

Oil Refining

-1858~first commercial well in North America; located in Southern Ontario

~Kerosene for fuel lamps was the primary focus

Crude Oil-fossil fuel made naturally from decaying plants and animals that lived in ancient seas millions of years ago

-various components have different sizes, masses, and boiling Points which can be separated by fractional distillation

Steps of fractional distillation;

1.heat mixture(usually with high pressure steam to 600°C)

2.mixture vapourizes and enters the bottom of a long column (fractional distillation column) that is filled with trays.

·the trays have bubble caps that allow vapours to pass through

·the trays help collect liquids that form at various heights in the column

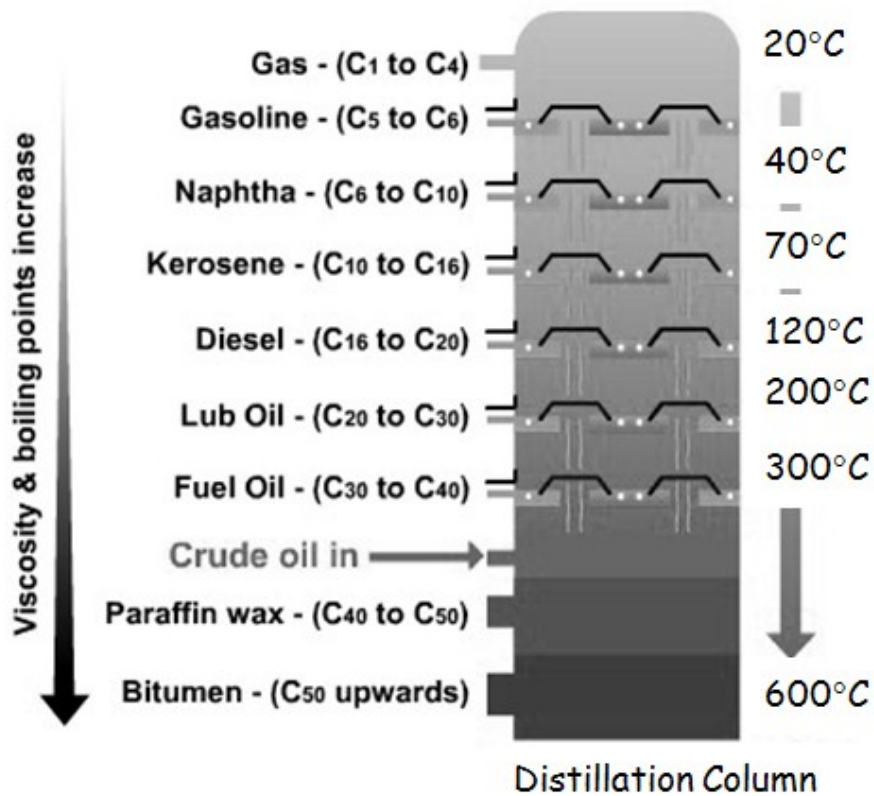
·there is a temperature difference along the column (cooler at the top)

3.vapour rises and cools

4. vapour condenses to a liquid when it reaches the tray at its boiling/condensation point

· substances with lower boiling points will condense at higher points in the column

5. collected liquid fractions may be cooled further then go to storage tanks or go to other areas for further chemical processing.



-40% of distilled crude oil is gasoline; however, chemical processing of other fractions from the distillation column increases the yield of gasoline from each barrel of crude oil

cracking-a chemical process using to break larger hydrocarbons into smaller gasoline molecules

-first introduced in Sarnia, Ontario



reforming-chemical process using heat, pressure and catalysts to convert hydrocarbons into other compounds

ex; cyclohexane \rightarrow benzene + hydrogen gas