

Petroleum engineers are chiefly responsible for developing improved methods of oil and gas extraction from within the Earth. These resources exist in reservoirs underground. Upon discovery of a reservoir, petroleum engineers work closely with teams of other engineers to visualize and understand the structure of the reservoir and the surrounding rock to determine the best approach and techniques for drilling. They also aim to devise new techniques for extracting oil and gas from reservoirs to maximize the yield, oversee drilling operations and serve an advisory role to decision-makers. Petroleum engineers also need to work with geologists, geophysicists, economists, and scientists to develop strategies for extracting oil and gas. They also work with drilling and production crews to ensure that oil and gas wells are producing optimally. Additionally, they may work with environmental engineers to ensure that production activities are conducted in an environmentally responsible manner. Petroleum engineers may face many challenges and risks in their hazardous work environments and they must take steps to ensure the safety of themselves and their colleagues. Keeping up with technological advances: Petroleum engineering is constantly evolving due to advances in technology, and petroleum engineers must stay on top of these changes in order to remain competitive. Balancing cost and production goals. Petroleum engineers must keep a close eye on their budgets while also striving to

maximize efficiency and production, Meeting environmental regulations: As the petroleum industry is increasingly regulated, petroleum engineers must ensure that their operations comply with all applicable laws and regulations. While The primary risk for Petroleum Engineers is the potential for exposure to hazardous chemicals, such as oil and gas, which may cause serious health problems if not handled properly. Petroleum Engineers also face the risk of slips, trips, and falls, as well as being exposed to extreme temperatures and hazardous working conditions. In addition, they may also be exposed to high noise levels, radiation, and other potential risks

Petroleum engineering: is a field of engineering concerned with the activities related to the production of hydrocarbons, which can be either crude oil or natural gas. [1] Exploration and production are deemed to fall within the upstream sector of the oil and gas industry. Exploration, by earth scientists, and petroleum engineering are the oil and gas industry's two main subsurface disciplines, which focus on maximizing economic recovery of hydrocarbons from subsurface reservoirs. Petroleum geology and geophysics focus on provision of a static description of the hydrocarbon reservoir rock, while petroleum engineering focuses on estimation of the recoverable volume of this resource using a detailed understanding of the physical behavior of oil, water and gas within porous rock at very high pressure. The combined efforts of geologists and petroleum engineers throughout the life of a hydrocarbon accumulation determine the way in which a reservoir is developed and depleted, and usually they have the highest impact on field economics. Petroleum engineering requires a good knowledge of many other related disciplines, such as geophysics, petroleum geology, formation evaluation (wellblogging), drilling,

economics, reservoirsimulation, reservoir engineering, well engineering, artificial lift systems, completions and petroleum