

2.0 FACILITY OPERATING HISTORY

2.1 LICENSE NUMBER, STATUS, AND AUTHORIZED ACTIVITIES

The current radioactive materials license for site is Source Materials license No. SUC-1581 (NRC 1999). The license was issued to the MDNR on August 26, 1999. Expiration of the license is dated August 31, 2009. The license authorizes possession and use for those activities leading to the decommissioning of the site. There have been no substantive amendments to license No. SUC-1581 since initial issuance dated August 26, 1999.

The radionuclides, maximum activities, quantities, and chemical/physical form of radionuclides authorized under the license are included in Table 2-1.

Table 2-1 Licensed Radionuclides and Maximum Activities

SOURCE MATERIAL	CHEMICAL/PHYSICAL FORM	MAXIMUM ACTIVITY
Thorium	Contaminated soil, sludge, sediment, trash, building rubble, structures, and any other material contaminated in excess of background levels.	2.6 Ci
Uranium	Contaminated soil, sludge, sediment, trash, building rubble, structures, and any other material contaminated in excess of background levels.	0.26 Ci
Thorium-230	Sealed sources	10 microCi
Americium-241	Sealed sources	0.5 microCi

There are no other radioactive materials at the site that require monitoring or control.

2.2 LICENSE HISTORY

Source materials license No. SUC-1581, issued to MDNR to possess radioactive material at the site, is the initial source material license for the site. The site was never previously licensed and no significant revisions or modifications to the existing license have been issued.

2.3 PREVIOUS DECOMMISSIONING ACTIVITIES

Preliminary work in support of the development of this decommissioning plan has been completed, including an historical site assessment (HLA 1998a), an assessment of local background radioactivity (ABB 1998, MDPH 1983), a radiological scoping survey (HLA 1998b), and a radiological characterization survey (Cabrera 2001).

No remedial decommissioning activities have ever been performed at the site.

2.4 SPILLS

There is no record of radiological spills occurring at the site.

2.5 PRIOR ONSITE BURIALS

The site was opened in the 1950s as a small portion of an industrial disposal facility opened and originally operated by the Hartley family. The portion now owned by the MDNR apparently originated as the area where the Hartley's mined (excavated) a former beach-ridge sand deposit. The excavation resulted in surface depressions flooded with surface water and near-surface groundwater. Industrial wastes, including drums, spent solvents, oils, and other liquid and solid wastes, were disposed in the excavations.

In addition to these materials, foundry waste containing low levels of naturally occurring radioactivity in the form of magnesium-thorium slag was also disposed at the site beginning late in 1970. The foundry-generated slag came from operations involving magnesium alloys. Some, but not all, of these slag materials contained thorium as a natural composition of the ores from which the metals were derived. A review of historical documents indicates that the disposition of thorium-bearing slag materials at the site likely began sometime after a decision was made by Dow Chemical to discontinue the practice of stockpiling thoriated slag on its property, forcing then operator of the foundry, Wellman Dynamics, to look for alternative disposal options. Both thorium-bearing and non-thorium-bearing slags are known to have been disposed over the years that the Tobico facility was in operation, but there is no known record indicating which slag forms were deposited where. They are comparable in physical appearance and difficult to distinguish visually.

Interim corrective measures were undertaken with the installation of a clay slurry wall and clay cover (1984), intended to restrict or retard the migration of non-radiological, hazardous, or potentially hazardous, substances to the surrounding environment. The decision to impound the area was based solely on the information known at the time about chemical constituents deposited in the disposal site. However, the clay slurry wall and cap system also circumscribes the thorium-bearing slag deposits.

Radiological characterization surveys conducted at the site confirm that the thorium bearing slag waste is vertically confined by an underlying, undisturbed, native clay till layer. Elevated radioactivity associated with thoriated-slag disposal is generally limited to relatively thin deposits (approximately 1.2 meters thick) near the center of the area confined by the slurry walls (Figure 2-1). The distribution suggests that disposal may have occurred along both sides of the unpaved access road that formerly bisected the site from north to south.

