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March 8, 2006

Ms. Eileen Barnes
Environmental Analyst
Bureau of Waste Management
Remediation Section
Connecticut Department of Environmental Protection
79 Elm Street
Hartford, CT 06106-5127

Re: Addendum to Supplemental Investigation Report and Additional Responses to
November 10, 2005 DEP Comment Letter

Dear Ms. Barnes:

On behalf of Olin Corporation, we have prepared the enclosed Addendum report to the *Supplemental Investigation Report and Remedial Action Plan Non-Public Properties Study Area, Hamden, Connecticut*, March 2005 (SI Report). This SI Report Addendum includes additional text, clarifications, revised tables and drawings, and the results of the additional investigation activities conducted in May 2005. The format and layout parallels that of the SI Report. Only report text sections, tables, and graphics that have been revised are included in the Addendum to facilitate ready access to updated information. The Addendum also addresses the DEP comments on the original SI Report submission from your letter, dated November 10, 2005, specifically, comments # 1, 2, 4, 7, 10, 11, 13, 15, 16, 17, 18, 19, and several of the General Comments. Other Olin responses to DEP comments #1, 3, 8, 9, 12, 20 and eight General Comments were provided by letter dated December 12, 2005. The remaining comments are addressed in this letter:

DEP Comment 5:

For Morse Street Area, Block A, Olin states that the extent and thickness of fill within Block A is delineated and no additional investigation of this area is warranted. Olin based its remedial alternative for the Morse Street Area, Block A solely on borings. Olin indicates that soil samples adjacent to the fill area and ambient soil samples collected within Block A are non-compliant for total lead and/or SPLP lead. Specifically, soil sample 263 Morse-HA8-S1 has a detected concentration of lead and arsenic of 23,100 mg/kg and 13 mg/kg, respectively. Olin indicates that these findings are the result of some local source or localized surficial migration outside the fill boundary.

The detected concentration of lead in soil sample 263 Morse-HAS-SI exceeds the applicable residential Direct Exposure Criteria (RDEC) by a factor greater than 40. The Department does not concur that the elevated lead result of 23,100 mg/kg is not related

to fill materials located at the Site. The fill line must be extended to include sample location 263 Morse-HA8-SI.

Response:

EPA excavated the top 18 inches of the whole backyard at 263 Morse St. in October 2001. DEP retained GZA to auger soil borings and collect soil samples from the bottom of the excavation. GZA boring logs indicate that fill was observed in borings HA-1 to HA-7, but not in the two borings located closest to the house, HA-8 and HA-9. These results were confirmed by MPI borings drilled in June 2004. At boring A1009, 0.8 feet of waste fill was observed beneath 1.8 feet of disturbed soil fill (placed by EPA following their excavation). No waste fill was observed in boring A1008, located approximately 12 feet south of A1009 and near the location of HA-8. The edge of fill line that was drawn between borings A1008 and A1009 (Sheet 2) is supported by the GZA borings done for DEP and does not need to be extended.

Our field investigation work performed in 2004 did not replicate the GZA results obtained in 2001. Samples from two of the nine GZA borings exceeded the RDEC for lead, including a 1.5 to 2-foot-deep sample from HA-8. However, field screening of the 0 to 2-foot-deep sample from boring A1008 indicated very low levels of lead (32 ppm). Although we have incorporated the results from other investigators in our report, we can rely upon the quality and validity of our data. Thus when a minor discrepancy between our findings and those of others arises, it is protocol to defer to our data, which is of known validity.

DEP Comment 6:

Olin indicates that fill underlies the northern portion of all the properties in the Morse Street area with the exception of two properties 275 and 274 Morse Street. Olin also indicates that according to aerial photograph Figure 3-1 titled, Edge of Filling (1964) low-lying topography in the backyards of 275 and 279 Morse Street correlate with the absence of fill at these properties. However, no borings were installed nor were samples collected from the northern portions of the 275 and 279 Morse Street. The nearest samples collected from 275 and 279 Morse Street are approximately 40 feet and 60 feet from the northern boundary, respectively.

Olin shall proposed additional borings at 275 and 279 Morse Street to evaluate the potential presence of fill/pollution at the northern boundary. Sampling and analysis also shall be conducted to determine the extent and degree of soil pollution.

