

STATE OF MICHIGAN



JAMES J. BLANCHARD, Governor

DEPARTMENT OF PUBLIC HEALTH

3500 N. LOGAN
P.O. BOX 30035, LANSING, MICHIGAN 48909
GLORIA R. SMITH, Ph.D., M.P.H., F.A.A.N., Director

May 23, 1984

C. J. Paperiello, Ph.D., Chief
Emergency Preparedness and Radiological Safety Branch
U. S. Nuclear Regulatory Commission
Region III
799 Roosevelt Road
Glen Ellyn, Illinois 60137

Dear Dr. Paperiello:

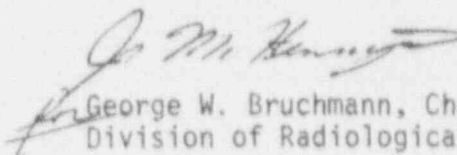
It was a pleasure to meet with you on May 2, 1984, to discuss the radioactive thorium/chemical contamination on the SCA Services, Inc. landfill property and Michigan Department of Natural Resources (DNR) property in Kawkawlin, Michigan.

Attached is a copy of our analytical results which you requested. The "Dow Thorium Slag" sample had been sampled and analyzed for thorium-232 in the 1970s. Magnesium and iron analyses were performed on the slag sample for comparison with the material from the DNR property and indicated that the SCA area contamination was probably from Dow or Wellman Dynamics Corporation operations. All thorium-232 analyses were performed by GeLi gamma spectroscopy. Magnesium and iron analyses were performed by atomic absorption spectroscopy. We would appreciate receiving a copy of all NRC analyses involved in this project.

Thank you for your consideration.

Sincerely,

BUREAU OF ENVIRONMENTAL
AND OCCUPATIONAL HEALTH


George W. Bruchmann, Chief
Division of Radiological Health

GWB:JHp
cc: John Hesse
Dan Schultz
Joseph Hennigan
Robert DeHaan

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Division of Radiological Health

SCA Landfill Analytical Results

DRH Sample #	Sample Description	Thorium- pCi/gram	% Mg	% Fe
SS83-				
-	Old Sample - Thorium Slag from Dow, Bay City	[1500]	14	0.7
-	April 20, 1983, Material from DNR Property	670(40)	20	3.3

Samples Collected June 1, 1983

91	Radioactive Material (RAM)/Soil from DNR Property	39(2)	16	--
92	Radioactive Material (RAM)/Soil from DNR Property	120(4)	17	--
93	Radioactive Material (RAM)/Soil from DNR Property	124(3)	6.1	--
94	Background Sample/Soil 5-6 ft. from DNR RAM Outcrop	1.9(0.3)	0.11	--
95	Background Sample/Soil 5-6 ft. from DNR RAM Outcrop	1.4(0.3)	0.83	--
97	RAM/Soil from SCA Property	78(1)	13	--
96	Groundwater (Swamp Water) from DNR Property	Less Than 7 pCi/l of Th-232		

Samples Collected July 15, 1983

112-118 7 Residential Well Water Samples - All Less Than 7 pCi/l of Th-232

Samples Collected August 10, 1983

161	NRC #1 - RAM/Soil from SCA property	144(7)	15	--
162	NRC #2 - RAM/Soil from SCA Property	85(4)	3.4	--
163	NRC #3A & 3B - RAM/Soil from SCA Property	113(5)	9.0	--
164	NRC #4 - RAM/Soil from SCA Property	2.3(0.4)	0.26	--
165	NRC #6 - RAM/Soil from SCA Property	69(4)	14	--
166	NRC #7, 7B, and 7C - RAM/Soil from SCA Property	15(1)	3.4	--

() 2 sigma counting error

PROPOSED SURVEY PLAN
FOR
FORMER LANDFILL AREAS
BAY CITY, MICHIGAN

I. Introduction and Site Description

Slag, though to have originated from thorium-magnesium foundry operations of Wellman Dynamics, has been placed in a landfill now belonging to SCA Chemical Services Inc. near Bay City, MI. Two portions of this site, covering 1.5 to 2 hectares were used by previous owners for the disposal of hazardous chemical wastes and the slag may be intermixed with chemical waste containers. In preparation for stabilization and closure of the landfill site, the Nuclear Regulatory Commission and Michigan Department of Natural Resources wish to determine the quantity and radionuclide characteristics of the slag.

II. Purpose

The purpose of the ORAU survey is to determine the nature and extent of radioactive material present in the landfills.

III. Responsibility

Work described in this survey plan will be performed under the supervision of Mr. J.D. Berger, Certified Health Physicist with the Radiological Site Assessment Program of the Manpower Education, Research, and Training Division of Oak Ridge Associated Universities.

IV. Procedures

A. Gridding

Twenty-meter grid systems will be established over the areas and referenced to permanent surface features.

