

**NUS CORPORATION
SUPERFUND DIVISION**

INTERNAL CORRESPONDENCE

C-583-6-6-106

TO: DON SMITH, EPA **DATE:** SEPTEMBER 5, 1986
FROM: GRETA D. READE *gdreade* **COPIES** **FILE**
SUBJECT: REVIEW OF HALEY & ALDRICH REPORT - "ENVIRONMENTAL ASSESSMENT
FOR THE ALEWIFE CENTER MASTER PLAN, W.R. GRACE & CO.,
CAMBRIDGE, MASSACHUSETTS"
TDD No. F1-8601-04
Reference No. \$300MA57SI

The TDD issued for this project (F1-8601-04) directed NUS/FIT to perform a standard Site Inspection of the W.R. Grace & Co. facility. However, since several studies and extensive sampling had already been performed, the EPA Project Manager directed NUS to visit the facility to obtain photodocumentation of current conditions and to review the April 1985 Environmental Assessment prepared by Haley & Aldrich.

NUS/FIT has read and evaluated the Haley & Aldrich report dated April 1985 and titled "Environmental Assessment for the Alewife Center Master Plan, W. R. Grace & Co., Cambridge, Massachusetts." The report presents a large volume of data and presents conclusions which are favorable to the development planned for this property. Although it is apparent that considerable field work and effort were put into this report and although the data presentation is reasonably good, the report does not clearly substantiate all of the conclusions presented. In addition, NUS/FIT is concerned that the portion of the site chosen for development coincides with the most heavily contaminated areas.

In brief, the major comments on the Haley & Aldrich report are:

1. This report presents numerous conclusions. However, the basis for these conclusions is unclear. This is largely due to the fact that the data are presented and then the conclusions are listed with little or no discussion or interpretation in between. This is particularly true of the data and conclusions in Volume 1 (Subsurface and Hydrogeological Conditions).
2. Volume 3 (Environmental Risk Assessment) contains more interpretation, but the writer's opinion that, in general, chemical hazards are overstated is quite apparent. The final conclusion that "no actual or potential hazard to human health is presented by current or proposed development conditions" is not supported by either the data or the toxicological assessment presented.
3. The method that was used to evaluate the potential risk of this site did not take into account all of the possible routes of contaminant migration nor all the potential receptors. A cumulative risk for all receptors should be calculated. An accepted methodology for such a calculation is identified in Federal Register Volume 50, Number 6, pages 1170-1176

MEMO TO: DON SMITH
SEPTEMBER 5, 1986-PAGE TWO

(Proposed Guidelines for the Health Risk Assessment of Chemical Mixtures). Other useful guidelines are identified in Federal Register Volume 49, Number 227, pages 46294-46301 (Proposed Guidelines for Carcinogen Risk Assessment) and pages 46304-46312 (Proposed Guidelines for Exposure Assessment).

4. The method used to evaluate the potential risk to construction workers at this site hinges on the control of fugitive dust levels. Volatile organic compounds may be released at any time they are exposed to the ambient air. The approach used in Volume 3 does not take into account the total volume of soil that will be disturbed to generate the volume of fugitive dust expected in the ambient air.
5. More attention should be given to non-carcinogenic effects, particularly in the main text of Volume 3.
6. Many of the toxicological evaluations are based on concentrations found in composite samples. These do not accurately reflect concentrations which will be encountered on site since they are, in effect, average concentrations over a fairly wide area rather than concentrations for discrete areas on site. The actual value at any one point could be higher than the reported concentration.
7. Key details of the composite sampling procedures are not explained.
8. PAHs are considered as one toxicological group. They should be considered individually or in groups with similar toxicological properties.
9. The high levels of PAHs, naphthalene, and phthalates found in fill after construction are de-emphasized.
10. There is no discussion of the changes at the site which occurred as a result of the MBTA tunnel construction, and the patterns of contamination before and after tunnel construction are not discussed. These changes include the treatment and removal of a large amount of sludge, earth removal due to tunnel construction, and backfilling over the tunnel and in the areas where sludge material was removed. In particular, the report asserts that all source areas have been removed even though there is no discussion of the areas of removal or interpretation of sample results. The MBTA will state only that all visible waste contiguous to tunnel construction was removed.

