



221 Sunset Drive

**Dawson Metal Products, Sundstrand Tubular Products Inc.,
Modine Heat Transfer Inc.**

Site History

In 1967, Dawson Metal Products constructed a commercial building at the 69-acre site, located at 221 Sunset Drive in Camdenton, and began manufacturing air-conditioning coils and feeder parts from aluminum and copper tubing. In 1972, Sundstrand Tubular Products bought out Dawson and produced aluminum and copper heat transfer units at the facility until 1990. During that time, the building underwent four expansions and is currently 120,000 square feet. In 1990, Modine Heat Transfer Inc. purchased the property from Sundstrand and continued operating until 2012.

Historical manufacturing processes required a vapor degreasing process to remove the oil and dirt from the various parts and assembled units before further processing. Over the operational history of the facility, several different solvents were used in the vapor degreasers, including trichloroethylene (TCE), 1,1,1-trichloroethane (1,1,1-TCA) and methylene chloride. A variety of hazardous wastes were also produced as part of the facility operations, including corrosive waste, wastewater treatment sludge from electroplating operations and residual contaminants associated with the degreasing operations. From 1972 to 1990, the hazardous waste was containerized and stored in three separate hazardous waste container storage areas. Area 1 and Area 2 were located outside, west of the west wall of the manufacturing building. Area 3 was located outside along the south wall of the manufacturing building. In 1983, Sundstrand removed Areas 1 and 3 to expand the building to the south and add an employee parking lot.

From 1967 to 1986, four cement sumps (mud pits) were used at the facility for wastewater collection. The mud pits were originally located outside along the west side of the manufacturing building and received stormwater, boiler blowdown and cleaning line water from the manufacturing process. Each pit was connected to the pit next to it and the contents of each mud pit flowed into the connected mud pit. Eventually the untreated wastewater discharged into the on-site wastewater discharge line, which connected to the city of Camdenton sewer system, located along the north side of the facility. The untreated wastewater mixed with sanitary wastes from surrounding residential properties while it traveled to a 1-acre, off-site wastewater treatment lagoon, known as the Hulett Lagoon, located about a quarter of a mile to the northeast of the facility. In 1985, Sundstrand removed one of the mud pits and Area 2 to make room for a wastewater pretreatment system. Sundstrand began using the wastewater pretreatment system in 1986 and stopped discharging untreated waste to the city of Camdenton sewer system.

In 1997, Modine completely renovated the building's interior as part of a product-line change, which required replacement of all equipment in the plant, except the wastewater and electrical systems. Modine began producing radiators (large heat transfer units) using a different manufacturing process. In 2009, Modine sold the property, but continued operating at the facility under a lease agreement. In March 2012, Modine stopped operating and removed all equipment and machinery from the building. Modine vacated the premises and terminated its lease in late April 2012. The property went into foreclosure in 2013. The facility is currently vacant.

Why Is the Department Involved?

When Congress passed the federal hazardous waste laws, all facilities treating, storing or disposing hazardous waste in a manner that would require a hazardous waste permit were required to notify the U.S. Environmental Protection Agency (EPA) and apply for a permit, unless the facility chose to close those operations. Sundstrand notified EPA and submitted their permit application for the three hazardous waste container storage areas in 1980, with revisions submitted in 1983. In 1990, Sundstrand decided not to continue the hazardous waste permitting process and submitted a closure plan for the hazardous waste container storage areas. A few months later, Modine purchased the property.

In 1991, EPA performed a preliminary assessment of the facility, due to a complaint claiming that 4500 gallons of TCE had been spilled at the facility. The final report, completed in 1992, identified six areas recommended for additional investigation, which included the Hulett Lagoon, mud pits, three container storage areas and vapor degreaser.

EPA authorized Missouri to implement the federal regulations, which are contained in the Missouri Hazardous Waste Management Law. The Missouri Department of Natural Resources is responsible for enforcing those regulations. Oversight of investigation and cleanup activities was to be conducted by the department's Hazardous Waste Program's Permits Section.

