

ENCANA™



EnCana Oil & Gas (USA) Inc.

Gas Gathering & Gas Transportation

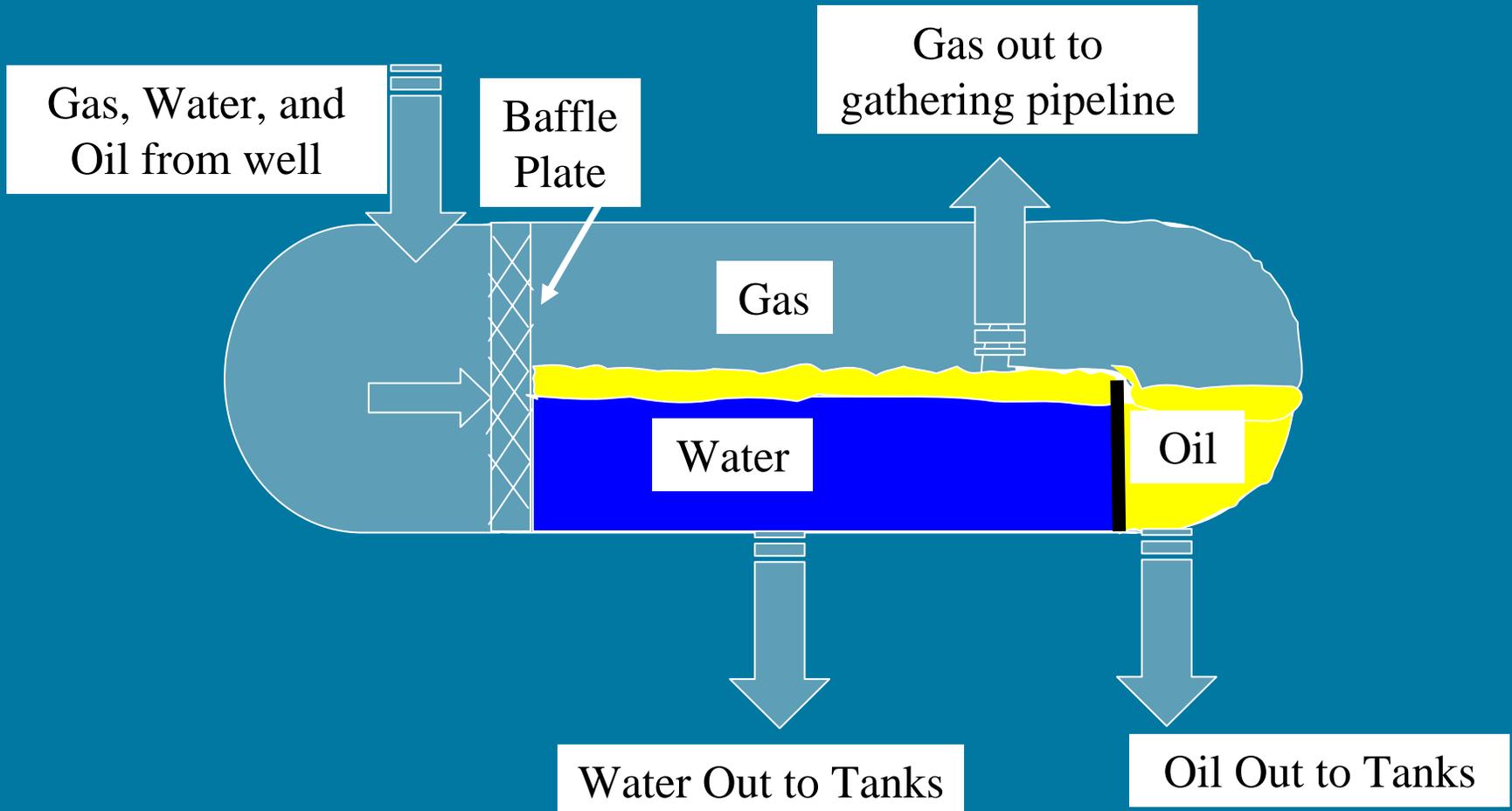
Gas production starts at the well



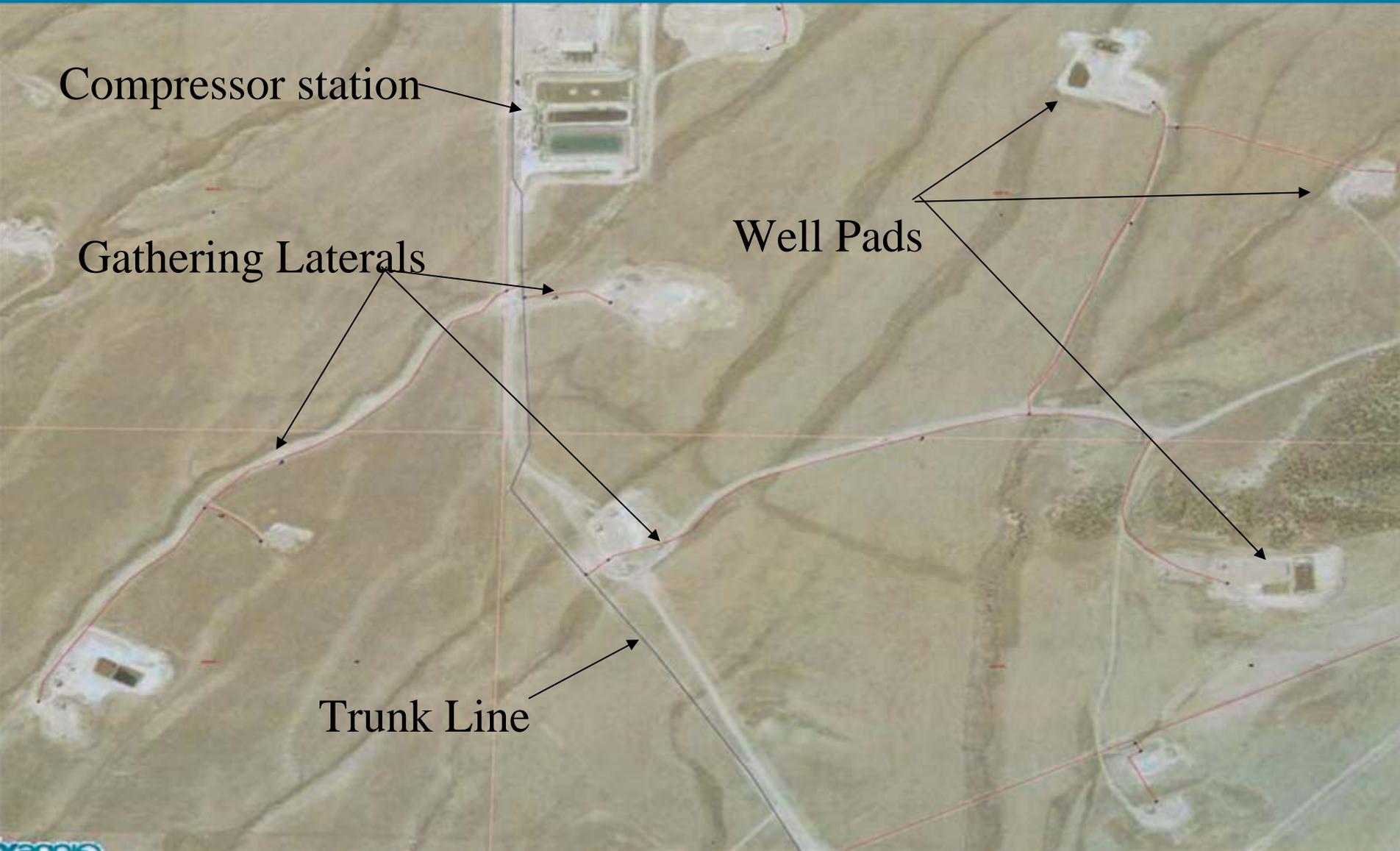
From the well, the gas will flow into a separator to remove any free water and oil



Typical Three Phase Horizontal Separator



Gathering from the wells to compression



Field Compression



Compression



Dehydration

The removal of water vapor from the gas stream



Processing

Treating of CO₂, Nitrogen, and Liquification of heavy hydrocarbons



Transportation Pipelines Out Of The Piceance Basin Or To Local Markets

- Trans-Colorado
- REX (Rocky Mountain Express)
- CIG
- PSCO
- Rocky Mountain Natural Gas
- Questar
- Northwest Pipeline

Typical Transportation Pipeline Specifications

- CO₂ = less than 2%
- Less than 3% total inerts (CO₂ & N₂)
- Water = less than 5 lbs/MMSCF
- O₂ = less than 10 ppm
- H₂S = less than .25 grains (approx 4 ppm)
- Hydrocarbon dew point = 15°F
- BTU = less than 1020 BTU

