

An Idiot's Guide to Fieldwork and Notebooks

The purpose of this short guide is to suggest some basic methods for tackling fieldwork and give you some hints and tips on how to go about keeping a good notebook. It is by no means extensive or exhaustive, but it will be a good place for you to begin your efforts as a field geologist.

Some of the suggestions here may seem like "overkill". They are suggested because the earlier you start doing these things, the more ingrained and therefore easier they will become, so that by the time you start doing longer and harder fieldtrips you won't have to think about "how am I meant to get all this data down?" or "what am I meant to be doing?" because you'll already have a framework to deal with these, allowing you to concentrate on the "what does it mean?" aspects.

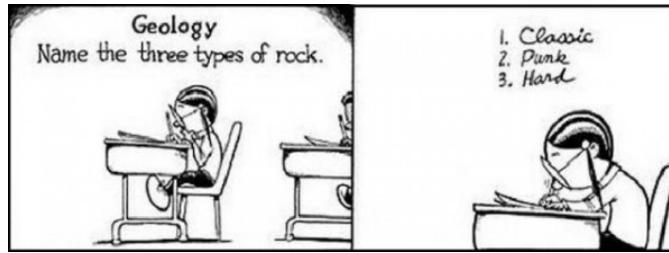
The Field Notebook

The notebook is arguably a geologist's most important tool. The observations and interpretations, sketches and orientation data that are contained within are often irreplaceable (*because you'd have to go do the trip again...*). As such, it is important to both:

- Keep a good, detailed notebook that you can come back to and still understand after some period of time (*if you went back a year (or two... or three) later to do some more detailed work for example*)
- To look after your notebook.

Learning how to keep a good notebook is vital as will become clear for those of you that conduct individual fieldwork, lab work, or go on to obtain a job that involves field/lab geology. So while you may feel first year notebooks serve no purpose other than in the most immediate "what mark am I going to get for this?" sense, it is important that you try to think about the future usefulness of the skills that you (will) have developed. It is these skills that are not only vitally important for any geologist, but are transferable to many other aspects of education and work.

In short; It's worth putting the effort in now, or it will come back to haunt you.



The Most Basic: Getting a Notebook

A good notebook needs a hardback cover (to protect it from the inevitable use abuse it will get) and water resistant paper. Essentially, the yellow notebooks sold by the department are exactly what you need. It's why they stock them. It is strongly recommended that you use these books.

First Things First...

The very first thing you should do with your notebook is write your name, address and contact number on the inside of the front cover, and write your name, trip location, and the year of travel on the spine. The first, so that if your book gets lost, some kind soul may return it to you. The second is for ease of locating your notebook among others, both for you, and for the lecturers marking it. It is also worth leaving a page or two at the beginning for contents pages. On short fieldwork this may seem pointless, but for longer trips it is an absolute necessity. It is worth doing it anyway so that it doing so becomes habit.

(Doing little things like putting your name on the spine may seem trivial, but when you're marking a stack of 50 notebooks, it's a big help. Keeping your markers in a good mood is generally a good idea.)

The Basics: Notebook Layouts and Locations

Notebook layouts are individual. Everyone will do their notebook differently once they find a style that works for them. The layouts below are *ONLY* suggestions that are used to illustrate the important content that should be included regardless of how you end up laying out your notebook.

DATE: 12th never
 WEATHER: sunny all day
 ROUTE, AIM: work east from Osmington Mills along coast;
 log Corallian Group

Locality & grid reference

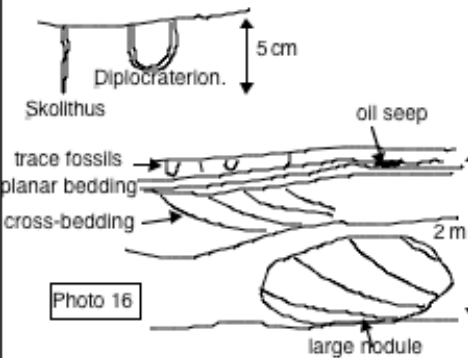
Loc. (35)
 7350
 8165

Exposure: low cliffs, partially covered by slumped material.

