**Internship reports from our former students**

**Nadaprapha Binsa Aeteh** (2021):

PTTEP or PTT Exploration and Production Public Company Limited is a business conducted under PTT Group, which is a Thai state-owned SET-listed oil and gas company and owns extensive submarine gas pipelines in the Gulf of Thailand. PTT is the largest oil and gas cooperation in the country. It is founded few decades ago on 24th December 1978 as Petroleum Authority of Thailand.

PTTEP is a national petroleum exploration and production company dedicating itself to providing a sustainable petroleum supply to Thailand and the countries operated in as well as to bringing in foreign exchange earnings to the country of Thailand. PTTEP conducts its business as a responsible corporate member of the society to observe the laws of Thailand and the countries operated in. PTTEP strongly support the fundamental human rights in line with the legitimate role of business and give proper regard to health, safety, security, and environment consistent with the commitment to contribute to sustainable development of the society. PTTEP also contribute to improving the quality of life and promoting healthcare in the communities through 4 types of corporate social responsibility projects related to basic needs, education, environment, and culture. PTTEP adheres to its own codes of business conduct which encompasses monetary transparency and is reflected in their participation to the disclosure of actual financial information to multi-stakeholders as guided by the applicable laws. They also strictly comply to the contractual obligations of the projects in the host countries they operate in.

PTTEP is committed to doing its business with correctness and transparency while treating all stakeholders fairly and equally under good corporate governance and the code of business conduct and conforming to the Human Rights Principles of the United Nations without employing illegal labour. Employee education about good corporate governance and the code is regularly promoted. Since 16 June 2011, PTTEP has become a participant of the UN Global Compact, to strengthen its commitment to its ten principles related to 4 core areas: human rights, labour, environment, and anti-corruption, which is in compliance with good Corporate Governance and Code of Business Conduct.

With the heart of exploring and bringing earnings to Thailand, PTTEP is based in many countries around the world including Algeria, Angola, Australia, Brazil, Canada, Indonesia, Kazakhstan, Malaysia, Mexico, Mozambique, Myanmar, Oman, United Arab Emirates, and Vietnam. The project in each country might be different according to the location, investment types, or other related factors.

PTTEP tries to ensure that the employees are able to work efficiently and as productive as working at the office even if they are working from home. So, they also have a helpdesk hotline to help the employees if they are ever needed. And as for the interns that are working from home, PTTEP does not disappoint and also provided them facilities as much as possible.

**Work process: Introduction**

The introduction is a session that helps bring interns together by getting to know each other and colleagues in the department through activities and games, understanding the cultures of the company, raising awareness in the working environment, and briefing tasks and assignments of the interns.

One of the useful cultures in the company is that PTTEP gives importance to safety, security, health, and environment (SSHE) to ensure employees, contractors, and stakeholders of the company work under zero work-related accident standards, also called ‘Target Zero’. PTTEP has run a regular survey on the organization’s safety culture together with promoting awareness by using SSHE moment activity. SSHE moment is a small section before starting a presentation or a meeting. It is a sharing in a team about safety, security, health, and environment using graphics, videos, personal experiences, etc. to raise awareness about SSHE. Topic examples are bitcoin and environment, correct posture while working on the computer, how to prevent from getting a computer virus, and other similar things.

**Environment Management Department**

CEN is a short name for the environment management department. The department is responsible for the environmental management system in the organization. The duty, for instance, the calculation to reduce pollution, waste treatment, quality of waste produced to the environment, monitor environmental strategies, create innovative and environmentally friendly solutions to solve the problem, assortment of organization’s environmental-related document, report of environmental impact assessment, etc. is done by identifying, solving, and alleviating environmental issues to develop and implement the system to be within the bounds of legislation.

CEN also works together with the sustainable department to ensure that the company, stakeholders, as well as related organizations, are conscious and cooperate in a sustainable manner that will lead to sustainability and promote sustainable development. Picture 5 CEN Team Members There are 12 members in the team.

During the internship program, there are three mentors that work directly with the interns - doing the training, giving work instructions, explaining details, checking work done, sharing valuable working tips, and cheering interns up. Nonetheless, the other team members are also very caring, friendly, cheerful, and ready to help and answer if interns have any questions during the work process.

**Main assignment**

Because of the pandemic, the company regulation during covid-19 is to work from home. After the induction session on the first day of the internship program, interns are directly sent to work. The main assignment that was assigned is compiled data from EIA (environmental impact assessment) report to the company’s database.

EIA report is a compilation of various important project components, including project description, environmental and social impacts assessment, mitigation measures, and management and monitoring plans. Information gathered is put together into a comprehensive report that analyzes and synthesizes the data and then will be used as future references.

