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December 1, 2009

Mr. Dennis Busa  
6 Westminster Avenue  
Lexington, Massachusetts 02420

Subject: Opinion on Risk of Harm to Human Health  
Busa Farm Pesticide Area P-2  
52 Lowell Street  
Lexington, Massachusetts

This letter has been requested to provide an opinion as to the potential risk that exists for future use of the soil remaining in the immediate vicinity of pesticide area P-2 after the completion of Limited Removal Action (LRA) activities. This letter should be reviewed in tandem with the *Phase I and II Environmental Site Assessment Report – 52 Lowell Street, Lexington, Massachusetts* (Phase I & II Report) prepared by Woodard & Curran of Andover, Massachusetts, dated August 2009 and Williamson Environmental's *Limited Removal Action Documentation Report (Pesticide Area) – Revision No. 1* dated December 1, 2009.

Pesticide Area P-2 is an area within the northeastern most greenhouse where one (1) surface soil sample (designated SS-6) was collected by Woodard & Curran for analysis of organochlorine pesticide, chlorinated herbicide, organophosphorous pesticide, extractable petroleum hydrocarbon, total arsenic, and total lead analyses. Analytical results of soil sample SS-6 indicated that Endosulfan I and Endosulfan II were detected in said soil sample at concentrations of 0.51 and 0.53 milligrams per kilogram (mg/Kg), respectively. The Massachusetts Department of Environmental Protection (MA DEP) reportable concentration (RC) for S-1 soil for both Endosulfan I and Endosulfan II is 0.5 mg/Kg.

Woodard and Curran's Phase I & II Report recommended the following; *"In the samples greenhouse (sample SS-6), ... Endosulfan was detected at a concentration in excess of the Reportable Concentration, but the MCP exempts notification where the detection of pesticides is attributable to application of pesticides in a manner consistent with their labeling."* To that end, an affidavit was obtained from you (Mr. Dennis Busa) attesting to the fact that pesticides used within said greenhouse were applied in accordance with the manufacturer's directions.

Despite being exempt from reporting criteria, Williamson Environmental conducted a LRA in the area of P-2. The purpose of conducting LRA activities in pesticide area P-2 was to remove the pesticide impacted surface soil located in an area of repetitive pesticide application. The P-2 excavation was approximately 8-feet by 5-feet by 2-feet deep in size. Soil observed in the excavation consisted of medium- to coarse-grained sand with localized top soil and peat moss. Following soil excavation activities, one (1) composite soil endpoint sample was collected from the base of the P-2 excavation area (designated P-2) and submitted to a laboratory for organochlorine pesticide analysis via Method SW846 8081A.

Review of the analytical results for the one (1) soil endpoint sample (designated P-2) collected on September 24, 2009 from the pesticide area P-2 excavation area indicate that three (3) compounds analyzed for were detected above MA DEP RCS-1. Chlordane, Endosulfan I and Endosulfan II were detected in said soil sample at concentrations of 0.80, 0.61 and 0.57 mg/Kg, respectively. The MA DEP RCS-1 for Chlordane, Endosulfan I and Endosulfan II are 0.7, 0.5 and 0.5 mg/Kg, respectively. The presence of Chlordane, Endosulfan I and Endosulfan II in pesticide area P-2 is attributed to the application of pesticides consistent with their labeling.

The maximum concentration of Endosulfan detected in soil sample P-2 was 0.61 mg/Kg, which is below the MCP Method 1 Standards for S-1 soil for both GW-2 and GW-3 ground water. A comparison of the analytical results of the soil samples to the MCP Method 1 Soil Standards for S-1 soil is presented below in Table A.

<b>Table A - Endosulfan</b>				
<b>Comparison of Concentrations Detected and MCP Standards</b>				
	<b>Concentration detected in soil sample collected 9/24/09 (mg/Kg)</b>	<b>MCP RCS-1 (mg/Kg)</b>	<b>MCP Method 1 Standard for S-1 soil and GW-2 ground water</b>	<b>MCP Method 1 Standard for S-1 soil and GW-3 ground water</b>
Endosulfan	0.61	0.5	200	1

Since the concentration detected (0.61 mg/kg) is less than applicable Method 1 Standards there is no significant risk of harm to human health associated with residual concentrations of Endosulfan in area P-2.

Chlordane was detected in soil sample P-2 at a concentration of 0.80 mg/Kg. That concentration is above MCP Method 1 Standards for S-1 soil for both GW-2 and GW-3 ground water as summarized below in Table B.

<b>Table B - Chlordane</b>				
<b>Comparison of Concentrations Detected and MCP Standards</b>				
	<b>Concentration detected in soil sample collected 9/24/09 (mg/Kg)</b>	<b>MCP RCS-1 (mg/Kg)</b>	<b>MCP Method 1 Standard for S-1 soil and GW-2 ground water</b>	<b>MCP Method 1 Standard for S-1 soil and GW-3 ground water</b>
Chlordane	0.8	0.7	0.7	0.7

A Method 3 Human Health Risk Assessment was conducted using the MA DEP ShortForm Version 4-06, Vlookup Version v0808 for chlordane, downloaded from the MA DEP website (<http://www.mass.gov/dep/service/compliance/riskasmt.htm>). The ShortForm calculates a numerical risk value for the concentrations of a compound in the form of Excess Lifetime Cancer Risk (ELCR) and Hazard Index (HI) utilizing assumptions and calculations accepted by the MA DEP. As outlined at 310 CMR 40.0993(6), a condition of no significant risk to human health exists if an ELCR does not exceed one-in-one hundred thousand and a HI does not exceed one (1). Presented below in Table C is a summary of the ELCR and HI calculated for chlordane for residential, park visitor, trespasser and construction worker scenarios as defined in the ShortForm.

<b>Table C - Chlordane</b>				
<b>Summary of MA DEP ShortForm Results</b>				
<b>ShortForm Table Reference</b>	<b>ELCR</b>	<b>HI</b>	<b>MA DEP ELCR Limit</b>	<b>MA DEP HI Limit</b>
Resident – Soil: Table RS-1	6.00E-04	1.00E+01	1.00E-05	1.00E+00
Park Visitor – Soil: Table PS-1	1.00E-07	4.00E-03		
Trespasser – Soil: Table TS-1	6.00E-09	4.00E-04		
Construction Worker – Soil: Table CW-1	4.00E-09	3.00E-03		

As indicated on Table C, the concentration of chlordane exceeds the ELCR and HI for a residential use scenario. It is our understanding that the proposed use of the Busa Farm property will be for passive recreational use/sport fields and uses consistent with the risk assessment scenarios for park visitor, trespasser and construction worker.

It is the opinion of Williamson Environmental that if the residual concentration of chlordane detected in soil sample P-2 represented a reportable release condition and was subject to MA DEP jurisdiction, that the concentration detected in soil sample P-2 would not represent a condition of significant risk of harm to human health for uses consistent with the risk assessment scenarios for park visitor, trespasser and construction worker.

Please call the undersigned if you have any questions.

Sincerely,  
***Williamson Environmental LLC***

Joseph A. Resca  
Senior Project Manager