Geologic Map Class Exercise #1
Morgan County, Utah

1. What is the full name of the geologic map?

   Geologic Map of the Morgan 7 ½ Minute Quadrangle, Morgan County, Utah

2. What is the R.F. and verbal scale of the map?

   1:24,000   1" = 2,000’

3. What is the youngest rock formation shown on the map (not including surficial deposits and alluvium)? What is its geologic age?

   Bonneville Formation. This Formation is Pleistocene in age.

4. Name a Section (with Township and Range) which has the largest exposure (area on the geologic map) of this youngest rock formation?

   Section 16, T4N, R2E

5. What is the oldest formation shown on the map? What is its geologic age?

   Farmington Canyon Complex. PreCambrian in age.

6. What are the map symbols for:

   a. Strike of vertical beds.  

   b. Horizontal beds.

7. What kind of contact is there between the formations DCd and CI? Is there a time gap between these two formations?

   Unconformable contact. Yes, there is a large time gap.

8. What is the average strike and dip of the Norwood Tuff in Section 9, T3N, R2E?

   Approximately N30°W, 30°NE

9. What is the strike and dip of the Morgan Formation in Section 17, T4N, R3E? What Period (geologic age) is the Morgan Formation?

   N10°W, 45NE     The Morgan Formation is Pennsylvanian in age.
10. What geologic structure extends through Sections 2 and 11, T3N, R2E?

**Syncline**

11. What kind of faults are shown in the Tintic Quartzite in Sections 1 and 2, T4N, R2E with fault traces trending N - NW? Along these faults, which fault block is displaced upward relative to the other side of the fault?

**Thrust faults. The blocks with the “teeth” on them are the upthrown blocks (east blocks).**

12. What kind of faults are shown in Section 18, T4N, R3E in the Deseret Limestone and Humbug Formation?

**Thrust or reverse faults.**

13. Which fault block is displaced upward on the fault trending E – W in Section 2, T4N, R2E?

**North block.**

14. What kind of formation contact is there between the Morgan Formation and the Weber Quartzite?

**Conformable. There is no time gap between these formations.**

15. What kind of contact is there between the Wasatch Formation and the Norwood Tuff in Section 1, T3N, R2E?

**Fault contact.**

16. Comparing the Wasatch Formation, Weber Quartzite, and Morgan Formation, which formation is made of the coarser grained sedimentary rocks?

**According to the Description of Map Units, the Wasatch Formation is the composed of the coarsest materials, including boulder and cobble conglomerates. The other formations are composed of sandstone, siltstone, and limestone.**

17. What kind of fold is the easternmost folded rock structure in the Round Valley Limestone in Section 31, T5N, R3E?

**Anticline**