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### **PALYNOLOGY RESEARCH FACILITY**

The Palynology Laboratory at Texas A&M University contains 1,500 square feet of space. The laboratory consists of a core of two, sterile wet labs and a complex of offices and research rooms. Each lab is sealed from all outside contamination, each has a large fume hood with hot and cold distilled water outlets, all are equipped with acid-resistant plumbing and flume scrubbers to remove toxic, airborne chemicals, and each lab has safety eye washes and showers. Lab areas are equipped with large sinks, vortex stirrers, large and small centrifuges, hot plates, metric balances, and large counter top work spaces. We also use a 5-gallon tank containing a Delta 5 sonicator, which we use when needed for processing in both labs.

Included in the lab complex are four offices with internet computer lines and telephone outlets. We also have a fireproof chemical storage room, a sediment core and pollen sampling and storage room, two areas with microscopes for counting, and a large open work area equipped with desk-top computers and printers. In addition, one of the microscope rooms has built-in sand-filled counters for stability and microscopic photographic work. The labs are equipped with 10 Nikon standard light microscopes, one new Olympus compound microscope with DIC phase and computer-imaging, and two JENA microscopes equipped with various types of phase contrast imaging including Nomarski phase, dark, and light field phase contrast. We also have Wild and Nikon dissecting microscopes. Three of the microscopes are equipped with Nikon COOLPIX 950 digital cameras that feed images directly into computers, directly into a VCR recorder, or into a 27-inch TV monitor for visual display.

We also have a database entry of all pollen reference types from our various modern pollen reference collections (see below for descriptions). We are currently completing entries into an ACCESS data file that will eventually classify each reference sample by its various morphological features, geographical range, and various names. Eventually, we hope to add digital imaging of all pollen types into our data base.

### **POLLEN PROCESSING AND ANALYSES**

**We request that if you want us to return any unused sediment materials to you after our work is completed, please indicate this when you send us your samples. Samples will not be returned after processing unless you request it. Normally, we keep unprocessed materials for six months and then discard them.**

**A. *Pollen extraction only from Quaternary age sediments: \$50/sample***

This category includes the processing of a pollen sample, putting the pollen residue into a vial, sealing and labeling the vial, and returning the vial with the remaining portion of the original dirt sample to the sender. We normally will add exotic tracer spores to each sample, unless asked not to do so. This technique will enable the analyst to conduct fossil pollen concentration counts. About 5-25 grams of sediment is needed for our processing, depending on the type of deposit. For bog and peat samples we generally need only a few grams but for many archaeological sites we generally need at least 25 grams of sediment to endure enough material for our work.

**B. *Pollen processing and conducting a Presence/Absence analysis \$75/sample***

This includes **Category A**, plus a preliminary examination of each sample, which will consist of: 1) a **brief** survey of the pollen sample after all processing has been completed; and 2) a brief, one-page report that will focus only on whether or not pollen is presence/absence or in sufficiently high numbers to warrant a complete pollen analysis. It **will not** include a complete, or even a partial pollen analysis of a sample. It will not include a complete list of all the potential pollen types present but may include a few photographs of pollen types present to illustrate the levels of pollen degradation.

**C. *Pollen extraction and analysis of pollen from honey \$60/sample***

We recommend that you send honey samples that have come directly from the hive and have not been highly strained or filtered because those processes will remove some or all of the pollen and will make our analysis impossible. Minimal straining and filtering to remove bee and wax fragments are OK, but some forms of filtering will remove the pollen.

The analysis will include extraction of pollen from the honey, pollen concentration values, and a complete analysis report of the recovered pollen data including probable geographical region where the honey was produced and a list of the primary nectar sources. **We do not test for pesticides.** We generally examine 200-300 pollen grains per sample. When appropriate, we will provide verification documents for export, and interpretations based on pollen coefficient values for the primary taxa present. We use 10 grams of honey from each sample because this is the international standard for testing, but we prefer to have additional honey available should we need to reprocess a sample. Therefore, we suggest sending approximately 30-50 grams of honey per sample. **Please be sure to pack your samples securely so they will not break and put them in a plastic Ziploc bag in case any were to leak!**

You can send a check with the samples, or I can bill you when the analysis is finished, whichever you prefer.

***This price list is valid through December 31, 2014***