Sandstone: yell.-brown, coarse-grained, well-sorted quartz arenite with rounded grains. Beds of 1-2m; planar laminations and tabular cross-bedding. Base of the unit is erosional. No body fossils, but common trace-fossils on upper bedding surface; *Skolithus* and *Diplocraterion*. Very large nodules (1-2m) towards the base of the unit which preserve cross-bedding. Possible local oil seeps.

bedding
 340/23 SW

X-bedding
 320/40 SW



Loc. (36)
 7352
 8165

Exposure: resistant ledge at base of cliff 1 which carries on across wave-cut platform

Limestone: white-grey, calcarenite, oomicrite, packstone. No structure or bedding. Bivalve fossils scattered throughout - possibly oysters. **Specimen 23**

bedding
 338/20 SW

Site: August 09 map sheet 41516 Day 23 119
Location: Concrete duct, down the track from G.F. Path
 GR. 2018 6419
Mood: Determined
Weather: Sunny with wind
Hazards: Stinging / Spiky Plants, ticks, midges, Slippery
 Rocks, uneven/Boggy ground.
Aims:
 • To create me a path up the side of the
 River so I can hunt exposure. This
 should allow me to finish inferring the
 geology inland of Corrie.
 • Do not fall in the River or get stuck.
Location: GR. 201371 641819 otherwise I don't know
 I'm at a set of waterfalls and I can't see
 anything except ferns and trees

Regardless of layout, each notebook day start should have:

- Day #
- Date
- Location
- Weather
- Mood
- Hazards
- Aims

Why weather and mood? – When you're doing fieldwork alone, or for your own purposes, these things become important. Data taken whilst in a bad mood may not be as accurate or reliable as it could be. Having a reminder of this can help at a later date. The same goes for bad weather.

What hazards? – Thinking about the hazards you may encounter while working in your area is important for any field geologist, as working in the field can be dangerous. Common hazards include loose or slippery rocks on beaches as well as being cut off by the tide, falling rocks near cliffs, sunburn / sunstroke / dehydration on hot sunny days, uneven ground and biting insects. Other, sometimes comical, hazards include wild animals (such as on one occasion in my experience, a herd of angry Spanish cows, and angry nesting birds of prey on another) and local people.

The joy of a layout that incorporates margins is that it gives you very clear space to write things like grid references and orientation data. The other layout however, gives you more page space to work with. But it is the information contained in your notebook that is of real value, as long as it makes sense and is clear and readable; the layout really doesn't matter (i.e. whatever system works for you, use it).

Once your day is started in your notebook, you can start recording your observations and interpretations. These should be kept separate for a very practical reason; namely that your interpretations could be "wrong" or disagree with someone else's. If your observations are recorded clearly however, it will be possible to see where the differences lie.

You will get told, **frequently**, to separate your observations from your interpretations, but it is sometimes quite difficult to do clearly.

Below is a simple method for recording observations and interpretations clearly that is applicable to any “I have no idea what this is” thing in geology.

Rock 1:

- Is red
- Is sedimentary
- Is coarse grained (2-4mm) and well sorted
- Grains consist of;
 - Mineral 1:
 - Is stained red, but is clear and glassy when broken.
 - Is harder than steel
 - Exhibits conchoidal fracture
 - No visible twins

QUARTZ

- Mineral 2:
 - Is creamy / pale orange
 - Generally tabular
 - Some twinning evident

FELDSPAR

- Contains cross bedding structures (See sketches 1 + 2) of the scale ~1m
- Contains NO fossils.

ROCK 1 = AOELIAN SANDSTONE

The bonus of this method is that it forces observations and interpretations to be separate. For added clarity, interpretations can be put into boxes.

NB: Putting important information (such as orientation data, interpretations, tide times etc) in boxes is a good way to make it very easy to find.

Sketches

Geological sketches are different to other sketching you may have done before. The importance of these sketches is not getting every tiny detail represented, but concentrating on the main geological features, and labeling them with observations and interpretations from the field. This is why they are far superior to photographs. By all means, take photographs as well, but they do not replace the need for a sketch.

All sketches should include:

- A title, which ideally should include the name / description of the thing you're drawing and some hint as to its location.
- A sketch number (for use in the contents page)
- Orientation (of the sketch view, and of the rocks if appropriate)
- Scale
- Relevant and informative labels.

It is important to note that you do not have to be artistically talented to be able to draw good sketches. I was rubbish at it to begin with. It is a skill that will develop.

