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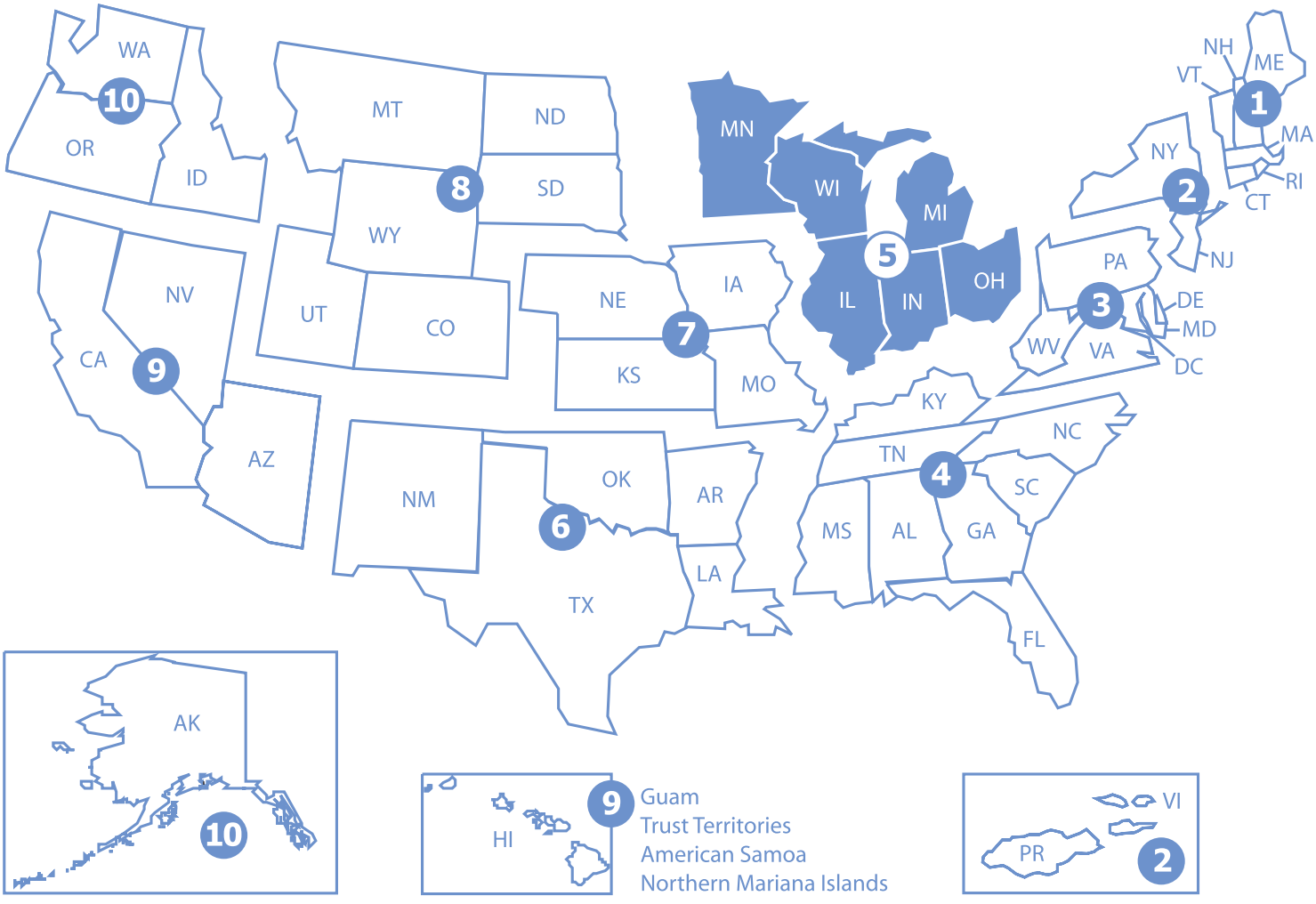
Office of Land and Emergency Management

Support Document for the Revised National Priorities List Final Rule – West Vermont Drinking Water Contamination



Support Document for the Revised National Priorities List Final Rule

West Vermont Drinking Water Contamination

September 2016

Site Assessment and Remedy Decisions Branch
Office of Superfund Remediation and Technology Innovation
Office of Land and Emergency Management
U.S. Environmental Protection Agency
Washington, DC 20460

Table of Contents

Executive Summary ..... **iii**

Introduction ..... **iv**

Background of the NPL iv

Development of the NPL iv

Hazard Ranking System v

Other Mechanisms for Listing vi

Organization of this Document vi

Glossary vii

1. List of Commenters and Correspondence **1**

2. Site Description **1**

3. Summary of Comments **7**

3.1 Support for Listing 8

3.2 Extension of Comment Period 8

3.3 Consistency with the APA and CERCLA 9

3.4 Consistency with the HRS, EPA Guidance, and Policies 10

3.5 Adequacy of the Administrative Record 11

3.6 Stigma and Economic Impact of Site Listing 13

3.7 Alternatives to Listing 14

3.8 Liability 15

3.9 Delay in Cleanup 16

3.10 Consideration of Removal Actions in HRS Scoring 16

3.11 Risk to Human Health and the Environment 17

3.12 Aquifer Delineation 18

3.12.1 Aquifer Interconnections 22

3.12.2 Aquifer Discontinuities 24

3.12.3 Ground Water Flow Direction 26

3.13 Likelihood of Release 29

3.13.1 Likelihood of Release - Aquifer Being Evaluated....30
3.13.2 Scoring of an Observed Release to the Level I Drinking Water Wells....31
3.13.2.1 Background Levels....31
3.13.2.2 Significant Increase of Contaminant Concentrations in Monitoring Wells....37
3.13.2.3 Attribution - Significant Increase of Contamination in Monitoring Wells....42

3.14 Waste Characteristics....44

3.15 Targets....47
3.15.1 Nearest Well....48
3.15.2 Level I and Level II Targets....50
3.15.3 Potential Targets....50
3.15.3.1 Consideration of Ground Water Flow Direction....51
3.15.3.2 Apportionment of Target Populations....53
3.15.3.3 Re-evaluation of the Potential Contamination Factor Value....55
3.15.4 Revision of Target Factor Category Value....56

3.16 HRS Score....56

4. Conclusion....59

Executive Summary

Section 105(a)(8)(B) of CERCLA, as amended by SARA, requires that the EPA prepare a list of national priorities among the known releases or threatened releases of hazardous substances, pollutants, or contaminants throughout the United States. An original National Priorities List (NPL) was promulgated on September 8, 1983 (48 FR 40658). CERCLA requires that EPA update the list at least annually.

