

OCT 30 1989

Michigan Department of Public  
Health  
ATTN: George W. Bruchman, Chief  
Division of Radiological Health  
3500 North Logan  
Lansing, MI 48909

Gentlemen:

Attached are the results of samples collected at the MDNR and Waste Management, Inc. (WMI) sites in Kawkawlin, Michigan, by Mr. K. Andre of this office on November 3, 1988. The samples were analyzed by the Radiological Environmental Sciences Laboratory (RESL) in Idaho Falls, Idaho, for gross alpha, gross beta, gamma scan, and isotopic thorium and radium for samples with gross alpha exceeding 5 pCi/liter. The data are generally unremarkable except for Ra 226 which may be slightly elevated at three locations and an anomalously high gross beta in WMI well INS-1. We plan to resample these locations during the upcoming sampling scheduled for October 31 and November 1, 1989.

Please feel free to contact me (312/790-5514) if you wish to discuss the matter further.

Sincerely,

M. Schumacher, Chief  
Radiological Controls and  
Chemistry Section

Attachments:

1. Description of Sampling Location
2. Map of Sampling Locations
3. Results of November 3, 1988, Samples

cc w/attachments:

D. Sreniawski, RIII  
R. Lickus, RIII  
R. Greger, RIII  
J. Swift, NMSS

RIII  
RBH for  
Schumacher/sm

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MAYFIEL92-128 PDR

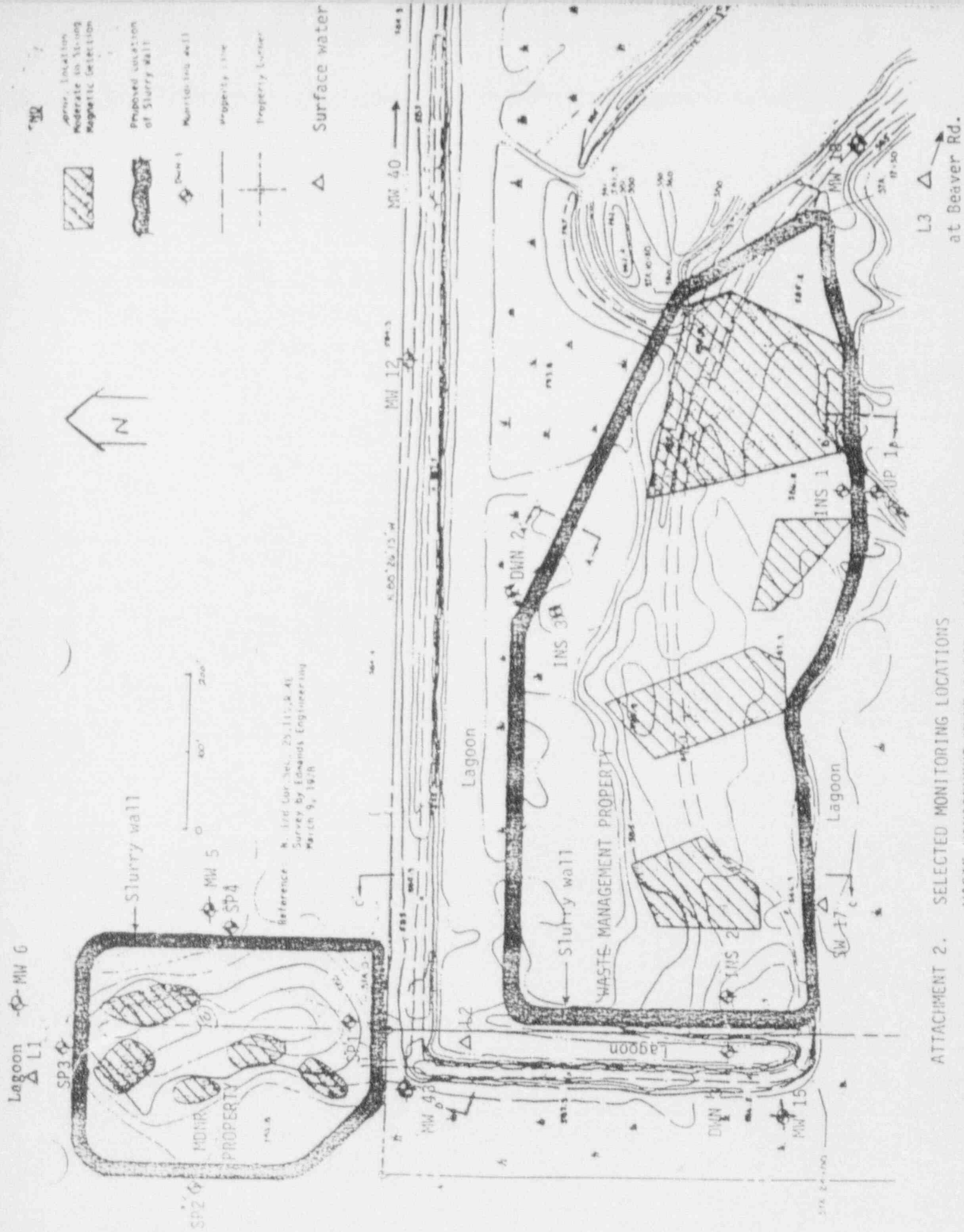
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## ATTACHMENT 1

