

Petroleum II

Virginia Evans Jenny Dooley Seyed Alireza Haghighat



Express Publishing

KX



4678

Petroleum II





Virginia Evans - Jenny Dooley Seyed Alireza Haghighat

To download the Career Paths Petroleum II app go to www.careerpaths-esp.com

To activate the app use the S/N below.

S/N: YQS50-TSV6N-25G87-WH1T5

The S/N can be used up to 3 times & is valid for 3 years.



Unit 1 - Oil sands	
Unit 2 - Oil shale	6
Unit 3 - Petroleum reserves	8
Unit 4 - Treating petroleum in the field	
Unit 5 - Picking up oil from storage tanks	12
Unit 6 - Measuring petroleum	14
Unit 7 - The licensing process	
Unit 8 - Licensed areas	
Unit 9 - Acquiring leases	
Unit 10 - Exploration damages	
Unit 11 - Lease agreements for private property	
Unit 12 - Petroleum engineers	26
Unit 13 - Construction and maintenance employees	
Unit 14 - Well types	
Unit 15 - Wildcatting	
Glossary	

Oil sands



Reading

2 Read the email on oil sands. Then, choose the correct answers.

clay

- 1 What is the main purpose of the email?
 - A to explain the benefits of recovering oil sands
 - B to give recommendations on mining oil sands
 - C to request further testing on oil sands deposits
 - D to compare two samples of oil sands
- 2 Which of the following is NOT mentioned in the email?
 - A the reason strip mining is suggested over open pit mining
 - B the possibility of turning bitumen into liquid in situ
 - C having a separation system for the bitumen
 - D the oil needs to be transported by pipeline
- 3 Why is the pipeline needed?
 - A to remove the clay from the bitumen
 - B to turn the bitumen into oil
 - C to increase the bitumen content
 - D to allow the oil to be transported

Vocabulary

- 3 Choose the sentence that uses the underlined part correctly.
 - 1 A We need to <u>dilute</u> the bitumen so it dries out.
 - B The oil sands were <u>extracted</u> from the earth.
 - 2 A Open pit mining is a form of surface mining.
 - B Strip mining was used to separate the clay and bitumen.
 - 3 A Oil sands are mined in Canada for petroleum.
 - B The petroleum is transported using bitumen.
 - 4 A If clay is <u>upgraded</u>, it becomes a fuel.
 - B Bitumen that has been <u>diluted</u> will flow like oil.
 - 5 A Bitumen is <u>extracted</u> from the earth using mining methods.
 - B Upgrading bitumen reduces its quality.

Sector Providence

oil sands

000

To: thomas_grenville@baueroil.com From: karen_echols@baueroil.com Re: Oil Sands on Melville Island

Dear Thomas,

As you requested, we did tests on the oil sands deposit. The sands have a bitumen content of 9.5%. It is possible to extract the bitumen using surface mining techniques. I recommend using strip mining in this case. Open pit mining is unnecessary, since the deposit is not very deep underground. In situ recovery is not needed either. After all, the deposit is accessible by mining. Here is what we need if we mine the deposit:

- An extraction plant for the separation of the bitumen from the clay
- A tank for diluting the bitumen
- A refinery to upgrade the bitumen to high quality synthetic oil
- A pipeline to transport the oil

Regards, Karen

Get ready!

Before you read the passage, talk about these questions.

- 1 What are two types of oil sands mining?
- 2 Where are oil sand deposits processed?

Fill in the blanks with the correct words and phrases:

deposit, open pit mining, strip mining, extraction, mining, in situ recovery, separation, synthetic oil.

- leaves a massive hole in the ground.
- 2 The bitumen was heated during ______, and then it was pumped to the surface.
- 3 ______ is useful when bitumen deposits are near the surface.
- 4 After the oil sands are mined, ______ of the clay from the bitumen begins.
- 5 The _____ plant was situated close to the mine.
- 6 A large _____ of oil sands was discovered in North America.
- 7 Many local people found work ______ the oil sands for the petroleum company.
- 8 After the bitumen was diluted, it was upgraded to _____.
- Listen and read the email on oil sands again. How are oil sands mined?

Listening

- G G Listen to a conversation between a geologist and an oil executive. Check (✓) the information they discuss.
 - the possibility of profit from the oil sands deposit
 - 2 I the cost of mining the oil sands deposit
 - 3 I the price a barrel of oil sells for
 - 4 L the estimated size of the oil sands deposit
 - 5 L the number of barrels the deposit will yield

7 🚱 Listen again and complete the conversation.

