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Addendum to the Avco Lycoming Superfund Site
Five-Year Review Report
Dated September 24, 2007

PREPARED BY:
U. S. Environmental Protection Agency
Region III
Philadelphia, Pennsylvania

Approved By:

Ronald J. Borsellino, Director
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U.S. EPA, Region III

December 14, 2011
Date

A Five-Year Review Addendum is completed for site remedies when the protectiveness determination is deferred until further information is obtained. When deferring protectiveness in the Five-Year Review Report, the Environmental Protection Agency (EPA) provides a timeframe for when the information will be obtained and a protectiveness statement can be made. This Five-Year Review Addendum provides updated progress since the previous Five-Year Review and a protectiveness determination for the Avco Lycoming Superfund Site (Site). The protectiveness statement was deferred in the September 24, 2007 Five-Year Review for the Site.

The Five-Year Review for the Avco Lycoming Superfund Site in Williamsport, Pennsylvania, was signed by James J. Burke, Director of the Hazardous Sites Cleanup Division, on September 24, 2007. The protectiveness statement contained in the report reads as follows:

A protectiveness determination of the remedy at the Avco Lycoming Superfund Site cannot be made at this time. Vapor intrusion needs to be assessed, since vapor intrusion may affect the current protectiveness. It is estimated that this assessment will take approximately two years to design and complete, at which time a protectiveness determination will be made for the Site.

Direct contact with soil and groundwater is not expected to pose unacceptable risks under current conditions (i.e., exposure is currently being prevented). Groundwater cleanup is progressing with the operation of the groundwater treatment systems, but the groundwater has not met performance standards. EPA will modify the remedy to develop and evaluate risk-based chemical specific remediation goals for groundwater that are protective of human health and the environment, to be considered along with the MCLs.

To ensure future protectiveness, several issues need to be resolved. Verification is required that the entire plume is being captured at the off-facility recovery systems. An assessment of manganese and 1,4-dioxane levels in groundwater is required along with an assessment to determine if the manganese standard in the decision document is still appropriate. The sampling of GM-3, GM-4 and PRW-10 must continue for cadmium and chromium. The emissions from the Third Street and Elm Park Recovery Systems need to be modeled. Lastly, the remedy for the Site should be modified to require institutional controls to prohibit groundwater use within the plume. EPA should then work with the City of Williamsport and the Responsible Party to implement the appropriate institutional controls.

This Five-Year Review Addendum addresses the Protectiveness Statement as it relates to vapor intrusion at the Site.

Progress Since the Five-Year Review Completion Date

The 2007 Five-Year Review determined that a protectiveness determination could not be made at the time of the report because not enough data was available to properly assess the vapor intrusion pathway. This Five-Year Review Addendum only addresses the vapor intrusion issue. The 2007 Five-Year Review also identified seven issues that, although they did not affect current protectiveness, may affect future protectiveness. The follow-up actions for these issues are currently in process or concluded and a complete discussion of each issue will be included in the 2012 Five-Year Review.

In 2001, indoor air samples were collected from a residential duplex. Although the indoor air concentrations were not found to be of concern at the time, there were several factors preventing this study from serving as conclusive with respect to vapor intrusion. For example, indoor air concentrations may fluctuate; trichloroethylene (TCE) toxicity factors have increased since early 2001; and other local homes and businesses may be affected. Because of the proximity of occupied buildings to the areas of subsurface contamination, a more comprehensive study of potential vapor intrusion was recommended.

The potentially responsible party (PRP) submitted a Vapor Intrusion Evaluation Work Plan for EPA's review in October 2009. The Work Plan was reviewed by EPA and on January 19, 2010 a meeting was held with EPA, the PRP and their contractors to discuss the plan. The Vapor Intrusion Evaluation Work Plan was revised based on EPA's comments and resubmitted for review in February 2010. Sampling of the residences occurred in November 2010 and the results were provided to EPA in an Evaluation Report in February 2011.

The Work Plan divided the Site into five different areas (Figure 1). One residence was selected for sampling within Area 1, Area 2 and Area 5 and two residences were selected for sampling within Area 3 and Area 4. One residence in Area 5 refused access for sampling and an alternate was chosen.

