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Sunday
June

Fossil fuels.

2023

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Fossil fuels.

7 am

Fossil fuels -

8

These are fuels made from decomposing plants and animals.

9

These fuels are found in earth's crust and contain carbon and hydrogen, which can be burned for energy. (NB) Fossil fuels can also be called non-renewable energy sources.

10

11

Classification of fossil fuels.

Fossil fuels are classified as fossil and non fossil fuels.

12 noon

1 pm

Examples of fossil fuels.

Coal

Crude oil

Petroleum

Natural gas.

3

4

Examples of non-fossil fuels -

These are fuels that may easily be renewable and they include;

5

Biogas

Wind mill

6

Solar

Nuclear energy.

7

Firewood.

Hydro electric power.

Charcoal.

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June

Fossil fuels

2023

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7 am

Composition of fossil fuels.

8

Oxygen.

9

Carbon and hydrogen and some sulphur, nitrogen, Mineral matter (The basic particles that are the result of weathering of rocks).

10

Why are Fossil fuels called so?

11

They are called so because they are formed from dead and decaying plant and animal remains buried underground for a long period of time.

12 noon

For this reason therefore, fossil fuels are obtained from underground deep in the earth's crust.

1 pm

Formation of Crude oil or Petroleum.

2

When animals and plants died over millions of years ago, they got covered by sand, silt and rock under high pressure and temperature.

3

4

They decay anaerobically ~~in water~~ to form Crude oil which is stored within rocks.

5

N.B:

6

The word petroleum means rock oil or oil from the earth.

7

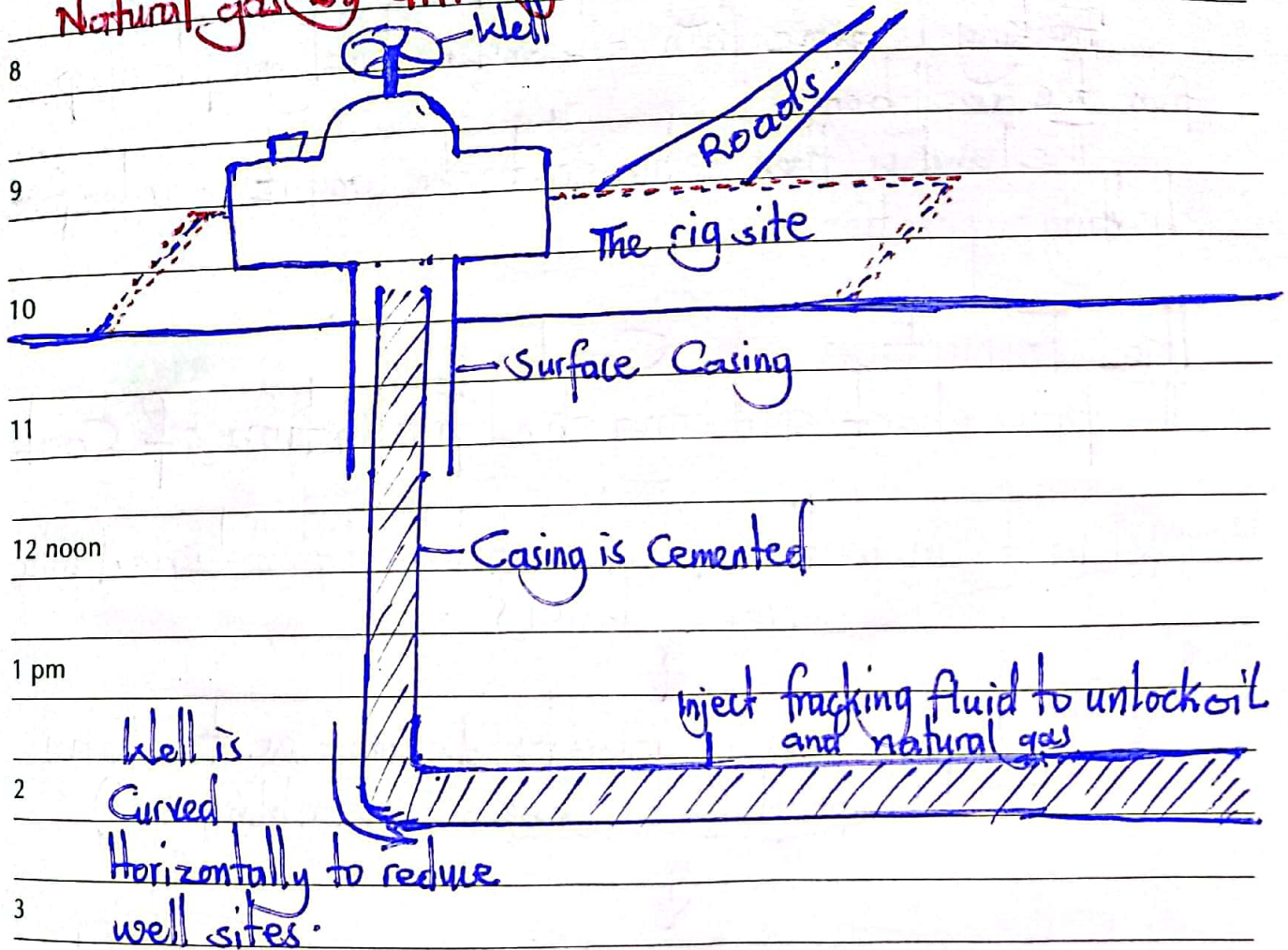
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Tuesday
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Extraction of Crude oil or Petroleum and Natural gas by drilling -



Procedure -

The site is prepared, infrastructure pads and access roads are built.

