

UNDERGROUND PHOTOGRAPHY

by PAUL VERMEULEN

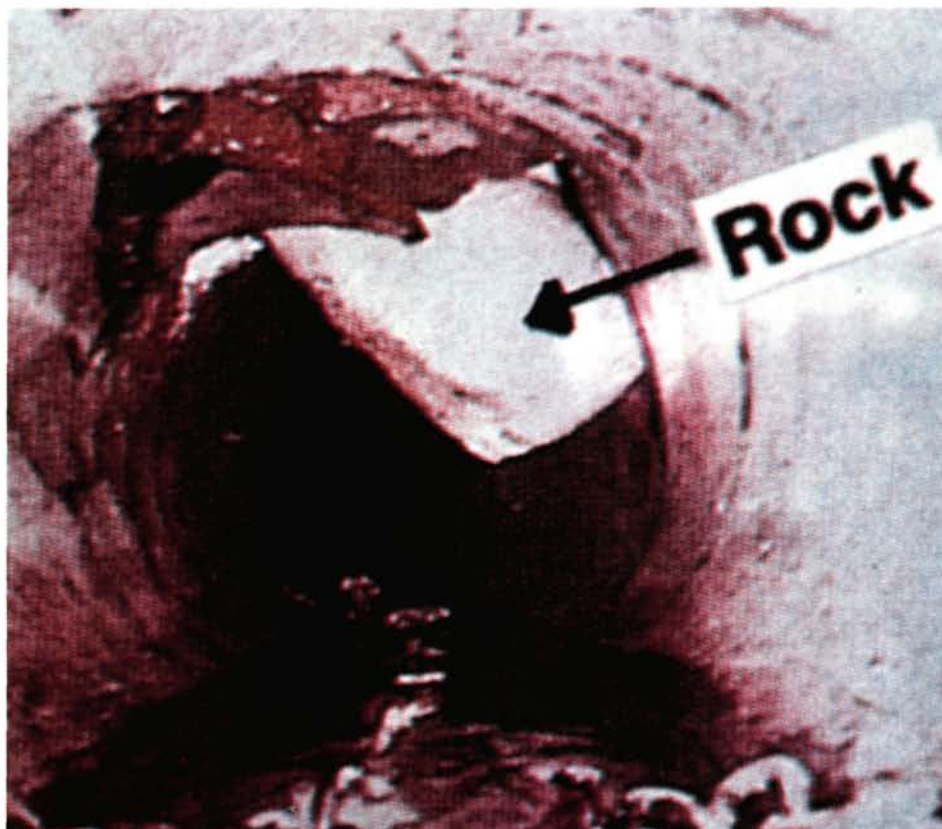
Agronomist, Western Region, USGA Green Section

ONE OF THE special challenges that golf course superintendents must address from time to time is to support or justify one of their own claims about the condition of the course to course officials. For many superintendents, however, the evidence supporting their claims is often intangible or very technical in nature, and therefore difficult for officials to accept or understand.

In one particular case that developed at the Arizona Country Club, superintendent Kirby Putt had claimed that newly constructed greens were suffering from soluble salt accumulation due to poor subsurface drainage. In most cases, poor subsurface drainage can be clearly identified by a visual examination of the soil profile, where restrictive soil layers and/or anaerobic conditions (black layer) can be seen. In this case, however, clear evidence could not be seen in the newly constructed greens. Given these circumstances, Kirby Putt was led to assume that the problem must be associated with crushed or missing drain lines.

Here was his challenge: how could Kirby show the golfers that the new greens were suffering from poor drainage when the problem drain lines were buried below the green itself? In other words, what evidence could be presented that would support the claim that the newly constructed greens were not built according to USGA specifications? Remember also that the golfers had paid a great sum of money for the new greens, and they were somewhat reluctant to accept the notion that they had received less than what they had thought they paid for.

To meet the challenge of providing overwhelming evidence that the new greens were failing due to poor subsurface drainage, as opposed to having received poor maintenance practices, a small, special video camera was inserted into the drainage system through one of the flush-out points. This camera was rented from a sewer cleaning service and clearly showed on a video monitor the exact point at which the drain-



Underground photography can provide a method of clearly showing where the problem lies.

age system had been crushed by large earth-moving equipment, equipment that should not have been used for installing either the gravel layer or the intermediate layer of a USGA green.

Like a skilled trial lawyer, superintendent Putt presented his case using evidence that could be clearly understood by the golfers and was in fact impossible to refute. Because of this careful presentation, the outcome of this case was that the golfers were able to

appreciate what the exact trouble was and supported the greens' immediate repair.

In closing, this turf tip may appear at first glance to be the use of video equipment to investigate a problem that could not otherwise be seen. In reality, however, the turf tip presented here is that providing clear evidence is the easiest and most effective means of supporting one's claim. Without it, superintendents must rely on the golfer's faith, which in many cases is unpredictable.