Paleontology Lab – Then and Now

By Becky Barnes

A brief history

Over the lifespan of the paleontology program, the "paleo-lab" has changed dramatically. It began in 1991 as a small room adjacent to staff offices in the basement of the Heritage Center (Hoganson, 1991), with no ventilation, minimal tools, and little storage (fig. 1). Even so, amazing fossils were reconstructed in this space to be put on exhibit, including the Highgate Mastodon – originally completed in 1992, currently on display in the hallway outside the Adaptation Gallery: Geologic Time. By 2000, paleontology had outgrown its home, and the Heritage Center, along with the Clarence Johnsrud family, pooled their resources to form the Johnsrud Paleontology Laboratory (Hoganson, 2000). This lab, located under the Auditorium stairs, was happily used between 2000 and 2011. At that point, with the start of the Heritage Center expansion project, the lab, offices, and collections all needed to move (Person, 2010) (fig. 2).

Figure 1. A photo of the very first NDGS paleo lab, stuffed full of fossils and tools.

Figure 2. Johnsrud Paleontology Laboratory. Nature's fume hood, the garage door, can be seen on the right.

The collections areas were carefully protected, each fossil padded with foam, and each cabinet draped in plastic. Dr. John Hoganson and Jeff Person were relocated to an office near Archives – a temporary housing that lasted three years! Next, the lab had to move – back to its original home. After a decade of expanding, we had to squish everything back into a much smaller space.

On the bright side, the collections would not inhabit the same area as the lab. On the downside, the body block for Dakota the Dinomummy took up about a third of our available space in the new-old lab. I had the option of moving up with John and Jeff, but with the limited office space I opted to move into the lab instead. A partition was set up to keep out most of the dust from the clean area (painting, casting, and computers). This would be the home of the paleontological preparations for the next two years. In 2013, the lab portion moved into the new expanded area, while my "office" moved near Archives as well. Because it was still considered a construction zone, the offices could not be in the area. All the divisions of paleontology would finally be reunited in 2014 (figs. 3, 4, 5).

Figure 3. Under the auditorium stairs, wrapping up all the collection cabinets with plastic.

Figure 4. Jeff Person's crowded temporary office in Archives.

Figure 5. The original lab, cleared out, waiting for paleontology again.

Where we are now

The new Johnsrud Paleontology Laboratory has had a massive upgrade. In figure 6, you can see a basic layout of the three new lab areas. Anything colored in yellow are counters or tables. In the northwest, we have a "sediment-lab," where we can wash dirt and search for fossils – more on this in Jeff Person's article in this issue on microfossils. "A" is our air-compressor. We upgraded to a quieter model, which is better on the ears, and does not scare you whenever it turns on. This compressor runs all of our pneumatic tools, including air scribes and microblaster abrasion units. There are attachment points for these tools throughout the northwest and south portions of the lab. "B" is a pair of large stainless steel sinks (fig. 6).

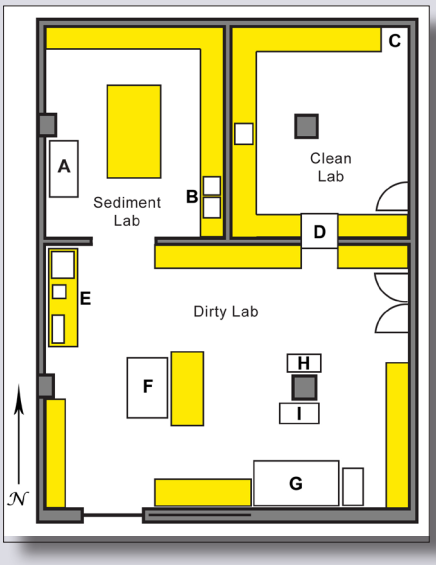

Figure 6. Map of the new labs.

In the northeast we have a "clean-lab" set up, for all of the projects we do not want getting dirty. This includes any of our molding and casting, painting, sculpting, and exhibit construction. High on our priority list of new gadgets and gizmos to help with safety includes an eye-wash / shower area, "C." Another new device is "D" – a fume hood that connects the clean-lab and remaining lab space together. There is a door on either side of it, so depending on which room you are working in, there is still access to the fume hood. Mixing chemicals or painting can now be done in the comforts of the lab, instead of hauling items outside.

Most time in the lab is spent in the southern half, the "dirty-lab." As the name suggests, this is where we take things that are going to give off a bunch of dust and debris. There are two entrances to this area – the first is a large garage door that leads directly to the hallway (south wall). The second are double doors (east wall) that open almost directly across from the collections area. This way, if we excavate large fossils during the summer months, we can take them directly into the lab, and from there to collections, without trying to maneuver around corners or squeeze through small doors.

You have probably noticed there is an abundance of counter and table space in the labs. In the clean and dirty lab, the counters that surround the room also have cupboards above, and cabinets below. There is a great amount of storage available for tools and equipment.

Another upgrade to the current lab was a second microblasting unit "E" – this is a machine much like a sandblaster, only shoots baking soda instead. Great for removing that last little bit of dirt from a fossil. I call it our Time Warp Machine, because once you sit down, hours can fly by as you clean. Sadly, this machine was a bottleneck in the lab, as only one person could use it at a time. Now we have an additional unit making work flow much faster.

There is a giant mobile sandbox "F" that has moved from lab to lab, but this last move it too received an upgrade. Previously it was filled with silica sand, which broke down easily and released a lot of dust. Now we are using garnet sand - the non-gem-quality semi-precious stone. It is tough, it is pretty, AND it does not produce a lot of dust.

The vast majority of specimen cabinets are of course in the collections area. There is one in the lab "G" for all of our uncleaned, and in-progress fossils. To the west of the cabinet is a large table and what we lovingly call the "fish tank windows" – a view into the lab for tours, without getting dirty. Mobility in the lab can be important, as not every fossil can easily sit on a table. For those large fossils (like the block of *Triceratops* material currently sitting in the middle of the room), we have an extra filtration system "I" to suck up dust if our built-in system cannot reach. There are two yellow tube-like arms, one by the microblaster "E," and one by the pillar between "H" and "I," that work beautifully for sucking up any dust we produce while chiseling rock. If we don't want the extra noise, and the fossil is small enough, we utilize the downdraft table "H", which pulls the dust and debris down through filters, instead of siphoning it off. The expanded paleo lab, the updated equipment, and the storage are all making for wonderful new surroundings.

References

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