### Description of Water Sampling Locations

<u>Location*</u>	<u>Description</u>
SP-1	Well inside DNR slurry wall
SP-2	Well outside (west) DNR slurry wall
SP-3	Well outside (north) DNR slurry wall
SP-4	Well outside (east) DNR slurry wall
MW-5	Well outside (east) DNR slurry wall
MW-6	Well outside (north) DNR slurry wall
MW-43	Well between DNR and SCA slurry walls
MW-12	Well near boundary between DNR and SCA sites
INS-1	Well inside SCA slurry wall (south)
UP-1	Well outside SCA slurry wall (south)
INS-2	Well inside SCA slurry wall (west)
DWN-3	Well outside SCA slurry wall (west)
INS-3	Well inside SCA slurry wall (north)
DWN-2	Well outside SCA slurry wall (north)
MW-15	Well outside and west of SCA slurry wall
MW-18	Well outside and east of SCA slurry wall
L1	Surface water from lagoon north of DNR slurry wall
L2	Surface water from lagoon between DNR and SCA slurry walls
SW-17	Surface water from lagoon south of SCA slurry wall
L3	Surface water from lagoon near Beaver Road

\*Location designations except L1, L2, and L3, are those used by WMI and DNR.



ATTACHMENT 2. SELECTED MONITORING LOCATIONS

WASTE MANAGEMENT-MONR SITES, KAWKAWLIN, MI.



## ATTACHMENT 3

WMI/MDNR Sites - Kawkawlin, HI  
 Water Samples of November 3, 1988  
 Results in pCi/Liter; Uncertainty One Standard Deviation

Location	Sample No.	Gross Activity		Isotopic Thorium			Isotopic Radium	
		Alpha	Beta	Th 232	Th 228	Th 230	Ra 226	Ra 228
MDNR Well SP1	88-978	$1.3 \pm 0.7$	$90 \pm 20$					
MDNR Well SP2	88-977	$4.6 \pm 1.3$	$-10 \pm 15$					
MDNR Well SP3	88-976	$2.8 \pm 1.2$	$19 \pm 16$					
MDNR Well SP4	88-979	$11 \pm 2$	$2 \pm 15$	$-.012 \pm .033$	$.05 \pm .03$	$-.06 \pm .07$	$.18 \pm .06$	$.08 \pm 1.1$
SCA Well UP1	88-973	$3.1 \pm 1.0$	$19 \pm 8$					
SCA Well INS1	88-972	$4.4 \pm 1.2$	$770 \pm 40$					
SCA Well INS2	88-967	$2.9 \pm 0.6$	$6 \pm 6$					
SCA Well INS3	88-970	$1.8 \pm 0.8$	$0 \pm 15$					
SCA Well DWN2	88-971	$32 \pm 5$	$30 \pm 30$	$.5 \pm .6$	$1.09 \pm 0.08$	$.2 \pm .8$	$1.9 \pm 0.1$	$-.1 \pm 1.4$
SCA Well DWN3	88-969	$3 \pm 1$	$-18 \pm 14$					
SCA Well MW5*	DRY							
SCA Well MW6*	88-975	$2.0 \pm 0.4$	$1.0 \pm 1.4$					
SCA Well MW12	88-962	$.8 \pm .5$	$18 \pm 7$					
SCA Well MW15	DRY							
SCA Well MW18	88-963	$1.3 \pm 0.4$	$5 \pm 6$					
SCA Well MW40*	88-964	$1.3 \pm 2.0$	$10 \pm 30$					

\*Sampling Location Not on Original List



# ATTACHMENT 3

WMI/MDNR Sites - Kawkawlin, MI  
 Water Samples of November 3, 1989  
 Results in pCi/Liter; Uncertainty One Standard Deviation