On a daily basis, the responsibility of the interns is to check through EIA report, both main and amendment, onshore and offshore sites, then check for the approved coordinate, production process, approved gas production, approved oil production, approved water production, separator size, number of drillings well, land acquisition, and land type. Afterward, the gathered data are put into an excel database and then check if it is approved by Thai laws and legislation that would not affect the environment in the area.

When each intern is finished with their tasks, they are required to do cross-check for other interns in the team for more accuracy of the data in the database that will later be processed and used in the company’s environmental development.

**Other assignments**

Additional tasks that are assigned to the interns are varied, depending on the person that assigns the work. There are SSHE workshop, SSHE awareness training, green office audit observation, ISO 14001 internal audit observation, climate change management in the organization workshop, and studies of different kinds of documents, which are:

• Sustainability report
• Environmental performance report
• Green office assessment criteria for the audit
• NORM (naturally occurring radioactive materials) management guideline
• Methane survey guideline for climate change management

The mentors tried their best to assign different kinds of work to the interns so that we can experience as much work in real life as possible.

**Knowledge acquired**

As I finished my internship program, I have learned a lot as an employee. First, 1 have learned to understand the experience of working in real life. I learned the culture of working in a company, and PPTEP as a big organization did not fail to deliver me a valuable experience throughout the internship period. Compiling data from EJA report was my main responsibility, I have read through the reports, it gave me the knowledge of the protocols before starting petroleum production. I, then, understand that the development of petroleum was much more complicated than I thought. And there will be more changes in order for the production to be worth investing. I also learned a lot from observing in two audits.

At first, when I was in class, I did not see clearly about the audit process, I did not understand its big picture. As I study the assessment criteria and joining the audit myself, I simultaneously understand the purpose and process of the audit. Then, I realized it was not an easy task to be ready for the audit because the criteria are very detailed and the auditee needs to be well prepared and have enough evidence to show to the auditor to pass the internal audit, then to external audit. The most important knowledge gained from the internship is that it sparks me the idea about my future, my career path, and my next step in life.

**Ariunkhishig Munkhsukh** (2021):

This report outlines the duties of internship at Erdenes Silver Resource LLC,. In Dundgovi province, Mongolia and highly recommends the internship to other students. Mongolia has rich deposits of natural resources such as gold, silver, copper, coal, iron ore, natural gas and petrolium etc,. Thus, I have successfully finished my internship in one of the leading open-pit mining companies. While I have observed theoretical knowledge in my classrooms, the internship gave me opportunities to gain practical lessons and to get experience in the workplace.

Through this internship, I was exposed to assist environmental program administrators, protect and improving environmental conditions and protecting public health by preserving the environment.

Determining the Au, Ag and heavy metals of different soil samples in the laboratory has also gave me more practical lessons and brushed my knowledge up on safe examination.

**Introduction of the organization**

’’Erdenes Silver Resource” LLC was established in May 2019 by the Protocol No.133 of the Government of Mongolia in 2014 and the Protocol No. 15 of the Board of Directors of "Erdenes Mongol” LLC in 2019. ’’Erdenes Silver Resource” LLC has the following functions. These include:

• Mining consulting• Mineral prospecting• Mining and exploitation of minerals• Drilling

According to the guidance of National Security Council of Mongolia, it has been a year since the company aimed to zero rate the loan of pensioners through process putting the minefield into economic circulation. The company is aiming to evaluate environmental responsibility, complying with all applicable environmental laws, regulations, and prescribed standards and criteria, and ensuring that its contractors do likewise.

**Conclusion**

In a nutshell, this internship has been excellent and rewarding experience. I can conclude that there have been many tasks which I have a lot at Erdenes Silver Resource LLC,.

As someone with no prior experience with mining whatsoever I believe my time spent in research and discovering it was well worth it and contributed to finding excellent solutions related to environmental impacts. I can safely say that my understanding of the job environment has increased greatly. After learning about processes and environmental impact solution in mining field, I would like to develop and work more on Mine Closure which is the most important part in Mining cycle. Moreover, the project indirectly helps me to learn independently, discipline myself, be considerate, self-trust.

It was also interesting to experience one of the environmental activities which was the priority in the year plan, I have participated in a project for cleaning the nearby areas of road of 68km from the mining area to another city and I learnt managing the pollution in bigger state is also one of the environmental responsibilities in the mining company.

To sum up, I would like to express my gratitude to everyone who supported me throught this time.

**Boldbaatar Tsendsuren** (2020):

During the six weeks of Internship in the Budapest University of Technology and Economics, Department of Hydraulic and water Resources Engineering, I and my fellow classmates Adildorj Khaliunaa, Lizeth Guadalupe Lamas Lopez, Dang Thi Quinh Lluong have worked on several projects including Measurements of soil mixture permeability, Dike model and Flood level measurement experiment. These projects have helped me to learn characteristics of soil as well as practical knowledge of measuring those characteristics.