MEMO TO: DON SMITH
SEPTEMBER 5, 1986-PAGE THREE

11. The text should clarify when sampling was conducted: both in absolute time and in relation to other events on site.
12. Russell Field was used as a staging area during tunnel construction. There is no discussion of possible contamination and no sampling has been done to substantiate the absence of contaminants in the staging area.
13. An inconsistent level of detail is used. This leads to confusion over what the authors think is important. Value-laden words such as "significant", "only" and "primary" are used without definition. This, combined with other types of lax word usage and a stilted style, causes problems with the conveyance of ideas. For example, "significant" can mean most common occurrence, highest concentration(s) or greatest threat to public health.
14. Much more could have been learned from the large volume of data gathered and presented. For example, the data indicate that there are still some pockets of high contamination left on site. The presence of these pockets of contamination was not identified. As a result, the risks posed by these pockets have not been completely evaluated.

Overall, the data presentation in this report is reasonably good; however, since a discussion of the data is lacking, the conclusions seem to be unsupported. Only a full-scale toxicological assessment could provide a complete evaluation of the validity of the methodology and conclusions presented in Volume 3. However, some comments are presented in this memo and its attachment.

Recommendations:

1. The data generated from this report and previous reports should be validated and evaluated and interpreted in greater detail.
2. The data interpretation should be used to identify where further sampling needs to be done to identify remaining pockets of high contamination.
3. More sampling of the sediments in Jerry's Pond will be needed if the pond is to remain accessible to the public.
4. Due to its proximity to the former tank farm area, the cause of the iron oxide occurrences in Parkway Pond should be identified. This anomaly might be the result of deteriorating metal receptacles and may presage the release of other substances. A magnetometric survey might be useful here and should be considered.

MEMO TO: DON SMITH
SEPTEMBER 5, 1986-PAGE FOUR

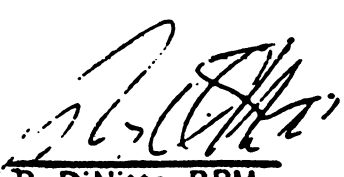
5. A baseline air quality study should be performed before the start of any construction.
6. Volume 3 should be evaluated or a Risk Assessment should be performed by a public sector toxicologist. As part of this activity, the public health and safety recommendations presented should be evaluated. In addition, the need for more detailed safety precautions for construction workers on the property should be evaluated (for example: air monitoring, dermal protection, respiratory protection).

Although NUS/FIT recommends that the above measures be incorporated into any further studies, these recommendations are not a commitment by EPA or NUS/FIT to conduct any further activities at this site. Furthermore, these recommendations do not advocate which party or parties (EPA, NUS/FIT, State, Potential Responsible Party, etc.) should be responsible for conducting any further activities at the site.

Attachment

Reviewed and Approved By:

Date:


R. DiNitto, RPM

9-5-86

GRACE

RECEIVED

SEP 15 1986

HINES INDUSTRIAL

W.R. Grace & Co
62 Whittemore Avenue
Cambridge, Mass. 02140

(617) 876-1400

September 11, 1986

Mr. Michael J. Nalipinski
MA Pre-Remedial Coordinator
USEPA
JFK Federal Building
Boston, MA. 02140

565-3661

RE: Final Site Inspection Report -
W.R. Grace, Cambridge

Dear Mr. Nalipinski:

This is to confirm the substance of our telephone conversation on September 8, 1986. You informed me that based upon the Final Inspection Report on the Grace site, EPA does not have any current plans to refer this site within the agency for further action. You also informed me that EPA will continue to review any additional data it receives on the site.

I informed you that Grace will continue to provide EPA with the results of all sampling conducted on its site along with data from any off-site sampling by Haley & Aldrich.

Grace is in the process of conducting a detailed review of the comments in the Final Site Inspection Report and I expect to forward our comments within the next few weeks.

