(3km Radius, with formation denoted)

Averaged H2S Content by Regional Field

Averaged H2S Content by Field

Less than 0.01%

0.01% to 4.99%

5% to 9.99%

10% to 29.99%

Greater than 30.0%

Purpose of Map

This map is intended to provide an initial awareness of H2S level in subsurface formations and produced in area infrastructure. The value posted and used for color coding is the average value of all gas analysis reported as sampled from production meters, within the field area. Many fields include multiple formations, each at different depth and H2S content. The maximum H2S value at a particular location maybe higher, as indicated in the table "H2S Concentration by Geological Period ". Where operations may result in contact with natural gas, a detailed H2S review in the specific location is required. Data based on all gas analysis available as of December 2023

***Field and Geological period values represent native gas only. Acid gas disposal wells are shown as red circles with formation noted. Acid gas plumes surrounding these wells may contain extremely high H2S concentrations (>90%)*

Concentration in parts per million(ppm)	Observations and Health Effects
Less than 1	Most people smell "rotten eggs".
3 to 5	Odour is strong.
20 to 150	Nose and throat feel dry and irritated. Eyes sting itch, or water, and "gas eye" symptoms may occur. Prolonged exposure may cause coughing, hoarseness, shortness of breath and runny nose
150 to 200	Sense of smell is blocked(olfactory fatigue).
200 to 250	Major irritation of the nose, throat, and lungs occurs, along with headache, nausea, vomiting and dizziness. Prolonged exposure can cause fluid buildup in the lungs(pulmonary edema), which can be fatal.
300 to 500	Symptoms are the same as above, but more severe. Death can occur within 1 to 4 hours of exposure.
Above 500	Immediate loss of consciousness. Death is rapid, sometimes immediate.

H₂S Concentration by Geological Period

Average

Max

Upper Cretaceous	0.02%	5.9%
Lower Cretaceous	0.08%	18.2%
Upper Jurassic	0.25%	19.7%
Lower Jurassic	0.27%	8.0%
Upper Triassic	3.76%	50.0%
Middle Triassic	2.88%	65.5%
Lower Triassic	0.14%	4.0%
Permian/Pennsylvanian	0.52%	12.4%
Mississippian	0.73%	75.7%
Devonian	0.38%	28.3%
Precambrian	0.94%	4.4%