A well is drilled straight down into the ground to a depth of 100 feet.

After this, the long hole is drilled to about a depth of 1000 feet where oil and natural is trapped, the hole is then bent horizontally.

The drill pipe is removed and steel pipe is pushed to the bottom.

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Mrs Jo Content

2023

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Fossil Fuels

7 am

A perforating gun is typically lowered into the ground and fired to the rock layer.

8

Fracking is done then oil and natural gas flows up from the well bore.

9

The land is then returned to the way it was before drilling operations.

10

The Formation of Coal

11

The flow chart showing the formation of Coal:

12 noon

Plants in wetlands die and become buried into several layers

1 pm

2

The trapped dead plants decompose to form peat (brown deposit resembling soil)

3

4

5

6

More layers form peat. Peat become deeply buried. Water and other compounds are squeezed out due to increasing pressure to form a low quality coal called lignite.

7

Continued burial results in increasing pressure and temperature causes conversion of lignite into high quality coal called anthracene

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Friday
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Fossil Fuels -

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Kisjo Content

7 am

Major types of fossil fuels.

There are three major types of fossil fuels and they include;

Coal

Petroleum/oil

Natural gas

① Coal

Coal is a solid at room temperature.

The energy Coal produces is used in driving steam engines, used in boilers in industries.

Coal is composed of; Carbon, Hydrogen, Nitrogen, sulphur and Oxygen.

Uses of Coal (solid fossil fuel)

Used in generation of electricity, dyes, aspirins, soap, fibres, plastics, solvents

Used in steel industry.

② Petroleum/ crude oil

Petroleum is a liquid at room temperature.

The energy petroleum produces is majorly used in motor cars and motor cycles.

③ Composition of petroleum.

Carbon, hydrogen, Nitrogen, Sulphur, Oxygen, Minerals

Uses of petroleum/ crude oil

Used in generation of electricity.

Used in transportation as fuel for automobiles and jets.

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Fossil fuels

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7 am

The by products of oil are used to produce chemicals, plastics, lubricants, tars, waxes, medicines.
Used to make many fertilizers and pesticides

8

③ Natural gas.

10

This is a gas at room temperature.

11

The energy it produces is used for cooking as gas cylinders.

12 noon

Composition of natural gas.

Carbon, Hydrogen, Nitrogen, sulphur, oxygen and Minerals.

1 pm

2

Uses of natural gas (gaseous fossil fuel)

Used in air conditioning. ~~Cooking~~

3

Used for cooking

Used as a source electricity

4

Used in transportation as fuels for automobiles and jets.

5

Used in the production of paints, fertilizers, plastics and dyes.

6

NB (why do all fossil fuels contain carbon)

7

Fossil fuels contain Carbon because they are formed from organic compounds in living things

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Fossil fuels

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7 am

Characteristics of an ideal fossil fuel.

(should not be poisonous or pollute the environment.)

8

(should be readily available.)

Produce alot of energy on burning.

9

Easy to transport and store.

10

(should have low ignition temperatures so that it is easy to ignite.)

11

(should not leave any harmful residue or tar after burning)

12 noon

Properties of fossil fuels in relation to their functions

1 pm

Coal is in solid state therefore used as a source of energy.

2

Petroleum fuels are highly volatile and flammable, therefore used as a source of energy in combustible engines.

3

Oil is highly resistant to oxidation therefore suitable as a lubricant.

4

Examples of products Made out of fossil fuels- like Crude oil, Coal and natural gas.

a) Products out of Petroleum/Crude oil.

- Gasoline (petrol)

- Kerosene

6

- Diesel

- Asphalt (Dark bituminous with gravel or sand)

- Waxes

- Petroleum jelly

7

- Lubricating oils

- Synthetic rubber

- Jet fuel.

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Fossil fuels

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b) Products made from Coal:

Cement.

8

Carbon fibers and foams.

Medicines

9

Tars

Fuels.

10

c) Products made from Natural gas:

11

Tyres for police cars

Life vest and a fisherman's fishing rod.

12 noon

Guitar strings.

Cell phone.

1 pm

Vitamin Capsules

Military parachutes.

2

Advantages of fossil fuels:

3

They can be found very easily

They can generate a large amount of electricity

4

at a single location

They are Cost effective

5

Transportation of oil and gas can be done easily

through pipelines

6

They have become safer over time.

Disadvantages of fossil fuels

7

Fossil fuels are not renewable energy sources.

They pollute the environment.

In case of irresponsible use, they can be dangerous.

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Fossil Fuels

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Water table poisoning from fracking.
Mercury Emission.

8

Contributions of fossil fuels to Uganda's economy.

9

They have created more employment opportunities to reduce poverty.

10

They have led to the development of infrastructures like roads.

11

They have reduced importation of petroleum products which has improved Uganda's economy.

12 noon

They provide cheaper lower energy costs to members of the Community.

1 pm

They strengthen international relationship between Uganda and oil companies like TOTAL, SHELL etc.

2

They stimulate students to apply for petroleum science course at the university.

3

Communities will establish friendship with foreign expatriates.

4

They lead to the development of industries that depend on crude oil.

5

6

7