

Description: observe and record features of different outcrops of rocks around Fredericksburg.

General location: Fredericksburg, VA

DAY 1: 10-09-23 64° partly sunny

Health: good

Accompanied by: Prof. Morealli's EE5C 240 class

Site 1: Potomac outcrop at Kenmore Park, Fredericksburg, VA.

To do: Zone 185 0284106mE 4242634mN

- overall description & sketch of outcrop
- identify and sketch bedding / cross beds
- identify texture, sorting, size of clasts
- identify minerals present
- identify type of rock
- take strike & dip measurements

Overall rock description

- big outcrop on steep hill
- clearly larger pebble sized sediments in a sand sized matrix
- large overhang
- rock is heavily weathered, turned a green color and some is covered in lichen.
- Medium sized bedding seen under overhang

Sketch no. 1



SEW
↑

Bedding

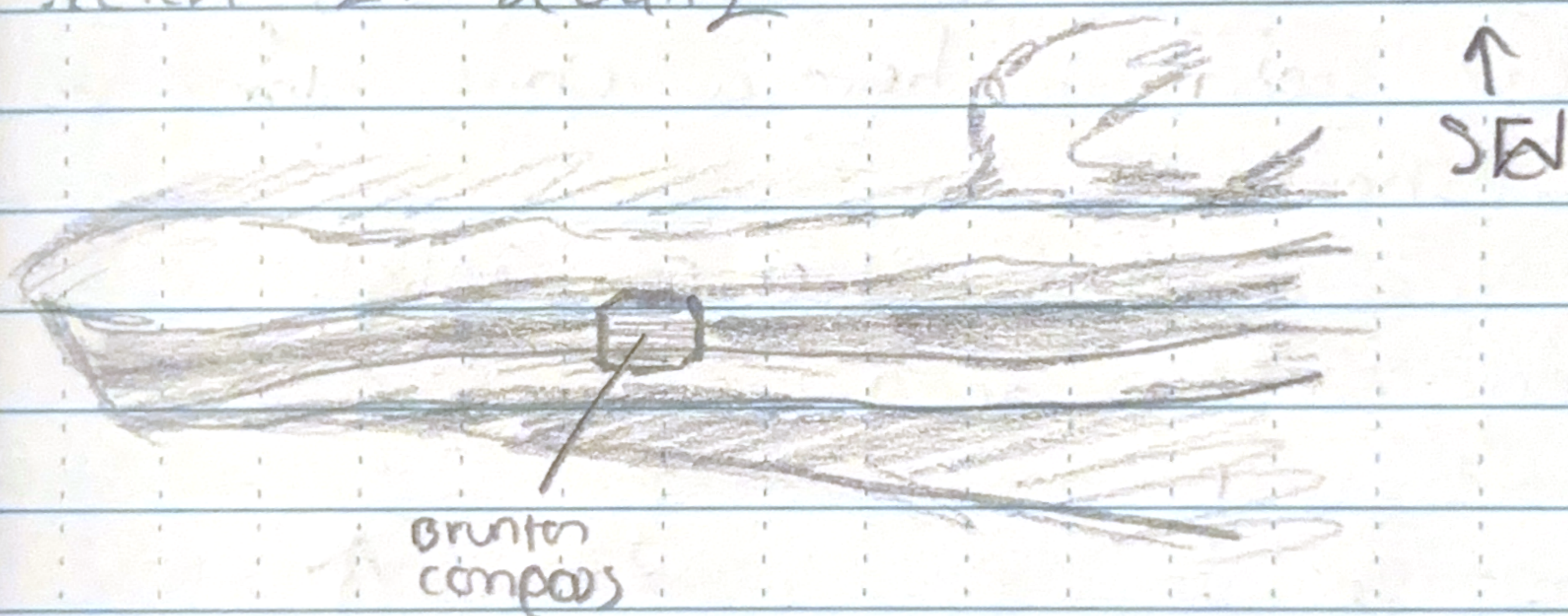
• Facing southeast

- ~~layers~~ of alternating layers of weak and resistant rock

- resistant rock layers are about 1.5-2 inches thick

- weak and eroded layer is ranges from 1-3 inches

sketch 2. bedding

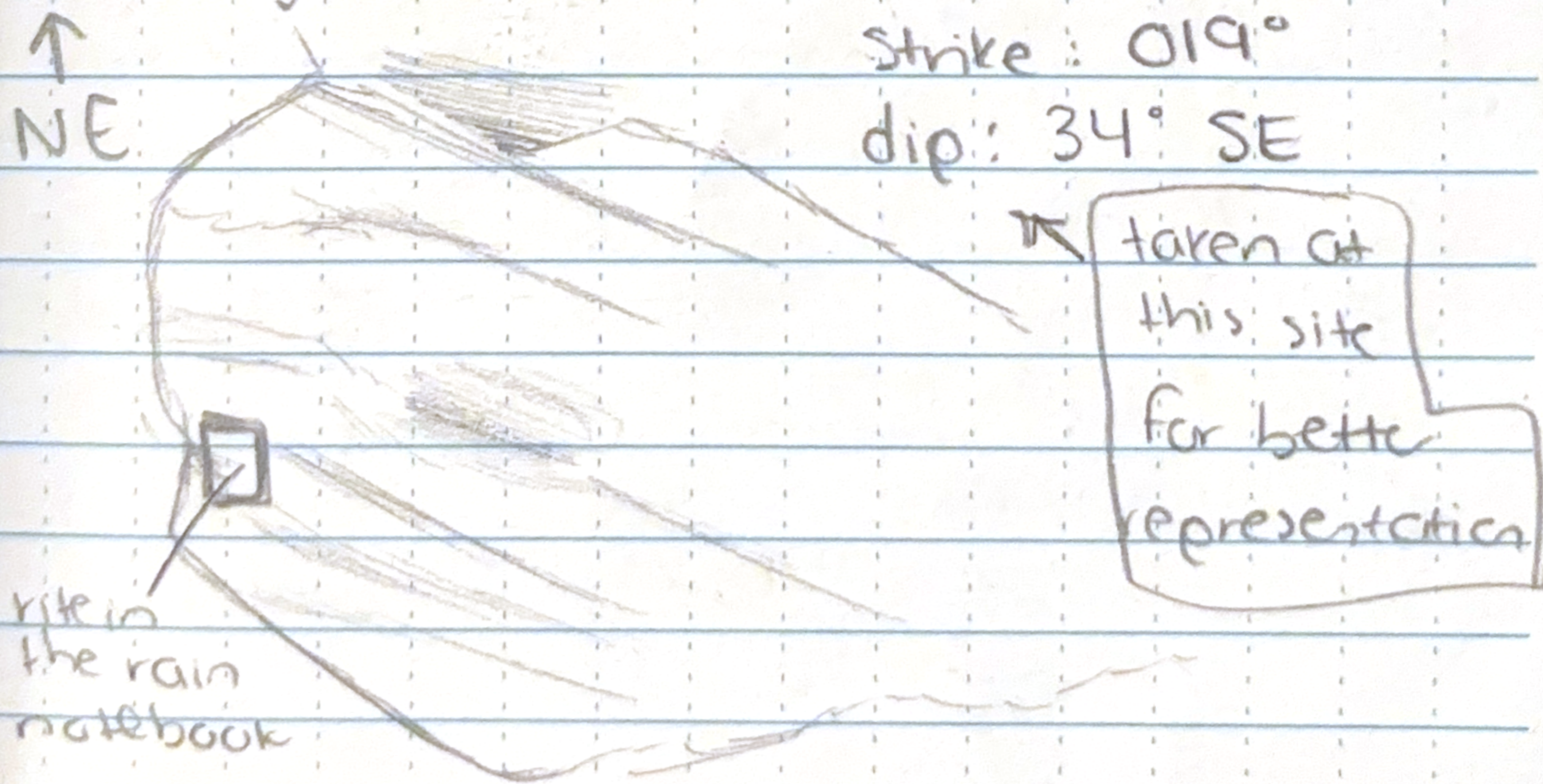


Bedding site no. 2

↑
NE

Strike: 019°

dip: 34° SE



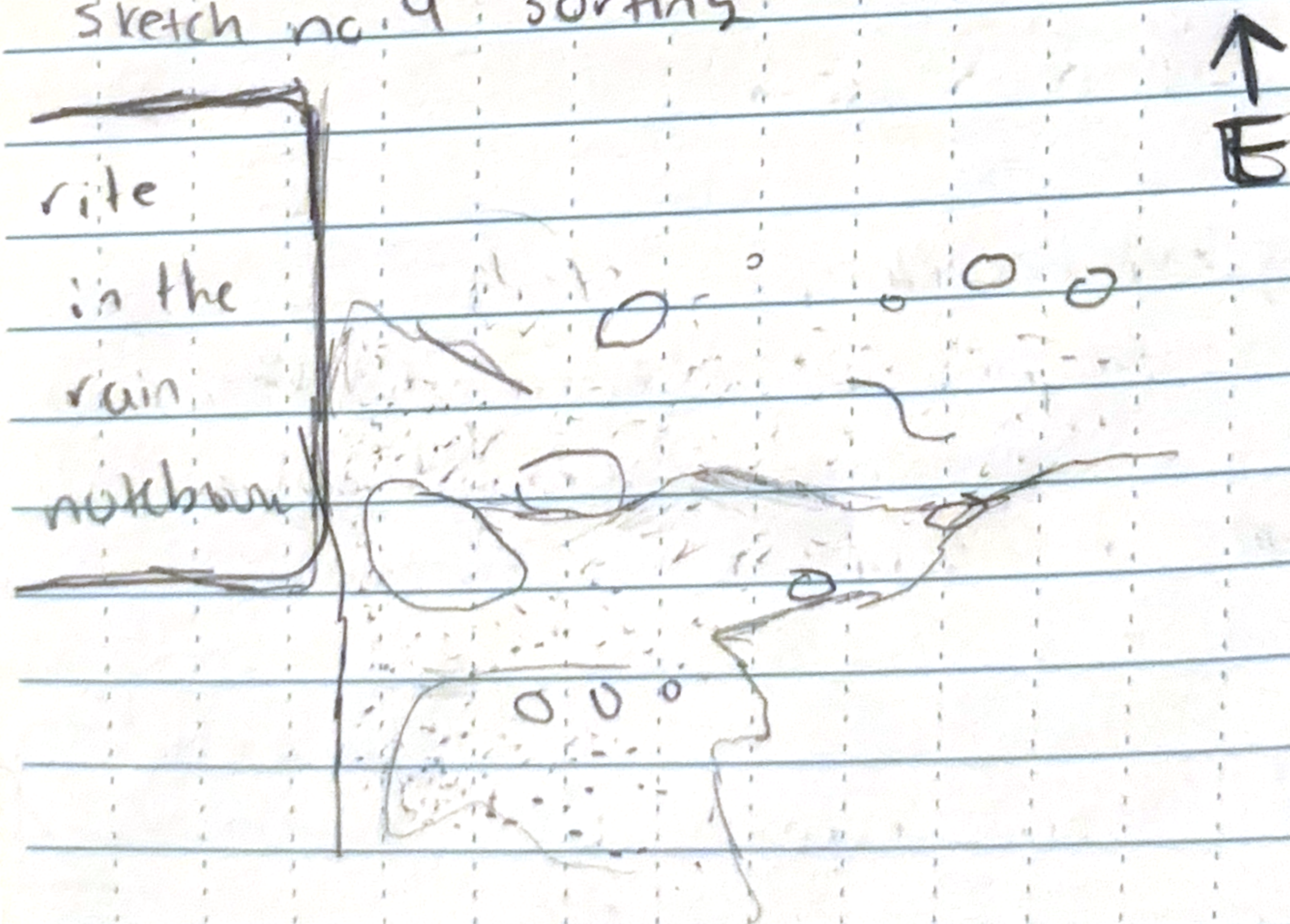
Scale: 1 square = _____

