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weeks. It controls thatch, smooths and speeds the surface, and improves water percolation."

The course has Pennlinks greens and tees. Greens are mowed at $\frac{1}{8}$ -inch, tees at $\frac{1}{4}$ -inch and fairways at $\frac{1}{2}$ - to $\frac{3}{8}$ -inch or slightly more.

"I also personally change the cups every morning," says Anderson. "It's a good way for me to monitor the greens. The best pair of eyes on the golf course are mine. I can see things long before they happen, while the dew is still on the greens."

People like pro golfers Ben Crenshaw and Phil Mikkelsen, and Larry Gilhooley of the USGA Green Section say the club's surfaces are "as good or better than any playing surfaces (greens) they've ever seen," Anderson contends.

Another part of his secret is a competent and proud staff of 22 people in the summer and 11 in the winter. Key employees are assistant super Bruce Brown, head mechanic Sam Simonson, horticulturist Dave Phipps and head irrigation specialist Gil Goldsberry.

Brown was with Anderson at Portland Golf Club. Simonson is simply known as the best mechanic in the Northwest, for both his inventiveness and his prior experience as a superintendent. Phipps has won awards for maintaining the clubhouse landscape, which is brightly colored by hundreds of roses, the late owner's favorite



Anderson: Spots trouble long before it has a chance to happen.

flower. (The course itself has 3,000 roses on the 12th hole.)

Average age of the 400 members who

play 25,000 rounds per year is around 40. Members include Terry Porter, Buck Williams and P.J. Carlissimo of the NBA's Portland Trailblazers. The day LM visited the course, former NFL quarterback Neil Lomax, another member, was having his annual golf "shootout," and Charles Barkley of the NBA's Phoenix Suns was among the participants.

"We have a very family oriented membership," Anderson observes. "But a lot of our members haven't been country club members before, so education is a key. A lot of them don't know golf etiquette. Our assistant golf pro and I did a video for the men's and women's associations last year. We also distribute a club newsletter, and we had a demonstration where we showed the associations how to repair divots."

Yet Anderson considers himself very lucky. "Peter and David Jacobsen are the Greens Committee, so political hassles don't exist. It's like being on vacation, not having those political problems.

"If ever there was a dream job, this is my own personal dream job."

Beware leaking underground storage tanks, says expert

■ "A good number of the underground storage tanks in this country are leaking," says Purdue University's Dr. Ron Turco, "and you may run into a situation where you have to [pay to] clean up the environment."

The types of liquids that are likely to leak from underground storage tanks on golf courses include gasoline, heating oil and kerosene. They, along with airplane fuels, are commonly referred to as LNAPLs (light non-aqueous phase liquids).

"The real problem is when they contaminate aquifers," Turco notes. "LNAPLs float right on top of the aquifer."

A tank leakage will introduce chemicals

into aquifers at very high levels—parts per hundred—and the subsurface area cannot clean itself.

There are four ways to clean up aquifers contaminated by leaking underground storage tanks—and none is cheap, Turco is quick to point out.

1) Bio-remediation is a process in which biological (especially microbial) catalysts act on pollutants, thereby eliminating contamination. Of the four, it is the most cost-effective means of aquifer decontamination.

2) Bio-venting is when air is pumped through the contaminated soil zone to the

aquifer. This process stimulates bio-degradation of the pollutant.

3) Air sparging is the same as bio-venting, except the air is blown right into the aquifer

instead of into the saturated soil zone.

4) Soil vacuum (vapor) extraction uses the bio-venting process in reverse to actually recover the contaminating product.

"Now, scientists are combining bio-venting and vapor extraction to more efficiently remove contaminants from aquifers," Turco notes.

The point? If your golf course includes underground storage tanks for fuels or other LNAPLs, make sure it is not leaking. It costs far less to have it removed and replaced than it would to clean up a contaminated environment.