I would also like to make sure that you are aware of all ongoing and planned data collection programs for the Grace site. Grace has previously informed Greta Reade of NUS and your predecessor, Susan Svirsky, of these plans which include:

1. Installation and periodic testing of additional groundwater wells on and off the Grace site. Installation is scheduled to begin during the week of September 15. Details of this program have been outlined in my previous letters.
2. Continued periodic sampling of surface waters, such as Parkway Pond and Alewife Brook.
3. Further detailed soil sampling at the site will be conducted as part of the normal construction process.
4. Collection of base-line air quality data along with air quality data collection during appropriate construction phases.

Michael J. Nalipinski
Page 2
September 11, 1986

We believe the data collected during this comprehensive ongoing program will address many of the comments in the Final Site Inspection Report.

In view of EPA's current decision not to proceed with further review at the site, Grace and Hines Industrial will continue to work with DEQE to ensure that all proper procedures are employed and permits obtained during construction.

If you have any questions, please do not hesitate to call.

Very truly yours,



Mark Stoler
Assistant Counsel

MS/lmm

cc: Rodene Derice
Robert Healy
bcc: Robert C. Niles
Wesley E. Stimpson
David R. Vickery
David L. Wightman

GRACE

RECEIVED BY
OFFICE OF CITY CLERK
1986 SEP 26 PM 4:44
CAMBRIDGE MA.

W.R. Grace & Co
62 Whittemore Avenue
Cambridge, Mass. 02140

(617) 876-1400

September 15, 1986

Robert Healy, City Manager
City of Cambridge
795 Massachusetts Avenue
Cambridge, MA 02140

Dear Mr. Healy:

Enclosed please find the most recent sampling results from Parkway Pond. This sample was taken as part of the ongoing monitoring program at the Grace property.

Very truly yours,


Mark Stoler
Assistant Counsel

MS/lmm

Enclosure

cc: Rodene Derice (DEQE)
Michael Nalipinski (USEPA)
Councilor Alice Wolf



Consulting
Geotechnical Engineers,
Geologists and
Hydrogeologists

238 Main Street
P.O. Box 60
Cambridge, MA 02142
617/492-6460

3 September 1986
File No. 291406

Hines Industrial
125 Mt. Auburn Street
Cambridge, MA 02138

Attention: Mr. David Vickery

W.R. Grace & Company
62 Whittemore Avenue
Cambridge, MA 02140

Attention: Mr. David L. Wightman

Subject: Long-Term Chemical Monitoring Program
Alewife Center
Cambridge, Massachusetts

Gentlemen:

A surface water sample was taken on 1 August 1986 from the outlet of Parkway Pond (Sample Number S2) at the above referenced site as part of our long-term monitoring program proposed in our report dated 16 April 1985.

The sample was analyzed by ENSECO, Inc. of Cambridge, Massachusetts for the EPA-listed Priority Pollutant volatile organic chemicals. The sampling record and chain-of-custody forms prepared in the field while sampling are attached to this letter.

The chemical analysis results which are also attached to this letter indicate no acetone was detected in this sample as was the case for the samples collected at this same location on 26 November 1985, 27 February 1986 and 2 May 1986.

Two other compounds were detected in the water. Trans-1,2-dichloroethene and toluene were detected at concentrations of

Branch Offices
Charlottesville, Connecticut
Portland, Maine

Atlanta
New York
Rochester, New York

Hines Industrial
3 September 1986
Page 2

3.9 and 2.0 micrograms per liter, respectively. This is the second consecutive occurrence of the presence of trans-1,2-dichloroethene in water from Parkway Pond. The previous concentration was 6.4 micrograms per liter in the sample collected 2 May 1986. It was also detected at a concentration of 12 micrograms per liter in a sample from Parkway Pond collected on 21 March 1985. There are no criteria or standards for trans-1,2-dichloroethene to protect human health (Sittig, 1985).

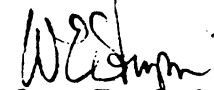
Toluene was detected in water from Parkway Pond for the first time during this sampling round. Its concentration of 2 micrograms per liter is well below the criteria concentration of 14.3 milligrams per liter to protect human health (Sittig, 1985).

We believe the presence of these two compounds do not significantly affect the water quality of Parkway Pond and would not be of concern to DEQE.