Rite in the Rain

Texture, sorting,

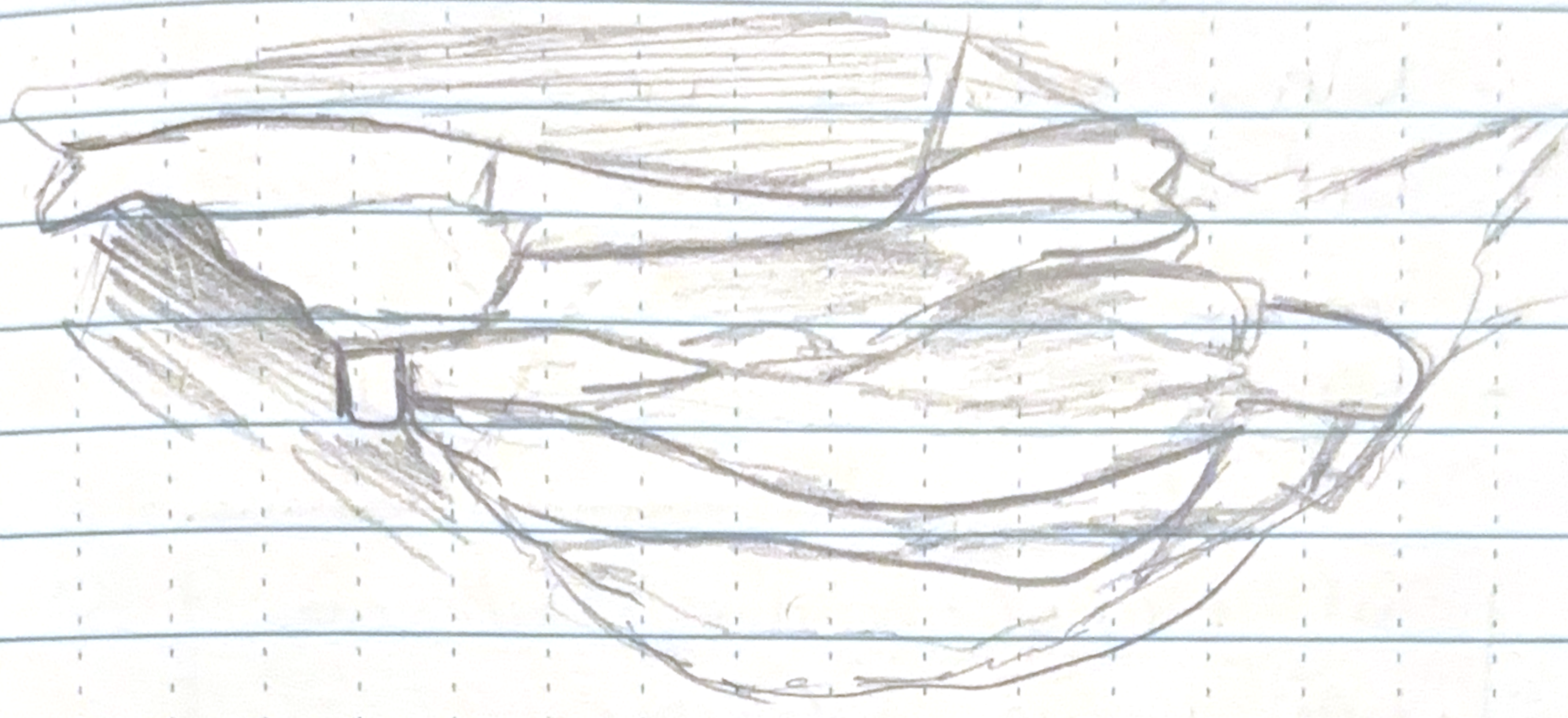
- Sand matrix is composed of very coarse and coarse sand sizes
- Sand has a subangular and sub rounded roundness
- pebbles are rounded and subrounded
- Pebble sized sediments made of quartz, grey colored at fresher exposures,
- rock seems to have a white color at fresher exposures.
- matrix tested with HCl for calcite, no reaction was seen.