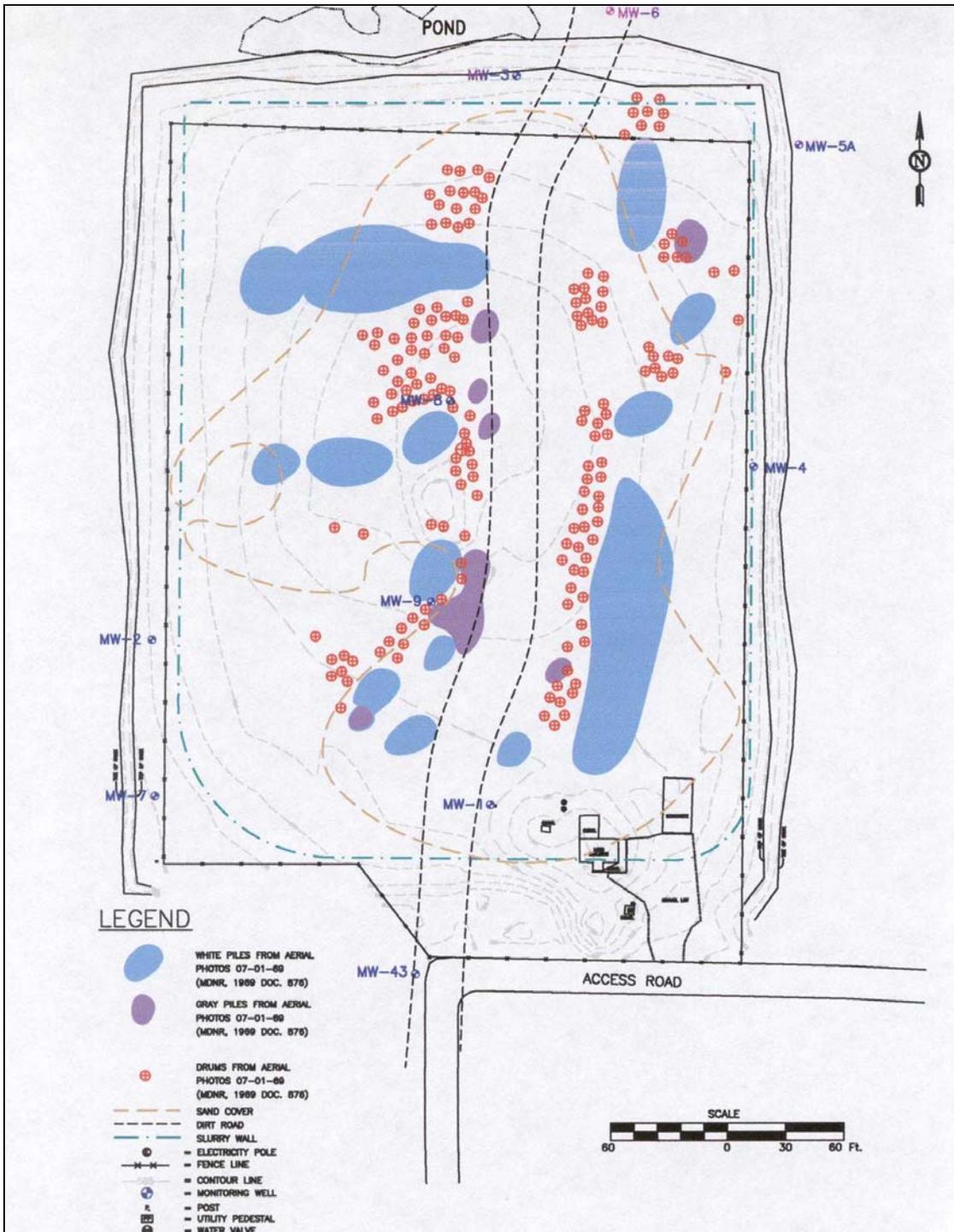


Figure 2-1 Site Map Showing Disposal Activity and Location