This document provides responses to public comments received on the West Vermont Drinking Water Contamination site, proposed on September 30, 2015 (80 FR 58658). This site is being added to the NPL based on an evaluation under EPA's Hazard Ranking System (HRS) in a final rule published in the *Federal Register* in September 2016.

Introduction

This document explains the rationale for adding the West Vermont Drinking Water Contamination site in Indianapolis, Indiana to the National Priorities List (NPL) of uncontrolled hazardous waste sites and provides responses to public comments received on this site listing proposal. The EPA proposed this site to the NPL on September 30, 2015 (80 FR 58658). This site is being added to the NPL based on an evaluation under the Hazard Ranking System (HRS) in a final rule published in the *Federal Register* in September 2016.

Background of the NPL

In 1980, Congress enacted the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. Sections 9601 *et seq*. in response to the dangers of uncontrolled hazardous waste sites. CERCLA was amended on October 17, 1986, by the Superfund Amendments and Reauthorization Act (SARA), Public Law No. 99-499, stat., 1613 *et seq.* To implement CERCLA, EPA promulgated the revised National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 CFR Part 300, on July 16, 1982 (47 FR 31180), pursuant to CERCLA Section 105 and Executive Order 12316 (46 FR 42237, August 20, 1981). The NCP, further revised by EPA on September 16, 1985 (50 FR 37624) and November 20, 1985 (50 FR 47912), sets forth guidelines and procedures needed to respond under CERCLA to releases and threatened releases of hazardous substances, pollutants, or contaminants. On March 8, 1990 (55 FR 8666), EPA further revised the NCP in response to SARA.

Section 105(a)(8)(A) of CERCLA, as amended by SARA, requires that the NCP include

> criteria for determining priorities among releases or threatened releases throughout the United States for the purpose of taking remedial action and, to the extent practicable, take into account the potential urgency of such action, for the purpose of taking removal action.

Removal action involves cleanup or other actions that are taken in response to emergency conditions or on a short-term or temporary basis (CERCLA Section 101). Remedial action is generally long-term in nature and involves response actions that are consistent with a permanent remedy for a release (CERCLA Section 101). Criteria for placing sites on the NPL, which makes them eligible for remedial actions financed by the Trust Fund established under CERCLA, were included in the HRS. EPA promulgated the HRS as Appendix A of the NCP (47 FR 31219, July 16, 1982). On December 14, 1990 (56 FR 51532), EPA promulgated revisions to the HRS in response to SARA, and established the effective date for the HRS revisions as March 15, 1991.

Section 105(a)(8)(B) of CERCLA, as amended, requires that the statutory criteria provided by the HRS be used to prepare a list of national priorities among the known releases or threatened releases of hazardous substances, pollutants, or contaminants throughout the United States. The list, which is Appendix B of the NCP, is the NPL.

An original NPL of 406 sites was promulgated on September 8, 1983 (48 FR 40658). At that time, an HRS score of 28.5 was established as the cutoff for listing because it yielded an initial NPL of at least 400 sites, as suggested by CERCLA. The NPL has been expanded several times since then, most recently on April 7, 2016 (81 FR 20252). The Agency also has published a number of proposed rulemakings to add sites to the NPL. The most recent proposal was on April 7, 2016 (81 FR 20277).

Development of the NPL

The primary purpose of the NPL is stated in the legislative history of CERCLA (Report of the Committee on Environment and Public Works, Senate Report No. 96-848, 96th Cong., 2d Sess. 60 [1980]).

> The priority list serves primarily informational purposes, identifying for the States and the public those facilities and sites or other releases which appear to warrant remedial actions. Inclusion of a facility or site on the list does not in itself reflect a judgment of the activities of its owner or

operator, it does not require those persons to undertake any action, nor does it assign liability to any person. Subsequent government actions will be necessary in order to do so, and these actions will be attended by all appropriate procedural safeguards.

The NPL, therefore, is primarily an informational and management tool. The identification of a site for the NPL is intended primarily to guide EPA in determining which sites warrant further investigation to assess the nature and extent of the human health and environmental risks associated with the site and to determine what CERCLA-financed remedial action(s), if any, may be appropriate. The NPL also serves to notify the public of sites EPA believes warrant further investigation. Finally, listing a site may, to the extent potentially responsible parties are identifiable at the time of listing, serve as notice to such parties that the Agency may initiate CERCLA-financed remedial action.

CERCLA Section 105(a)(8)(B) directs EPA to list priority sites among the known releases or threatened release of hazardous substances, pollutants, or contaminants, and Section 105(a)(8)(A) directs EPA to consider certain enumerated and other appropriate factors in doing so. Thus, as a matter of policy, EPA has the discretion not to use CERCLA to respond to certain types of releases. Where other authorities exist, placing sites on the NPL for possible remedial action under CERCLA may not be appropriate. Therefore, EPA has chosen not to place certain types of sites on the NPL even though CERCLA does not exclude such action. If, however, the Agency later determines that sites not listed as a matter of policy are not being properly responded to, the Agency may consider placing them on the NPL.

Hazard Ranking System

The HRS is the principle mechanism EPA uses to place uncontrolled waste sites on the NPL. It is a numerically based screening system that uses information from initial, limited investigations -- the preliminary assessment and site inspection -- to assess the relative potential of sites to pose a threat to human health or the environment. HRS scores, however, do not determine the sequence in which EPA funds remedial response actions, because the information collected to develop HRS scores is not sufficient in itself to determine either the extent of contamination or the appropriate response for a particular site. Moreover, the sites with the highest scores do not necessarily come to the Agency's attention first, so that addressing sites strictly on the basis of ranking would in some cases require stopping work at sites where it was already underway. Thus, EPA relies on further, more detailed studies in the remedial investigation/feasibility study that typically follows listing.

The HRS uses a structured value analysis approach to scoring sites. This approach assigns numerical values to factors that relate to or indicate risk, based on conditions at the site. The factors are grouped into three categories. Each category has a maximum value. The categories are:

- likelihood that a site has released or has the potential to release hazardous substances into the environment;
- characteristics of the waste (toxicity and waste quantity); and
- people or sensitive environments (targets) affected by the release.

