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“Why I Want to be a Geologist.”

A career as a professional geologist is similar to being a professional puzzle solver, but one dealing with missing puzzle pieces. Geologists work with as much information attainable to answer questions about the natural world. Along with a rock hammer, making observations is key tool in our work belt. Observation before interpretation is key, since one detail could change the entire hypothesized history of the basin being studied. I want to be a professional petroleum geologist because I want to combine as many different areas of study, think about a problem in oil and gas in a variety of ways, and use my abilities to draw conclusions.

Geology is a multidisciplinary science. It combines physics, chemistry, and biology as the laws of the universe are based in physics, giving the world a certain chemical makeup, and affecting modern day and paleobiology. Specifically to petroleum, oil will not be found in Cambrian rocks, as it was an anoxic world where plants were not present. Finding a fossil from the Cambrian period is a give away there will not be an oil play in that stratigraphic area, as oil forms from altered plant material. Further evaluation on this area can be done through seismic and chemical analysis. Shooting shear waves through the earth, like those produced from earthquakes, can give geologists a better view of the subsurface, and location of possible petroleum traps. Core samples taken can be analyzed for elemental intensities and compared to standards in productive basins. Therefore, a comprehensive understanding of these subjects is needed in order to gather the missing puzzle pieces of the area. Once enough of those pieces are put together, it is possible to make decisions.

When I was in high school I worked as a lifeguard in ConocoPhillips' Wellness Center - one of the most innovative exploration and production oil companies headquartered in Houston. Aside from my commitment to employee safety, my top was to pick the employees' brains. First thing I would do when someone new walked out of the locker rooms was shake their hand. Next I would ask them about what they do, and why they do it. Their advice and experiences kindred my interest in the petroleum industry. In particular, the processes going into hydrocarbon extraction and transport, and deciding which prospective areas would economic to explore interests me. A significant difference between a geologist and a puzzle solver is dealing with puzzles does not require risk analysis.

No matter how much information is gathered about a basin, a level of risk is still involved due to uncertainty. More information gathered will result in a better interpretation; however, it does not guarantee the right conclusion will be reached. Geology is redundant as different situations can yield the

same results. Conversely, repeated conditions do not necessary produce the same effects. For this reason, the oil industry relies on statistics and probability to decide if potential plays are worth exploring. These analyses in turn, rely on the interpreted geology and the history of the subsurface.

At school, I throw myself into my studies. Not to make a certain grade, but to achieve a certain level of understanding. Currently I am becoming involved in research at a satellite facility to our department that specializes in cores recovered from ocean basins. The research and higher thinking skills I will acquire will carry me throughout my career. I know I have hardly scratched the surface when it comes to the subject of geology, and that excites me. There is so much in this world to see, observe, and make predictions from going forward. It is my goal to gain as much competence in geology and other sciences so I will be able to think about questions and solve problems in a variety of ways. Ultimately, I hope to one day to return to ConocoPhillips, not as a lifeguard, but as a Petroleum Geologist.