

Additional Sheet
2024 Annual Report
Fountain Pit
M-1982-155
Schmidt Construction Company
Anniversary Date: December 31

Status in Past Year: As noted last year, the new wash plant was fully installed and is operational now. The three basins for water and sediment are working well with no noticeable leakage from the containment berms.

Mining proceeded southward into the southern section of the original permit. Most of the mining began on the eastern half of that area as defined in the permitted plan. Almost immediately the mining encountered a decline in the quality of the material being mined. It was found to contain prodigious amounts of clay and silt similar to what was found to the northwest of this area where mining was being done in the southwester corner of the pit. The rich sand deposits simply were not there, but with sufficient cleaning enough sand could be produced to meet the needs. However, the amount of waste was huge and became a problem, plus the cleanliness of the sand was lacking due to the amount of fine clay mixed in.

To further clean the sand, a flocculent was added to the washing system and that helped a great deal. However, that created a problem with a rapid accumulation of fine clay sized particles in the bottom of the first settling pond - it quickly filled with dense, sticky clay that had a slimy feel to it from the flocculent that was used to capture the fine clays and remove them from the sand. This meant that the sediment in the first pond in the settling process had to be removed which meant the plant needed to be shut down while the mud was removed.

Then came the problem of where to put this dense mud that was saturated with water. Piling it on the slope above the first pond allowed the water to be partially discharged from the mud and flow into the pond so it could be reused in the washing process. But the volume of sediment was large. So far, the mud has stayed in place on the surface upslope from the pond, but the material drains very, very slowly. The surface dries to a very hard surface of mud particles that form into odd shapes that look like coal clinkers from a coal fired furnace. But inside the larger masses the mud stays damp and sticky with the texture of modeling clay. Perhaps there is a use for this material such as in fired brick manufacturing.

To correct a good deal of the problem, a cyclone is being considered for installation. That device spins the saturated mud removing the water and much of the flocculent that is not contained in the mud in the piles. The water is then recycled and a much drier and firmer form of the mud and clay is produced that is less prone to remain wet for a long time. This mud could then be mixed with more coarse materials to produce a product that has a much wider range of particle sizes so water can flow through it. If mixed with organic matter it could potentially produce an excellent synthetic soil capable for use like topsoil.

Otherwise the operation proceeded according to plan.