

How to Ace High-Stakes Tests

Earth Science

Economics

Technology

Engineering

**What would be the
best investment
today for \$10,000?**

Whale Oil

Shale oil

Opals?

STANDARD KNOWLEDGE - RESOURCES ARE [UNEVENLY] DISTRIBUTED

Water, rocks, soil, and living organisms make up the earth's natural surface.

This surface is changed by the way these things interact.

Change of the earth's surface can occur at any pace, from rapid to glacial.

Natural resources are unevenly distributed across the globe.

Rocks are divided into gems, semi-precious gems and [rock]

Most gems are formed underneath the surface of the earth [/].

see also, page below

STANDARD: NATURAL RESOURCES ARE UNEVENLY DISTRIBUTED ACROSS THE GLOBE

Why do you think that black opals were only found in Australia at the time that Amos bought them to bring back to New England? Select the explanation that is NOT possible:

- A. No one had located them anywhere else as yet.
- B. Each natural resource only naturally occurs in one place on the globe.
- C. etc.

STANDARD: NATURAL RESOURCES ARE UNEVENLY DISTRIBUTED ACROSS THE GLOBE

“Opal most commonly forms by the action of warm water on volcanic glass. b) It can also form at low temperatures, when water rich with dissolved silica mixes with sediment or enters rocks.” (AMuNatHistory.) [alpl: Very occasionally one can find these deposits on the surface of the earth. More commonly, they occur under the surface where a great deal of activity goes on as well.]

You are a field geologist in Captain Chase’s day (c. 1880) and have found one source of opal at location a, and one at location b. You have never seen these locations, and may not be familiar with these terms. At the same time, there is enough information here to approximate them. For each place, do a field sketch of how it looks for interested scientists and investors. Label your sketches.

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<http://www.ingrainrocks.com/multiphase-flow/>

You are a field geologist at Ingrain Corporation. “ Ingrain’s mission is to provide a fast and efficient flow of detailed and accurate information about the porosity, permeability, resistivity, and elastic properties of rock samples.” from ‘about us’ on website. You are a field geologist for a shale-oil mining firm in 2015. You have noted some things about the configuration of a certain area that suggests it may be a place to be a rich source of shale-oil when shattered. **but it is in a challenging reservoir.**

Given what you know about natural resources, what do you think “ **a challenging reservoir**” is likely to mean?

- A. The shale-oil is in a place that is too far away to make its transport cheap enough.
- B. The reservoir of oil is what another company is “reserving” so it isn’t free to be mined
- C. It is difficult for mining tools to extract the shale-oil from where it is situated.
- D. It may be too dangerous to mine in the area as it is in a zone of conflict.

ECONOMICS

Given what you know about natural resources which of the below is NOT a reason investors should be open to considering mining challenging reservoirs of shale-oil?

- A. Past markets have shown that the return on the investment is worth the risk
- B.
- C.
- D.

What do shale oil and whale oil have in common? How are they different?

What would be the best investment today for 25,000 dollars? Whale oil, shale oil or opals?