

To: Mershad Shahabidin, Radiation Safety Officer  
From: Ed Franco, Alternate Radiation Safety Officer  
Subject: Final Radiological Inspection of the Pittsburg Test Site

March 3, 2016

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A final radiological inspection of the Rapiscan's Pittsburg Test Site (located at 1451 Loveridge Rd, Pittsburg, CA 94565) was performed on **February 29, 2016** to confirm that there were no radioactive materials at the site and that there were no significant levels of activation products. In addition, the leak test results for the SNM sources and the safe which stored the SNM show that these sources are not leaking since the removable contamination is below 0.005  $\mu\text{Ci}$ . The most recent leak test records are attached.

Rapiscan Laboratories leased the Pittsburg facility to perform a project funded by the Domestic Nuclear Detection Office (DNDO) of the US Department of Homeland Security. The objective of this project was to conduct an Advanced Technology Demonstration (ATD) of technologies for the detection of concealed Special Nuclear Material (SNM). The use of SNM at the Pittsburg Test Site was governed by NRC License SNM-2018 (Docket No. 70-7021 issued to Rapiscan Laboratories on 6/18/2014).

The SNM was stored in a safe, shown below, within a locked storage room. The SNM was transferred to SCA on November 17, 2015 by employees from the Y-12 National Security Complex. SCA is authorized to possess and store these materials under NRC License SNM-2017. The safe was inspected, verified to be empty, and shipped to Rapiscan Laboratories.



The DNDO project used a photoneutron source that was created by illuminating a stainless steel container of heavy water with an x-ray beam produced by a 9 MV LINAC. The photoneutron source, shown below on the left, is surrounded by borated polyethylene. The neutrons could produce activation products in the concrete shielding walls of the facility, the steel support structures, and the photoneutron source. The heavy water container, shown within the photoneutron source below on the right) was activated and the dose rate on contact was 120 microrem per hour. The photoneutron source, and associated support structures, were shipped back to Rapiscan Laboratories on February 26, 2016.



A radiation survey was performed on February 29, 2016 in the Radiation Test Cell, the Source Storage Room, the Control Room, and the perimeter of the building.

- Survey meter: RadEye G20-ER10 from Thermo Scientific
- Serial number: 0160
- Calibration Due Date: 7/14/16

This survey found no areas above background ( $\sim 10$  microR/hr) and the site is cleared for release to the landlord at the end of the lease on the basis of Radiation Safety.