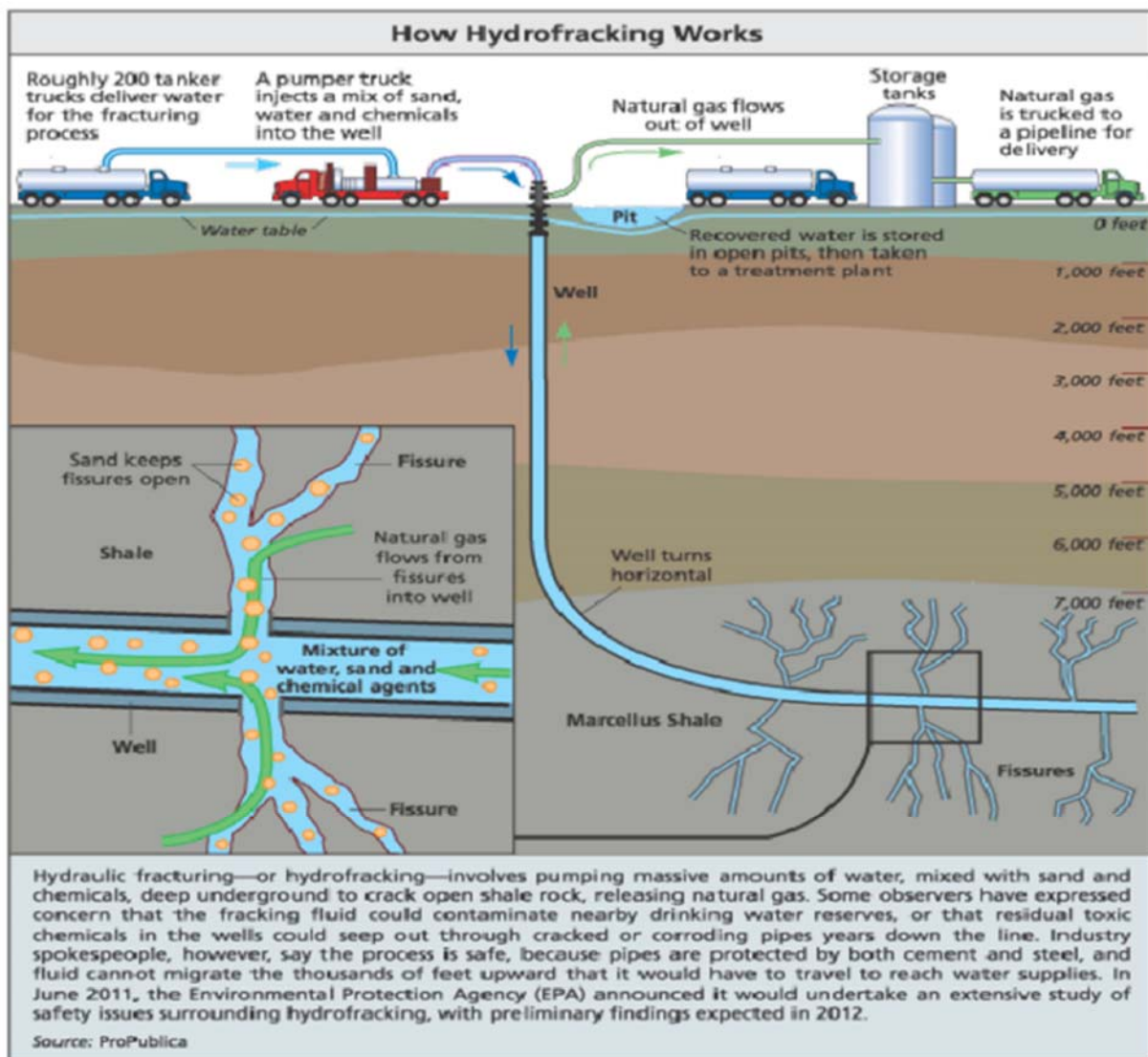


Hydrofracking

What is hydrofracking?

Hydrofracking refers to hydraulic fracturing, a technique in which large amounts of water, combined with smaller amounts of chemicals and sand, are pumped under high pressure into a drilled gas well. The purpose of hydraulic fracturing is to form tiny fractures in the rock by using water to force the rock to open along tiny existing fractures. When the pressure is released and the water removed, the sand remains behind, propping open the newly created fractures and allowing gas to flow more freely into the well. In order to get the gas out, a mixture of chemicals must be pumped into the rock at high pressure. This mixture includes sand, antibacterial agents, and hydrochloric acid to dissolve the excess cement in the pipes. There are a number of different methods that are currently being used in fracking, each associated with differing impacts to the environment and health of local inhabitants.



Pros:

- ✓ Provides access to energy sources available in oil shale, tight oil and coal seam gas. By fracturing the deep rock formations where these energy resources flow freely, they can be extracted, processed, and then used.
- ✓ Greater access to natural gas – the cleanest of fossil fuels used today Potentially passes saving to homeowners with cheaper prices for home heating cooling and transportation
- ✓ Creates jobs directly and indirectly (other companies that process/sell/deliver the gas)
- ✓ Decreases our foreign dependence on energy sources
- ✓

Cons:

- ✓ Possible contamination of local ground water and drinking water supplies
- ✓ Stress on ground and water supplies from the withdrawal of large volumes of water used in drilling and hydraulic fracturing.
- ✓ Exposure to cancer-causing chemicals if there are leaks, well blowouts, accidental spills or backflow of fluids.
- ✓ Localized earthquakes due high pressure to unidentified fault lines
- ✓ Air pollution
- ✓ Soil contamination
- ✓ Biomagnification from runoff

Assignment:

We have just reviewed the pros and cons of hydrofracking and nuclear power. Proponents for the use of these methods to provide us with sources of energy believe that the potential harm to our environment and to its inhabitants (including humans) are not that likely to happen and therefore do not pose a tangible risk to stop such technologies from moving forward. Based on what you have learned in our class and your own knowledge, please answer the following question in a well-thought out paragraph:

In your opinion do you think the trade-offs to the environment and its inhabitants are worth our continued use of technologies such as hydrofracking and nuclear power. Make sure you back up your opinion with information from our class or outside reading on the Internet.