Questions for the GG 104 Wai‘anae trip

The Wai‘anae mountain range is the eroded remnant of an old shield volcano that makes up the western half of O‘ahu. Wai‘anae literally means *mullet water*, presumably a reference to good mullet fishing here. Place name definitions and ‘ōlelo no‘eau (legends or sayings) come from *Place Names of Hawaii* by Pukui, Elbert, and Mookini, *Sites of Oahu* by Sterling and Summers, and *Ulukau*, the Hawaiian Electronic Dictionary: [http://ulukau.org/english.php](http://ulukau.org/english.php)

“Ka lā kapakahi ma Wai‘anae” - the one-sided (or lopsided) sun of Wai‘anae, refers to the fact that the mountains are high on the east, so the sun mainly shines from the west.

Our main goal is to gather some pōhaku for the final assignment. We are very fortunate to have Walter-Bea Aldeguer, a cultural practitioner from Wai‘anae to join us and to help us with the correct protocol for gathering the pōhaku. At the other, non-pōhaku stops, your assignment is to answer the questions that follow.

Stop #1 (Kapolei District Park)  
Literally, Kapolei means beloved Kapo – one of Pele’s sisters. An old chant for games (like a jump rope rhyme) names lots of places on O‘ahu, and starts at Kapolei.

1. Look at the overall shape of the Wai‘anae mountains. Can you imagine what it might have looked like before all the erosion? Was it a shield volcano?

2. From here you can see some scoria cones, including Pu‘u Pālailai (*the young lai fish*) and Pu‘u Makakilo (*observing eyes*). Does it seem as if these cones are clustered in one part of Wai‘anae volcano?

Stop #2 (~1 mile past Kea‘au (*the rippling of the sea*) Beach park)

1. Gather two stones. Be sure to stop and think about what you’re doing, be thankful to the place, and be thankful to the spirits of the place. Also, be careful.

2. You will need to gather one pōhaku ‘alā to use as a hammer stone, and one pōhaku ‘elekū that will become something (or another pōhaku ‘alā - it depends on what you want to make). We will talk about some of the potential things that you can make. They range from ‘ulumaika, poho pōhaku (stone bowls), ko‘i (adzes), ko‘i pāhoa (chisels), pōhaku īhe (octopus lure sinkers), ‘alā o ka ma’a (slingstones), and pōhaku ku‘i poi (poi pounders). We will also visit a place where there is dike rock, and another place with very glassy rock. For some photos and descriptions of implements, see Hiroa (1957) and: [http://www.higp.hawaii.edu/~scott/GG104/Powerpoint_presentations/stone_implements_GG104.ppt](http://www.higp.hawaii.edu/~scott/GG104/Powerpoint_presentations/stone_implements_GG104.ppt)

3. Describe your two stones, with respect to color, vesicularity, texture (crystal size), mineralogy (if you can see them), etc.
Stop #3 (Kāneana (Kāne’s cave)). There are many stories about Kāneana, including that it is the way Pele gets from Kaua‘i to O‘ahu, that it was (still is?) the home of a shark goddess, and that it is the place where a shark-man demi-god named Nanaue used to drag his human victims to be eaten.

1. What are the nearly-vertical rock bodies above and around the cave?

2. On your map, draw their orientation.

3. Look off to the west towards Ka‘ena (the heat) Point. Can you tell which way the rocks that make up the point are dipping? If so, indicate it on the map.

4. Take a close look at the rocks that make up the walls of the cave. Can you see any pāhoehoe flows? Can you see any ‘a‘ā flows? About how thick is each flow?

5. Up in the walls of the cave, can you see any rocks that look totally out of place? If you were told that they’re there naturally, how would you explain them?

6. Walk along the highway back towards ‘Ōhikilōlō Valley about 200 m and look up at the dark-colored flat rock face. What do you think this is? If spelled ‘Ōhikilōlō, the place name means crazy sand-crab, a reference to sand-crabs that run erratically on the beach. If spelled ‘Ōhikilolo, the place name means pried-out brains, as in particular ceremonies (such as at a canoe launching) where animal brains were eaten.

Stop #4 (Mauna Kūwale (mountain standing alone) - about an hour and a half hike) There is said to be a burial cave somewhere near the top of Mauna Kūwale, on the side facing Kolekole Pass.

1. Do you think these lowest flows had high viscosities and/or yield strengths? Why?

2. From up at the top, orient yourself and your map, and then check out the orientations of the flows everywhere you can see them, including those in the top part of Mauna Kūwale, in Pu‘u Pāhe‘ehe‘e (slippery hill), in Pu‘u Mā‘ili‘ili (pebbly hill), and in the W. walls of Wai‘anae Valley.

3. Look to the northeast towards the back of Lualualei valley. You can’t see them from here, but the flows in the back of the valley are sloping northeast towards Schofield. The low place along the back of the valley is Kolekole (raw, scarred) Pass. Just towards us from there is Pu‘u Ka‘iilio (hill of the dog). It has some very prominent layers in it but these are not lava flows. Instead, they are old layers of talus (rock rubble that piles up at the base of a cliff and slopes away from the cliff). Kolekole is a prominent pass through the Wai‘anae mountains. Today it is controlled by the military. In olden times, it is where armies from opposite sides of the Wai‘anae mountains would commonly meet and fight (although you’ll remember that unlike most places, the ahupua‘a of Wai‘anae crossed over the mountains so these would have been intra-ahupua‘a battles. The results of their fights were commonly raw, scarred flesh, hence the name.

4. At the base of the last climb to the top of Mauna Kūwale, check out the OFB (outrageous feldspar basalt).