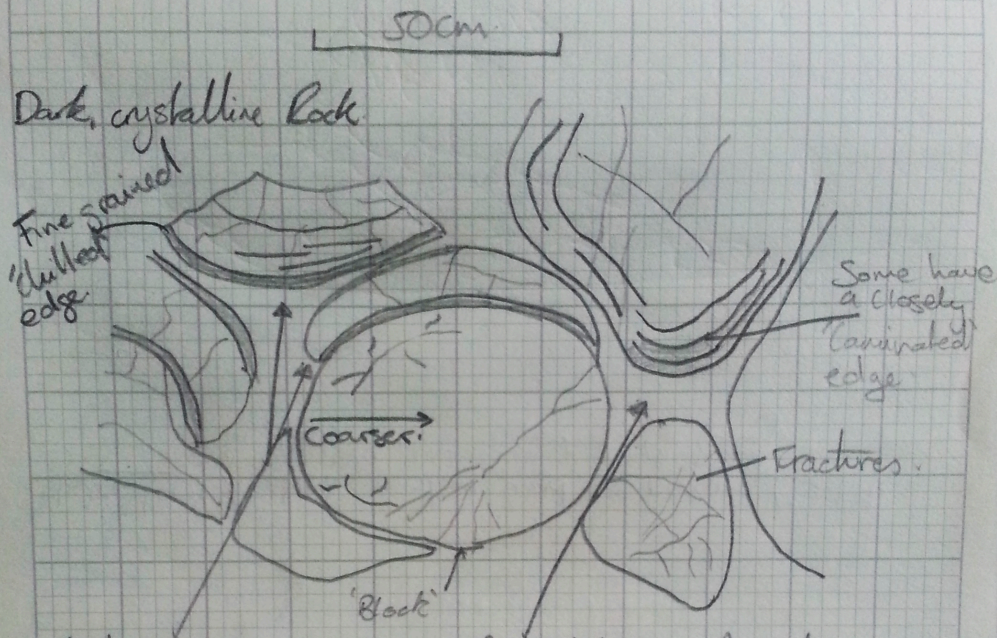
Below are some examples...

13 Structure in Igneous Body (Pillow Lava) 25

W

Map View.

E



Material seems to be deformed / wrap around neighbouring blocks.

Dominant shapes between the blocks are or

- Don't know what this is but it is Not a Dyke.

↳ Lava flow of some description?

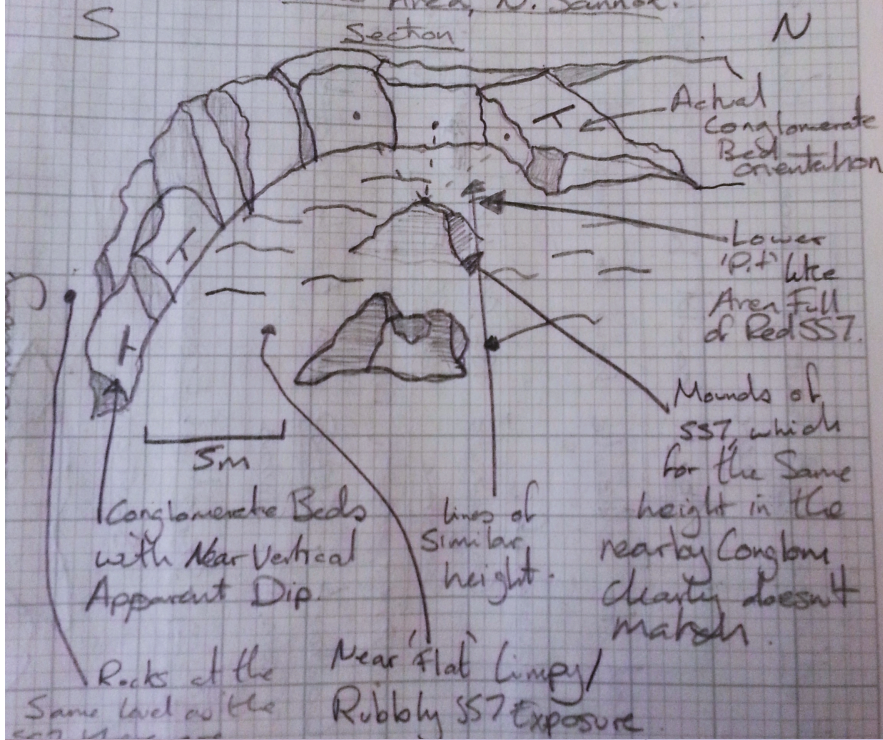
↳ Pillow lava?

• Some of the blocks are 2-3m+ in diameter and generally coarse in to the centre.

