

**UNREVIEWED SAFETY ISSUE DETERMINATION (USID) FORM**

Title of USID: Discovered Sinkhole at Sump at Q118 Between MI20 & MI14

Description of Proposed Activity: A sinkhole around a sump pump at Q118, between MI20 and MI14 Service Buildings was discovered while doing routine summer mowing of the berm during the 2019 Summer Shutdown on 8/8/2019.

Does the proposed activity or discovered condition affect information in the Fermilab SAD regarding safety analyses, administrative controls, or credited controls? If so specify the relevant sections. No - all required shielding is still in place. Soil affected was in the overburden region of soil.

Does the proposed activity or discovered condition affect any of the requirements in the Fermilab ASE? If so specify the relevant sections. No - all required shielding is still in place. Soil affected was in the overburden region of soil.

**USI Determination Criteria:**

- Yes  No Could the change significantly increase the probability of occurrence of an accident previously evaluated in the SAD?
- Yes  No Could the change significantly increase the consequence of an accident previously evaluated in the SAD?
- Yes  No Could the change significantly increase the probability of occurrence of a malfunction of equipment important to safety previously evaluated in the SAD?
- Yes  No Could the change significantly increase the consequence of a malfunction of equipment important to safety previously evaluated in the SAD?
- Yes  No Could the change create the possibility of a different type of accident than previously evaluated in the SAD that would have a potentially significant safety consequence?
- Yes  No Could the change increase the possibility of a different type of malfunction of equipment important to safety than any previously evaluated in the SAD?

Justification: (use attachment if necessary) The sinkhole was approximately 2 feet deep. The shielding assessment requires 20.7 efd, and prior to the sinkhole there was 25.3 efd in place. With the 2 ft deep hole, this still leaves 2.6 efd of overburden. Therefore, the required shielding was not impacted.

**USI Determination:** A USI is determined to exist if the answer to any of the 6 questions above is "Yes". If the answer to all 6 questions is "No", then no USI exists.

- No Proposed activity may be implemented following the applicable FESHM or FRCM chapter requirements.
- Yes Director's approval is required prior to implementation.

**For a positive USI Determination, does the ASE require changes?**

- No Proposed activity may be implemented following the applicable FESHM or FRCM chapter requirements. Attach a copy of this USI Determination after Director's approval to the applicable SAD Chapter.
- Yes DOE-FSO Manager's approval is required prior to operation.

**Check documents requiring creation or modification**

- PHAR/PHAD
- SAD
- Shielding Assessment
- ASE

*n/a* \_\_\_\_\_ Madelyn Schoell \_\_\_\_\_ 8/15/2019  
Preparer Date

\_\_\_\_\_ Mart Q. \_\_\_\_\_ 8/15/19  
Senior Radiation Safety Officer Date

**Approval:** \_\_\_\_\_ [Signature] \_\_\_\_\_ 8/16/19  
Chief Safety Officer Date

\_\_\_\_\_  
Director (for positive USIDs) Date  
**Note:** Contact your Division Safety Officer with any questions regarding this form.