In Area 1, TCE was identified in the subslab above screening values which indicates a **potential future risk** due to vapor intrusion. Indoor air concentrations are subject to fluctuation, were below screening levels, and the accumulation of cis-1,2 - dichloroethene (DCE) and TCE are at notable concentrations in the subslab. Because indoor air concentrations are below screening levels, vapor intrusion is not currently a problem at this home.

Low levels of TCE were found below screening levels in the subslab, but not in the indoor air of the residence sampled in Area 2. Therefore, vapor intrusion is not currently a problem in Area 2.

In Area 3, low levels of TCE were found below screening levels in the subslab and indoor air. The (DCE) in indoor air, found in one of the residences in Area 3, is likely due to ambient air. Therefore, vapor intrusion is not currently a problem in Area 3.

The results in Area 4 identified one residence that had low levels of TCE below screening levels in the sub-slab, indoor and ambient air. Cis-1,2-DCE was identified in the indoor air in this residence, but it is likely due to ambient air. Therefore, vapor intrusion is not currently a problem in this portion of Area 4. The other residence in Area 4 had TCE in the sub-slab above screening values which indicates a **potential future risk** due to vapor intrusion. Indoor air concentrations are subject to fluctuation, were below screening levels, and the accumulation of TCE is at notable concentrations in the subslab. Because indoor air concentrations are below screening levels, vapor intrusion is not currently a problem at this home.

In Area 5, low levels of TCE were found below screening levels in the subslab, indoor and ambient air of the residence sampled. Therefore, vapor intrusion is not currently a problem in Area 5.

In a letter to the PRP dated April 5, 2011, EPA concluded that there is no current risk from vapor intrusion, but Areas 1 and 4 have a future potential for vapor intrusion. Additional sampling will take place in these two areas during the 2011-2012 heating season and the results will be evaluated for the next Five-Year Review. The vapor intrusion pathway will also be assessed by evaluating the groundwater plume, in all areas, during the 2012 Five-Year Review. If volatile organic compound (VOC) concentrations have increased, additional sampling for vapor intrusion will be assessed.

Issues and Recommendations

Issue	Recommendations/ Follow-Up Actions	Party Responsible	Oversight Agency	Milestone Date	Affects Protectiveness? (Y/N)	
					Current	Future
Areas 1 and 4 have the potential for future vapor intrusion.	Resample Areas 1 and 4 for vapor intrusion during the 2011-2012 heating season and provide a Vapor Intrusion Evaluation Report.	PRP	EPA	May 2012	N	Y

Protectiveness Statement

The remedy which has been implemented at the Avco Lycoming Superfund Site is protective of human health and the environment in the short term. The vapor intrusion assessment that was conducted in November 2010 concluded that currently vapor intrusion is not an issue at the Site, but there is a potential for future vapor intrusion in several areas. Additional sampling will occur and further evaluation of vapor intrusion will be conducted in the next Five-Year Review.