↳ 0.5-1mm, Euhedral Biot, Soft, Platy mineral

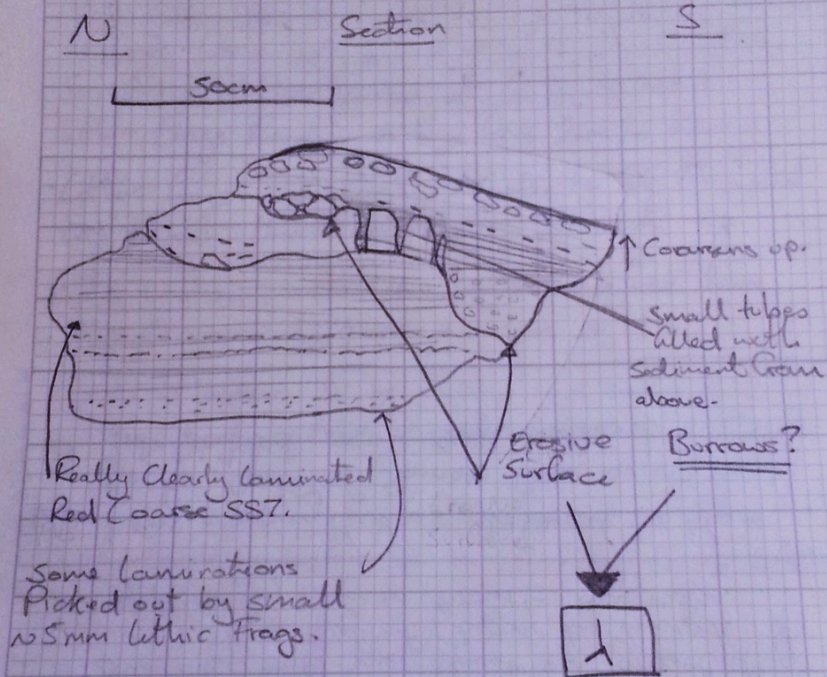
↳ Biotite Phenocrysts

① Sketch to Show Relationship between Conglomerate and Sandstone at the Ponce Area, N. Sannox.



⑩ Younging Evidence in South Sannox Bay Rocks [10m South from Location 2]

G4



Days End

At the end of each day, it is always a good idea to write a brief summary of the things that you have seen, and how they link in to the day before, and the bigger picture of the fieldtrip. In the first year, this isn't expected of you. However, the sooner you start, the sooner it becomes second nature. It will also help you get the most of out your field trips by making you think through the things you have seen and how they link together.

General hints and tips

- Normal (HB) pencils can sometimes prove too soft and “smudgy”. A 2H pencil however is harder, so stays sharper for longer, and doesn’t smudge. This simple change can save a lot of time, and greatly improve neatness.
- You don’t have to be able to draw well at all (I can’t!) to be able to be good at geological sketches. It is a skill that will develop with practice.
- If appropriate, colouring a sketch can make it much easier to understand. If you are going to colour however, only shade lightly.
- Leave yourself plenty of room; notebooks are quite big, use the space. If you’re going to take the time to draw something, draw it as big as possible, don’t cause yourself extra trouble by trying to draw something too small. You’ll lose detail and the sketch won’t be as useful as it otherwise could have been.
- Working in bad weather is hard, and demoralizing. Trying to work in plastic bags is even worse. I got myself an A4 landscape Weather Writer in my second year and it was possibly the best thing I invested in during my degree. It’s essentially a clipboard with a waterproof, pop up “tent” on it. Attach a bit of string / cord to it and you can sling it over your shoulder so its easy to carry. They are a god send for mapping as they keep your map sheets crisp and dry, and allow you to write on them with ease, or any fieldwork that involves you having a field guide or multiple sheets of paper that needs to be kept safe.
(You can get them from here: www.weatherwriter.co.uk but they may be cheaper on Amazon).

PhD Top Tips (Assuming Wendy lets them stay)

- The more organized you are about getting off the coach and into the area, the faster you will leave the area and get home (maybe).
- Related to the above: Lunch is a place, not a time.
- Fieldwork can be hard work. There will be a lot to take in and a fair amount of confusion to start with. This is normal so try not to worry. Fieldwork is also, in my opinion, the best part of a geological degree so try to have fun and don't wear yourselves out.
- Although it may feel like the only purpose of doing a good notebook is to get a good mark, it is not. The methods and skills you develop are transferable to many, many other areas. The final mark is obviously important, but try to not get too hung up on grades, these things will improve with time, effort and experience.
- Related to the above: If the weather has been rubbish, your notes for the day will probably also look a bit scruffy. Don't worry too much about your notebook being 'beautiful'. Going over the important information, or tidying up (NOT redrawing) a sketch or two might be a good idea, but there's no need to spend your evenings on your notebooks. Fieldwork should be done in the field!
- You don't always have to be able to figure out what is going on in geology. If you've got decent observations of a thing, but have no idea what it is, or how to interpret what you're seeing... it's not the end of the world. On taught fieldwork, if you take good observations to a lecturer / demonstrator and say "I've seen this, and I have observed a, b & c about it, but I've no idea what it is." We will a) be impressed that you've had a go yourself first and b) be able to help you properly. On later fieldwork, a good set of observations may enable you to compare what you saw to the literature on the area to figure out exactly what was going on.

In short, it's ok to not know things, as long as you've had a go at it.

Try and enjoy yourselves. Geology outside is the best kind of geology. Even if it is pouring it down.

