Olin CHEMICALS
P.O. BOX 248, 1186 LOWER RIVER ROAD, CHARLESTON, TN 37310
Phone: (615) 336-4000

July 7, 1994

Mr. Philip Masters
Hazardous Waste Facilities Branch
United States Environmental Protection Agency
Region II
26 Federal Plaza, Room 1037
New York, New York 10278

Re: **Quarterly Report**
Olin Corporation
Niagara Falls, NY, Plantsite
RCRA Facility Investigation

Dear Mr. Masters:

Pursuant to paragraph V.A. and Task V. of Attachment A of the Administrative Order, the Quarterly Report for the Niagara Falls RCRA Facility Investigation (RFI) is herewith submitted.

Please call (615/336-4587) if you have any questions about this report or any of the work under the RFI.

Sincerely,

OLIN CORPORATION

Michael J. Bellotti

Michael J. Bellotti
Senior Associate Hydrogeologist

\mjb\nf-qr8
Attachment

cc:
P. Counterman (NYSDEC)
W. G. McGlasson
K. R. McIntosh
J. P. Mitchell
G. C. Meyer
L. E. Murray
S. F. Radon (DEC Buffalo)
M. L. Fries
Joseph Clore (USEPA Region II)
Wm. Wertz (DEC Albany)
J. C Brown

Quarterly Report
Olin Corporation
Niagara Falls, New York
RCRA Facility Investigation

Report for:
April through June 1994

This Quarterly Report is submitted pursuant to paragraph V.A. and Task V. of Attachment A of the Administrative Order on Consent (RCRA-89-3013-0208) between the U. S. Environmental Protection Agency (EPA) and Olin Corporation. This report describes the progress, status, and plans for the RCRA Facility Investigation (RFI) being conducted under the Order at Olin Corporation's Niagara Falls, NY, plant.

RFI Status
The report of Man-made Passageways Evaluation was submitted on January 7, 1993. Agencies have returned comments to Olin in a letter of September 22, 1993.

The data validation report for the fourth quarterly sampling was submitted March 10, 1993.

A description and estimate of the percentage complete of the individual tasks under the RFI are presented in Attachment A. Overall, the RFI is approximately 80% complete.

A scope of work was identified by USEPA / NYSDEC / Olin to complete data requirements for RFI.

Findings
The findings to date are:

- water bearing zones in the bedrock correspond to the zones established for the DuPont plant site study (A, B, C, and CD zones);
- the Olin production wells (OPW), pumping at 600 gpm, create a zone of influence that extends approximately halfway (east-west) across Olin's Plant 2 in the B zone, and approximately to Gill Creek in the C and CD zones;
- well cluster 8 on Olin's Plant 1 appears to exhibit residual drawdown from downward movement of water into the C and CD zones;
- there is little significant groundwater in the overburden and contaminant migration is preferentially downward into bedrock;
- overburden is thin (5 to 10 feet thick typically) at most points throughout the site;
- a bedrock "high" is present in the area of the former "mercury pond" SWMU;
- gradients are relatively flat in the bedrock fracture zones when the production wells are not pumping (wells pump 600 gpm continuously);

Findings (continued):

- dense non-aqueous phase liquid (NAPL) was found in well OBA-2C and consisted primarily of trichloroethene and tetrachloroethene, with other components present at lower concentrations;
- elemental mercury was observed in a split-spoon soil sample taken at the 6 to 8 foot depth near SWMU LA-3 (note that this is a correction to the information we gave you on November 14: we said near 6 feet deep then, but after further review, Woodward-Clyde determined that it was actually about 7 feet deep);
- A zone (overburden) groundwater that moves laterally will discharge to Gill Creek to the east or sewer routings in other directions, although most migration is expected to be downward into rock;
- most overburden consists of fill; and
- B and C zone heads are lower than the elevation of the Gill Creek water surface.

Recommendations and conclusions from the Interim Report included:

- additional wells are necessary to fill data gaps in the hydraulic profile of the site;
- manmade passageways do not represent a significant potential for enhancing offsite contaminant migration; and
- site soils are contaminated as the result of almost 100 years of plant operations and additional soil sampling will not refine the present knowledge about specific SWMUs.

Changes to RFI

The Interim Report recommended additional monitoring wells at several locations. EPA commented on the Interim Report on November 4, 1992, recommending several locations in addition to those recommended in the Interim Report. On November 24, Olin responded to EPA's comments, agreeing in concept to EPA's additional locations, but proposing alternatives to collect data comparable to data that would be collected by EPA's recommendations. These alternatives included use of data from DuPont monitoring wells bordering Olin property. EPA requested additional information regarding the DuPont wells and data and Olin responded to this request on January 8 and 14. EPA and NYSDEC approved Olin's proposal in September, 1993.

