

Geological Survey of South Alabama

Incorporated 2007

Director: William F. Brokhourse Ph.D

Wednesday, January 06, 2016

Mr/Ms _____ (Insert Name)
Geologist in Training
LSCB 337

Dear _____,

I require your assistance to complete a GSSA project that is due in our client's office very shortly. Mr. James Smith, a senior geologist with our organization, has apparently taken ill at a very critical time. He was responsible for doing the sedimentary section of an outcrop at the core of a major research project that must be completed on time or else we will be severely penalized. I need you to finish the section using standard procedures*. Please get this too me no later than the date specified on your work calendar.

Sincerely,

A handwritten signature in black ink, appearing to read 'D. Haywick'.

Douglas W. Haywick, Ph.D, P.Geol.
Assistant Director, Sedimentology Division

* See the accompanying pages for additional information concerning the assignment. Although an activity, this assignment IS redoable (guidelines for redoable writing assignments are applicable here). In addition to completing the assignment, make sure that you attach an accompanying cover letter to your section using GSSA letterhead. In your cover letter, be sure to outline anything that you consider necessary to explain your graphic interpretation of the section (e.g., scale, symbols used etc).

GY 402 Sedimentary Petrology

James' Sedimentary Section

Your Task: By now, we should have gone over basic sedimentary sections. They are the bread and butter of the sedimentologist's world. You need to be able to summarize data into this graphic medium in order to communicate to others in the field. Eventually, you will collect your own data (e.g., at the Tombigbee River site or at Moscow Landing), but a bit of additional practice before then is desirable. So your task is to make a sedimentary section scaled to fit on a single piece of 8 ½ x 11" paper based upon the attached field notes. For your first submission, do it in pencil. I will look it over and give you feedback as to how to improve it. For your second submission, sections drawn using drafting-style pens are welcome. Make sure that you add a title, your name and a legend to your section.

-1-


I65 outcrop. March 17, 2005

Starting outcrop at base of section near mile marker 205. GPS coordinates 35° 45.726' N 81° 17.211' W.

— Ordovician Aged —

It's an overcast day, cool, but not overly miserable. There is a dead cat in the ditch by the start of the outcrop. It's smelly.

Unit 1 Quartz arenite Sandstone, Mg-cemented, (3.5m) yellow-brown in colour. Well exposed cemented. Parallel laminated at base, grading up into low angle cross-stratification.



a few trace fossils (burrows) and molds of bivalves. No other obvious goodies. Sharply overlain by Unit 2.

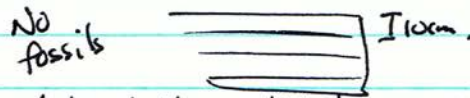
Unit 2 shale. Red in colour. Parallel (1.3m) laminated and fissile. There is a concentration of shells (bivalves) right at the contact with unit 1. Then nothing until the top 50cm - see lots

of plant fossils (Comminuted coal Specs) and in place rootlets. Sharply overlain by unit 3.

Unit 3 well sorted conglomerate. Pebbles (50cm) to 2cm across. composed of quartz and chert. well rounded, discoidal & imbricated



There is a weak thin bedding to the Unit



delineated by pebble layers. Grades up into Unit 4

Unit 4 more quartz arenite sandstone. (1.8m) f. graded at top, vc graded at base. Composed mostly of mega-rippled quartz sand (large current ripples) overall trend is toward the SW. No other structures. A few plant fossils in place & little wisps of organic material (coal?) along some cross beds. Sharp upper contact with unit 5.

Unit 5 Coal bed, actually more like peat. (15cm) full of plant stuff, But No obvious

Structure. Brown-Black in colour. grades up into unit 6.

Unit 6 Silty-sandstone. Beige in (75cm) colour. No structure at base (maybe weak medium bedding) but very laminated from 50cm to top. No fossils or other structures speak of. Very gradational contact with unit 7.

Unit 7 wow! volcanic ash bed. very (8cm) fine grained (clay?) white in colour. laminated. Sharp upper contact with unit 8.

Unit 8 more silty sandstone (like unit 6) (83cm) however, becomes much more silty up section (a siltstone in the upper 50 cm). Sharp upper contact with unit 9.

Unit 9 more sandstone like unit 4, but no ripple. (17cm) covered upper contact.

Unit 10 50 cm covered interval.

Unit 11 more sandstone like unit (50cm) 9.
end of section at top of cliff
