



ER Site No. 150: Bldg 9939/9939A Septic Systems

ADS: 1295

Operable Unit: Septic Tanks and Drainfields

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Site History

ER Site 150 includes the septic tank and seepage pits serving Bldg. 9939 and a small drainfield serving Bldg. 9939A. Buildings 9939 and 9939A are located just west of Lovelace Road, about 1.6 km (1.0 mi) north of the Solar Tower (Bldg. 9980). Bldg. 9939 was built in 1967 but remained unoccupied until 1977, when it was used to conduct outdoor nuclear meltdown tests. Metals tested included aluminum, steel, zirconium, and depleted uranium (DU). The waste generated was managed by the SNL/NM Radiation Protection Operations (RPO) Department. Surface contamination exists in some areas from the tests. A metallurgic testing laboratory was operated in Bldg. 9939, where laboratory waste such as acids, bases, xylene, hexane, methanol, ethanol, and vacuum grease may have been discharged to the septic system.

Bldg. 9939 contains floor drains and sinks that discharged to the septic system, consisting of a 2,850-L (750-gal) septic tank connected to a distribution box leading to two seepage pits, each 1.5 m (5 ft) in diameter by 2.7 m (9 ft) deep. The system is located about 22 m (70 ft) southeast of the building. Sampling activities conducted during 1991 indicate the septic system consists of a septic tank and a clarifier or second chamber. Estimated effluent volumes during operation ranged from 76 L/day (20 gal/day) to 1,500 L/day (400 gal/day). The septic system is no longer in use.

Bldg. 9939A was constructed sometime between 1977 and 1979. Experiments involving the use of molten sodium were performed outside. A water-cooled laser was located in the building, and cooling water was discharged directly to a floor drain. At one time transformers containing polychlorinated biphenyls (PCBs) exploded inside the building but no releases to the drainfield occurred because the floor drains had been already sealed with grout. The small drainfield north of Bldg. 9939A was formerly used only to dispose of uncontaminated cooling water from the water-cooled laser and effluent from the floor drain. The drainfield drainlines are still present at the site, and are buried about two feet below the surface.

The site is approximately 90 meters (294 feet) above the regional water table.

Constituents of Concern

The constituents of concern at the site are organic compounds (xylene, hexane, methanol, ethanol), acids, bases, and depleted uranium. Aqueous samples obtained from the septic tank in 1991 detected trichloroethylene (TCE), 4-methylphenol, barium, cadmium, and manganese.

Current Hazards

No known surface or subsurface hazards have been identified, based on environmental soil and soil-gas sampling that has been conducted at the site.

Current Status of Work

The septic tank was sampled in the spring of 1994 for waste characterization.

A passive soil gas survey was conducted in the summer of 1994 and detected trace amounts of BTEX near a concrete pad in front of a storage shed. The location of the anomalies indicate that the probable source is a leak from a vehicle or activities in the shed.

Soil samples were collected in early 1995 from around the septic tank and seepage pits, and in the drainfield. Analytical results of these samples indicate that no significant releases of hazardous or radioactive materials occurred at this site.

Waste was removed from the septic tank, and the empty tank was inspected by NMED in early 1996. The tank was decontaminated, and concrete samples were collected from the tank to verify that no COCs remain. The tank was then backfilled with clean soil.

A confirmatory sampling No Further Action (NFA) proposal was submitted to the New Mexico Environment Department/ Hazardous Radioactive Materials Bureau (NMED/HRMB) in January 1997. Comments on this NFA proposal were received from the NMED in June 1999, and SNL/NM responded to these comments in September 1999. As of August 2001, additional comments pertaining to the NFA proposal for this site had not been received from the NMED.

Future Work Planned

Additional work may be completed at this site pursuant to the Small Septic Systems sampling and analysis plan (SAP).

Waste Volume Estimated/Generated

Eighteen drums of mixed waste were generated at this site.

Information for ER Site 150 was last updated Jan 7, 2002.