Location	Sample No.	Gross Activity $\mu\text{Ci/L}$		Isotopic Thorium			Isotopic Radium	
		Alpha	Beta $\mu\text{Ci/L}$	Th 232	Th 228	Th 230	Ra 226	Ra 228
SCA Well MW43	88-965	$28 \pm 4$	$-1 \pm 1.6$	$.04 \pm .04$	$.27 \pm .05$	$-.14 \pm .08$	$.51 \pm .0$	$-1.5 \pm 1.4$
Surface H <sub>2</sub> O L1	88-974	$.11 \pm .27$	$4 \pm 6$					
Surface H <sub>2</sub> O L2	88-966	$.6 \pm .8$	$-23 \pm 14$					
Surface H <sub>2</sub> O L3	88-980	$1.6 \pm 0.4$	$20 \pm 7$					
Surface H <sub>2</sub> O SW17	88-968	$.7 \pm .3$	$17 \pm 7$					

DATE ?

To: Mr. [redacted] To file

From: Mr. H. Schwabacher, Chief, Radiological Controls & Chemistry Section.

Re: Keith E. Andre, Physical Science Technician.

Subject: Sample collection at the WHI/MDNR landfill site in Kawkawlin Township, Michigan.

On November 1, 1989 representatives from Waste Management Inc. (William [redacted], Jeff Wojtala, and Ronald More), the Michigan Department of Natural Resources (Lisa Roacher and Peter Johannes) and the U.S. Nuclear Regulatory Commission, Region 3 (Keith Andre) were present at the WHI/MDNR landfill site in Kawkawlin Township, Michigan to collect and split monitoring well and surface water samples. The Michigan Department of Public Health did not send representatives to this event.

The locations of the sampling sites listed on attachment 1 and depicted in attachments 2 and 3 were sampled except MW-15, MW-5, and SP-4, which were dry; well MW-7 is a new well, which yielded only 1/2 subcontainer of liquid. MW-40A and MW-43A are new wells which were previously labeled MW-40 and MW-43, respectively. See attachment 3 for the location of MW-40. Nineteen samples were collected. NRC samples were mailed from the Bay City, Michigan Post Office at 0850 EST on November 2, 1989.

Keith E. Andre

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NRC NO.	WELL/SITE LOCATION, #	DATE	TIME	COMMENTS
89-809	MW-12	11/1/89	0910 EST	WMI
810	MW-1E	11/1/89	0938 EST	WMI
89-811	MW-40A	11/1/89	1000 EST	WMI
89-812	MW43A	11/1/89	1030 EST	WMI
89-813	L-2	11/1/89	1020 EST	WMI
89-814	DWN-3	11/1/89	1053 EST	WMI
89-815	INS-2	11/1/89	1115 EST	WMI
89-816	DWN-2	11/1/89	1136 EST	WMI
89-817	INS-3	11/1/89	1149 EST	WMI
89-818	INS-1	11/1/89	1214 EST	WMI
89-819	LP-1	11/1/89	1229 EST	WMI
89-820	MW-15	11/1/89	—	WELL DRY NO SAMPLE TAKEN
89-821	SW-17	11/1/89	1240 EST	WMI
81-822	SP-2	11/1/89	1305 EST	MDNR
89-823	MW-7	11/1/89	1320 EST	MDNR; PARTIAL SAMPLE, < 1/2 CUBITAINER; ALSO, NEW WELL
89-824	MW-6	11/1/89	1333 EST	MDNR
89-825	MW-5	11/1/89	—	WELL DRY NO SAMPLE TAKEN
89-826	SP-4	11/1/89	—	WELL DRY NO SAMPLE TAKEN
89-827	L-1	11/1/89	1343 EST	MDNR
89-828	SP-3	11/1/89	1441 EST	MDNR
89-829	SP-1	11/1/89	1420 EST	MDNR
89-830	L-3	11/1/89	1535 EST	WMI



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ATTACHMENT 2. SELECTED MONITORING LOC IS  
WASTE MANAGEMENT-MDNR SITES, KAWKAWLIN, MI.

ATTACK MOUNT  
#3



**LEGEND**

- DRILLING WATER SAMPLES LOCATION AND NUMBER
- ▲ SURFACE WATER SAMPLES LOCATION AND NUMBER

**NOTE**

SAMPLES LOCATIONS GIVEN FROM PLUM STREET  
TOWARDS AT THE "L" AND HARTLEY, INC



APPROXIMATE  
GROUND AND SURFACE  
WATER SAMPLING LOCATIONS

MAY 1979  
HARTLEY AND HARTLEY, INC

PROJECT NO. 023377

