



## Materials Inspection Record

1. Licensee Name: Soils & Structures, Inc.		2. Docket Number(s): 030-33048		3. License Number(s) 21-26469-01	
4. Report Number(s): 2021-001			5. Date(s) of Inspection: June 22 and 25, 2021		
6. Inspector(s): Ryan Craffey		7. Program Code(s): 03121		8. Priority: 5	9. Inspection Guidance Used: 87124
10. Licensee Contact Name(s): Jon Erickson - Director of Field Operations		11. Licensee E-mail Address: jerickson@soilsandstructures.com		12. Licensee Telephone Number(s): 231-760-6821	
13. Inspection Type: <input checked="" type="checkbox"/> Routine <input type="checkbox"/> Non-Routine <input type="checkbox"/> Initial <input type="checkbox"/> Unannounced		14. Locations Inspected: <input checked="" type="checkbox"/> Main Office <input checked="" type="checkbox"/> Field Office <input checked="" type="checkbox"/> Temporary Job Site <input type="checkbox"/> Remote		15. Next Inspection Date (MM/DD/YYYY): 06/22/2026 <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Extended <input type="checkbox"/> Reduced <input type="checkbox"/> No change	

## 16. Scope and Observations:

This was an announced routine inspection of an engineering and construction testing firm authorized to store portable moisture density gauges containing byproduct material at its main office in Muskegon, Michigan and its satellite offices in Ann Arbor and Traverse City, Michigan, and to use them for measuring the physical properties of materials at temporary job sites in NRC jurisdiction. At the time of the inspection, the licensee stored gauges at each authorized location of use, and had around 20 authorized users. The licensee's director of field operations was delegated responsibility for much of the day-to-day oversight of the radiation safety program.

The inspector toured the main office in Muskegon and the satellite office in Ann Arbor. All licensed material was adequately secured in storage or was otherwise under control and constant surveillance. The inspector observed that the licensee relied on the building in Muskegon to serve as a barrier, but that staff occasionally opened a roll-up door to the garage where the gauges were stored to retrieve other equipment. After discussing the potential vulnerability, the licensee decided to install a second lock on the door to the gauge storage area. Independent and confirmatory surveys in the vicinity of this area as well as the one in Ann Arbor returned no unusual or excessive readings. The inspector also observed package receipt surveys for a new gauge that the licensee received via common carrier during the inspection. The licensee confirmed that these readings were consistent with the radiation profiles from the applicable SSDR safety evaluation which it kept copies of at each storage location.

The inspector also visited a temporary job site on Independence Drive off Harvey Street in Muskegon and observed an authorized user perform several compaction tests at the site of a restaurant construction project. The user maintained control and constant surveillance of the gauge, implemented adequate ALARA practices and was knowledgeable of radiation protection principles and licensee operating and emergency procedures. The gauge and its transport case were in good condition; independent surveys in the vicinity of this device were consistent with the aforementioned radiation profiles and were well below DOT limits on public highways.

The inspector interviewed the licensee's director of field operations to discuss program oversight, and reviewed a selection of records including authorized user training materials, shipping papers, emergency response information, O&E procedures, sealed source leak test results, personnel dosimetry reports, and documentation of an investigation into elevated doses of 200-300 millirem to one user over two successive quarters. The licensee determined that these were caused by the user keeping his gauge next to him in the passenger seat of his truck for extended periods of time, with the intent of keeping the device's battery fully charged between tests. The licensee counseled the user on ALARA practices and began reviewing dosimetry results and safety procedures with all users on a quarterly basis. No violations of NRC requirements were identified as a result of this inspection.