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The Velvet Underground

**“The wall, in places, was covered with shapeless fungi.”
Victor Hugo, *Les Miserables***

In the early 1990s I was accosted by a director who wanted to make a movie that involved a subterranean chase scene. He wanted my assistance on a pro bono basis (of course), my reward being that I would be mentioned in the fast-rolling credits at the end. Being naïve at the time, I was of course flattered to be of service to “Hollywood.” Given his criteria, I thought the vast Ford Sand Mines under Highland Park, in St. Paul, should do. I called the Ford public relations people and arranged a tour of the mines, which duly took place.

Until 1932, there was a glass manufacturing facility here also, which used silica shipped in from the Minnesota River valley to make automobile windshields. Ironically, Ford had not realized that its Highland Park plant sat right over the best silica deposit of all, the St. Peter Sandstone. Whoever recognized this fact is an unsung hero of the obvious, from a geologist’s standpoint, because the sand had already been much in demand locally for glass making since the late 1800s.

The St. Peter Sandstone happens to be ideal for this purpose. As a “polycyclic” sandstone, it’s been winnowed of its impurities several times over by geologic processes, leaving it, as the textbooks say, 99.44% pure silica. The comparison often heard, that the St Peter is the Ivory Soap of sediments, leaves me less than thrilled. In fact, the exact percentage of “purity” would vary depending on where you took your sample, and from what part of the geologic column. The lowermost layers in the St. Peter are shaly—much higher in impurities. And in glass recipes even small amounts of contaminants can be ruinous.

Beginning in the late 1930s, Ford, in their quest for silica, mined out 2.5 miles of passages in the St. Peter Sandstone below their Highland Park plant, leaving the main caves, and another 1.5 miles below Shepard Road, leaving the Marina Caves. The operation ceased in 1952 when it became more economical to manufacture the glass elsewhere.

My first awareness of the Ford mines came in early childhood, when my brothers brought back breathless tales of vast subterranean spaces under our Highland Park home. I may have gone down into the basement to look for them in my childish enthusiasm. I believe my parents warned my brothers about visiting such dangerous places, but in vain. I never heard of the mines again till I discovered them for myself years later.

The goal of my later trips into the mines was to collect geologic information. Using a compass, for example, I determined the major joint directions in the sandstone. Finding a natural joint running through the rock, I simply had to ascertain its compass direction and I could pick that same joint up again in a distant part of the mine.

As seen in old photos, the passages were dug by laborers with air chisels who shoveled the sand into cars that ran along narrow-gauge tracks through the Ford mine. Later on, compressed air drills were used. In a few places we could still find isolated segments of the track, and elsewhere, ghostly impressions in the muddy floor of the tunnel where the wooden sleepers had once been, a sort of phantom railway. Many of the passages ended in benches, indicating that sand removal had taken place in at least two stages as the floor was lowered.

As mentioned above, in addition to the Highland Park mines, Ford mined out 1.5 miles of passages below what is now Shepard Road, at a location several miles downriver from their chief mine. The passages are about 20 feet wide and 30 feet high—wide enough for two trucks to pass

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side by side, and higher than a telephone pole. The Civil Defense map of the mines—usually called “caves”—dating from 1962 shows the “Holiday Harbor Sand Caves” with its dozen entrances in the bluffs behind the St Paul Marina. These passages were rated to shelter 1,953 occupants. In April 1963, the Public Works Department drafted a more detailed survey map of the mines. It all looked very interesting to us.

Svoboda found that he could store as many as 450 boats, up to 60 feet in length, in the old sand mines, adding “a King Kong-sized steel door” for protection. The installation of mercury-vapor lights, blacktopping, and guniting the walls to reduce erosion, cost \$100,000. It was advertised as the “Upper Midwest’s Largest Underground Storage Facility.” But boat storage didn’t pan out ultimately because mice and mold gnawed at the boats during the winter, while chunks of ceiling occasionally came crashing down onto the boats from above. The boats also took on a peculiar, lingering, earthy odor that was difficult to eradicate. The same odor that permeates my caving clothes!

In 1982 the Jaycees (Junior Chamber of Commerce) offered their first Halloween house of horrors at this former sand mine, using the eastern third of the mine network. Prior to renting this space they had staged the event peripatetically, moving from one venue to another each year. In 1980, for example, it was held in the Castle Royal cave. They never expected to be in the mine very long, either—let alone 22 years. Initially there were no elaborate set-piece scenes as there were in later years, when a sense of permanence allowed them to flourish. The volunteer ghouls simply ran about in the dark, clad in discarded graduation gowns, scaring the visitors in an effective but unsophisticated matter. Visitors were not required to hold onto a rope as they do now, or to be led about by a guide. From the beginning, the event was aimed at teenagers and adults, the experience being judged too scary for children. There was usually a Kid’s Day, however, during which the lights were left on and the fog machines off.

In later years the Tunnel of Terror got 12,000 visitors annually in their October weekend showings. Live bats from the caves flew about at dusk, and as if on cue, dived into the waiting lines, gave added verisimilitude to the plethora of fake bats ornamenting the passages. I personally recall having seen lines a quarter of a mile long waiting to get into this very popular event.

“The Unholy Tomb and the Sanitarium,” operated by Mike Kamrad since 1992, was an elaborate set piece. Mike devoted a dozen years of his life to developing this Halloween tableau, continually improving the scenery, as indicated on a commemorative plaque he affixed to the entrance to his domain—a pyramid topped with a garish cyclopean eye, like the Masonic pyramid on a dollar bill. Once inside the set, you saw a grasshopper-green, 2-armed, 4-legged object of devil-worship in a graveyard, with a rotating fireplace light behind the set creating the appearance of fire on the sandstone walls. Volunteers pretended to worship this devil, while a recording of a monk chants the seven names of the devil. I thought the Hoofed One surely had more names than that.

On their final Halloween before closing down, in 2004, I volunteered to help at the Tunnel of Terror to gain insight into the whole operation. I wore a Soviet-era gasmask that I had purchased at Ax Man Surplus, in conjunction with a shredded sewer jacket that required no retouching to look authentic. While I strolled about the Sanitarium and scared visitors for a while, my real job that night was to operate the power tower with its blinding searchlight and “Gordon,” the flying lobotomy patient. From here also, using a vocal mixing system that Kamrad had rigged up, I did a chilling wolf howl that echoed throughout the caverns.