

# Environmental Restoration Project



## Area of Concern (AOC): Former Building 828 (TA-I)

ADS: 1302

Operable Unit: Technical Area I

Site History .....	1
Constituents of Concern.....	4
Current Hazards .....	4
Current Status of Work.....	4
Future Work Planned .....	4
Waste Volume Estimated/Generated .....	4

Primary Contact: [Dick Fate](#)

Office Phone: 284-2568

### Site History

Building 828 was constructed in 1946 as a Mechanical Test Laboratory at the northwest corner of what is now the intersection of G Avenue and 7th Street, Technical Area I, Sandia National Laboratories, New Mexico (SNL/NM). The original building, located in north central portion of what was to become Technical Area I, was designed as a large, uneven H, with the long sides running east to west. The north section was shorter and narrower, designed with office space at the west end and a large drafting room at the east. The longer south section was the core of the mechanical test laboratory and housed the testing equipment.

Mechanical testing would subject a weapon and/or its components to the environmental conditions that might be encountered from the time the weapon was assembled until the time its drop would be completed. Early testing equipment and facilities included a cold chamber, shaker table, and machine shop that supported machine tool activities base-wide.

Building 828 was constructed in the temporary, military style of the period. The building was wood framed with pitched roofs over each section enclosing attic spaces or partial second story spaces. The south section contained steel framing to support a ½-ton monorail hoist that protruded from the high bay on the building's west end. The original building enclosed 10,120 square feet. In 1949, the building underwent a major renovation to fill in the H shape. The areas between the north and south sections were filled in with additional offices and equipment space.

Between 1950 and 1953 the groups involved in mechanical testing and machining moved out of Building 828 as new space became available. At this time Building 828 began housing groups mainly involved with instrument development, testing, and calibration. The test instrument division moved into Building 828 in 1953. The work in that group included instrument calibration. Instrumentation services remained in the building until 1958, when it was again remodeled. The primary modifications were to renovate the restrooms, move partitions to accommodate new tenants, and rewire electrical circuits. The electronic test equipment

department (renamed system test equipment development department in 1960) moved into the building in 1959. While Building 828 acquired different tenants during the 1950's; it remained dedicated to testing and test equipment design and development of optical equipment. Further instrumentation services were consolidated in the building in 1955, including the optical measurements division (photometrics).

In 1962, the building underwent significant remodeling to create new laboratories for component development. Drafting support area and specifications and catalog libraries were added. In 1963 the hoist was removed and the doors around the monorail were remodeled. The high-bay second story was separated from the ground floor by installation of a suspended acoustical ceiling. In 1970 the specifications and catalog library moved to the building where the main technical library was housed.

In 1964 a centrifuge foundation and cage were installed in the northwest corner of the south section of the building. A variety of other equipment was installed and removed over time as different groups changed their research or moved out of the building. Equipment was upgraded. For example, a new metal cage was installed around the centrifuge in 1974.

During the 1960's the building was increasingly devoted to laboratory space. In 1963 the advanced development section of the solid state and thin film devices division of the electronic components department moved into the building. A microcircuit laboratory operated in the southeast portion of the building until 1974.

In 1975, the transducer evaluation and calibration division moved into the building and the building became known as the transducer calibration and evaluation building. However, a variety of occupants still used the building. In the 1970's, the building was housing groups that needed laboratory space, but that kept the majority of their employees in different facilities. For example, in 1973 two of the material analysis divisions had laboratories in Building 828, but only four employees worked there; the rest were located in Building 805.

By the late 1980's, Building 828 was over forty years old, and viewed as undesirable space by most SNL organizations. By 1992 only 12 people worked in the building, none of them representing an entire organization. The last spaces occupied in the building were the mechanical testing laboratories in the northeast part of the building. By June of 1996 the building was empty.

Currently the site remains a fenced and graded vacant lot. A pedestrian walkway of compacted base course overlain with asphalt bisects the area today.

Former structures outside of but proximate to former Building 828 include:

- An above ground oil storage tank located near the southeast corner of the building
- A small compressor shed identified as Building 8828, northeast of Building 828
- A sand interceptor pit on a drain line west of the southwest corner of the building, and
- Steam pits in the area.

The above ground oil storage tank was located outside along the south wall of the building and near the southeaster corner. The tank had a 200-gallon capacity and was used to store hydraulic

oil that was piped into the laboratories to operate equipment. The tank was removed during building demolition in early 1999.