Under the HRS, four pathways can be scored for one or more threats as identified below:

- Ground Water Migration (S_{gw})
  - drinking water

- Surface Water Migration (S_{sw})
  The following threats are evaluated for two separate migration components, overland/flood migration and ground water to surface water.
  - drinking water
  - human food chain
  - sensitive environments

- Soil Exposure (S_s)
  - resident population
  - nearby population
  - sensitive environments

- Air Migration (S_a)
  - population
  - sensitive environments

After scores are calculated for one or more pathways according to prescribed guidelines, they are combined using the following root-mean-square equation to determine the overall site score (S), which ranges from 0 to 100**:**

$$S = \sqrt{\frac{S_{gw}^2 + S_{sw}^2 + S_s^2 + S_a^2}{4}}$$

If all pathway scores are low, the HRS score is low. However, the HRS score can be relatively high even if only one pathway score is high. This is an important requirement for HRS scoring because some extremely dangerous sites pose threats through only one pathway. For example, buried leaking drums of hazardous substances can contaminate drinking water wells, but -- if the drums are buried deep enough and the substances not very volatile -- not surface water or air.

Other Mechanisms for Listing

There are two mechanisms other than the HRS by which sites can be placed on the NPL. The first of these mechanisms, authorized by the NCP at 40 CFR 300.425(c)(2), allows each State and Territory to designate one site as its highest priority regardless of score. The last mechanism, authorized by the NCP at 40 CFR 300.425(c)(3), allows listing a site if it meets the following three requirements:

- Agency for Toxic Substances and Disease Registry (ATSDR) of the U.S. Public Health Service has issued a health advisory that recommends dissociation of individuals from the release;
- EPA determines the site poses a significant threat to public health; and
- EPA anticipates it will be more cost-effective to use its remedial authority than to use its emergency removal authority to respond to the site.
-

Organization of this Document

The following section contains EPA responses to site-specific public comments received on the proposal of the West Vermont Drinking Water Contamination site on September 30, 2015 (80 FR 58658). The site discussion begins with a list of commenters, followed by a site description, a summary of comments, and Agency responses to each comment. A concluding statement indicates the effect of the comments on the HRS score for the site.

Glossary

The following acronyms and abbreviations are used throughout the text:

Agency	U.S. Environmental Protection Agency
APA	Administrative Procedure Act
ATSDR	Agency for Toxic Substances and Disease Registry
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C. Sections 9601 *et seq*., also known as Superfund
CFR	Code of Federal Regulations
CLP	EPA Contract Laboratory Program
CRQL	Contract-required quantitation limit
DL	Detection limit
ECOTOX	The U.S. EPA ECOTOXicology database
EPA	U.S. Environmental Protection Agency
FR	Federal Register
FS	Feasibility study
HRS	Hazard Ranking System, Appendix A of the NCP
HRS score	Overall site score calculated using the Hazard Ranking System; ranges from 0 to 100
IDEM	Indiana Department of Environmental Management
NCP	National Oil and Hazardous Substances Pollution Contingency Plan, 40 C.F.R. Part 300
NPL	National Priorities List, Appendix B of the NCP
PCE	Tetrachloroethene
PRP	Potentially responsible party
RCRA	Resource Conservation and Recovery Act
RI	Remedial investigation
SARA	Superfund Amendments and Reauthorization Act
SCDM	Superfund Chemical Data Matrix
SQL	Sample quantitation limit
TCE	Trichloroethylene
TDL	Target distance limit
TSCA	Toxic Substances Control Act
VOC	Volatile organic compounds
VRA	Voluntary Remediation Agreement
VRP	Voluntary Remediation Program

1. List of Commenters and Correspondence

EPA-HQ-SFUND-2015-0575-0004	Correspondence submitted by Indiana Department of Environmental Management, State Concurrence Letter, dated June 30, 2015.
EPA-HQ-SFUND-2015-0575-0005	Memorandum submitted by EPA, Extension of Comment Period without Federal Registrar Notice, dated November 24, 2015.
EPA-HQ-SFUND-2015-0575-0006	Correspondence submitted by EPA, Extension of Comment Period, dated November 24, 2015.
EPA-HQ-SFUND-2015-0575-0007	Comment and attachments submitted by Nicholas M. Billings, Vice President and Assistant General Counsel, Aimco Michigan Meadows Holdings, LLC (AMMH), dated November 22, 2015.
EPA-HQ-SFUND-2015-0575-0008	Comment submitted by Marilyn Pfisterer, City County Council Dist. 14, dated November 23, 2015.
EPA-HQ-SFUND-2015-0575-0009	Comment and attachments submitted by Aimco Michigan Meadows Holdings, dated December 2015.
EPA-HQ-SFUND-2015-0575-0010	Comment, attachments, and exhibits submitted by Robert D. Mowrey and Douglas E. Cloud, Kazmarek Mowrey Cloud Laseter LLP, on behalf of Genuine Parts Company (GPC), dated December 14, 2015.
EPA-HQ-SFUND-2015-0575-0011	Comment submitted by Marta Orpiszewska, Hogan Lovells on behalf of Aimco Michigan Meadows Holdings (AMMH), dated December 15, 2015.
EPA-HQ-SFUND-2015-0575-0012	Comment and attachments submitted by Nicholas M. Billings, Authorized Agent, Vice President and Assistant General Counsel, Aimco Michigan Meadows Holdings (AMMH), dated December 14, 2015.

2. Site Description

The West Vermont Drinking Water Contamination site (the Site) is located in Marion County, Indiana. The Site consists of commingled contaminated ground water releases containing trichloroethylene (TCE), trans-1,2-dichloroethene (trans-1,2-DCE), cis-1,2-dichloroethene (cis-1,2-DCE), vinyl chloride, and 1,1-dichloroethane (1,1-DCA). Trans-1,2-DCE, cis-1,2-DCE and vinyl chloride are degradation products of TCE and tetrachloroethene (PCE). There are two known contaminated soil sources located on two properties in a commercial and residential area of Indianapolis, Indiana. The sources are located at the Genuine Parts facility (GPC) property and the Michigan Plaza property (See Site Figures below). Another facility, Allison Transmission, is located just northeast of the GPC site and the Michigan Plaza site, but is not considered part of the West Vermont Drinking Water Contamination site at this time.

