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GEOTECHNOLOGY, INC.
ENGINEERING AND ENVIRONMENTAL SERVICES
ST. LOUIS • COLLINSVILLE • KANSAS CITY

Fax

To: U.S. NRC Region III From: John A. Baker, RSO

Fax: 630-515-1078 Date: 6/24/10

Phone: 630-829-9500 Pages (w/cover): 7

Re: Incident Report cc:

☐ URGENT ☐ For Review ☑ For your info ☑ Hard copy to follow

MESSAGE:

Hard copy mailed today.

Thanks.

GEOTECHNOLOGY INC
FROM THE GROUND UP

June 24, 2010

U.S. NRC Region III
2443 Warrenville Road, Suite 210
Lisle, Illinois 60532-4352

Re: Incident Report
Materials License No. 24-24459-01, Amendment N0. 07

Ladies and Gentlemen:

The purpose of this correspondence is to provide documentation of an incident that occurred on one of our project sites in which a Geotechnology employee and one of our nuclear density gauges was struck by a piece of construction equipment. At approximately 09:55 hours on May 28, 2010, I received a phone call from one of my field representatives who was performing compaction tests on retaining wall backfill at the National Archives and Records Administration (NARA) project on Dunn Road in St. Louis, Missouri. The employee, Mr. David Steiner, reported that he had just been hit by a Bobcat, and that the Bobcat had run over his nuclear density gauge. Mr. Steiner reported that he was not seriously injured and that he had followed protocol by stopping the equipment, cordoning off the area, retaining all parties involved and notifying me, the Corporate Radiation Safety Officer. The exact coordinates of the point where the incident occurred are Longitude 38.773387, Latitude -90.231911.

I and Geotechnology's Corporate Safety Officer, Mr. Joe Darmody, arrived at the scene of the accident at approximately 10:20 hours. Mr. Steiner had used yellow caution tape to cordon off an approximately 50-foot radius area around the damaged gauge, a Campbell Pacific MC3 (Serial Number M36046717). The Bobcat was approximately 15 feet from gauge, the point to which it had pulled forward after backing into Mr. Steiner and the gauge. I approached the of the gauge while using a MC1K Radiation Detector manufactured by S.E. International, Inc. (Serial #45356, calibrated February 17, 2010) to monitor radiation. No radiation was detected to within 3 feet of the damaged gauge, at which point I placed the detector on the damaged gauge and measured an activity level of 0.05mR/hr. Observing that the sources were in tact (source rod was still in its shield), and concluding that there was no leakage, I instructed Mr. Steiner to put all of the pieces of the gauge into the gauge transport case and return the gauge to the lockup cage at Geotechnology's office. After the gauge was removed, I checked the ground surface where the gauge had been sitting when struck by the Bobcat and detected no radiation. I then checked the rubber-cleated tracks of the Bobcat and detected no radiation, at which point I released the equipment and all personnel involved in the incident.

Prior to leaving the construction site, all parties involved in the incident attended a post-incident safety debriefing in the contractor's office trailer. A copy of the incident investigation report generated from the minutes of the safety debriefing is attached for your reference. Photographs of the Bobcat in proximity to the damaged gauge are also attached.

Geotechnology personnel performed a leak test on the damaged gauge and sent the swab to R.M. Wester & Associates in St. Peters, Missouri for evaluation. R. M. Wester concluded that the gauge was not leaking. The leak test results are attached for your reference. The gauge was padlocked in the transportation case and shipped to Instro Tek, Inc. (NRC Materials License No. 32-32666-01, Amendment 01) in Grand Rapids, Michigan (Instro Tex had previously purchased Campbell Pacific, Inc., the gauge manufacturer). Instro Tek confirmed that the gauge was not leaking, but concluded that the gauge was damaged beyond repair and retained the sources for proper disposal. The gauge will be replaced with a new gauge.

We trust this incident report includes all the information you require. Please contact the undersigned if you have questions.

Very truly yours,

GEOTECHNOLOGY, INC.

John A. Baker, P.E.
Senior Vice President
Corporate Radiation Safety Officer

JAB/JD:jab

Attachments: As noted

TARLTON CORPORATION
Incident Investigation Written Report

Project Number:**10012, GSA NARA** Date:**5/28/10 @ 9:55am**

1. Employees / Parties Involved:
   a. Injured: **Dave Steiner, Geotechnology Employee**
   b. Operator: **James Krohm, Rosch Laborer, Bobcat Operator**
   c. Witness(es): **Louie Tocco, Tom Engler (Rosch Laborers)**
   d. Others/Non-witnesses: **N/A**

2. Description of incident:**While backing up spreading fill material on the western side of the site behind and for the retaining wall the Bobcat operator struck the Geotechnology tester and ran over his density tester. No severe injuries were apparent to the Geotechnology employee, he will be assess at the Concentra Clinic for injuries.**

3. Injuries/Equipment Damage:
   Density tester was runover and destroyed. Information about the model, cost and degree of damage is forthcoming from Geotechnology.