If you have any questions or require additional information, please feel free to call us.

Sincerely yours,
HALEY & ALDRICH, INC.


Stanley J. Fielding
Staff Scientist


Wesley E. Stimpson
Vice President

SJF/WES:mc/1747s

Enclosures

Sittig, M. (1985), Handbook of Toxic and Hazardous Chemicals,
Noyes Publications

AA



HALEY & ALDRICH, INC.
230 Main Street, Cambridge, MA 02142
Tel. 617/452-8400

SAMPLING RECORD

SR #:

PAGE 1 OF 1

FILE NO. 14291406

PROJECT ALEWIFE

CLIENT HINGS INDUSTRIAL

LOCATION ALEWIFE CENTER

SAMPLING DATE 8-1-86

FIELD PERSONNEL RICH BURSAW

LABORATORY NAME ENSECO

ADDRESS 205 ALEWIFE BROOK PARKWAY

CAMBRIDGE MA

LABORATORY CONTACT DALLAS WAIT

DELIVERY DATE 8-1-86

WEATHER Temp. (°F) < 20 - 20 - 30 - 40 - 50 - 60 - 70 - 80 - 90 - > 90

Sunny

Partly Cloudy

Overcast

Heavy Clouds

Rain

Sleet

Snow

Light
Heavy

Dry

Slightly Humid

Moderately Humid

Very Humid

Wind

None to Little

Little to Moderate

Moderate to Heavy

Steady

Variable

Wind Direction

N

From:

GROUND SURFACE CONDITIONS

Dry

Damp

Wet

Standing Water

Snow: inches

Other:

Comments:

SOIL SAMPLING AND SURFACE WATER SAMPLING INFORMATION

H&A SAMPLE NO.	LOCATION	DEPTH	TIME	SAMPLE DESCRIPTION	SAMPLING DEVICE	CLEANING PROCEDURE	CONTAINER TYPE
S2	S2	Surface	1530	water		SDM	VSA

General Comments: (i.e., Field Filtrations, persons communicated with at site, etc.):

STDM = Wash with soapy water, rinse with tap water, distilled water and methanol.

SIDE 2

SAMPLING RECORDPAGE
SR #:

OF

FILE NO.

CLIENT

SAMPLING DATE

GROUNDWATER SAMPLING INFORMATION

WELL NO.						
WATER DEPTH (GS)						
TIME						
PRODUCT						
DEPTH OF WELL (GS)						
STANDING WATER DEPTH						
WELL I.D.						
VOLUME OF WATER IN WELL						
PURGING DEVICE						
VOLUME OF BAILER/ PUMP CAPACITY						
CLEANING PROCEDURE						
BAILS REMOVED/ VOLUME REMOVED						
TIME PURGING STARTED						
STOPPED						
SAMPLING DEVICE						
CLEANING PROCEDURE						
TIME SAMPLES TAKEN	VOA					
	ABN					
	METALS					
ODOR						
COLOR						
CLARITY						
pH						
TEMP. °C						
SALINITY						
CONDUCTIVITY						

REMARKS (i.e., Field filtration, purging and sampling problems, etc.):

CLIENT: Haley & Aldrich (Job No. 2914)
CLIENT ID: S-2
ERCO ID: 35004
SAMPLE RECEIVED: 08/01/86
ANALYSIS COMPLETED: 08/08/86
RESULTS IN: µg/l (ppb)

