

27-39/JAS/83/03/23

- 1 -

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623-58

MEMORANDUM FOR: Edward F. Hawkins, Acting Chief  
Low-Level Waste Licensing Branch

FROM: James A. Shaffner, Project Manager  
Low-Level Waste Licensing Branch

SUBJECT: TRIP REPORT FOR MARCH 16-17, 1983 - SHEFFIELD LOW-LEVEL  
WASTE DISPOSAL FACILITY AND ILLINOIS GEOLOGICAL SURVEY  
TRENCH CAP STUDY FIELD TEST SITE

Attached is a trip report for my March 16-17, 1983 visit to the  
Sheffield site and the Illinois Geological Survey Trench Cap Study field  
test site.

Original Signed By

James A. Shaffner, Project Manager  
Low-Level Waste Licensing Branch

Enclosure:  
As stated

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MAR 26 1983

TRIP REPORT  
SHEFFIELD LOW-LEVEL WASTE DISPOSAL FACILITY  
AND  
ILLINOIS GEOLOGICAL SURVEY TRENCH CAP STUDY  
FIELD TEST SITE

- Purpose:
- (1) Visit Sheffield Low-Level Waste Disposal Facility and monitoring facilities on adjacent land
  - (2) Observe construction of Experimental Trench Covers as part of the Illinois State Geological Survey (ISGS) Trench Cover Study

Persons Contacted:

Russell Moore, Site Manager,  
US Ecology  
Andy Armbrust, Assistant Site Manager,  
US Ecology  
Randy Nydegger, Construction Inspector,  
Daily Associates  
Jim Schmudde, Construction Inspector,  
Daily Associates  
Tom Johnson, Illinois State Geological Survey

NRC Personnel:

James A. Shaffner, WMLL, Project Manager

SUMMARY

On March 16, I arrived at the Sheffield site at approximately 11:30 a.m. Russ Moore met me and informed me that no construction was in progress at the ISGS site that day. However, he showed me the site location. I walked the site myself and took pictures. The trenches were dug and drainage systems were in place. Water was flowing into each of the collection boxes from the drain pipes leading from the bottoms of the trenches. This most likely was due to high water table conditions. Liners had been placed and gravel had been placed and graded in three of the four trenches. Gravel and top soil were stockpiled on the site. The contractor also had a backhoe, front end loader, and hand propelled vibratory tamper on site.

27-39/JAS/83/03/23/1

- 2 -

After my brief inspection tour of the trench cap test site, I took a walking tour of the low-level waste burial site. The site surface was in generally good condition. There were isolated instances of minor gully erosion on some of the steeper areas. The lower end of the Enkamat drainage way in the southeast corner exhibited significant erosion. There was evidence of subsidence repair work on a number of trench caps, especially on Trenches 7 and 11. I discovered one unrepaired subsidence on Trench 7 which I reported to Andy Armbrust. Andy had it repaired promptly. There was substantial evidence of heavy equipment traversing trench caps. In my opinion this practice could lead to trench cap erosion in areas which are otherwise stabilized with vegetation.

On Thursday, March 17, I again visited the trench cap test site. I discussed work progress and some of the problems encountered thus far with site inspectors, Randy Nydegger and Jim Schmudde. They informed me that the contractor was in the process of sealing the trench drain pipe to the exit hole through the impervious bottom liner. A good seal is necessary to ensure that ground water does not intrude into the test trenches. The contractor was also in the process of hauling glacial till from a borrow pit 30 miles away. The till was being delivered in a rather blocky condition which necessitated pulverizing on-site. The contractor did not have necessary pulverizing equipment on-site so he was prohibited from placing the till in the trenches. Also, natural moisture was a little below the moisture content called for in the specifications.

On Thursday afternoon, Tom Johnson, ISGS, arrived at the site. I discussed some of my observations with him and we discussed some possible solutions to some of the minor construction problems. Later we visited the glacial till borrow area and observed the excavation of the borrow material. The in situ till appeared to be over consolidated and this was difficult to excavate. If properly pulverized and recompact it should make very good trench cap material.

On Thursday I also walked to the area east of the low-level waste site to observe the USGS monitoring wells. I walked along the edge of the strip mine pond and observed many seeps at about one foot above pond level. I also observed the drainage modifications made by the landowner. The modification now allows the streams from northeast and south of the low-level waste site to enter directly into the pond after their confluence. The stream coming from the southeast corner of the site

MAR 26 1983

27-39/JAS/83/03/23/1

- 3 -

exhibited a significant flow (I even observed a fish in the stream) while the stream from the northeast corner exhibited no flow.

On Friday March 18 there was a heavy rainfall which made a site visit that day unnecessary.

No conclusions were reached as a result of this trip or attendant discussions other than those explicit in this report.