Oil Exec:	So, Karen, do you think Melville Island 1
Geologist	Yes. I think the company will make a 2 from it.
Oil Exec:	How big is the 3 deposit?
Geologist:	We estimated it to be around 25,000 square miles.
Oil Exec:	Okay and how many 4 can we get?
Geologist	Well, about two 5 provides one barrel of oil.
Oil Exec:	So, will a deposit that size create 6 a million barrels?
Geologist:	I'm sure we can get quite a bit more than a million from it.

Speaking

With a partner, act out the roles below based on Task7. Then switch roles.

USE LANGUAGE SUCH AS:

I think the company will ... We estimated it to be around ... I'm sure we can get ...

Student A: You are an oil executive. Talk to Student B about:

- his or her opinion of mining the deposit
- the size of the oil sands deposit
- how many barrels of oil the deposit will create

Student B: You are a geologist. Answer Student A's questions.

Writing

9 Use the email and the conversation from Task 8 to fill out the oil executive's notes.

Notes on Omey Island

Yield of deposit (in barrels):

Oil shale



HOME

SERVICES CONTACT

combustible



ABOUT US

At Petro-Ex, we specialize in extracting petroleum from oil shale. We use underground mining techniques to harvest our abundant oil shale deposits. Our preferred method is room and pillar mining. It causes very little environmental surface damage. We pride ourselves on being a company that cares about our Earth. In addition, we use ex situ retorting. This protects our workers from dangerous and combustible oil shale. We have a state-of-the-art extraction plant. There, we use pyrolysis to remove shale oil and shale gas from the rock. The oil and gas are then processed. Finally, they are offered as substitutes for petroleum and natural gas.



room and pillar mining

pyrolysis

Get ready!

ex situ

- Before you read the passage, talk about these questions.
 - 1 What are two types of mining used to extract oil shale?
 - 2 What method is used in the retorting process?

Reading

- 2 Read the webpage. Then, mark the following statements as true (T) or false (F).
 - 1 ____ The company's mines are located in areas with a lot of oil shale.
 - The company prefers to use surface mining techniques.
 - 3 _____ The company retorts the oil shale inside the mine.

Vocabulary

3 Fill in the blanks with the correct words and phrases from the word bank.

WOrd BANK

oil shale retorting shale oil shale gas combustible room and pillar mining

- 1 Many see _____ as a new form of natural gas.
- 2 The workers use heavy machines to crush the
- 3 _____ is one way to remove the liquid from the shale.
- 4 The company used ______ to prevent tunnels from collapsing.
- 5 Some companies provide ______ as a substitute for natural gas.
- 6 Lighting a match around _____ materials may start a fire.

Write a word that is similar in meaning to the underlined part.

- 1 The company found <u>a large supply of</u> minerals in the western region. ____t
- 2 The oil shale is taken to an <u>off site</u> processing facility.
- 3 The company engages in removing rocks from beneath the earth's surface. ___d _ r _____ i _ _ g
- 4 Oil extracted from oil shale is seen as a <u>replacement</u> for petroleum. ____s __t ___
- 5 The chemistry teacher explained the process of heating things to change them. _____0 I _____
- Listen and read the webpage again. Why does the company use room and pillar mining?

Listening

Listen to a conversation between two company executives. Choose the correct answers.

- 1 What was the cause of the standstill?
 - A The geological survey was not completed in time.
 - B There was a problem with the lease agreement.
 - C There was a mistake in the schedule.
 - D The exploration became too expensive.
- 2 What is the status of the mine?
 - A It is almost finished.
 - B It is going to be started soon.
 - C Its progress has been delayed.
 - D Its construction is at a standstill.

7 Solution Listen again and complete the conversation.

Executive 1:	How is our exploration of the Ringwald 1
Executive 2:	It's moving right along. The 2 have almost completed their survey.
Executive 1:	When are we supposed to start digging the mine?
Executive 2:	Next week. We're 3
Executive 1:	Even after things came to a standstill over the 4?
Executive 2:	Yes. The lawyers and the 5 cleared the problem up quickly.
Executive 1:	I'm glad to hear that. 6 if anything that will delay progress comes up.

Speaking

With a partner, act out the roles below based on Task 7. Then, switch roles.

USE LANGUAGE SUCH AS:

How is ... coming along? It's moving ... Keep me posted if ...

Student A: You are an executive. Talk to Student B about:

- the exploration of the shale field
- progress on the mine
- the problem that caused a delay

Student B: You are an executive. Talk to Student A about the progress of the shale field.

Writing

Use the webpage and the conversation from Task 8 to complete the progress report.



Progress Report

Environmental concerns:

Exploration of the shale field: _

Construction of the mine: