

## Geochemistry & Ecology of Red Mat Systems (GERMS) Summer Research Program

**Red Layer Microbial Observatory (RLMO)**  
National Science Foundation  
Western Oregon University  
Yellowstone National Park



### **Team Role/Activity - Mat Collection and Dissection**

*Remember - Site Manager Will Be Photographing Steps, Checking Data*

#### **Mat Collection and Parameters**

Student team will assist instructor in removing core(s); students will take pH and temperature  
Mat temperature where core(s) removed – remember to wipe probe with alcohol before use  
Mat pH where core(s) removed - press face of paper into mat, read immediately

#### **In the Field Mat Sampling – Target Layer Samples**

*Your instructor and you will work at the site with different size corers to find the best mat sample for further dissection. Because of topographically complex mat structures, there is no one size fits all.*

#### **Mat Dissection**

After cores have been removed, carefully place core in sterile Petri dish  
Using fresh scalpel blade(s) and flame-sterilized forceps, dissect mat into red and green layers  
Spend a reasonable amount of time “cleaning” each layer – paring wrong colors, debris, etc.  
Cut final, cleaned mat layer into quarters and place each in labeled, sterile, 1.5 ml tube  
An ice container will be in the van - place your samples immediately in this container

*Label means: white tape with full, legible label (e.g. U-Hillside Green, 7/07 = Upper Hillside; we will recommend for others) covered with clear tape. Write an additional shorthand label (UGH-07) on the lid in case the tape comes off during freezing.*

## Supply Ordering and Price Information

<b>Item</b>	<b>Source/Catalog</b>	<b>Units/Cost</b>
Dissecting/Watchmaker Forceps	Fisher/NC9211201	1 for \$3.25
Cork Borer Set (9 sizes)	Fisher/S50166C	1 set for \$32
Scalpel Handle	Fisher/08915B	1 for \$17
Scalpel Blades	Fisher/08918-5C	100 for \$75
ColorpHast pH Test Strips (5-10)	Fisher/M95883	1 box for \$11
Traceable Digital Thermometer & Probe	Fisher/15-077-21	1 for \$108
Work Trays	Fisher/15-239-4	1/12.00
Petri Dishes (NS201 - General)	Fisher/S67961	20/3.85
Sterile Microfuge Storage Tubes	Fisher/05-669-7	500/100.00