This unclassified imagery presentation provides a current and historical overview of the Musudan-ri missile test facility. It visually illustrates the type of analysis that can be derived using current and historic DigitalGlobe satellite imagery and open source information.

*All handheld images & drawings within this brief are from www.globalsecurity.org*
The Musudan-ri missile test facility has been the test site for a variety of North Korean missiles. Major facility components consist of a missile assembly building, engine test stand, range control building, tracking facilities and a launch pad. The roads within and around the facility are not paved. The facility is located within the North Hamgyong Province, approx 19 miles southeast of the town of Kilchu & 28 miles northeast of port city of Kimchaek.
Musudan-ri Missile Test Facility Overview

Missile Assembly Building

Launch Tower and Pad

Rocket Engine Test Stand

DigitalGlobe’s QuickBird Image February 8, 2009
Musudan-ri Rocket Engine Test Stand Overview

The Musudan-ri engine test stand was created for the development & thrust measurement of long range ballistic missile engines. The stand is capable of holding the boosters in an upright position during the entire firing sequence.
A review of the rocket engine test stand on DigitalGlobe imagery coverage from February 15, 2002 to February 26, 2009 revealed a variety of activity, including: drying grain on the concrete, the presence of cylindrical storage tanks and the arrival/departure of multiple support vehicles and personnel.
The Musudan-ri missile assembly building is (according to globalsecurity.org) capable of handling two Taepodong-2 class three stage launch vehicles, in addition to several vertical test cells in the high bay portion.
A historical review of DigitalGlobe imagery beginning in February 2008 revealed that the missile assembly building was extended by an additional 28 meters on its southern side and the ringed access road expanded. According to Janes Defence Weekly, both changes allow for the assembly of larger missile systems.
Support vehicle present on hardstand

Support vehicle and 18 personnel present on hardstand

Two support vehicles present. 30 troops observed in military formation at the south end of the drive-way

Two support vehicle & four personnel present.

Possible Missile Transport Vehicles

Support Vehicles & Personnel

Four support vehicles present
The Musudan-ri Ballistic Missile Launch pad consists of a 30-meter umbilical tower with a top-mounted gantry crane, a flame blast bucket, a launch blockhouse with a connecting access tunnel, two semi-buried liquid fuel storage buildings, a concrete apron/pad and multiple small support buildings.

This high-resolution 3D model of the launch pad was built by AEgis Technologies in partnership with DigitalGlobe to visually simulate the launch tower and the surrounding terrain.
Recent Musudan-ri Launch Tower & Pad Activity

Six personnel seen standing at base of the launch tower.

Environmental shrouds have been placed at the top and bottom of the gantry. Support vehicles present.
Musudan-ri Launch Pad Activity: March 26, 2009

Four vehicles identified near missile assembly building on March 25th then seen near launch tower on March 26th.

Probable Canopy/Environmental Shroud

Support Equipment & Personnel

Support Vehicles & Personnel
An imagery review of the launch complex from previous DigitalGlobe imagery during late June, 2006 revealed similar activity at the launch pad and missile assembly building prior to the July 5, 2006 Paektusan/TaepoDong-2 missile launch.

According to Jane's Defence Weekly, in 2006 the Paektusan-2 sat on the launch pad (within the launch tower) for approximately 20 days before being launched.