KSU Department of Geology 1/4/2008
Stratigraphy (GEOL 44070) Lab 3

Laboratory Exercise 3:
Intro to sedimentary structures

Dr. Ortiz and E. Fein

Background material

1. "Depositional structures of sands and sandstones," Chapter 6, Sedimentary structures, 2nd ed., J.D. Collinson and D.G, Thompson, 1988.
2. "Sedimentary Structures," Chapter 4, Exercises in physical stratigraphy and sedimentology, W.J. Fritz and J.N. Moore, 1988.
3. "Trace fossils," Chapter 4, A Practical Approach to Sedimentology, R. Lindholm, 1987.

Goal

The objective of this lab exercise is to introduce you to some of the terminology and types of bedforms that are generated in sedimentary rocks by physical, chemical, and biological processes. At the completion of the exercise, you will have a working knowledge of the classes of bedforms and how to describe them and interpret their significance. Realize that the full range of bedforms which occur in nature is much larger than what we will observe in this short lab. The background provided here should be helpful to you as a guide toward future research.

Instructions

Please follow the **red numbered sample labels**. Work in lab groups of two or three. All lab partners are expected to participate equally in the exercise and write-up. Each person must submit their own **typed** lab report along with this handout. Please make sure that you list the names of all members of your lab group.

Part 1: Trace fossil hand samples

Describe the trace fossils in each of the six trace fossil hand samples. Use the provided background material to describe and name each of the trace fossils. What information useful for sedimentological interpretation does each trace fossil provide?

Part 2: Sedimentary structure hand samples

Describe the sedimentary structures in each of the six sedimentary structure hand samples. Use the provided background material to describe and name each of the sedimentary structures. What information useful for sedimentological interpretation does each sedimentary structure provide?

Part 3: Bedforms in three dimensions

Using the provided background material, name the bedforms depicted on the following pages. Classifications of the bedding types on both the longitudinal face (A), parallel to the direction of flow, and the transverse face (B), perpendicular to the direction of flow have been filled in for you. Be complete in your identifications and use the terminology discussed in Chapter 4.