Genuine Parts is located on 5.4 acres and was operated as a carburetor and brake re-manufacturing operation between 1956 and 1973. As of 2015, two businesses conduct their mailing and recycling operations at the property. A 1992 environmental investigation conducted at the site identified two reported releases of quench oil in the southwest corner of the property and an unknown amount of hydraulic fluid in the southwest courtyard. A 1993 environmental assessment identified TCE, Vinyl Chloride, 1,2-DCE, PCE, Toluene, and methylene chloride in the on-site soil. The Genuine Parts facility was enrolled in the Voluntary Remediation Program (VRP) in an agreement signed January 11, 2000 (ID# 6991004).

Michigan Plaza is located to the east of the intersection of West Michigan Street and Holt Road, approximately 1,100 feet south of the Genuine Parts property. Source areas at the property are associated with the historic solvent discharges from the dry cleaners to a leaky sewer line. The results of historic environmental investigations completed since 2001 indicate elevated levels of PCE, TCE, cis-1,2-DCE, and Vinyl Chloride in soil and ground water samples taken at the Michigan Plaza facility. Vapor mitigation systems were installed in 2008 and have operated at the Michigan Meadows Apartments complex since that time to address vapor intrusion concerns. Voluntary Remediation Agreement (VRA) for the Michigan Plaza facility was signed on April 20, 2007. As a result, the facility was enrolled in IDEM's VRP (ID# 6061202). On June 30, 2015, IDEM terminated the VRA for the Michigan Plaza facility citing unsatisfactory remedial responses from Aimco Michigan Meadows Holdings, LLC (AMMH)[1].

Volatile organic compound (VOC) contamination has been confirmed in both subsurface soils and ground water monitoring wells at both Michigan Plaza and the GPC facilities. A release of hazardous substances from contaminated soil sources to the local drinking water aquifer has been documented. The chlorinated hydrocarbon ground water plume at the Site is documented to extend north toward a city park, east toward Little Eagle Creek, south toward West Vermont Street, and west toward Tomlinson Street. The extent of the ground water plume has not been completely delineated at this time, but has been characterized by data from monitoring well samples that met the criteria for an observed release. No contaminants of concern were detected in any of the background monitoring wells (see Table 4 of the HRS documentation record at proposal).

The Site area is generally underlain by a minimum of two hydraulically interconnected water -bearing strata and for HRS purposes these strata are a single hydrologic unit. No known aquifer boundaries or discontinuities in the combined aquifer are present within 4 miles of the Site sources (the HRS target distance limit). The Riverside, White River, and Speedway well fields are within the target distance limit and draw drinking water from the combined aquifers.

The West Vermont Drinking Water Contamination site, as listed, lies between three municipal well fields. The Riverside Municipal Well Field is located approximately two to three miles to the east-northeast, the White River Municipal Well Field is located between three and four miles to the northeast, and the Speedway Municipal Well Field is located between one and three miles to the northwest. The Riverside and White River well fields supply, by capacity, serve a population of 876,728. The population served by the Speedway Municipal wells is 11,812. The complete breakdown of population served as calculated for HRS purposes is presented on pages 81-83 of the HRS documentation record at promulgation.

The HRS documentation record at proposal has been revised at promulgation to account for commenters' concerns related to the complex hydrology at the Site. An observed release of contamination is no longer scored for any residential wells. Instead, observed releases from both the GPC site and the Michigan Plaza site are documented in monitoring wells at each of these sites. As a result, the residential wells are no longer evaluated as

[1] Indiana Department of Environmental Management, *Letter to AIMCO Michigan Meadows Holdings LLC Termination Voluntary Remediation Agreement and Participation in the Voluntary Remediation Program*, June 30, 2015. This document was submitted by GPC as Exhibit 6 to its comments and can be viewed at Regulations.com under Docket ID No. EPA-HQ-SFUND-2015-0575.

subject to Level I contamination, and the waste characteristics factor category value, the nearest well factor value for each Site, and the targets factor category value are reduced for each site. The resulting HRS site score remains 50.00 at promulgation, making the Site eligible for placement on the NPL. The HRS site score revisions are discussed fully in this support document.

Although Genuine Parts and Michigan Plaza facilities are scored as a single listing in the HRS documentation record at promulgation, individually, Genuine Parts and Michigan Plaza's HRS site scores meet or exceed the NPL listing threshold of 28.50.

