

Clark's narrow winding hole is tough to work. It's a major effort just to get up and down it. Che Prol has come up with an ingenious system of exploring the voids along Schnarr's Fault, and this tremendous effort has yielded 250 vertical feet of new passage, one beautiful grotto, and a bunch of crystals. Hahn's Hole recently broke into a new room and the search goes on there for the Vertical Fault at that depth. All these efforts have given us a greater knowledge of our cavern system and one may eventually connect with a wide open passage to the RIVER.

A faster method for exploration is our diamond drill. We are just now learning how to operate this new equipment and when we get all the bugs out we should be able to drill 2" holes to a maximum depth of 1,000 ft. at the rate of 100 ft. per day. In a short amount of time we should be able to riddle the mountain with holes. And if we encounter a void we have a camera we can send down to have a look. The target I'm looking forward to drilling is Applegarth's target which may be a water table cave. We can use the diamond drill to explore Schnarr's Fault below the present workings. Bear in mind, that we need to drill more than one hole at a target (minimum of 3).

Now let me talk a little about tunneling to a target or void we've drilled into. If we drilled into a target that lay within 50 or 70 ft. of any present workings we could use the equipment we now have to explore it; drive a slusher drift if it is at or slightly below track level; use the bucket and ladder method, or use the Missouri Bullet method. The latter two, while effective, are awfully slow and require several people to operate. Getting people and equipment in and out of these small holes is a major challenge and distance multiplies the problem. Slusher drifting has proven to be a fast, cost effective way to explore but the downward angle is limited to around 40% grade (25°) cornering presents a problem, and slushers are not efficient past about 200 ft.

We have the equipment to sink a small vertical shaft with some degree of efficiency. I think we could get about 4 ft. per day after set up and if our target were within the 400 ft. range below track level this may be a good method to use. We could drive a drift off from the shaft with the slusher once down to target depth. A shaft also takes a number of people to operate and requires some special skills which our people could learn. Shafts are more expensive per foot than drifts (about 2 to 1), and there is more maintenance and danger associated with them. There is no faster method, however, to gain depth.

The method that may prove the most versatile for us is using a ½ yard underground LHD (Load, Haul, Dump). These rugged loaders have proven effective in mining applications for some time. They can be used to drive a decline at 16% to 20% grade (9° to 11°). Some mines have used spiral LHD declines rather than shifts to go deep, because of their efficiency. Compressed air equipment is small in size compared to its power and this fact has made compressed air a good power source for underground equipment. And the air exhausted by the compressed air equipment is good ventilation. But compressed air machinery has to be connected to a mobility limiting hose and isn't fuel efficient given its diesel fuel to muck moved ratio. This is where an LHD shines. The LHD combines the functions of a track mucker, ore car, and mule in one machine without the inconvenience of laying track or building trestle. Its short turning radius and ability to climb and descend grades enable miners to go just about anywhere. And because it converts diesel energy directly to muck moving it is fuel efficient. It can be used to move equipment in and out of the mine cutting down on set up times and labor.

The disadvantages are initial investment dollars and the need for adequate ventilation. Ventilation is not a major problem as we have to have it anyway to ventilate blast fumes and ventilation adequate for an LHD would allow us to use the much cheaper prill as an explosive.

Initial investment is a big hurdle but bear in mind that most of the money put in an LHD could be gotten back out by Resale, so its an Investment rather than a purchase like fuel or dynamite.

Drifting is comparatively easy and safe mining and our workers could become profecient at it in a short time. With an LHD one man could conceivably do it all. There would be no need to have several people present at the same time to carry on a project.

Let's examine this situation. Let's say our Diamond Drill encountered a void at Applegarth's Target. Examination with our Video Camera shows a sizeable void and it's decided we need to get our bodies into it to get on down to the River. We could sink a shaft to the void's level and then drive a drift to it. If it didn't pan out we could drive a drift under Schnarr's Fault (Che's Hole) or any other alternate target; each drift requiring another slusher set up. Although this method means handling the muck several times , involving several people at once, the shaft presents a bottleneck to moving people and equipment. A shaft is the fastest way to get deep. A hundred feet of vertical drop.

A second option is to drive an LHD decline starting at the base of the mountain. Once the target area is reached multiple headings could be driven at the same time. The muck produced is handled once by one Operator and can be dumped anywhere. There is less set up than required by a shaft as the LHD offers the mobility and adaptability that the other methods do not. It's possible a survey of the lower Carbonate King may show a shorter access to our deep targets.

P.S. Remember Gang that all money contributed goes towards SHARES...