SUMMARY OF ORGANIC
PRIORITY POLLUTANT ANALYSIS
VOLATILE ORGANIC
COMPOUNDS

- Data Report -

Compound	Result	Compound	Result
Chloromethane	<5	1,2-Dichloropropane	<2
Bromomethane	<5	trans-1,3-Dichloropropene	<2
Vinyl chloride	<5	Trichloroethene	<2
Chloroethane	<5	Dibromochloromethane	<2
Methylene chloride	<5	1,1,2-Trichloroethane	<2
Acetone	<50	Benzene	<2
Carbon disulfide	<2	cis-1,3-Dichloropropene	<2
1,1-Dichloroethene	<2	2-Chloroethylvinylether	<10
1,1-Dichloroethane	<2	Bromoform	<2
trans-1,2-Dichloroethene -----	3.9	4-Methyl-2-pentanone	<10
Chloroform	<2	2-Hexanone	<10
1,2-Dichloroethane	<2	Tetrachloroethene	<2
2-Butanone	<10	1,1,2,2-Tetrachloroethane	<2
1,1,1-Trichloroethane	<2	Toluene -----	2.0
Carbon tetrachloride	<2	Chlorobenzene	<2
Vinyl acetate	<10	Ethylbenzene	<2
Bromodichloromethane	<2	Styrene	<2
		Total xylenes	<2

Reported by: VH

Checked by: MS

N&A FILE NO. 100-292406
PROJECT ALFRED
N&A CONTACT THURRO

LABORATORY ENSECO
ADDRESS ALEXIFF BROOK PARKWAY CAMBRIDGE
CONTACT DALLAS WAIT

DELIVERY DATE B-1-86
DATE FINAL REPORT DUE B-22-86
PROJECT MANAGER'S INITIALS WES

[illegible]

CLIENT: Haley & Aldrich (Job No. 2914)
CLIENT ID: Trip Blank
ERCO ID: 35005
SAMPLE RECEIVED: 08/01/86
ANALYSIS COMPLETED: 08/08/86
RESULTS IN: µg/l (ppb)

SUMMARY OF ORGANIC
PRIORITY POLLUTANT ANALYSIS
VOLATILE ORGANIC
COMPOUNDS

- Data Report -

Compound	Result	Compound	Result
Chloromethane	<5	1,2-Dichloropropane	<2
Bromomethane	<5	trans-1,3-Dichloropropene	<2
Vinyl chloride	<5	Trichloroethene	<2
Chloroethane	<5	Dibromochloromethane	<2
Methylene chloride	<5	1,1,2-Trichloroethane	<2
Acetone	<50	Benzene	<2
Carbon disulfide	<2	cis-1,3-Dichloropropene	<2
1,1-Dichloroethene	<2	2-Chloroethylvinylether	<10
1,1-Dichloroethane	<2	Bromoform	<2
trans-1,2-Dichloroethene	<2	4-Methyl-2-pentanone	<10
Chloroform	<2	2-Hexanone	<10
1,2-Dichloroethane	<2	Tetrachloroethene	<2
2-Butanone	<10	1,1,2,2-Tetrachloroethane	<2
1,1,1-Trichloroethane	<2	Toluene	<2
Carbon tetrachloride	<2	Chlorobenzene	<2
Vinyl acetate	<10	Ethylbenzene	<2
Bromodichloromethane	<2	Styrene	<2
		Total xylenes	<2

Reported by: 24

Checked by: NS



CAMBRIDGE CITY COUNCIL

CITY HALL, CAMBRIDGE, MASSACHUSETTS 02139

(617) 498-9094

Alice K. Wolf
City Councillor

TO: The Honorable, the City Council
FROM: City Councillor Alice K. Wolf, ^{AKW}Chair, Environment Sub-Committee
RE: W.R. GRACE ENVIRONMENTAL ASSESSMENT
DATE: September 25, 1986

I have received the attached memorandum related to the W.R. Grace site (Review of Haley and Aldrich Report - "Environmental Assessment for the Alewife Center Master Plan, W.R. Grace & Company, Cambridge, Massachusetts and the Final Site Inspection Report - W.R. Grace, Cambridge), both relate to ongoing evaluation of potential environmental hazards at the W.R. Grace site. The EPA document, especially requires careful study and consideration by the City.

I would therefore ask that both documents be referred to the City Manager and the Environment Sub-Committee for recommendation to the City Council

Attachments (2)

10.

S 574

Comm. from Councillor Alice Wolf, Chair, Environment Subcommittee, transmitting memorandum Re: W.R. Grace site & ongoing evaluation of potential environmental hazards at this location.

In City Council,

September 29, 1986

Referred to City Manager

Referred to Committee on

Environment

Copy sent to the City Manager 10/1/86
Copy to Councillor Wolf, Chair, Environment
Committee 10/3/86 rch