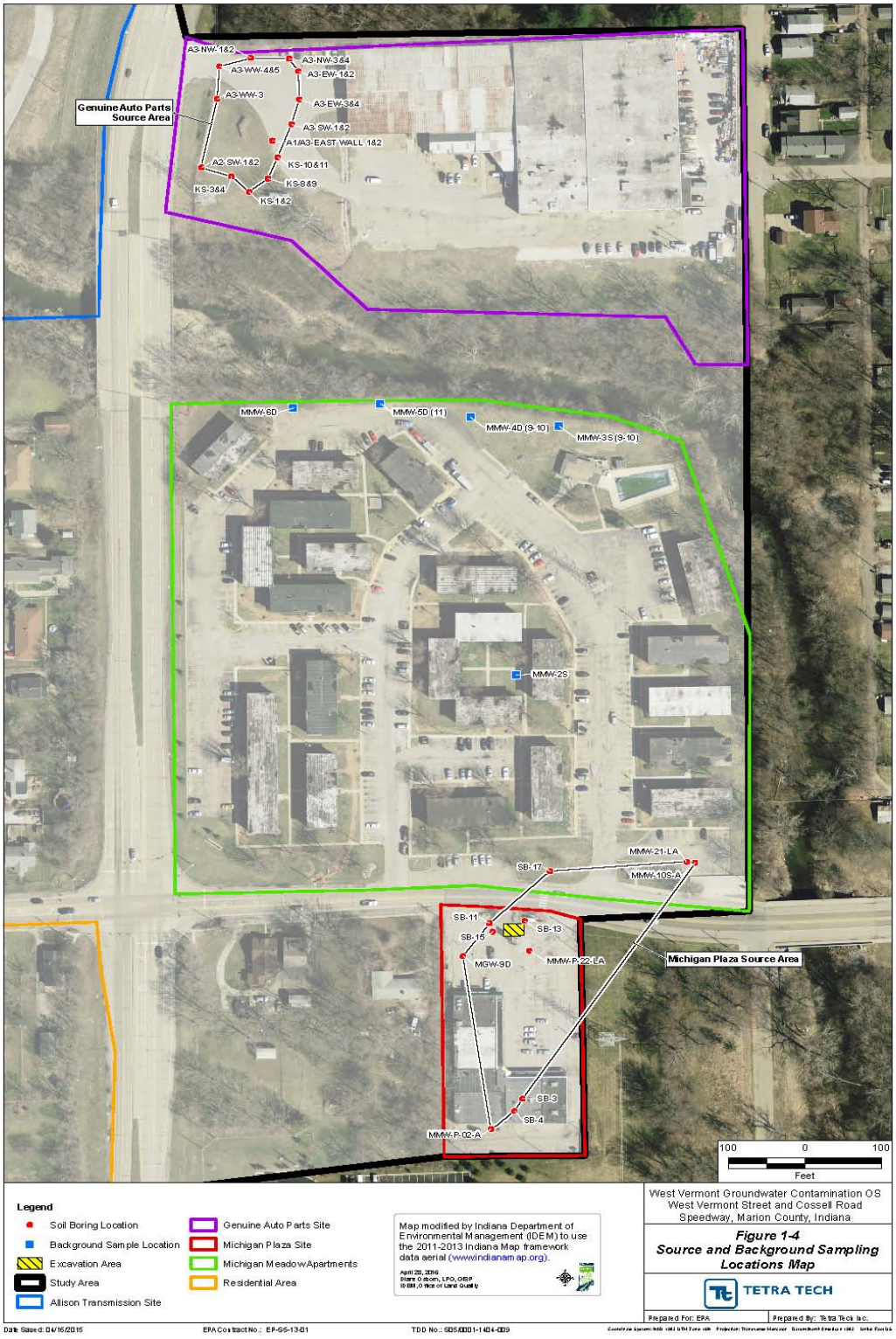


Figure 1) Map showing the source areas and background sampling locations at the West Vermont Drinking Water Contamination site.

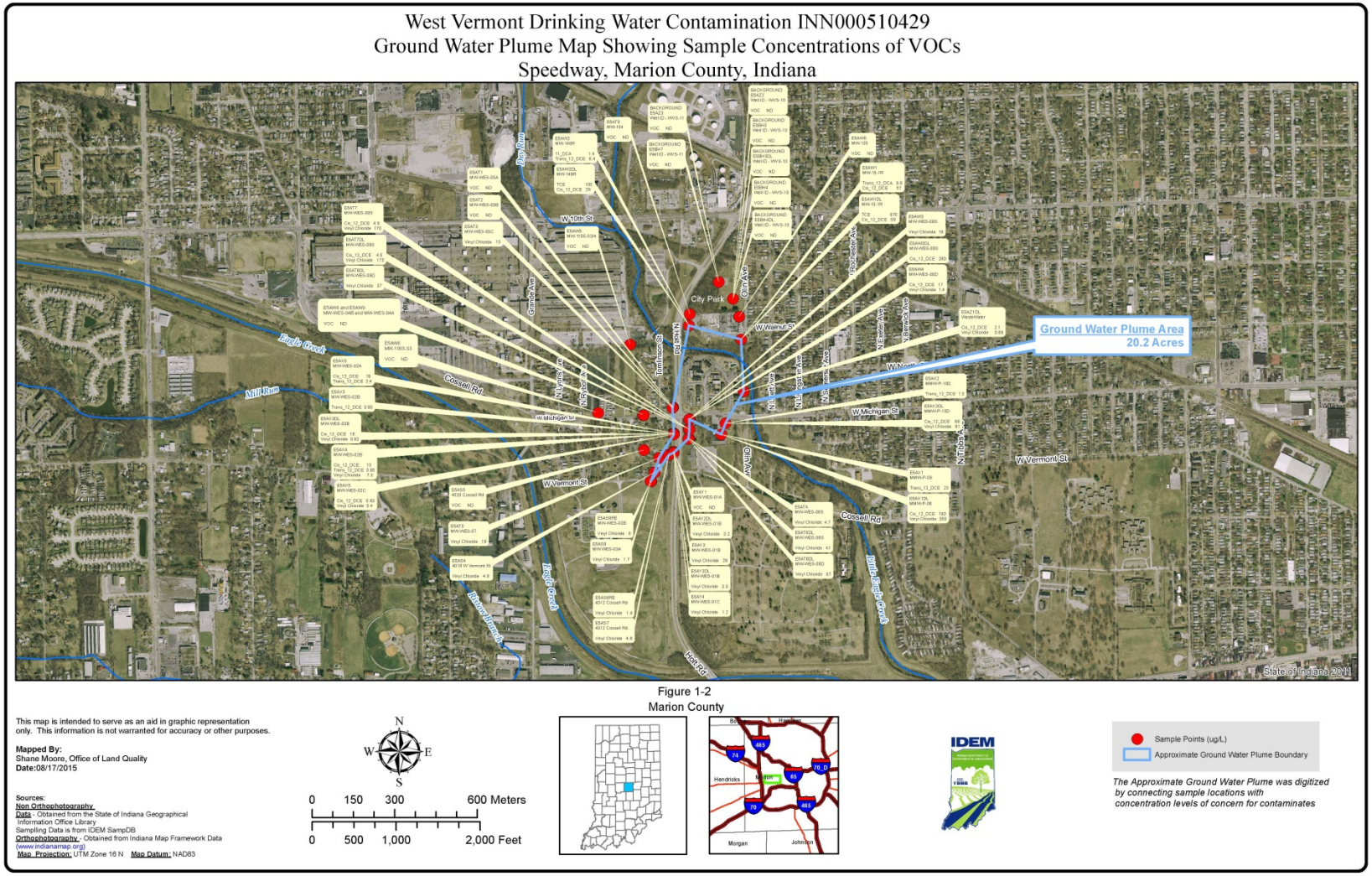
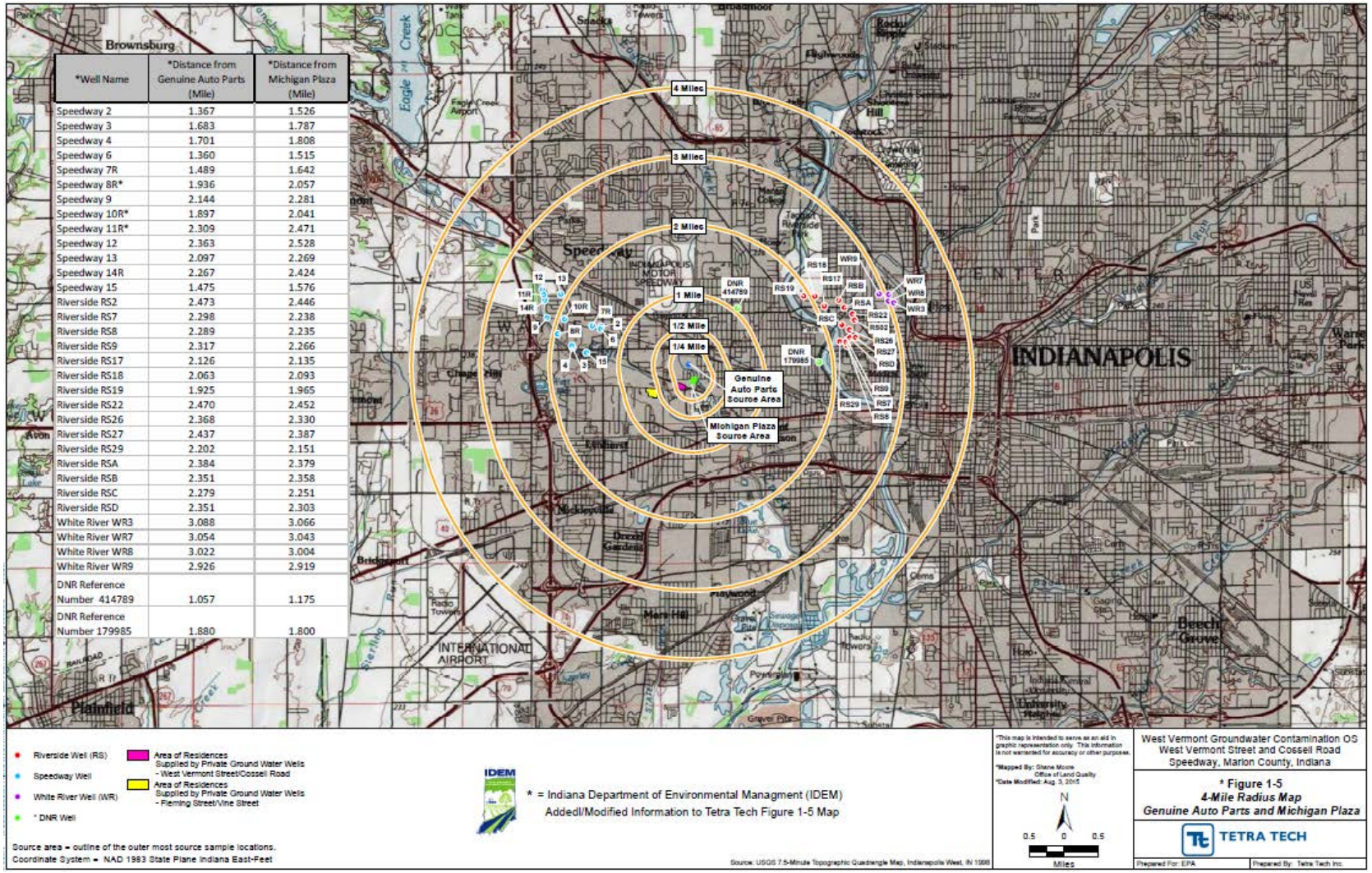


