

Solid Waste Management Unit 502

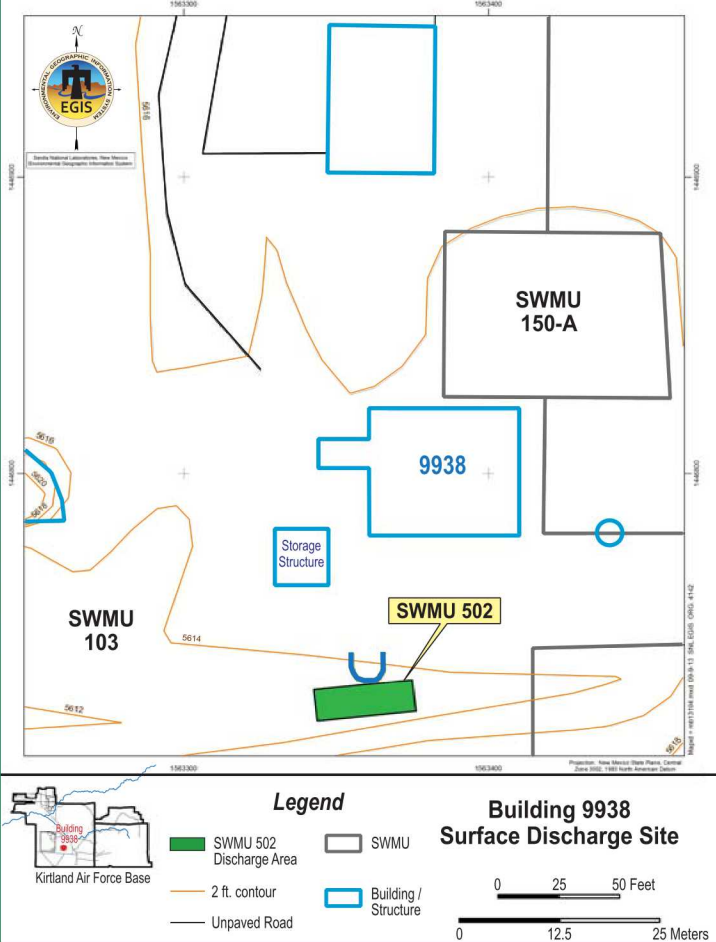
Part 1

SAND2016-5097D

Where is Solid Waste Management Unit (SWMU) 502?

- The Site (SWMU 502) consists of exposed soil in a shallow engineered depression located approximately 65 feet south of Building 9938, adjacent to a small earthen berm capped with vegetation. Building 9938 is located west of Lovelace Road, approximately 0.3 miles south of Coyote Springs Road, and one mile north of the Solar Test Facility.

Building 9938 Surface Discharge Site



Looking east at the discharge area. A corrugated steel wind-screen is visible on the left and a solid waste container is visible beyond the discharge area. The berm adjacent to the south edge of the SWMU is on the right. An area of discolored soil is visible in the foreground.



Looking south from Building 9938 to the Building 9938 Surface Discharge Area and adjacent berm. A corrugated steel wind-screen is visible to the right.

What Happened at SWMU 502?

- Between July 2010 and through September 2012, SNL/NM personnel conducted research and development and other activities involving the synthesis of explosives. The activities involved mixing and synthesis of materials for testing purposes, including: ammonium nitrate, urea nitrate, 1,3,5-trinitroperhydro-1,3,5-triazine (RDX), and other explosive compounds. Wastewater was generated from processes associated with explosive synthesis activities, and containerized in polyethylene plastic containers. Upon completion of each synthesis activity, the wastewater was discharged to the ground surface in the area south of Building 9938, and behind a corrugated steel wind screen. The wastewater generated from each synthesis was conservatively estimated at 10 gallons. A total of 25 synthesis activities were held, thus approximately 250- gallons of wastewater were discharged to the ground surface.

Constituents of Concern

- High Explosives (HE) Compounds

Site History

- The DOE and Sandia formally notified the NMED of this newly identified or suspected SWMU by letter dated December 19, 2012. Several small zones of discolored soil within a total area approximately 10 feet wide by 25 feet long were identified. No odors were present and there was no evidence of staining on surfaces surrounding the discharge area.
- In January 2013 Sandia collected surface soil samples to obtain data regarding the presence of chemical constituents associated with the Site. The samples were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), perchlorate, nitrate plus nitrite (NPN), high explosive compounds (HE), and total metals. Results from January 2013 soil samples were provided to NMED in a report dated March 29, 2013. Based upon the findings presented in the SWMU Assessment Report (SAR), a Voluntary Corrective Action (VCA) was proposed.
- On April 3, 2013, the NMED approved the SAR.
- The VCA was performed in July 2013 to address the remediation initiative to reduce any potential impacts to human health and the environment, determine the nature and extent of HE compounds, and perform a risk assessment. Soil samples were collected in July 2013 for HE compounds, metals, and perchlorate from unconsolidated material at the surface, 2 feet (ft) below ground surface (bgs), and 5 ft bgs.
- The concentrations reported in the soil samples (January 2013 and July 2013) were compared to the approved background concentrations for SNL/NM and soil screening levels presented in New Mexico Environment Department Risk Assessment Guidance for Site Investigation and Remediation, the Environmental Protection Agency (EPA) Regional Screening Levels, Region 6, and the EPA's Ecological Risk Assessment Guidance for Superfund. Results from soil samples and risk assessment were presented to NMED in the November 2013 Investigation Report for the VCA.
- On February 29, 2016, the NMED approved the Investigation Report for the VCA.

(SWMU 502 continued)...