Sketch no 4 sorting



sketch no. 5 bedding

↑
SE



DAY 2

AT KENMORE PARK

10-21-23

- 66° Sunny
- Health: good
- Going alone today

To do:

- Measure rock in paces
- look for more minerals and cross bedding
- take pictures (didn't take cellphone with me on day 1)
 - pictures of bedding

8 paces long (downhill) =

6 paces wide flat =

Scale: 1 square = _____

Mineral Correction

- quartz probably isn't gray (pebbles) but is that color due to weathering/vandalism
- Clear color at fresher exposures
- Definitely pebbles of K-spar spotted
- White quartz seen as well.

Got pics of • bedding w/ scale,
 • side profile w/ scale
 • cross bedding • sorting
 • chasm w/ scale • quartz

DAY 3

10-23-23

Site 2

(NO GPS) UNIT = NO COORDINATE

• Location: Alum Spring Park

• Weather: 61° partly cloudy

• Health: good

• Colleagues: Prof. Morealli's 240 class

- To DO

- general description: measure paces, color, distinct features, weathering,

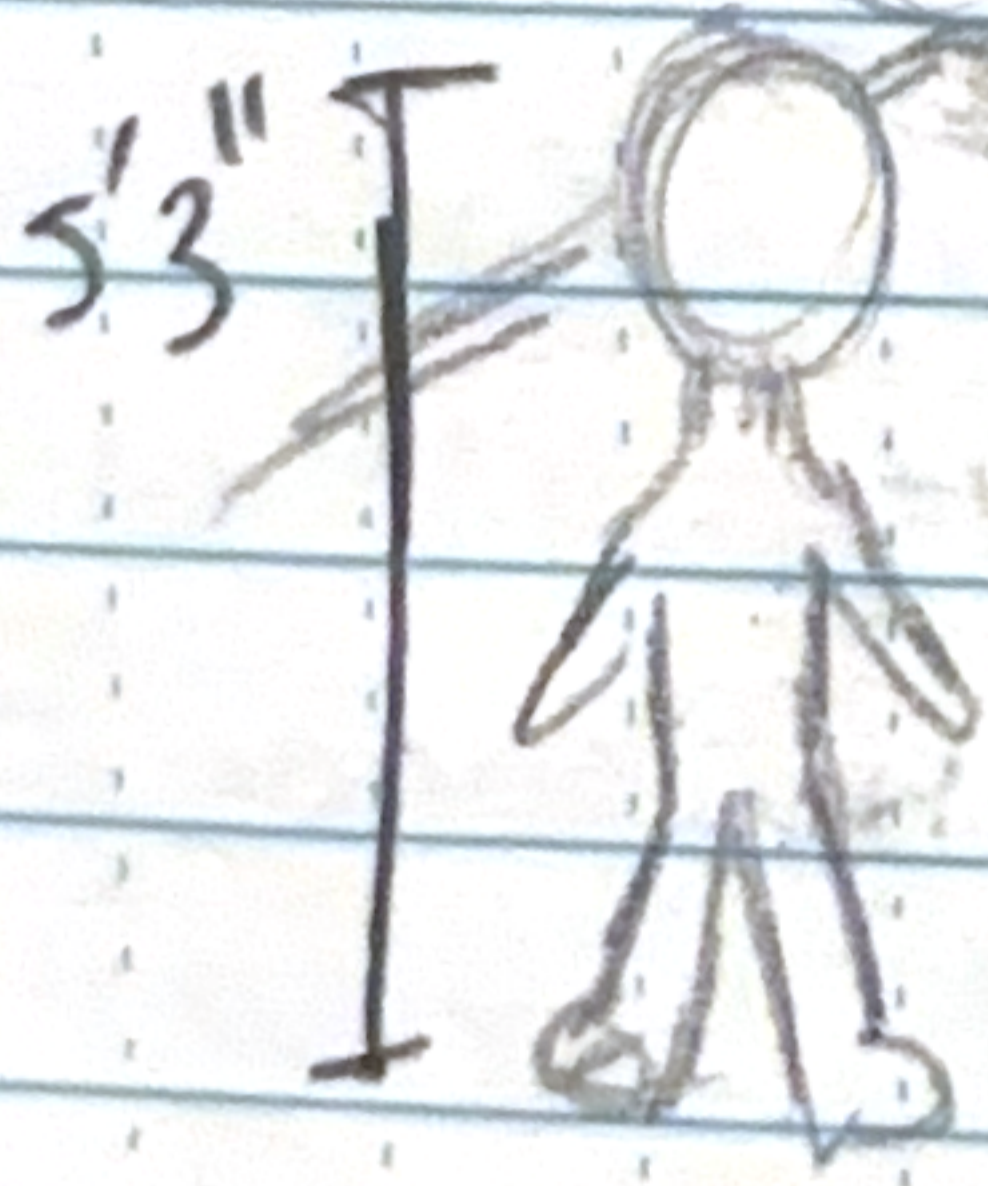
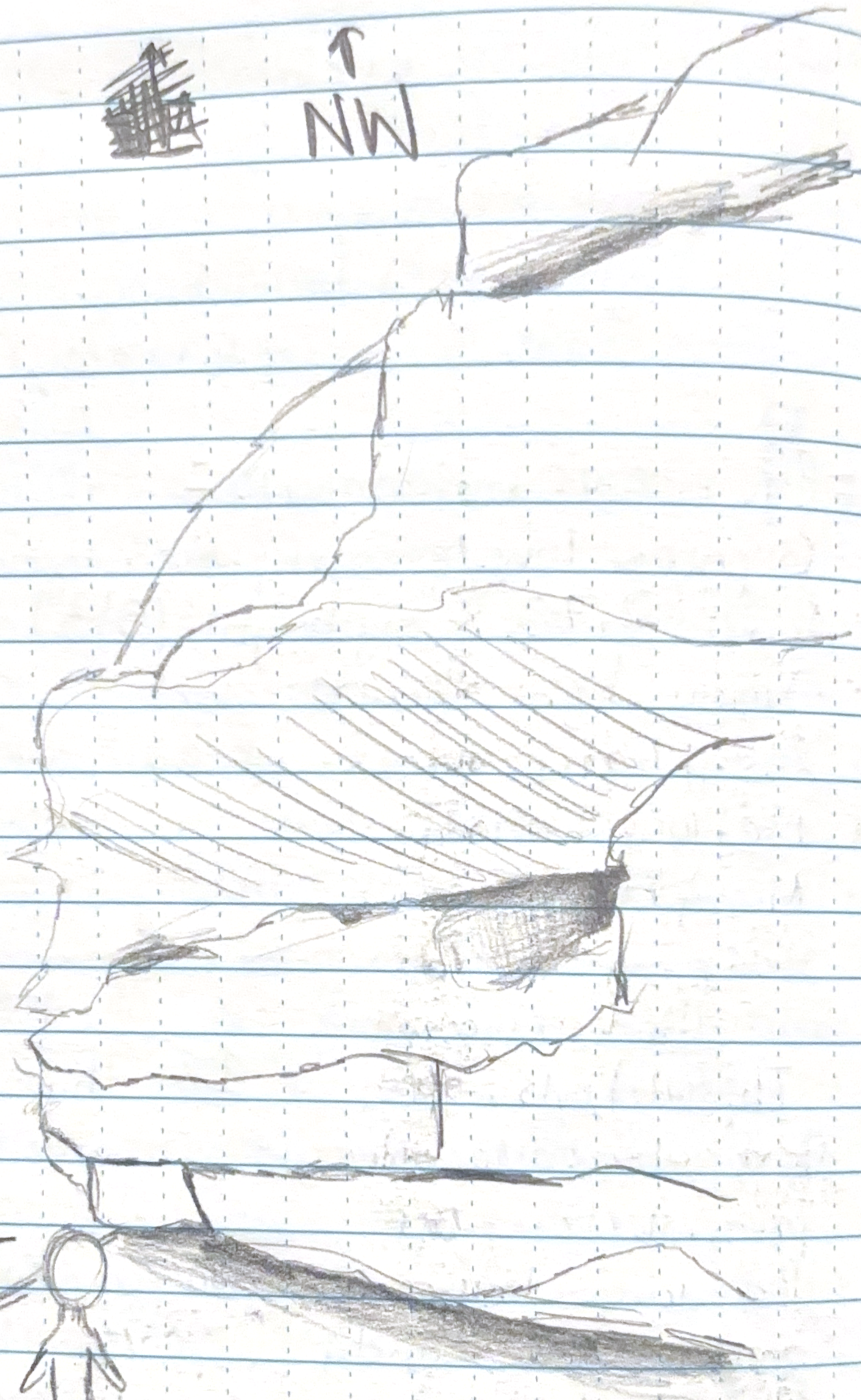
- texture, sorting, mineral composition