4. Medical Treatment: (*Describe series of events. See example below.)*
   Dave Steiner is being assess this afternoon for injuries at Concentra.

5. Findings: (*Describe list of findings from investigation or interviews. These findings should address equipment, work practices, procedures, environment, people, management, etc. See examples below.)*
   A debriefing meeting was held with Joe Darmody (Geotech), John Baker (Geotech), Dave Steiner (Geotech), Ray Daub (Kirkwood), Eric Nichols (Hardin Tarlton), Louie Tocco (Rosch Laborer), Tom Engler (Rosch Laborer), Carissa Vlahovich (Jacobs), John Andrzejewski (Rosch), and Matt Willingham (Tarlton Safety Director)

6. Causal Factors: (The four potential causal factors supported by the National Safety Council are: Equipment, Environment, People, and Management*) Discuss possible causal factors derived from investigation. Also discount or eliminate factors if evidence does not support it. See examples below)*
   a. Equipment: **Back up alarm not functioning on Bobcat**
   b. Environment: **Confined work area, equipment running while testing being performed**
   c. People:**Communication & Planning - Daily work plan was not documented, there was no or minimal communication between the Geotechnology tester and the Rosch operator.**
   d. Management:**Daily JSA not being performed**

7. Recommended Courses of Action: *Discuss all potential courses of action, relative to the causal factors. These can be job specific, equipment related, disciplinary measures or changes in corporate policies/procedures. These items are to be reviewed by Corporate Safety Committee and Chief Operations Officer. See example below.)*
   a. Equipment: **Equipment will not be used until the backup alarm is repaired, daily equipment inspections will be conducted to ensure proper operation of equipment and safety devices**
   b. Environment: **None essential persons we stay out of the work area**
   c. People:**Communication, Geotechnology tester will not enter work area for testing without having his vehicle as a barrier, the equipment is shut down, and there has been communication with equipment operators and foreman of testing and proximity of the tester.**
   d. Management:**Daily JSA Safe Work Plan meetings will be held and documentation submitted weekly to the Hardin Tarlton Project Team.**

Matt Willingham
Matt Willingham
Corporate Safety Director

5/28/10
Date

INCIDENT/ACCIDENT INVESTIGATION SHORT-FORM

Identification

Location where accident occurred: NARA Records Center gobsite Tarlton Premises: ☒ Yes ☐ No

Date of Accident: 5-28-10 Time: 9:55 am Date of Report: 5-28-10

Who was injured: DAVE STEINER ☒ Employee ☐ Non-employee

How long has employee worked at job at which incident occurred? 1 month

Length of time with ~~Tarlton~~ Geotech: 2 years Job Title or Occupation: Field Rep II

What property was damaged: nuclear density guage

Owned by: Geotechnology

Witnesses to Incident: Louie, Tom, & Jim w/ Rosch

Risk Potential

Severity Potential: ☒ Major ☐ Serious ☐ Minor Frequency Potential: ☒ Frequent ☐ Occasional ☐ Seldom

Description

Description of Events: I was preparing to perform compaction tests using the nuclear guage when I was struck from behind by a Bobcat operated by Rosch.

Symptoms

Describe the unsafe acts and conditions that existed: Bobcat's reverse alarm was not working. I was also bent over and the operator may not have seen me.

Root Causes

Summarize the root causes which led to this event: Besides operator error, a lack of VERBAL communication between myself and the operator may have contributed to the incident.

Corrective Action

Corrective actions, including responsible parties:
When testing in the future, increased communication may prevent further incidents.

Signature of Investigator: _____ Date: _____

DAVE STEINER
5-28-10

R. M. WESTER & ASSOCIATES, INC.

215 INDACOM DRIVE - ST. PETERS, MISSOURI 63376

www.rmwester.com

(636) 928-9628 - FAX 928-9857

RADIOACTIVE SEALED SOURCE LEAK TEST REPORT

Test Date: May 28, 2010 Analytical Date: May 28, 2010

Source Identification:

Radionuclide:	Am-241/Be	Activity:	50.0 mCi
Manufacturer:	CPN	Model No:	MC-3
Machine S/N:	M36046717	Source S/N:	A-6717

Sample Submitted by: John Baker

Facility: Geotechnology Inc.

Address: 11816 Lackland Rd.

Suite 150

St. Louis, MO 63146

The identified sealed source listed above has been tested for leakage of radioactive materials as required by the United States Nuclear Regulatory Commission. The analysis of the wipe material used in testing the sealed source reveals the presence of 9.53 E-05 µCi of loose contamination.