Figure 2) Map showing background sample locations and approximate area of commingled Site contamination.



*Well Name	*Distance from Genuine Auto Parts (Mile)	*Distance from Michigan Plaza (Mile)
Speedway 2	1.367	1.526
Speedway 3	1.683	1.787
Speedway 4	1.701	1.808
Speedway 6	1.360	1.515
Speedway 7R	1.489	1.642
Speedway 8R*	1.936	2.057
Speedway 9	2.144	2.281
Speedway 10R*	1.897	2.041
Speedway 11R*	2.309	2.471
Speedway 12	2.363	2.528
Speedway 13	2.097	2.269
Speedway 14R	2.267	2.424
Speedway 15	1.475	1.576
Riverside RS2	2.473	2.446
Riverside RS7	2.298	2.238
Riverside RS8	2.289	2.235
Riverside RS9	2.317	2.266
Riverside RS17	2.126	2.135
Riverside RS18	2.063	2.093
Riverside RS19	1.925	1.965
Riverside RS22	2.470	2.452
Riverside RS26	2.368	2.330
Riverside RS27	2.437	2.387
Riverside RS29	2.202	2.151
Riverside RSA	2.384	2.379
Riverside RSB	2.351	2.358
Riverside RSC	2.279	2.251
Riverside RSD	2.351	2.303
White River WR3	3.088	3.066
White River WR7	3.054	3.043
White River WR8	3.022	3.004
White River WR9	2.926	2.919
DNR Reference Number 414789	1.057	1.175
DNR Reference Number 179985	1.880	1.800

3. Summary of Comments

The Indiana Department of Environmental Management (IDEM) submitted a letter to EPA, dated June 30, 2015, to convey its support for the inclusion of the West Vermont Contamination Drinking Water Site on the NPL. Aimco Michigan Meadows Holding, LLC (AMMH), Genuine Parts Company, and Ms. Pfisterer submitted policy and technical comments on the listing of the Site.

AMMH and Ms. Pfisterer requested EPA extend the public comment period to ensure sufficient time for community input and to review the technically complex site, supporting documents, and new information regarding the Allison Transmission Plant. AMMH and GPC commented that EPA did not comply with the Administrative Procedure Act, the HRS, or EPA policies and the *HRS Guidance Manual* in placing the site on the NPL.

AMMH commented that listing the Site on the NPL would subject AMMH to reputational harm by linking it to new contamination that it did not cause and Ms. Pfisterer added that "any news of a super fund will have a dramatic effect on home values in and near [the] area." AMMH and GPC commented that there are alternative programs that could be used to address contamination at the Site and an NPL listing is unwarranted. AMMH and GPC commented that EPA failed to consider alternatives to listing the Site on the NPL, and that these alternatives would also protect human health and the environment.

Both AMMH and GPC commented their respective properties are not responsible for the contamination in the residential drinking water wells. GPC asserted that the HRS site score and the HRS documentation record at proposal did not adequately consider or discuss key removal actions conducted at the GPC facility in 2001 and 2006. AMMH also commented that EPA exaggerates the risks the Site poses because Site contamination does not pose a significant risk to residential areas and does not pose potential risk to the Municipal well fields.

GPC and AMMH commented that the geologic conditions at the Site have been mischaracterized and the aquifer underlying the Site has been improperly evaluated. GPC stated that EPA ignored what is actually known about the "aquifers, flow, and geologic features in the vicinity of the Site" and commented that the known information actually "would 'run counter' to the [agency's] evidence." AMMH similarly commented that EPA relied on incomplete data and ignored relevant reports and key facts when it determined the geologic conditions beneath the West Vermont Site. Both AMMH and GPC commented that the ground water flow direction has not been adequately evaluated at the Site and noted that substantial evidence was ignored in determining the direction of ground water flow.

