

Run Data Calculations For Flare Emissions

COMPANY : Highmark Exploration

LOCATION: 16-25-12-27W1

DAILY OIL PROD.(m3): 100

GOR(m3/m3): 8

TREATER PRESS(kPa): N/A

H₂S MOLE FRACTION: 0.043

SOURCE TYPE	Point
EMISSION RATE (G/S)	0.01078770463
STACK HEIGHT (M)	12.2
STK INSIDE DIAM (M)	0.0762
STK EXIT VELOCITY (M/S)	2.030362771
STK GAS EXIT TEMP (K)	573.0000
AMBIENT AIR TEMP (K)	293.0000
RECEPTOR HEIGHT (M)	0000
URBAN/RURAL OPTION	RURAL
BUILDING HEIGHT (M).	0000
MIN HORIZ BLDG DIM (M).	0000
MAX HORIZ BLDG DIM (M)	0000

NOTE : Dispersion model was based on 100% gas to flare.

STACK EXIT FLOW RATE $m^3/s = \frac{(m^3 \text{ oil/d}) \times (\text{tank GOR}) \times (\text{H}_2\text{S mole fraction})}{\text{sec/day}}$

EMISSION RATE g/s H₂S = Flow Rate x 1441.41 (constant for H₂S)
S₀₂ = Flow Rate x 2709.47 (constant for S₀₂)

STACK EXIT VELOCITY $m/s = \frac{(\text{vent gas vol. } m^3/d) \times (\text{stack height}) \times (\frac{1}{\text{sec/day}})}{\text{Stack volume}}$