**Permeability of Various Soil Mixture**

We have learned that Geotechnics deals with foundation of everything. It investigates how to select perfect soil and embankment to build road, buildings, bridges etc. Therefore, in order to understand the characteristics and structure of the soil, we have made different types of mixtures and measured their density, void ratio and permeability.The goal is to determine the permeability, the minimum and maximum dry density, the heap friction angle and the proneness to segregation in the function of the composition of sand mixtures

The tests:

**Permeability test**: The sample for permeability measurement is put into the sampler by wet tamping (defined later) then saturated in a capillary way. Partly constant head, partly falling head tests is made, depending on the grading curve, according to the British Standard. The void ratio is determined afterwards.

**Emax test**: The sample is poured in the emax state. The weight is measured. The minimum dry density is computed.

**Segregation test**: The 2 times quantity is used for the emax test then the grading curve is determined. The sample segregation is expected to be not significant if the parameter A is between 0.4 and 0.7.The sand mixtures are prepared by sieving and dry mixing. Sieving process is made by number of sieves and an automatic sieving machine. The sieving can be made manually by hand, however, because of our large amount of sand and soil mixtures, we used the automatic machine.

**Juut Enkhbor** (2020):

In total six weeks of internship training at Budapest University of Technology and Economics we worked three by three weeks in two different departments of water and geology. And all experiments had done distinctively at each departments. Thus, the process and the results are not related nor dependent on each side is needed to be mentioned.

Conducted experiments were:

1.“Dike Model” experiment at Department of Hydraulic and Water Resources Engineering
2.“Permeability and Emax” tests on different type of grains at Department of Engineering Geology and Geotechnics

Since an extreme hydrological events are increasing due to the climate change, the defense structures like dikes or levees against flooding and direct waves are getting more and more essential to understand in order to prevent from such occasions. Dike erosion is crucial especially in coastal and areas that has high flood risk. The failure of a dike can be caused by several mechanisms, e.g. macro-stability, overtopping, heave, piping, erosion (internal and external) which can be studied by using numerical or analytical methods.

The permeability test is a laboratory experiment conducted to determine the permeability of soil or the property of the soil to transmit water and air. Permeability is commonly measured in terms of the rate of water flow through the soil in a given period of time.

Before we start the laboratory experiments, we took lectures from the supervisors which help us to get aware of further work implementation. So, it is worth to include those theoretical part of notes. The failure of a dike can be caused by several mechanisms, e.g. macro-stability, overtopping, heave, piping, erosion (internal and external) which can be studied by using numerical or analytical methods.

Soils may be either saturated or partially saturated (or dry). Traditional soil mechanics has mostly been derived to consider saturated soils. The behavior of saturated soils is considerably less complicated than the behavior of unsaturated soils. Unsaturated soils are generally stiffer and less compressible, and so, the more serious geotechnical problems have traditionally been associated with saturated soils.

**Conclusion**

Dike model: At 2 meters flood level and 1 meter protected area we succeed, the clay got separated and there were failure. It showed that water pressure was stronger than gravity and surface weight. However it was decent to see such result and could make it happen. But it might only happened in that particular experiment because of the material of model wall which was plexiglass. In real life, we should expect some burrows, which become the reason that we could not see the fracture.

Soil permeability is a property of soil that allows the flow of fluid through its interconnected void spaces. It is a measure of how easily a fluid like water can pass through the soil. There are several factors affecting the permeability of soil like particle size, impurities in water, void ratio, the degree of saturation, and adsorbed water to entrapped air and organic material.Particle size. The permeability of soil is directly proportional to the particle size therefore, the permeability of coarse grained soil is very large as compared to that of the fine grained soil. Impurities in water. Any foreign matter in water has a tendency to plug the flow passage and reduce the effective voids and its permeability.

Void ratio. Tor a given soil, the greater the void ratio, the higher the value of the coefficient of permeability.

Degree of saturation. If the soil is not fully saturated, it contains air pockets. Thus, permeability is reduced due to the presence of air.

**Nguyen Minh Huyen** (2019):

From July to August 2019,1 worked in Xellia Pharmaceuticals’s EHS department as an intern coordinator along with 364 other workers.But first what are EHS stands for and why is it so important? EHS stands for Environment, Health and Safety. It’s a general term used to refer to laws, rules, regulations professions, programs, and workplace efforts to protect the health and safety of employees and the public as well as the environment from hazards associated with the workplace. Although EHS is a com mom way to abbreviate this, you’ll see the addition of a “Q” for Quality, as in EHSQ. Let’s start by looking at those three letters E, H, S and determining what they mean. “E” stands for Environment. I’m talking about things like environmental releases and spills here. “H” stands for Health. I’m talking about things that can make you ill here, like airborne particulates, bilogical pathogens, and radiation, and/or things that can harm you as a result of exposure, such as noise. And “S” stands for Safety. I’m talking about things that can cause injuries here, such as getting caught in a moving machine or being run over by a forklift.