AMMH and GPC challenged the likelihood of release evaluation in the HRS documentation record at proposal for both the scoring of the combined listing of the GPC and Michigan Plaza facilities and the demonstration that each facility would individually qualify for the NPL. AMMH challenged the assignment of the likelihood of release to the combined aquifers and GPC challenged the release at the GPC facility. Further, AMMH challenged the attribution of the increase in contaminant levels in the two residential wells scored as Level I targets in the HRS documentation record at proposal to the facilities.

Finally, AMMH and GPC commented that EPA incorrectly evaluated the targets in the HRS documentation record at proposal. AMMH commented that EPA incorrectly scored potential targets as Level I targets and as a result also scored the nearest well incorrectly. Both AMMH and GPC commented that the potential target factor value was improperly evaluated.

3.1 Support for Listing

Comment: On behalf of Indiana Governor Michael R. Pence, the Indiana Department of Environmental Management (IDEM) submitted a letter to EPA, dated June 30, 2015, to convey its support for the inclusion of the West Vermont Contamination Drinking Water Site on the NPL. IDEM's letter of support stated that an NPL listing would allow for timely investigation of the nature and extent of the contamination at the Site and "appears to be the most viable alternative for addressing the existing environmental problems."

AMMH asserted that EPA should not rely on the IDEM Commissioner's letter to support the proposed rule because the letter contains a number of inaccurate statements.

Response: The West Vermont Drinking Water Contamination site is being added to the NPL. Listing makes a site eligible for remedial action funding under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). EPA will examine the Site to determine what response, if any, is appropriate. Actual funding may not necessarily be provided in the precise order of HRS scores. In some cases, a more detailed investigation at the site may indicate that remedial action funding under CERCLA is not necessary. The need for using Superfund monies for remedial activities will be determined on a site-by-site basis, taking into account the NPL ranking, State priorities, further site investigation, other response alternatives, and other factors as appropriate.

IDEM conveyed its support for including the Site on the NPL in a June 30, 2015, letter. As stated in this letter, the Commissioner is authorized by Indiana Governor Michael R. Pence to act on his behalf in this matter. IDEM's concurrence letter provides sufficient grounds to establish IDEM supports adding the Site to the NPL. IDEM supports placing the Site on the NPL because listing "would allow for proper and timely investigation of the nature and extent of alternatives for the impacted areas, thereby protecting human health and the environment." IDEM's letter stated:

> An NPL listing would allow for proper and timely investigation of the nature and extent of the contamination of the potential sources and enable the U.S. EPA to determine clean up alternatives for the impacted areas, thereby protecting human health and the environment.

Counter to AMMH's assertion otherwise, the IDEM support letter is accurate, as is detailed in this support document, and IDEMs support letter provides valid grounds to support listing the Site on the NPL. Substantive challenges to the IDEM concurrence letter are addressed in this support document.

3.2 Extension of Comment Period

Comment: AMMH and Ms. Pfisterer requested EPA extend the public comment period. AMMH requested the comment period be extended 180 days to ensure sufficient time for community input and to review the technically complex site, supporting documents, and new information regarding the Allison Transmission Plant. AMMH asserted that an extension of the public comment period would not endanger public health or welfare. Ms. Pfisterer requested EPA extend the public comment period for an unspecified period of time.

Response: EPA granted a 14-day extension to the comment period for the Site. This extension was documented in a memorandum to the docket from Douglas Ammon, Chief Site Assessment and Remedy Decision Branch, dated November 24, 2015 (docket ID EPA-HQ-SFUND-2015-0575). It is EPA's general policy to only extend the comment period on a site-specific basis to address any procedural errors, such as incomplete or missing references in the public docket. However, there were no procedural errors identified for this Site and all documentation supporting the proposed NPL listing was made available to the public at the time of proposal, giving all interested parties ample time to review the information and prepare comments. Nevertheless, EPA allowed for an extra 14

days to receive comments. A notice was also published in the local newspaper as well as coverage from local media outlets to alert the community and local government officials of the proposed NPL listing.

3.3 Consistency with the APA and CERCLA

Comment: AMMH and GPC commented that EPA did not comply with the Administrative Procedure Act (APA) in its scoring of the Site because the HRS score analysis was not objective, was not supported by sufficient reliable evidence, did not consider all relevant evidence, and failed to comply with Congressional mandates required by CERCLA.

AMMH claimed that the proposed rule "contravenes" each of the following prohibitions under the APA:

- neglects to consider all relevant evidence;
- abused its discretion by applying the law in an unreasonable manner; and
- fails to support its decisions with substantial evidence.

AMMH asserted that EPA acted in a manner that is arbitrary, capricious, and otherwise not in accordance with law when it failed to consider all relevant data and provide substantial evidence to support several components of the Site score determination.

AMMH and GPC asserted that EPA failed to conduct an objective analysis of the Site score because EPA ignored basic scientific principles, relied on old information, overlooked data, and failed to consider better approaches to protecting human health and the environment than Site placement on the NPL. AMMH and GPC also asserted that EPA failed to conduct an objective analysis when it allegedly disregarded its consultant's findings regarding whether Allison Transmission was a potential source of Site contamination and the direction of ground water flow in the Site vicinity. GPC claimed that the ground water flow determination is based on assumptions, runs counter to the evidence before it, and is arbitrary and capricious because site-specific information contradicts EPA's determination. GPC asserted that these errors cannot be "ascribed to a difference in view or a product of agency expertise."

AMMH also asserted that EPA's application of the HRS in this situation is a violation of the congressional mandate under CERCLA, 42 U.S.C. § 9605(c)(1), which assures the HRS accurately assesses risks at a site to the maximum extent feasible. Specifically, AMMH stated that "even if its approach is mandated by the HRS, a court may still find that the application of an agency rule is unlawful because it is inconsistent with a congressional directive." AMMH argued that the HRS, as applied to the circumstances of this site, "directly conflicts with Congress's mandate to accurately assess risks to the maximum extent feasible."

Response: The HRS evaluation of the Site is consistent with the HRS regulation in accordance with CERCLA, Congressional mandate to assess risks to the maximum extent feasible under CERCLA, and the APA. EPA's decision to add the Site to the NPL is based on its HRS evaluation of the release from the GPC and Michigan Plaza sites. This evaluation is neither arbitrary nor capricious because EPA examined relevant data, provided sufficient evidence to support the HRS Site score, and has articulated a rational explanation for the assigned combined Site score and each individual site score. This is demonstrated in the HRS documentation record and the responses provided in this support document in response to the comments submitted on the proposed site listing.

