

**Alliant Techsystems
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Division of Solid & Hazardous Waste
Utah Department of Environmental Quality

**Baseline Risk Assessment
for the
Tekoi High Hazard Test Area**

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Prepared by

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2.0 Site Background

The High Hazard Test Area of the Tekoi Firing Range facility is operated by Alliant Techsystems (formerly Hercules Aerospace) and is located on the Skull Valley Indian Reservation in Tooele County, Utah. Alliant leases 87 acres of land from the Skull Valley Band of Goshute Indians for the purpose of testing rocket motors and conducting high hazard explosive tests. This risk assessment pertains only to the section of Tekoi involved with the high hazard explosive testing.

The Tekoi facility has been in use since 1976. For safety reasons, this facility is sited in a remote, sparsely populated location, approximately 25 miles south of the Rowley Junction exit of Interstate 80 on the Skull Valley road.

Figure 1 shows the overall location of Tekoi with respect to the Skull Valley road. The Tekoi area is separated into three separate parcels. Two of these parcels, designated "A" and "C", are used for firing of large rocket motors. Parcel "B", about 9 acres in size, is dedicated to high hazard testing. All closure activities are associated with Parcel "B", known as the High Hazard Test Area.

High hazard testing involves testing energetic materials (explosives), usually in quantities between 10 and 100 pounds, to determine the reaction of the material to stimulus such as heat or shock. Most of the time the explosive material is completely consumed in the resulting explosion. Occasionally small pieces or fragments of explosive material remain after the test. These fragments are gathered together and burned in place.

Possible contaminants at the site include explosives, metals, and certain volatile organic solvents. The explosives include nitroglycerine (NG), nitrocellulose (NC), ammonium perchlorate (AP), and cyclotetramethylene tetranitramine (HMX).

Because of infrequent activity at the site, native soils are expected to be clean or very lightly contaminated with explosives, metals, or solvents; therefore, a health risk-based closure criteria has been accepted by the USEPA, and will be used. State of Utah methodology for risk-based closure standards is included as Appendix A.

Figure 2 identifies the two waste management units at the High Hazard Test Area as the test pit and the unconfined burn area. Each of these units is described below.

Many of the tests conducted in the High Hazard Test Area resulted in detonations that could possibly have thrown shrapnel. The area known as the test pit is designed to capture flying debris by surrounding the test area with a 25-foot-tall earthen barricade. This barricade was constructed by digging a hole approximately 12-feet deep and then piling the dirt around the hole to form a 25-foot wall. The earthen walls have been reinforced to prevent slumping; however, a major slump has occurred recently, as