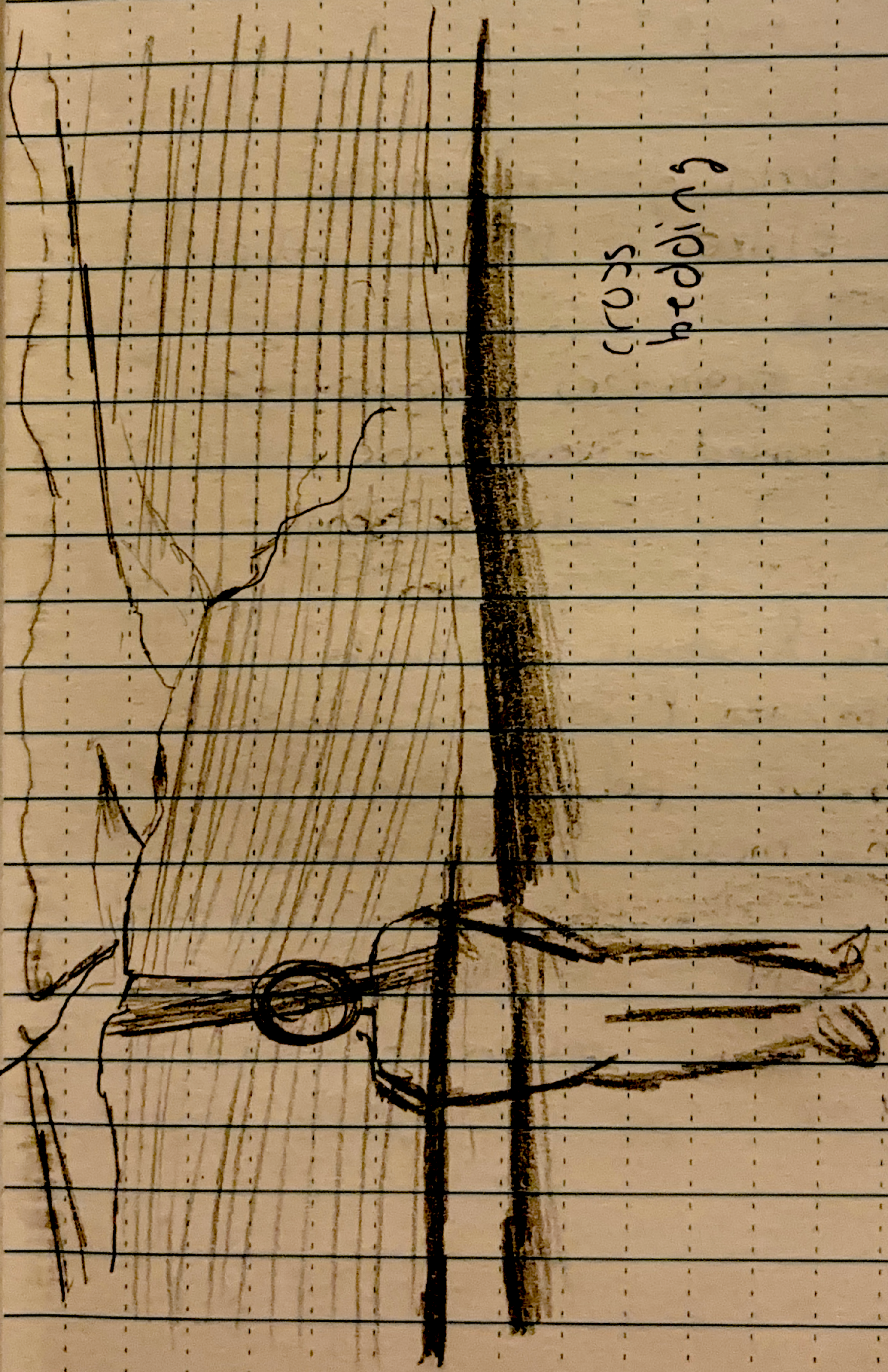
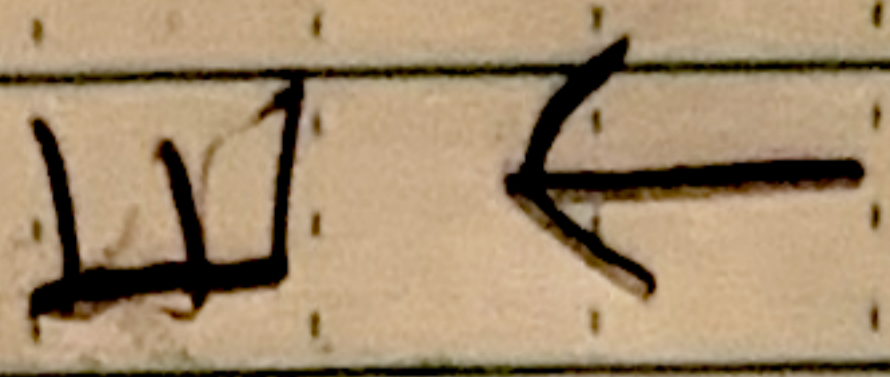
- take photos & sketches

