



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
REGION III
2443 WARRENVILLE ROAD, SUITE 210
LISLE, ILLINOIS 60532-4352

January 28, 2022

EN 55625
NMED No. 210523 (Closed)

Christine Dayton
Radiation Safety Officer
Jacobi Geotechnical Engineering, Inc.
798 Hoff Road
O'Fallon, MO 63366

**SUBJECT: NRC REACTIVE INSPECTION REPORT NO. 03035293/2021001(DNMS) –
JACOBI GEOTECHNICAL ENGINEERING, INC.**

Dear Ms. Dayton:

On December 17, 2021, an inspector from the U.S. Nuclear Regulatory Commission (NRC) conducted a reactive inspection at your facility in O'Fallon, Missouri, with continued in-office review through January 6, 2022. The purpose of the inspection was to review the circumstances surrounding your report (EN 55625) of a damaged portable moisture/density gauge at a temporary jobsite in Saint Peters, Missouri, on December 3, 2021. The in-office review included a review of your written report, dated December 28, 2021, further describing the incident. Mr. Luis Nieves of my staff presented the findings of this inspection during a final exit meeting via telephone with you on January 6, 2022.

During this inspection, the inspector interviewed you and the gauge user, and reviewed leak tests for the damaged gauge before and after the incident, area surveys after the incident, training records for the gauge user, photographs of the work area, and emergency procedures.

On December 3, 2021, the licensee had reported the event to the NRC Operations Center about a damaged Humboldt Scientific model 5001EZ moisture density gauge (serial number 3141) that contained a 40-mCi Am-241 source and a 10-mCi Cs-137 source. A gauge user for the licensee was working at a construction site near Mid Rivers Mall Drive and North Saint Peters Parkway in Saint Peters, MO. The gauge user was working the same area with another contractor who was operating a skid loader. Both individuals had worked together at other sites and would signal one another when the skid loader was done in one area and the gauge user could test the soil. However around 11:20 am, after working for some time without a problem, the driver of the skid loader and gauge user miscommunicated and the skid loader ran over the gauge, shearing off the top of the cesium-137 source rod. Fortunately, the gauge user was not injured and the cesium source remained in the gauge body having been retracted into the shielded position before the impact. The gauge user immediately cordoned off the area and further use of the skid loader was halted until the integrity of both sources could be determined. The gauge user called the Radiation Safety Officer (RSO) to notify her of the run-over gauge. The RSO called a service provider (RM Wester) and the RSO and a representative of the service provider met at the job site shortly thereafter. A survey of the damaged gauge, the immediate work area, and the skid loader identified that neither source was leaking and were


intact inside the gauge. The gauge was then packaged in its transport container and the service provider took possession of it, transporting it to its nearby facility. As part of its corrective action, the licensee discussed the event with all of its gauge users, emphasizing the need to establish and maintain good communications with other workers operating vehicles in the area where a moisture density gauge is being used and re-emphasizing the procedure to follow if a gauge is damaged at a jobsite.

Based on the results of this inspection, the NRC has concluded that no violations of NRC requirements occurred. You are not required to respond to this letter unless the description therein does not accurately reflect your corrective actions or your position. In that case, or if you choose to provide additional information, please submit the information in accordance with the methods described in Title 10 of the *Code of Federal Regulations* (CFR) 30.6(a)(1) and (b)(2).

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and any response you may provide will be made available electronically for public inspection in the NRC's Public Document Room or from the NRC's Agencywide Documents Access and Management System (ADAMS), accessible from the NRC's website at <http://www.nrc.gov/reading-rm/adams.html>. To the extent possible, your response should not include any personal privacy, proprietary, or safeguards information so that it can be made publicly available without redaction.

Please feel free to contact Mr. Nieves of my staff if you have any questions regarding this inspection. Mr. Nieves can be reached at 630-829-9571.

Sincerely,

 Signed by Kunowski, Michael
on 01/28/22

Michael Kunowski, Chief
Materials Inspection Branch
Division of Nuclear Materials Safety

Docket No. 030-35293
License No. 24-32231-01

cc: State of Missouri

Letter to Christine Dayton from Michael Kunowski dated January 28, 2022.

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JACOBI GEOTECHNICAL ENGINEERING, INC.

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NAME	LNieves:brt		MKunowski					
DATE	1/28/2022		1/28/2022					

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