Prepared by the Manpower Education, Research, and Training Division of Oak Ridge Associated Universities, Oak Ridge, TN, under interagency agreement DOE No. 40-816-83, NRC Fin. No. A-9076-3, between the Nuclear Regulatory Commission and the Department of Energy.

July 2, 1984

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B. Direct Measurements

1. Walkover surface scans will be conducted over the gridded areas using portable gamma scintillation detectors and ratemeters with audible indicators. Traverses will be at 1-2 m intervals. Locations of elevated contact radiation levels will be noted.
2. Gamma exposure rate measurements will be made at the surface and 1 m above the surface at each 20 m grid intersection and at locations of elevated readings, using portable gamma scintillation detectors calibrated against a pressurized ionization chamber.
3. Additional measurements will be performed on a subdivided grid system, as required, based on the findings as the survey progresses.

C. Sampling

1. Surface (0-15 cm) soil samples will be collected at 10 m grid intervals and from areas of elevated surface contact levels identified by the walkover scan.
2. Trenches will be dug in areas of suspected slag deposits as identified by direct surface measurements. Trenching will be performed using a backhoe and will be guided using magnetometer scans to avoid disturbing containers of other hazardous wastes. Gamma logging will be performed in the trenches and subsurface samples obtained at various depths. The locations, numbers, and depths of the trenches will be determined in the field, based on findings as the survey progresses.
3. Samples of surface water will be obtained from sources on the area which are available at the time of the survey.

D. Background and Baseline Determinations

Soil and water samples will be collected from 4-6 areas surrounding the site, to provide baseline concentrations of radionuclides for comparison purposes. Direct background radiation levels will be measured at locations where baseline soil samples are collected.

V. Sample Analysis and Interpretation of Results

Samples and direct measurement data will be returned to the Oak Ridge, TN, laboratory for analysis and interpretation. Soil will be analyzed by solid state gamma spectrometry. Radionuclides of concern are members of the natural thorium and uranium decay series; however, spectra will be reviewed for the presence of other identifiable radionuclides.

Water will be analyzed for gross alpha and gross beta levels; isotopic analyses will be performed if gross concentrations exceed EPA drinking water standards.

VI. Tentative Schedule

Gridding -- July 11-12, 1984

Direct Measurements and Surface Sampling -- July 11-13, 1984

Drilling and Subsurface Sampling -- July 16-20, 1984

Sample Analysis -- July 25-31, 1984

Draft Report -- August 24, 1984

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

INTEROFFICE COMMUNICATION

July 16, 1984

TO: Dan Schultz
Compliance #2, Saginaw District
Groundwater Quality Division

FROM: Leonard Lipinski
Compliance #2, Lansing
Groundwater Quality Division

SUBJECT: Hartley & Hartley Landfill Site Containment

I've reviewed the construction specifications for the Hartley & Hartley Landfill containment and have the following comments:

1. Vehicles leaving the site should be washed down instead of the soil just being scraped off them as stated in the specifications.
2. Since it seems likely that SCA will also be doing the containment for the adjacent state owned property, we should review their safety and contingency plans.
3. It is possible that leachate from the landfill may have a detrimental effect upon the permeability of the slurry wall. Because of that possibility, SCA should do some post-construction testing of the slurry wall and remedial work on areas of the wall not achieving the required permeability. A possible schedule of testing is every 3 months for 36 months.
4. Figure No. 2 shows an oil pipeline cutting across the area to be enclosed. I can find no further mention of this oil line in the report. This line will have to be rerouted around this area if this has not been done already.
5. The report indicates that borings will be drilled to determine depth to clay as the slurry wall is being constructed. It seems more logical to complete the borings first so that the depth of trench excavation is known before digging begins.
6. We should find out the basis for determining that only a two foot key into the underlying clay is needed. A two foot key may be environmentally sound for this project, but the other two sites with which I've had experience have had three foot keys.

SEP 10 1984

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Fact reached on Hartley landfill cleanup

By David Nowakowski

DANVILLE — After months of negotiations, the state Department of Natural Resources and SCA Environmental Inc. have agreed on a \$1.25 million cleanup plan for the 60-acre Hartley Hazardous Waste Landfill north of Hartsville. The cleanup will be completed by 1991.

The cleanup agreement, reached by the state and SCA, calls for SCA to remove a week of work, while the state will remove the rest. The cleanup will be completed by 1991.

In addition to about 1,000 tons of hazardous waste, the cleanup will include an additional 10,000 tons of waste. The cleanup will be completed by 1991.

The cleanup will be completed by 1991. The cleanup will be completed by 1991.

Under the agreement, SCA will extend the cleanup area to include the gas recovery, while the state will remove the gas recovery. The cleanup will be completed by 1991.

The cleanup will be completed by 1991. The cleanup will be completed by 1991.

However, SCA will not accept a complete cleanup of the landfill. SCA will not accept a complete cleanup of the landfill.

It was a surprise that the cleanup would be the most comprehensive. The cleanup will be completed by 1991.

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Loganville News July 25, 1984