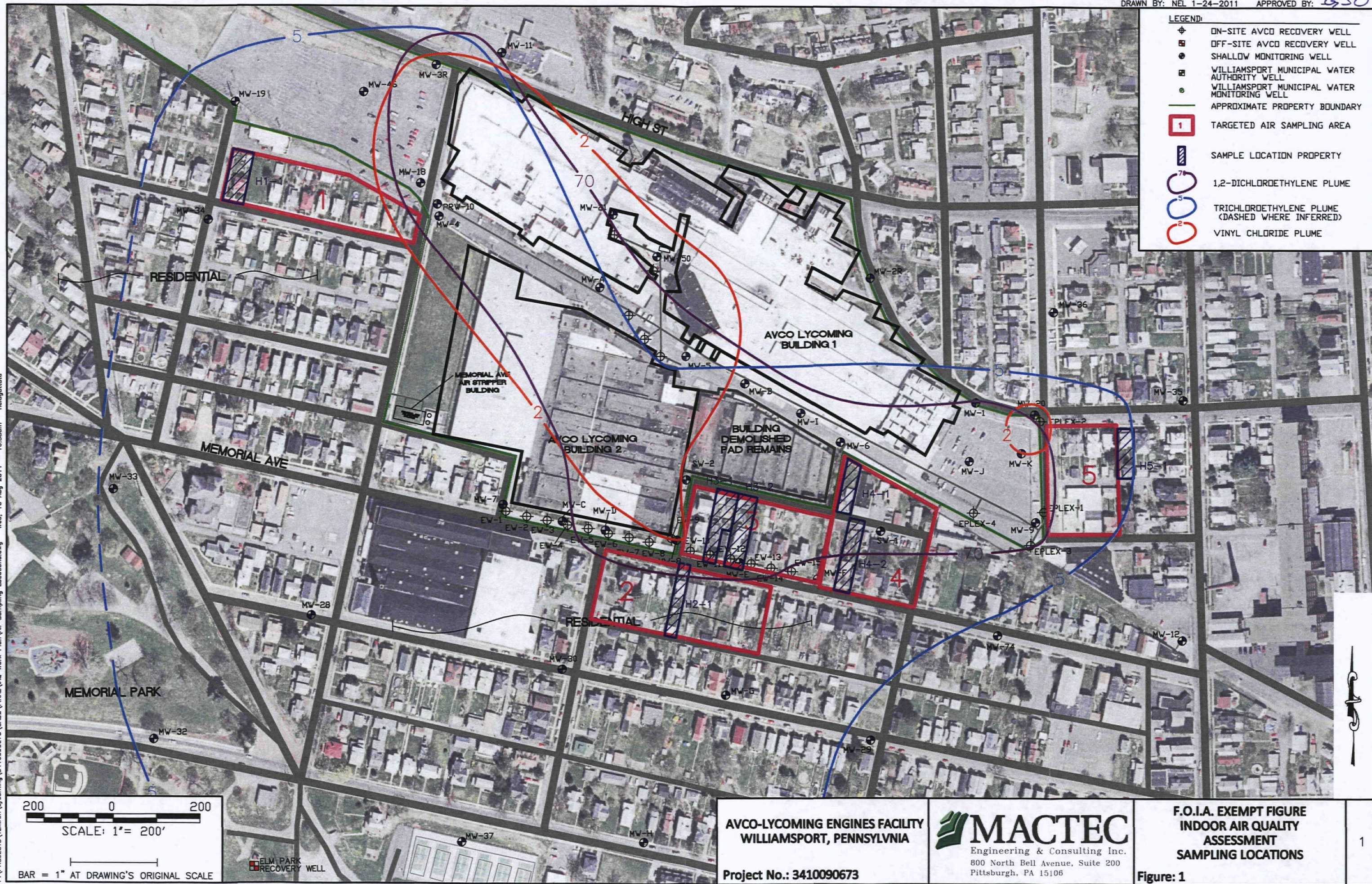
Direct contact with soil and groundwater is not expected to pose unacceptable risks under current conditions (i.e., exposure is currently being prevented). Groundwater cleanup is progressing with the operation of the groundwater treatment systems, but the groundwater has not met performance standards. EPA intends to modify the remedy to develop and evaluate risk-based chemical specific remediation goals for groundwater that are protective of human

health and the environment, to be considered along with the MCLs.

To ensure future protectiveness, several issues need to be resolved. Verification is required that the entire plume is being captured at the off-facility recovery systems. An assessment of manganese and 1,4-dioxane levels in groundwater is required along with an assessment to determine if the manganese standard in the decision document is still appropriate. The sampling of GM-3, GM-4 and PRW-10 must continue for cadmium and chromium. The emissions from the Third Street and Elm Park Recovery Systems need to be modeled. Lastly, the remedy for the Site should be modified to require institutional controls to prohibit groundwater use within the plume. EPA should then work with the City of Williamsport and the Responsible Party to implement the appropriate institutional controls.

Next Five-Year Review

The next Five-Year Review for the Site is due on September 24, 2012, five years after the signature of the last five-year review report.



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