Closure and Investigation Activities

According to state and federal hazardous waste laws, Modine, as the owner of the property at that time, was required to investigate and clean up releases of hazardous waste and hazardous constituents to the environment at the facility, resulting from present and past hazardous waste handling practices, including any releases by previous facility owners.

In 1991, an environmental assessment of the facility showed low levels of volatile organic compounds (VOCs) along the west side of the manufacturing building in the location of former Areas 1 and 2. Modine submitted a revised closure plan for the areas, which the department approved; however, additional sampling was required.

Between 1991 and 1997, several soil and groundwater investigations were conducted. Sampling results showed TCE and other related VOCs were detected in the soil in and around the employee parking lot and along the buried wastewater discharge line along the west side of the building. Samples taken during the installation of additional groundwater monitoring wells revealed groundwater contamination was present. TCE was present in the soil east of the former above ground solvent storage tank location and north of the vapor degreaser. VOCs were also present in the soil beneath the manufacturing building, in the area of the former vapor degreaser.

A soil investigation at the mud pits showed increasing TCE concentrations with increasing depth. As a remedial action, about 197 tons of soil surrounding the mud pits was excavated and properly disposed. The areas where VOCs were detected above the cleanup goals were limited and also in areas that were difficult to get to for removal. Removing the soil would have potentially weakened the manufacturing building foundation or damaged underground utilities, such as fire lines.

In 1999, TCE was discovered in the city of Camdenton's Mulberry Well at levels above drinking water standards. At the time, the Mulberry well was an active city municipal well, located about 600 feet southeast of the facility and 1000 feet south of the former Hulett Lagoon. The city of Camdenton closed the Hulett Lagoon in 1989. Subsequent sampling results from a 1996 Hulett Lagoon investigation confirmed that TCE was present in the soil in the area of the former lagoon and near the former lagoon outfall. Both the facility and the former Hulett Lagoon were identified as contributing to the TCE groundwater contamination in the area.

The Mulberry Well is no longer used for drinking water. The Hazardous Waste Program's Superfund Section is providing oversight of investigation and cleanup activities regarding the Hulett Lagoon and groundwater contamination. Hamilton Sundstrand, formerly Sundstrand Tubular Products, is performing the investigations and cleanup.

In 2000, as part of the plant renovation, Modine removed the on-site wastewater discharge line that connected the mud pits to the city of Camdenton sewer system. TCE was not detected in the soil above EPA Regional Screening Levels for residential use. Additional investigation was also performed in the parking lot west of the manufacturing building, in the former location of Area 1. Between 2001 and 2002, nearly 6000 tons of TCE contaminated soil was removed from this area. Confirmation sample results showed all VOC impacted soil was removed to site-specific cleanup levels.

In 2003, an indoor air quality assessment was performed in the manufacturing building. The department was concerned contamination beneath the manufacturing building, or along the west side of the building, could be vaporizing and entering the air inside the building. Sample results showed low VOC concentrations in the indoor air, below site-specific health based screening levels.

Since 2006, additional investigations have been performed at the site to define the horizontal and vertical extent of any remaining contamination. Indoor air sampling was conducted in the manufacturing building in 2003 and 2010. The maximum TCE concentration was below the screening level based on EPA's preliminary TCE toxicity values. EPA released final TCE toxicity values in 2011, which resulted in lower screening levels than were used in the 2003 and 2010 indoor air sampling events. In 2015, sample results showed TCE concentrations in the indoor air of the manufacturing building above EPA's regional screening level for industrial air. TCE concentrations in the sub-slab soil gas were extremely high, above EPA residential and commercial screening levels.

In late 2015, sample results showed TCE concentrations in soil gas outside the building, near the facility property line next to residential areas and near the sanitary sewer lines, were above EPA residential screening levels. These results suggested the possibility of TCE vapors entering nearby homes and building up to levels of potential health concern. This prompted indoor air and sub-slab soil gas sampling at select homes near the facility property and other nearby homes connected to the sewer line. The first of four scheduled sampling events occurred in early December 2015.

After the first round of residential indoor air sampling, all indoor air TCE concentrations were less than the Response Action level and did not indicate an immediate health risk.