Henry Osei

1.What are the High Plains aquifers made of? Generally, where and when did this material originate?

**•High Plains Aquifier, (Ogallala Acquifer), is poorly sorted clay, slit, sand, and gravel, generally unconsolidated. Deposited by streams and wind, very fine to fine grained sandstone and siltstone containing sandstone and interconnected fractures.**

•2) Tougher question: based on Figure 6 from the USGS, what kind of environment(s) would guess the aquifer’s Quaternary (Pleistocene and Holocene, or 2.5 million years ago through the present) sediments were deposited in?

**•The Pleistocene and Holocene would be where the Quaternary sediments will be deposited in.**

3)What is the source of the water in the aquifer? How is it recharged? Why is it considered geologic/fossil water?

**•Groundwater is the source of water in the aquifer. It is recharged through precipitation which will eventually add water.  It is considered fossil water because  it was used years or millennials ago and could be under different climatic conditions rather than the climatic condition now. It can also be recharged when water enters the ground as rain and moisture is staled up by soil and pulls downward by gravity.**

4)What is the depth of the aquifer, and how quickly does water travel through it?

**•Depth of the aquifer is 0 to more than 300 feet. The average groundwater flow in the high plains aquifer is about 1 foot per day.**

5)How has usage of the aquifer changed over time, and how is it responding?

**•It has changed over time due to changes within the weather cycle and different precipitation patterns as well as geological changes. Increase in surfaces on landscape can make a difference as well. Due to climate change, it responds differently depending on the season as well.**

•6)How are people adapting to the decline and potential demise of the aquifer? (This is a big question.)

**•Southern Kansas has become one of communities to to get hit the hardest by the aquifers decline. The level of groundwater has dropped 150 feet or more which is causing many farmers to abandon their wells. Many landowners are minor a finite resources for short-term gain. They are trying to stretch the life of the aquifer to benefit future farmers. In garden city the farmers will be taking actions because they are trying to maintain successful agricultural operation while relying on less water.**

7)Who do you think “owns” the water? Who should own it? (This is opinion, and will be

judged on how you support and present it, not on if I agree with it) .

**•Nobody owns the water; I believe that farmers should own the water because they use this water to grow crops. Also farmers depend on these products so the aquifer would benefit future generations who will tend to depend on their products. Because the farmers use the groundwater more than others, to grow crops and for their own needs. I believe they should own it.  The ground water allows for them to have a long term conservation instead of a short term gain.**

8)If climate changes as expected, how will this impact the aquifer?

**•It will take dry parts of the world longer to react to climate change. Groundwater impacts to climate change within 10 years or less. Climate change will affect the quality of the groundwater. Due to climate change, the sea levels can rise which will lead to salt water going into the groundwater, then contaminating the drinking water sources with salt water. So climate change will impact the aquifer negatively.**