

From: [REDACTED]
To: [Bizyayev, Valeriy \(he/him/his\)](#)
Subject: Nedlog B-1 Arsenic and B-5 Mercury Screening Assessment
Date: Thursday, June 15, 2023 2:43:24 PM

Per your request, this email describes field measurements made at the Nedlog Property Site in Laramie, Wyoming. On May 23, 2023, START assessed mercury vapor concentrations in Building 5 (B-5) and performed in-situ x-ray fluorescence (XRF) of various surfaces in Building 1 (B-1).

At approximately 1330, START accessed B-5 from the northern entrance and used a Lumex RA-915M mercury vapor analyzer (MVA) to screen for mercury vapor. The background concentration in the ambient air north of B-5 was 59 ng/m³. START recorded a spike in the mercury concentration at the air monitoring location in the building, with a maximum mercury vapor concentration within B-5 of 50,000 ng/m³. The air monitoring location is approximately fifteen feet south of the northern entrance, approximately two feet from the western wall of the building, and approximately four feet above the building floor, which was on a graded slope. Because the Lumex RA-915M has a maximum range of 50,000 ng/m³, START exited the building after the concentration spike was observed.

At approximately 1300, START accessed the northeastern portion of B-1 containing the arsenic boiler and performed in-situ field screening for heavy metals using an Olympus Vanta XRF in Geochem(3-Beam) mode. Prior to using the XRF in B-1, START screened a blank standard and two NIST standards. All readings were 30 seconds in length, and the XRF was operated in Geochemical mode. Upon entering the building, START screened various items and components in the building; the locations of most of these initial readings were not fully documented. After taking these initial readings, START exited the building to discuss screening locations with the project team. START re-entered the building at approximately 1400 and screened floor dust in eleven locations, tanks (including paint and residue), manifolds and filters. These readings included repeats of the locations that were screened prior to 1400, with the exception of Tank 19, which was documented during the initial entry (reading #6 in the raw data file). START recorded arsenic concentrations up to 511,592 parts per million (ppm) arsenic at the Suspected CCA Tank (reading #30 in raw data file), 342,213 ppm arsenic at the floor near the Suspected CCA Tank (reading #30 in raw data file), 409,870 ppm arsenic at the residue on the Suspected CCA Tank (reading #32 in the raw data file), and 346,816 ppm arsenic at the CCA Manifolds on the east side of the building area (reading #22 in raw data file). The XRF data are considered screening level data for two reasons:

1. Because the XRF was used to screen non-standard materials in-situ;
2. Because concentrations for various analytes including arsenic, lead, and chromium are not bracketed by NIST standards, nor are NIST standards available at the START warehouse that could have bracketed the arsenic concentrations.

As requested, I have uploaded these data to the response website to support the administrative record.

Lauren Foster | Environmental Scientist
[REDACTED]