Typical Hydrocarbons in Natural Gas

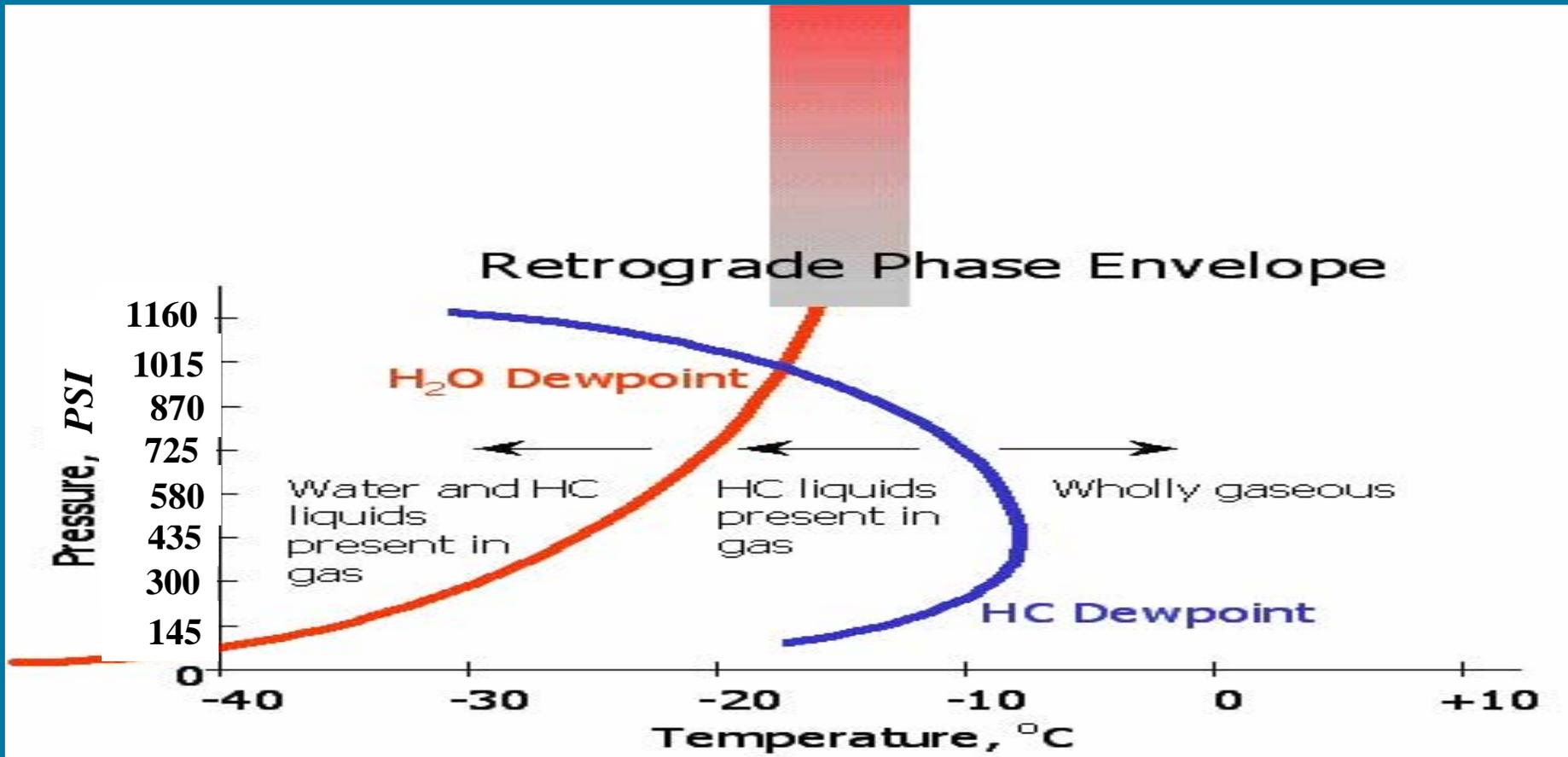
Component Name	Formula	Molecular Weight	Ideal Gravity	Heating Value
Methane	C H_4	16.043	0.554	1,012
Ethane	$\text{C}_2 \text{ H}_6$	30.070	1.038	1,774
Propane	$\text{C}_3 \text{ H}_8$	44.097	1.523	2,522
N-Butane	$\text{C}_4 \text{ H}_{10}$	58.123	2.007	3,270
N-Pentane	$\text{C}_5 \text{ H}_{12}$	72.150	2.491	4,018
N-Hexane	$\text{C}_6 \text{ H}_{14}$	86.177	2.975	4,767