(X) This source is acceptable for continued use.

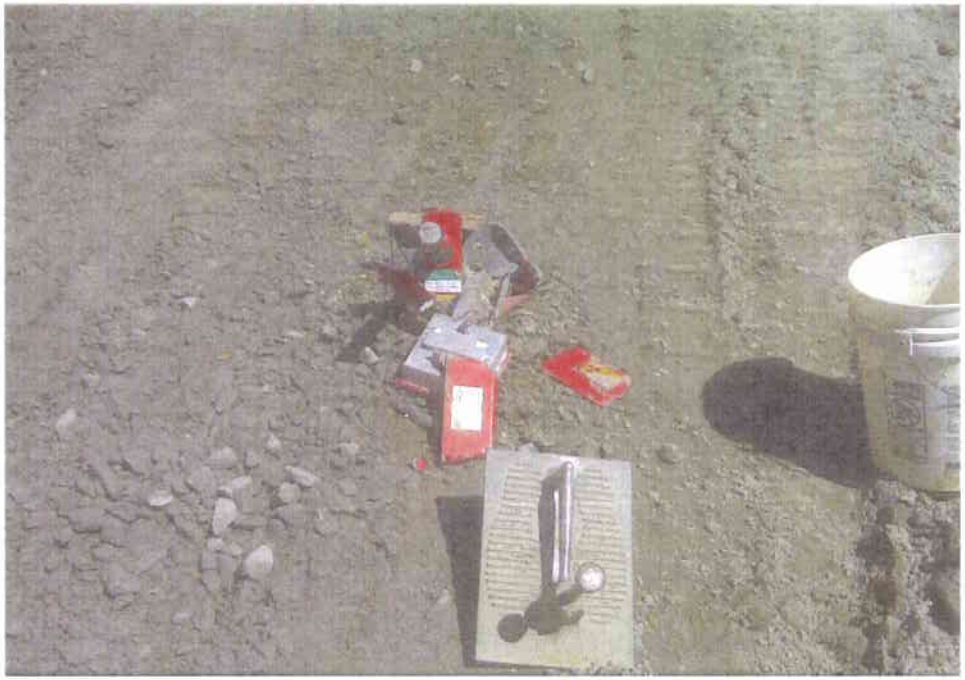
( ) This source has been found to have a level of loose contamination greater than 0.005 µCi of removable radioactive materials, and should be removed from service immediately.

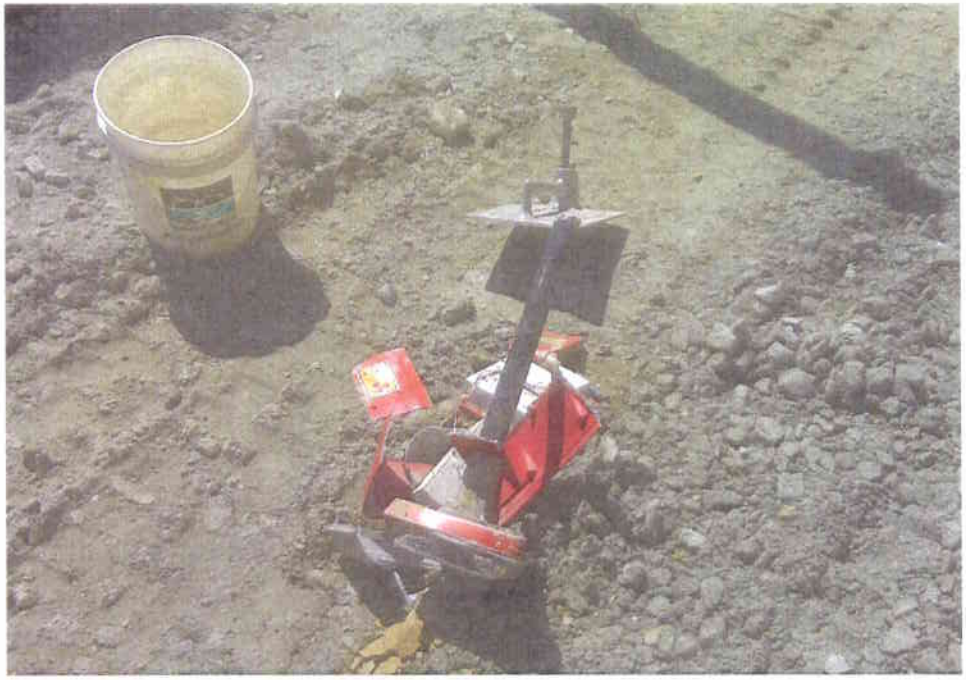
(n/a) Operational and performance check of shutter mechanism satisfactory.

Next Leak Test date: N/A.

Analysis by: Kenneth Bachmann

Reviewed by: K Mc





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