

March 10, 2000

Mr. John Hock  
Environmental Project Manager  
NWI Land Management  
3041 Woodcreek Drive, Suite 210  
Downers Grove, IL 60515

SUBJECT: NRC SPECIAL INSPECTION REPORT 040-06264/00001(DNMS))

Dear Mr. Hock:

This refers to the special inspection conducted at your former 10 CFR 20.304 Low Level Burial Site located near Breckenridge, Michigan, on February 16, 2000, and to the subsequent discussions with you regarding observations on March 7, 2000. The purpose of the inspection was to observe dredging operations on Bush Creek, which runs adjacent to the Breckenridge Disposal Site, and to conduct radiological surveys to insure that the site was not disturbed, and that construction personnel and equipment were not contaminated with residual contamination present on the site.

A copy of our report of this inspection is enclosed for your information. Due to severe weather, and frozen ground conditions, proposed dredging operations were not performed. However, NRC inspectors' survey measurements and observations ascertained that the site was secure and no apparent issues regarding the Burial Site were observed. Based on discussions during the inspection, it is our understanding that the dredging operation will be performed during the month of April 2000. Please notify this Office once the date for the dredging operation has been set.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and the enclosure will be placed in the NRC Public Document Room.

We will gladly discuss any questions you have concerning this inspection.

Sincerely,

/s/ B. L. Jorgensen

Bruce L. Jorgensen, Chief  
Decommissioning Branch

Docket No. 040-06264 (Terminated)  
License No. SUB-833 (Terminated)

Enclosure: Inspection Report 040-06264/00001(DNMS))

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REGION III

Docket No: 040-06265 (terminated)  
License No: SUB-00833 (terminated)

Report No: 040-06264/00001(DNMS))

Licensee: Michigan Chemical Company (now NWI Land Management- a subsidiary of Velsicol Chemical)

Location: Breckenridge Disposal Site  
Intersection Madison Road and Bush Creek  
Breckenridge, Michigan

Date: February 16, 2000

Inspectors: George M. McCann, Senior Radiation Specialist  
Michael LaFranzo, Radiation Specialist

Accompanying: Ken W. Coble, Physicist  
Michigan Dept. of Environmental Quality  
Radiological Protection Section

Approved By: Bruce L. Jorgensen, Chief  
Decommissioning Branch  
Division of Nuclear Materials Safety

## EXECUTIVE SUMMARY

Michigan Chemical Company  
Breckenridge, Michigan  
NRC Inspection Report 040-06264/00001(DNMS))

This was a special inspection conducted to insure that a creek dredging operation did not disturb radiological materials buried in the Breckenridge Disposal Site (a former 10 CFR 20.304 burial by the former Michigan Chemical Company), nor contaminate construction workers and equipment who would perform the dredging operations.

Bush Creek bounds one side of the Breckenridge Disposal Site. The Bush Creek maintenance operation was a flood control initiative, and was being performed under the guidance of the Bush Creek Inter-County Drain Commission. Since the Creek travels through two separate counties, i.e., Midland, and Gratiot, Michigan law requires that a Commission be formed with a State person appointed to the Commission as a moderator.

NWI Land Management (NWI) is the legal party responsible for maintenance and control of the Disposal Site. During a January 21, 2000, meeting between the NRC and NWI staff and their consultant, the above Creek maintenance activity was discussed. Additionally, NWI sent a February 3, 2000, letter describing the proposed Creek maintenance operation. NRC responded by letter dated February 10, 2000, indicating that the proposed plan appeared acceptable and that the Region would have inspectors on site to observe the operation.

Due to adverse weather conditions, snow, and frozen ground, the construction contractor was unable to perform the dredging operation. A new date for dredging the Creek was tentatively set for the week of April 2000. Based on NRC inspectors' radiological surveys and observations, it was determined that the conditions of the site had not changed, and that the buried radiological waste materials were not an immediate threat to the environment or general public.

## Report Details

### **1.0 Background**

Michigan Chemical Company (MCC) operated a rare earth processing plant at St. Louis, Michigan. The feed-stock materials used by MCC contained licensable quantities of source material. The use of licensable materials was authorized until April 1971, when License No. SMB-0833 was terminated. During its period of chemical manufacturing MCC used the Breckenridge Disposal Site to dispose of filter cake (residue from the chemical processes performed by MCC) containing radiological contamination. As a result of this, the NRC has been working with NWI Land Management to obtain radiological characterization data. This characterization data will be used to determine the Site's status of compliance with the NRC's criteria for unrestricted release of formerly licensed sites.