Building 8828 was located north and east of Building 828. The structure housed an air compressor and compressed air storage tank. Sandia Facilities operated the compressor to provide centralized compressed air service to the laboratories in Building 828. The structure and equipment were removed during demolition activities in 1999.

The sand interceptor pit was located outside the southwest corner of Building 828. The interceptor pit was on a drain line exiting the building leading to the sanitary sewer. The drain line began at the floor drain in the high-bay room of the building. As such, the sand interceptor pit would have been installed to trap and prevent large particulate matter washed down the floor drain from proceeding to the sanitary sewer. The pit was a small concrete box with cover, not larger than 3-feet by 4-feet and about 4-feet deep. The sand interceptor pit contained a layer of sand or gravel set on a concrete grout bottom. The entire structure sat on a compacted base. The sand interceptor pit was removed during demolition activities in 1999.

There were several steam pits proximate to Building 828. Steam pits typically are concrete vaults with steel grating covers. The pits are constructed so that workers can access valves on the steam lines running from the central steam plant to heating utilities in the various buildings at SNL/NM. Steam pits on the lines servicing Building 828 were removed during demolition in 1999. Steam pits on steam lines servicing adjacent buildings remain in the vacant lot area. The Area-of-Concern (AOC) Building 828 site has been characterized in a series of activities conducted by either SNL/NM Facilities or SNL/NM Environmental Restoration (ER).

In preparation for demolishing or renovating Building 828, a preliminary contamination assessment of the building was made for SNL/NM Facilities in 1994 and 1995.

Based upon recommendations made in the preliminary contamination assessment report, additional field screening, and sampling and analysis, of building materials, surface swipes, and soil were performed to further assess the site. Soil from several locations outside Building 828 were investigated in August 1996. Surface soil samples were collected around the accessible sides of the 200-gallon aboveground oil storage tank near the southeast corner of Building 828, and around each side of the compressor-shed Building 8828. The soil samples were analyzed for polychlorinated biphenyls (PCBs) using an immunoassay screening technique. One of three surface soil samples around the 200-gallon above ground oil tank and one of the four samples around Building 8828 showed positive results for PCBs with a concentration of greater than one mg/kg to less than 10 mg/kg. PCBs were not detected above one mg/kg in the remainder of the soil samples. In December 1996, in a letter sent to the New Mexico Environment Department (NMED), SNL used this data to support not having Building 828 listed as a Solid Waste Management Unit (SWMU).

After removal of Building 828 itself, but during demolition of the concrete floor slab and removal of the sub-grade drain lines, SNL/NM Facilities collected soil samples from under the drain lines to determine whether or not contaminants had been released to the soil, September-October 1999.

Based upon soil sample analysis results for the under-drain-line samples collected by Sandia Facilities, SNL/ER returned to the site and collected additional subsurface soil samples at six of the nine original under-drain-line locations. Soil samples were collected from 5, 10, and 15 feet below the ground surface (bgs) in September 2000.

## Constituents of Concern

Polychlorinated biphenyls (PCBs)  
Metals

## Current Hazards

There are no current hazards at this site related to contamination of the surface or subsurface soils.

## Current Status of Work

In December 2000, NMED/Hazardous Waste Bureau (HWB) issued a Request for Supplemental Information (RSI). This RSI rejected the PCB immunoassay data (presented in the letter of December 1996 to NMED that stated that this site was not a SWMU) as unsuitable for purposes of determining if a site is appropriate for No Further Action (NFA) status and indicated that laboratory analytical data with appropriate detection limits were necessary for purposes of site characterization and risk assessment. Thus samples were collected in the vicinity of the two original 1996 PCB soil screening samples that had detections greater than 1 mg/kg. Samples were collected from the surface and 2 feet below the surface. PCBs were detected in only one of the samples; the surface soil sample from the oil storage tank location had a PCB aroclor 1260 concentration of 39 micrograms/kg.

The final response to the December 2000 RSI was submitted to the NMED/HWB in July 2001. In October 2001, NMED/HWB indicated that Building 828 is appropriate for risk-based NFA petition under an industrial scenario.

## Future Work Planned

No further work is planned.

## Waste Volume Estimated/Generated

There was no waste generated as part of the sampling activities for this site.

**Information for ER Site BLDG828 was last updated Jan 21, 2003.**