Why is EHS important? The primary benefit of EHS, and workplace EHS programs, is the obvious one: preventing incidents such as injuries, illnesses, and harmful environmental releases. One of the classic (and most horrible) historic examples of an incident that showed the need for EHS efforts was the Triangle Shirtwaist Fire. Other well known and more recent examples include the Bhopal/Union Carbide explosion in 1984, the Upper Big Branch Mine-South explosion of 2010, the BP Deepwater Horizon oil spill of 2010, and the fire in and ultimate collapse of the Savar building in Bangladesh in 2013. You can probably think of other incidents yourself. Because these hazards are real, EHS programs are necessary and provide real benefits. For example, this OSHA website on safety and health management programs provides a lot of case studies demonstrating these benefits. In addition, EHS programs at work also show employees that companies care about their well-being. If you have an active EHS culture, your

•Safe operation of major hazard facailities and mines
•Training for high risk work
•Managing and removing asbestos
•Licences for specific activities

The OHS Regulations came into effect on 18lh Jun 2017 and replaced the (old) OHS Regulations 2007.

TRT Fire Safety Plan & TVSZ Fire safety RegulationMost fires are preventable. Those responsible for workplaces and other buildings to which the public have access can avoid them by taking responsibility for and adopting the right behaviours and procedures.

This section covers general advice on fire safety and also provides guidance on substances that cause fire and explosion.

**General fire safety hazards**

Fires need three things to start - a source of ignition (heat), a source of fuel (something that burns) and oxygen:

•sources of ignition include heaters, lighting, naked flames, electrical equipment, smokers’ materials (cigarettes, matches etc), and anything else that can get very hot or cause sparks

•sources of fuel include wood, paper, plastic, rubber or foam, loose packaging materials, waste rubbish and furniture

•sources of oxygen include the air around us

**What did I do?**

Employers (and/or building owners or occupiers) must carry out a fire safety risk assessment and keep it up to date. This shares the same approach as health and safety risk assessments and can be carried out either as part of an overall risk assessment or as a separate exercise.

Based on the findings of the assessment, employers need to ensure that adequate and appropriate fire safety measures are in place to minimise the risk of injury or loss of life in the event of a fire.

To help prevent fire in the workplace, your risk assessment should identify what could cause a fire to start, ie sources of ignition (heat or sparks) and substances that burn, and the people who may be at risk.

Once you have identified the risks, you can take appropriate action to control them. Consider whether you can avoid them altogether or, if this is not possible, how you can reduce the risks and manage them. Also consider how you will protect people if there is a fire.

•Carry out a fire safety risk assessment
•Keep sources of ignition and flammable substances apart
•Avoid accidental fires, eg make sure heaters cannot be knocked over
•Ensure good housekeeping at all times, eg avoid build-up of rubbish that could burn
•Consider how to detect fires and how to warn people quickly if they start, eg installing smoke alarms and fire alarms or bells
•Have the correct fire-fighting equipment for putting a fire out quickly
•Keep fire exits and escape routes clearly marked and unobstructed at all times
•Ensure your workers receive appropriate training on procedures they need to follow, including fire drills
•Review and update your risk assessment regularly

**Reflection on the internship**

It has been a while since I started at the internship and I am really glad I decided to work here. I think the experience in this area is a good preview of my career and future. I am learning some important skills and finding out some things about myself and the tough skin I will need in order to stay in the area. This opportunity alone allowed me to gain relevant, real life work experience. My colleagues played a major role in the success of my second goal, to learn about a new culture.

**Conclusion**

It was a complete useful experience working at Xellia Pharmaceuticals. The friendly Welcoming staff and the space they have created for a trainee/intern allowed me with full opportunities to learn and know myself as a worker. This experience brought out my strenght and also the areas I needed to make up. The primary objective of an internship is to gather a real life working in a pharmaceuticals industry. I was quite nervous about it. During my 6 weeks of training I have developed a lot of confidence and courage in this industry.

My experience at the company was highly educated one. I went to differenr departments of the hotel and got a lot of varied experience. I worked in the EHSs department of the company. In this department I get to learn manythings which will be helpful fpr me in my future.

I also learned the values and importance of this industry and experienced that this is much superior field than most of the field during my training. As a human being , I noticed many changes in my attitude. I am more confident and more likely to do any work now.

During my training, I thoroughly enjoyed the challenges that came along every single day. I learned that this is just the beginning of the road and I have to travel a long distance to be sucessful in this field. But I must say that this enperience will prove an objective in my carrer in the environmental industry.