- check checklist



↑
NW





cross
bedding

Scale: 1 square = _____

Rite in the Rain

Tree Fossil + (to be continued)

- 55° • 22° • 70°
- 60° • 63° • 88°
- 46° • 55°
- 26° • 80°
- 41° • 92°

- Cross bedding strike & dip
82° strike 18° SE dip

= Sorting, grain sizes, angularity =

- Poorly sorted :- very coarse sand
- coarse sand
- pebbles

- Angular & subangular sands
- Subrounded & rounded pebbles
- Lines of pebble dense rock
with mostly sandy rock

Minerology

- white quartz pebbles
- = look up Kspcr cleavages to compare =

General observations

- Heavily weathered gives rock black coloring, some oxidation, areas are covered in lichen and graffiti (removal process will be taking place)
- Covered in moss and plants
- Prof. Morealli pointed out an igneous intrusion
- Foliation is very vertical
- Rock has a fault
- Some areas break off easily

Mineral content

- Muscovite
- Quartz

Igneous intrusions

- About 3 inches wide
- Lighter than rest of the rock

DAY 5

Return to Alum Spring Park
(site 2)

Weather: 79° sunny

Health: good

Colleagues: Prof. Mcrealli & 240 class

To do:

- Finish describing mineralogy
- Finish observations of texture variation ✓
- Take the rest of tree fossil orientation ✓
- Sketch rock texture ✓
- Strike & dip of main bedding ✓
- Take more photos ✓

- 18 more tree fossil orientation measurements

• 10°	• 45°	• 50°	• 55°	• 110°	• 54°
• 25°	• 55°	• 90°	• 50°	• 75°	• 350°
• 25°	• 75°	• 110	• 105	• 75°	• 84°

Main bedding strike & dip

- Beds are nearly horizontal
- Horizontal main beds

Mineralogy

- quartz everywhere

NE



Rite in the Rain Notebook

