

30 JUL 1981

A-126

MEMORANDUM FOR: Leo Higginbotham, Chief, Radiological Safety Branch
FROM: James H. Joyner, Chief, Technical Inspection Branch, RI^I
SUBJECT: REVIEW OF FORMERLY USED SITES, TI-2690

One of the sites in Region I which was included for review in TI-2690 is the W.R. Grace Company (formerly Rare Earths, Inc.) site in Pompton Plains, New Jersey. This site was used for a monazite sand processing facility, as authorized by License No. STA-422, until it was released for unrestricted use in January 1975. The site is still owned by the W.R. Grace Company. Buildings on the site are being leased by Electro Nucleonics, Inc. for use as office, warehouse, and possibly laboratory space.

A preliminary survey of the facility was conducted by this office on January 29, 1981. This survey indicates that the property has surface radiation levels of up to 1 millirem per hour. Soil samples contain up to 1200 picocuries per gram thorium-232 and 60 picocuries per gram radium-226. There is one spot where radiation levels of 0.1 millirem per hour exist which appears to be outside the property line of the W.R. Grace Company. A water sample of the onsite well, analyzed by a contractor (NUS) to the W.R. Grace Company, indicated elevated levels of alpha contamination. A copy of our survey and NUS' water sample results are enclosed.

Our preliminary evaluation is that this site does not meet the current NRC criteria for release for unrestricted use. We recommend that the site be scheduled for further radiological evaluation by an NRC contractor. An ARMS flight has already been performed by EG&G at the request of the State of New Jersey.

In addition, we recommend that the release of this site be reviewed by OELD to determine who is responsible for remedial action at this site and offsite in the event that the ARMS flight identifies offsite contamination.

James H. Joyner
James H. Joyner, Chief, Technical
Inspection Branch, Division of
Engineering and Technical Inspection

Enclosure: As Stated

[Signature]
RI: DETI
Campbell/wb
7/7/81

[Signature]
RI: DETI
Kinneman
7/16/81

[Signature]
RI: DETI
Joyner
7/25/81

OFFICIAL RECORD COPY



ENVIRONMENTAL SAFEGUARDS DIVISION
4 RESEARCH PLACE
ROCKVILLE, MARYLAND 20850
301 948-7010

cc → BLM

ESD-78-92 (R&LU)
August 28, 1978
File 2358-01
Report #11

W. R. Grace P. O. 4566

W. R. Grace & Co.
Davison Chemical Division
10 E. Baltimore Street
Baltimore, MD 21202

Attention: Mr. Fred V. Shaw

Dear Mr. Shaw:

The results of gross alpha and beta counting of your two water samples submitted 8/9/78 are as follows:

<u>Sample ID</u>	<u>Gross Alpha pCi/l \pm 2σ</u>	<u>Gross Beta pCi/l \pm 2σ</u>	<u>Weight of Solids g/200 ml sample</u>
1st Pit (well on site)	4.4 \pm 2.3	9.4 \pm 3.0	0.0533
Sump			
a) Suspended	1295 \pm 37	2087 \pm 31	0.6012
b) Dissolved	91 \pm 9	141 \pm 8	0.1252

Also enclosed is the summary of the EPA drinking water requirements for radioactivity, as we understand them.

Sincerely,

Mr. Charles Marcinkiewicz
Marjorie S. Malmberg

Marjorie S. Malmberg, Ph.D.
Section Leader
Environmental Radiological
Monitoring Services

cc: D. J. Ditunno

RECEIVED

AUG 31 1978

ENERGY

EPA INTERIM PRIMARY
DRINKING WATER REGULATIONS

This table is drawn from FR 41:28403-5, July 9, 1976; 40CFR 141.2, .15, .16, .25, and .26. It represents our current understanding of the National Interim Primary Drinking Water Regulations as they apply to radioanalytical requirements. We do not assume responsibility for the completeness nor accuracy of interpretation of these regulations as expressed in this table, nor do we represent that this laboratory is certified to perform these analyses for community drinking water supplies.

Marjorie S. Malmberg

Marjorie S. Malmberg, Ph.D.
Laboratory Supervisor
Radiological Laboratory
Environmental Safeguards Division

EPA DRINKING WATER

<u>Analysis/ Isotope</u>	<u>Limit of Detection</u>	<u>Maximum Contaminant Level</u>	<u>Action Level</u>
5 Ra-226/228 combined	1 pCi/l	5 pCi/l	Ann. avg. of 4 qtrs > 5p report to state & public
1 Gross alpha particle activity (incl. Ra-226, excluding U and Rn)	3 pCi/l	15 pCi/l	* >5 pCi/l, analyse for Ra-226 if Ra-226 >3 pCi/l analyse for Ra-228 (recommend 226 and/or 228 when Gross alpha >2 in areas known to have Ra-228 in drinking water.
Gross beta	4 pCi/l	50 pCi/l	If >50, identify major radioactive constituents.
a. Recommended for all	3H-1000 89Sr-10	single, or combined to give no greater than 4 mrem/yr total body	
b. Required for:	90Sr-2	or any internal organ. NBS Handbook 69 (1963)	
1. Communities >100,000 using surface water	131I-1 134Cs-10 Other 1/10 of applic. limit.	3H - 20,000 pCi/l 90Sr 8 pCi/l	
2. Others as required by state			
3. In case of nuclear facility contamination in effluent. **			>15, analyze for Sr-89, Cs-134

Notes:

- * Measured gross alpha must not exceed 5 pCi/l at a confidence level of 95% (1.65σ) (i.e. C + 1.65σ < 5)
- ** Recommend monthly Gross Beta, average quarterly; I-131 quarterly (5 day com

 $\left. \begin{array}{l} \text{Sr-90} \\ \text{H-3} \end{array} \right\}$
quarterly, av. annual

Monitoring requirements
Gr-a, Ra-226/228

Initiate by 6/24/79
Within 2 years of effective date (6/24/77)
Complete within 3 yrs. (6/24/77)

Analysis of (1) annual composite of 4 consecutive quarterly samples
or
(4) consecutive quarterly samples analyzed and averaged.

- Do this at least once every 4 years. If first year has shown Ra-226/228 < 2.5 pCi/l and gross alpha < 7.5 pCi/l, then a single sample may be analyzed instead of above procedure at discretion of the State.
- State may order more frequent sampling and analysis if cause exists (mining, etc.)
- New water source for a community water system -
Monitored 1st year as above.
More frequently if ordered by State.
- Later monitoring need not include Ra-228 if initial monitoring indicates absence and State agrees.
- If Ra-226 > 3 pCi/l annual monitoring may be required by State.
- If maximum is exceeded, supplier of water must notify State and the public and continue quarterly monitoring.