Typical Inerts in Natural Gas

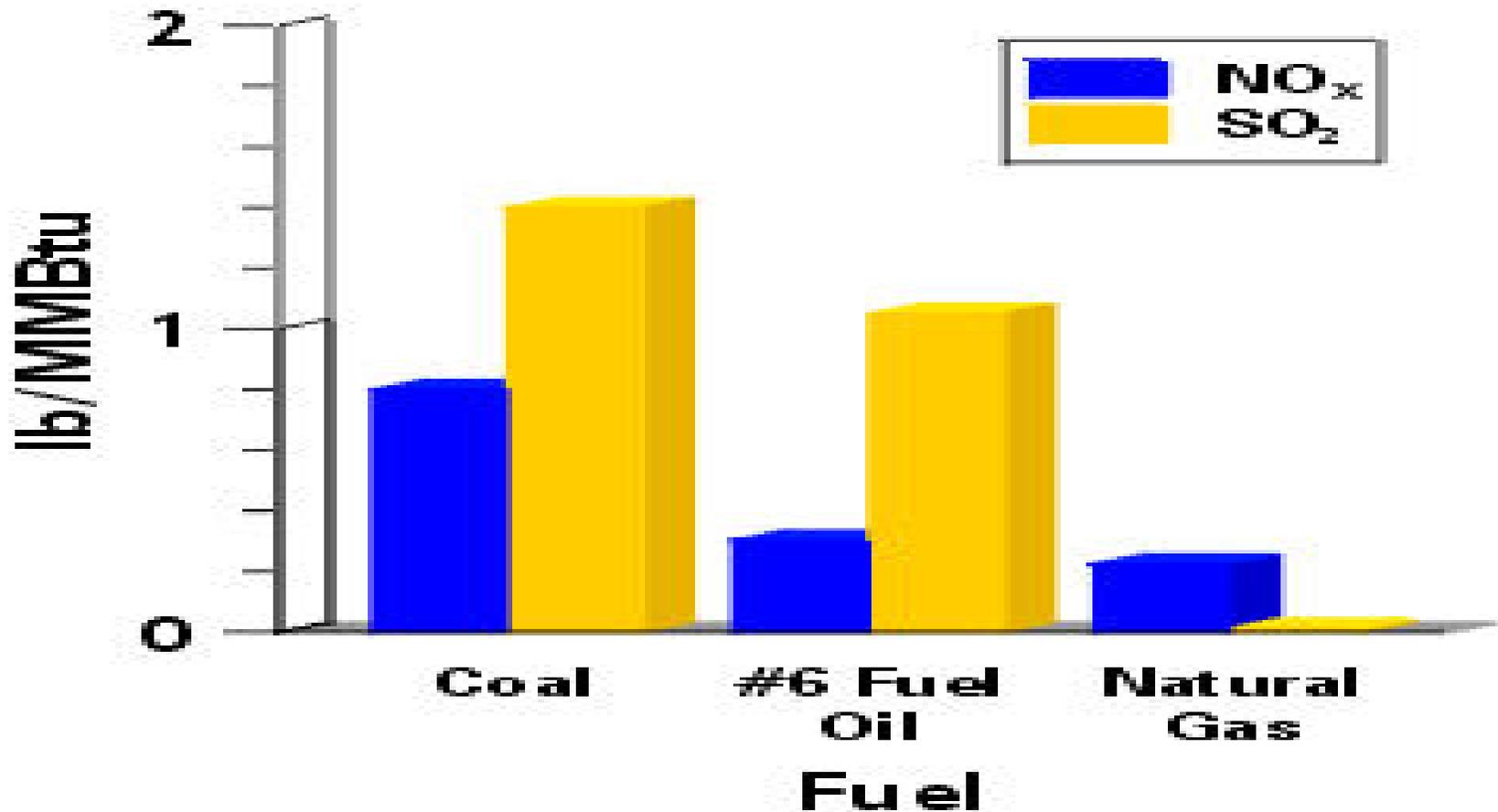
Component Name	Formula	Molecular Weight	Ideal Gravity	Heating Value
Carbon Dioxide	CO ₂	44.01	1.520	0.0
Hydrogen Sulfide	H ₂ S	34.08	1.177	638
Air	N ₂ ,O ₂ +?	28.96	1.000	0.0
Nitrogen	N ₂	28.01	0.967	0.0
Water	H ₂ O	18.02	0.622	50.4

What is meant by Hydrocarbon Dew Point?

A calculation based on the hydrocarbon components in the gas at which they turn to a liquid form under a certain temperature and pressure



Emissions From Utility Boilers



Air emissions data provided by
Gas Technology Institute (GTI)