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West Valley cleanup goes heavy-duty

By Rick Miller
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WEST VALLEY — An important part of the cleanup at the West Valley Demonstration Project got under way this week.

A huge, yellow one-pass trenching machine is being used to construct a 850-foot long, 30-foot deep passive treatment wall of ground-up volcanic rock called zeolite to help clean up radioactive groundwater.

Zeolite is particularly good at latching onto radioactive Strontium 90, a plume of which originated from the Main Process Building when the site was the first commercial spent nuclear fuel reprocessing plant from the mid-1960s to the

early 1970s.

The radioactive contamination formed a plume that is heading off the site toward nearby Erdman Brook, which empties into Cattaraugus Creek. It isn't considered a public health threat because it is so diluted when it leaves the site, according to site officials.

The trenching machine, called a one-pass trencher, was built by Dewind One Pass Trenching of Zeeland, Mich. It is capable of digging a 36-inch trench up to 50 feet deep. In this case, it only has to go down 30 feet to reach a layer of clay. As the dirt is excavated, zeolite is being backfilled into the ditch.



Rick Miller/Olean Times Herald

This huge one-pass trenching machine is being used to build a passive treatment wall 30 feet underground to intercept a plume of radioactive strontium 90 at the West Valley Demonstration Project.

► TRENCHING

The trenching machine started up on Sunday and shut down Tuesday after digging and filling with zeolite about 80 feet of trench. Operators are “beefing up” a conveyor for the dirt removed from the trench and hope to have it up and running by Nov. 1, according to Bryan Bower, site director for the U.S. Department of Energy.

Some intermediate-sized rocks wore down the conveyor belts that move the dirt into a soil retention system he compared to a 850-foot long, 30-foot wide swimming pool. The soil retention system is a wood-frame structure lined with a vinyl material to store and drain water from the excavated soil, some of which will have been exposed to Strontium 90. The water will then be treated and the soil stored for off-site disposal.

Until the trench is com-

pleted, however, the business end of the trencher remains underground. Access to the area is restricted. Two ponds used for water treatment are nearby.

Once in place, the zeolite, which sits in nearly 2,000 one-ton bags next to the trench area, will filter water passing through its sand-size granules. As the strontium 90 plume hits the “wall” of zeolite, its radioactive element should bond to the material.

It is a passive system designed to replace the pump-and-treat method now in use, which pumps and treats between 3 and 5 million gallons a year, said John Chamberlain, a spokesman for West Valley Environmental Services, the cleanup contractor working under the Department of Energy.

Mr. Chamberlain said the zeolite wall is designed to

contain the leading edge of the Strontium 90 plume for 20 years. That coincides with the phased decision-making option the Department of Energy selected for the continued cleanup at the site in the town of Ashford.

The DOE has put off some portions of the cleanup — whether the underground tanks that held radioactive liquid and the state and federal low level burial grounds will be removed — for up to 20 years, while continuing other aspects of the cleanup.

The material's effectiveness will be monitored via a series of sampling wells on both sides of the zeolite wall, Mr. Chamberlain pointed out during a tour on Friday.

Mr. Chamberlain said the Strontium 90 was first discovered in a ditch in 1993. Steps were taken, he said, to intercept the plume's

leading edge and slow its movement toward the creek. A previous zeolite wall was installed using a different method about 10 years ago, but had mixed results. The trench method of installing the zeolite wall over a wide area of the North Plateau should be effective for the next 20 years.

“The trencher worked great,” Mr. Chamberlain said. “They were just going good when they ran into the belt problem.”

Scientists at the University at Buffalo have performed tests on the zeolite's effectiveness in removing Strontium 90 for several years and were involved in the original wall that used steel pilings driven into the ground rather than a trencher.

(Contact reporter Rick Miller at rmiller@oleantimesherald.com)