Response:

As shown on Sheet 2 of the March 2005 SI Report, five borings were drilled at 275 Morse St. and 3 borings were drilled at 279 Morse St. No fill was found in any of the borings. Samples were collected from the borings drilled near the northern edge of these properties bordering on the middle school and field screened for metals using an XRF

device. The results for lead are 47 and 28 ppm, respectively. In addition, one surface soil sample was collected from each property. Olin has sufficient information to conclude that the edge of fill in the Morse Street Area has been adequately delineated and that additional borings and sampling is not warranted.

DEP Comment 14:

It is difficult to determine if all the bare spots that were identified by Olin were actually sampled. The Department's review of the Report revealed that no samples were obtained from the following properties where bare spots, stress vegetation, surface depressions and/or debris were observed:

Butler Street, 237

Goodrich Street, 105, 117, 149, 159, 211-213, 229-231, 237, 241, 245, 321 and 323

Marlboro, 64, 82, 84, 88 and 125

Morse Street, 102

North Sheffield Street, 15, 18, 23, 26 and 32

Prospect Land, 20

Shelton Avenue, 509-511, 515-517

Shepard Street, 159-158

Winchester Avenue, 962, 965, 966, 999, 1005, 1028, 1036 and 1042

Response:

The purpose of the bare spot sampling component of the investigation, as described in the approved SI Work Plan, was to determine if there was a direct exposure risk from bare soil overlying fill. At DEP's request, Olin notified DEP if surface soil samples analyzed as part of the Bare Spot Characterization had concentrations of lead exceeding 1,200 mg/kg, of arsenic exceeding 150 mg/kg, or of benzo(a)pyrene exceeding 10 mg/kg. Although physical property conditions, such as bare spots, stressed vegetation, and surface depressions were noted for each property inspected, only bare spots overlying fill were sampled according to the approved work plan. Physical features, such as bare and stressed vegetation, are dynamic in nature. Conditions can change as use of outdoor areas change. The maps in the SI Report recorded the conditions observed at the time of the inspections. Locations of all bare spot samples are shown on Sheets 2 and 3 of the SI and Addendum Reports with the symbol shown in the legend.

Fill was not found on all but two of the properties cited in the comment; therefore, there was no need to sample bare spots on those properties. (Bare spots were not observed on 9 of the properties listed.) The property inspection for 245 Goodrich St. was completed in June 2004. Isolated fill was not found there until May 2005, at which time bare spots overlying the fill area were not observed. No fill was observed in the boring drilled through the bare spot at 321 Goodrich St. Isolated fill area H01 potentially extends behind the garage along the northern edge of this property, but due to limited access, the

presence of fill was not confirmed. The difficulty to access this area also limits the risk to direct exposure from any fill that potentially occurs there.

General Comments.

DEP Comment Page 3-5: It is stated in the report that surface water runoff is conveyed northward to the unnamed stream via catch basins and underground drain pipes. It was not mentioned how this statement is supported, i.e. review of Town of Hamden engineer designs and/or field observations, etc.

Response: The statement in the report about the direction of flow of surface water drain pipes is based on a storm drain site plan for the area provided by the Town of Hamden engineer. A copy of the map is attached as part of this Addendum Report.

If you have any questions please feel free to contact the Olin/Malcolm Pirnie Hamden team.

Very truly yours,

MALCOLM PIRNIE, INC.



Kenneth E. Cichon
Associate

Enclosure

Copy: David Silverstone, Regional Water Authority
Jeff Lennox, Leggette, Brashears, & Graham, Inc.
Chris Harriman, Haley & Aldrich, Inc.
Brian Cutler, Loureiro Engineering Associates, Inc.
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Meg Harvey, Department of Public Health
Leslie Balch, Quinnipiack Valley Health District
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Curt Richards, Olin Corporation

DOCUMENT CERTIFICATION

I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, that the submitted information is true, accurate and complete to the best of my knowledge and belief. I understand that any false statement made in the submitted information is punishable as a criminal offense under §53a-157b of the Connecticut General Statutes and any other applicable law.



Chief Executive Officer (or duly authorized representative)
Olin Corporation

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Responsible for document preparation