Olin installed two additional wells during November 1992 using the design approved in the Work Plan. These wells, OBA-9A and OBA-10A, near Gill Creek at the southeastern corner of Olin's Plant 2, were sampled on November 16. Data were reported with the fourth sampling round data submitted March 10, 1993.

Olin and USEPA / NYSDEC agreed to a series of data development tasks to complete the RFI. This scope consists of Area-wide piezometric measurements coordinated with adjacent sites; sampling of selected DuPont wells for VOC's, pesticides and mercury and supplementing existing soil boring/analysis data at Olin's Plant 1 and Plant 2. USEPA has agreed to Olin's request to use existing DuPont groundwater quality data, per data validation, and to sample selected

DuPont wells. Olin has installed two new clusters of three wells. Olin has completed the piezometric measurements, DuPont well samplings, soil borings and the two well cluster installations. Olin and NYSDEC/USEPA have taken steps to resolve differing opinions on a third well cluster at the northeast end. As such, Olin has proposed a final data development phase (described below) and a schedule of completion for the RFI. The agencies have agreed to Olin's proposal, with some detail modifications.

The final data development phase consists of additional well clusters at four locations, area-wide piezometric plot and inclusion of Solvent site data into the Olin site RFI. While some delays might occur in the Solvent site investigation, delaying Olin's access to some data, Olin and Agencies agreed that Olin would submit the RFI by August 5, 1994 but that the RFI would not be finalized until the remaining Solvent data are incorporated. All Olin field work is completed for the final data development and data evaluation is in progress.

Olin developed a protocol for monitoring DNAPL at selected wells where DNAPL was previously detected. The protocol was approved by the Agencies. The protocol calls for measurement of DNAPL thickness, withdrawal and volume documentation. Three bi-weekly measurements will be done. Results will be reported in the RFI. No DNAPL was found in wells OBA2C or OBA5B during the first two measurement episodes. However, DNAPL was identified at well OBA10A (east of Gill Creek) for the first time. Approximately 1.25 gallons of DNAPL were removed. This well will be included in the DNAPL protocol. Olin believes that this DNAPL is migrating from the adjacent Solvent site. Olin has notified EPA and NYSDEC of the DNAPL occurrence.

Olin has submitted a Corrective Measures Study (CMS), per NYSDEC guidelines. The CMS evaluates a number of conceptual planning options for future site remediation, and recommends a remedial approach for appropriate environmental media.

Problems During the Reporting Period
There were no problems during this reporting period.

Release Incidents
A release of 50% NaOH liquid occurred on April 16, 1994. The release total was less than RQ, but is reported here because of its potential relevance to groundwater quality. The spill occurred near the truck loading area, when a tank truck was loaded with the outlet valve in open position. Approximately 300-500 gallons of NoOH spilled onto a black-top containment area. A sump pump was used to pump the liquid into a dike area, from where it was pumped to an off-spec tank. No caustic liquid contacted soil. Response was immediate and cleanup was complete within six hours. The National Response Center was notified appropriately.

Actions to Rectify Problems
The non-RQ caustic spill was contained without soil exposure, as described above. Groundwater pumping continues at the caustic tank area, with objective of containing any caustic spillage from the Feb. 21 spill incident. Olin's report on the caustic tank area, per workplan approved by USEPA, has been submitted to the Agencies.

Changes in Personnel
none

Projected Work for Next Reporting Period
The following work is planned for the next three-month reporting period:

Olin will proceed with completion of the RFI report, with submittal date of August 5, 1994.

Attachment A

Quarterly Report
Olin Corporation
Niagara Falls, New York
RCRA Facility Investigation

Report for:
July through September 1993

Task	Date	% Comp.	Comments
Hydraulic testing	03/25/91	100	Pump test of OPW and continuous head measurements of selected wells
Well sampling (1st rnd.)	10/07/91	100	NAPL noted in OBA-2C
Analysis of 1st rnd. GW		100	
Soil sampling	10/18/91	100	Elemental Hg noted in LA-3 area
Analysis of soil samples		100	
Hydraulic head monitoring	10/07/91	100	
Identification of passageways	12/21/92	100	
Preparation of Interim Rpt.	02/04/92	100	
Well sampling (2nd rnd.)	03/02/92	100	
Analysis of 2nd rnd. GW	03/13/92	100	
Well sampling (3rd rnd.)	06/26/92	100	
Analysis of 3rd rnd. GW	07/28/92	100	
Evaluation of passageways	11/09/92	100	
Well sampling (4th rnd.)	09/18/92	100	
Analysis of 4th rnd. GW	10/23/92	100	
Additional well installation	05/15/94	100	
Additional well sampling	05/27/94	95	Confirmatory sampling for 1994 wells yet to be done
Evaluation of all data		95	
Submit draft RFI report			August 5, 1994