### **2.0 Dredging Operations**

#### a. Inspection Scope

The NRC inspectors met on-site with NWI, the excavation contractor, and County and Drain Commission representatives, in order to ascertain the instructions and precautions to be taken while dredging operations were conducted. Prior to initiating work, the NWI Project Manager held a road side briefing regarding the work to be performed, and explained why the NRC was present. The NRC inspectors discussed their role while on-site and answered questions regarding the potential hazards associated with the residual radiological materials and its impact on the dredging operation.

#### b. Observations and Findings

The contractor's operation of the dredging excavator appeared to be appropriate to ensure compliance with NWI's proposed work plan, which was to take the soil removed from the Creek, and lay it down as a pad for the excavator to drive over while progressing down the stream bank. The purpose of this procedure was to prevent disturbing the Disposal Site's underlying soil.

#### c. Conclusions

Based upon NRC inspectors' observations, it was determined that sufficient instruction was provided to the contractor personnel, and that oversight of the operation was adequate.

### **3.0 Radiation Surveys and Site Security**

#### a. Inspection Scope

NRC inspectors performed a walk over survey using NaI gamma scintillation detectors.

b. Observations and Findings

In general, two areas were identified with elevated gamma levels; these ranged up to approximately 10 times the back-ground for the area (background was about 8000 counts per minute (CPM)). One of the areas was observed to approach to within five to ten feet of the site's security fence. The NWI Project Manager was on-site and was shown where the elevated readings were noted. During the walk over survey, yellow flags were placed to give a general representative "footprint" of the elevated gamma readings. Several site and adjacent Bush Creek photographs were taken to record existing conditions.

The Disposal Site was surrounded by a chain link security fence. The fence appeared to be in good condition, and no overt intrusion into the Site was observed.

c. Conclusions

The areas and levels of elevated gamma readings were similar to measurements previously taken by the NRC; however, due to snow conditions, and the frozen ground, these measurements could be characterized only as general observations. More precise and definitive measurements may need to be taken at a later date. The Site's security appeared to be adequate.

#### **4.0 Exit Meeting**

The preliminary results of the survey findings were discussed with the NWI Project Manager via a March 7, 2000, telephone conversation.

The NWI Project Manager was advised that it was desirable that the NRC have representatives available when the dredging operation approached the potentially contaminated area which laid in close proximity to the Site Boundary fence.

Attachments: Photographs of the Breckenridge  
Disposal Site

## PARTIAL LIST OF PERSONS CONTACTED

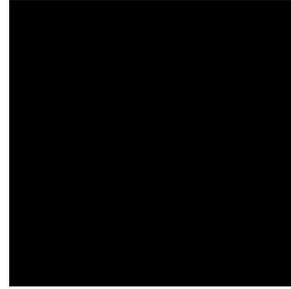
1. Brian Denman, Project Manager\*  
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2. Kenneth W. Coble Physicist\*  
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3. Stan Plesko\*  
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Ashley, MI 48806  
(517) 847-3811
4. Jack W. Long\*  
(NWI Land Management - Site Custodian)  
Long and Wetzel Co.  
P.O. Box 364  
Mt. Pleasant, MI 48804-0364
5. Kevin D. Irrer\*  
(Consultant for the Bush Creek Inter-County Drain Commission)  
Spicer Group, Inc  
100 South Ottawa Street  
St. Johns, MI 48879
6. John Hock, Environmental Project Manager, NWI Land Management

## INSPECTION PROCEDURES USED

IP 83890: Closeout Inspection and Survey



**Figure 1**  
North View: Madison Road located on the far end of the site: Yellow flags are marking elevated radiation areas.



**Figure 2**  
South View: Bush Creek on the east side of the site: Yellow flags are marking elevated radiation areas.

**Figure 3**  
South View: Bush Creek on the east side of the site: Yellow flags are marking elevated radiation areas.

**Figure 4**  
South View: Disposal site on west side of Bush Creek.