

**Union Hills Field Trip**

Name \_\_\_\_\_

*Bring 1) HCl, 2) Union Hills topos, 3) loupes, 4) boards/rubber bands 5) magnetic compasses / phones*

**Stop 1 - Outcrop Across from Pinnacle Community Church, 1330 E. Union Hills Drive (Watch for traffic!)**

1. Write two geologic sentence observations.

A

B

2. What do you notice about the shape of the rocks in the embankment on the south side of Union Hills?

3. What can you infer from the shape of the rocks in the embankment?

4. But wait. We're up high in elevation. How can your answer to #3 be true? How can this happen? What's going on here? I'm confused!

*Look at some individual rocks. Name one sed, one met, and one ign rock that you find & tell what properties / characteristics allowed you to you ID those 2 rocks.*

5. SED ROCK \_\_\_\_\_ ID \_\_\_\_\_

6. MET ROCK \_\_\_\_\_ ID \_\_\_\_\_

7. IGN ROCK \_\_\_\_\_ ID \_\_\_\_\_

8. Considering the rocks you just listed above what does this imply about the geology 'upstream' from here in the old days long ago?

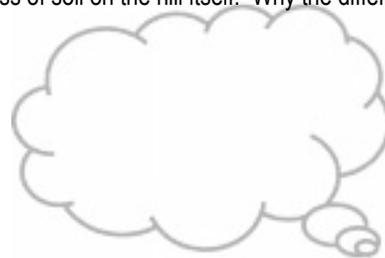
9. Use the tilt meter on your phone. Does this road cut (outcrop) exceed the angle of repose? The angle is \_\_\_\_\_ ° YES / NO Explain.

10. Think about the angle of repose. Are the houses above in trouble? YES / NO Explain your your reasoning.

**Stop 2 - Buffalo Ridge Park First: Map time. Orient. Any observations? Thoughts - AZ Mining, Mining law of 1872.**

11. On the walk to the site, compare the depth of the soil under your feet to the thickness of soil on the hill itself. Why the difference?

12. Is the soil under your feet during the walk residual OR transported soil? Explain.



Draw a picture of you thinking some geologic thought. Write your thought.

13. The color of the soil you are walking on is slightly different from the rock on the hill. How this can happen?

14. Take a CLOSE look at the regolith, the loose soil. Sift it through your fingers. See the very fine clay? From which mineral in the rock would that have originated?

15. The rock in the area is SEDIMENTARY / EXTRUSIVE IGNEOUS / INTRUSIVE IGNEOUS / METAMORPHIC. (CIRCLE ONE)

16. Describe an observation that leads to this answer.

17. Tell three ways this place was different about 2.3 billion years ago when this rock was forming.

18. What had to happen between the time this rock formed and the time it was mined?

19. Using the loupe, list & describe 3 minerals in this granite.

NAME	DESCRIPTION
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A)

B)

C)

**Stop 3 - NE Corner 16th Street and Beardsley (Pull out the loupe!)**

20. What's up with those veins? How did they form? Did they form before or after the granite?

21. Which is older, the dark inclusion or the granite? How do you know? Look around. You might find more.

22. Observe carefully. Why is this prospect here?

**Write your own two questions or observations or suggestions.**

23.

24.

**Extra Credit (Bring it back next class.)** - Read at least two sources regarding the Mining Law of 1872. Then look up the name "Melluzzo" and tell how the land where "The Pointe" was acquired. What do you think about this? Is this what the law was intended to accomplish?