GPC commented that EPA ignored data about the aquifer, ground water flow, and geologic features near the Site when it determined that Speedway, Riverside, and White River well fields were potential targets. EPA did not falsely assume the Speedway, Riverside, and White River well fields are potential receptors of contamination associated with the Site because it accurately applied the HRS when it properly determined that residences

receiving water from these well fields are potential targets for HRS scoring purposes. Technical comments on the ground water flow direction and potential targets as they relate to the HRS Site score are discussed in sections 3.12.4, Ground Water Flow Direction, and 3.15.3, Potential Targets, of this support document.

Regarding AMMH and GPC comments that EPA disregarded its consultant's findings regarding whether Allison Transmission was a potential source of Site contamination, the EPA did not disregard findings or reports that showed Allison Transmission was a potential source. The reports that GPC and AMMH refer to do not conclude that Allison Transmission is contributing ground water to the residential area; the reports only state that there is a potential flow gradient toward the area. The EPA performed a follow-up study that installed monitoring wells between the Allison Transmission plant and the residential area to determine if Allison Transmission was contributing to the Site contamination. However, as detailed in section 3.13.2, Scoring of an Observed Releases to the Level I Drinking Water Wells, of this support document, the scoring of Level I targets has been removed from the HRS documentation record at promulgation and the relative contributions from Allison Transmission are not relevant to the HRS Site score at promulgation.

AMMH commented that listing the Site on the NPL violates a Congressional directive that requires the HRS to accurately assess the degree of risk a site poses to human health and the environment to the maximum extent possible. As discussed further below, AMMH's claim that the HRS method of scoring potential targets does not comply with CERCLA is untimely. Consistent with CERCLA and the NCP, the Site is being placed on the NPL based on an HRS evaluation of the relative risk posed by a release of volatile organic compounds to ground water and the threat that these releases may pose to drinking water in the area. GPC confuses EPA's potential target determination as one of "agency expertise" that is counter to scientific principles, instead of what it is, a strict application of the HRS regulation. Challenges to the HRS are untimely and are not addressed in this support document. See 42 U.S.C. § 9613(a). Section 113(a) of CERCLA prohibits any challenges to regulations promulgated under CERCLA after 90 days from the date of promulgation. Any challenges to the HRS scoring methodology, a regulation promulgated in accordance with CERCLA, must have been raised within 90 days from the date of the HRS promulgation (December 14, 1990). AMMH challenges the way in which the HRS scores potential targets, an issue that was ripe for review during the statutory review period. AMMH's claim comes far beyond the statutory time period and is therefore prohibited.

This comment results in no change to the HRS score and no change in the decision to place the Site on the NPL.

3.4 Consistency with the HRS, EPA Guidance, and Policies

Comment: GPC and AMMH asserted that the HRS Site score is not consistent with the HRS and EPA policies and the *HRS Guidance Manual*. AMMH commented that the Site score is inflated because EPA did not comport with the HRS, the *HRS Guidance Manual*, or established EPA policies and that it must be revised in accordance with EPA's own HRS rules and policies. AMMH provided examples of components of the Site score determination it stated did not comply with the HRS or EPA policies and guidance, including but not limited to target populations, ground water flow direction, and aquifer boundaries and interconnections. AMMH also commented that EPA's assessment of the Site "conflicts with the purposes of the NPL" because the assessment is inaccurate, is "plagued by internal inconsistencies," and fails to consider numerous key facts. GPC and AMMH also alleged that there are gaps in data provided in the HRS documentation record at proposal.

Response: The EPA correctly applied the HRS regulation and the HRS Site score is not inflated. EPA's application of the HRS regulation is consistent with HRS policies and applicable guidance documents. As set out in the HRS documentation record and this support document, the EPA evaluated the Site consistently with the NPL and followed all of the requirements set forth in the HRS. The HRS evaluation is consistent with the requirements the HRS because EPA assigned the Site score as directed by the HRS regulation using appropriate data and articulated a rational explanation for the assigned Site score.

Specific challenges to how the HRS Site score complies with the scoring procedures provided in the HRS are addressed in later sections of this support document. For example, commenters' specific challenges to the target population are discussed in section 3.15 Targets, of this support document; ground water flow direction is discussed in section 3.12.3, Ground Water Flow Direction, of this support document; and aquifer boundaries and interconnections are discussed in section 3.12, Aquifer Delineation, of this support document.

GPC and AMMH commented that the HRS evaluation of the Site did not comply with the *HRS Guidance Manual*. Unlike the HRS regulation itself, the interim final *HRS Guidance Manual* is not a regulation and imposes no mandatory requirements on the agency. In evaluating whether a site merits NPL listing, EPA complies with the HRS and uses the *HRS Guidance Manual* as just that—guidance to determine how best to perform the HRS evaluation based on the facts or circumstances presented at each site. As shown in the other sections of this support document, the EPA has followed the HRS in scoring the Site and applied the *HRS Guidance Manual*, as appropriate, depending on the facts presented by this site. The HRS Guidance Manual states on page ii:

> The procedures set forth in this document are intended as guidance to employees of the [EPA], States, and other government agencies. EPA officials may decide to follow the guidance provided in this directive, or to act at variance with it, based on analysis of specific site circumstances.

As noted in the opening of the *HRS Guidance Manual*, guidance provided in the document is intended to be applied on a case-by-case basis depending on the facts presented at each site. Therefore, some guidance included in the document may not be applicable to some sites. Specific challenges to the application of the interim final *HRS Guidance Manual* are addressed in section 3.13.2.1, Background Levels, of this support document.

AMMH and GPC commented that the HRS documentation record at proposal does not meet all relevant EPA policies. These comments do not identify any particular policies AMMH or GPC believe have not been met. EPA has reviewed the HRS documentation record at proposal and has been unable to identify any inconsistencies with applicable policies. It appears all references to the application of EPA policies noted by AMMH and GPC are made in reference to the HRS regulation itself or the HRS *Guidance Manual*. As it is discussed in this response above, the Site score was applied in accordance with the HRS and the *HRS Guidance Manual*.

AMMH and GPC's comments regarding "internal inconsistencies" were made in relation to the application of the potential target score. AMMH argues that residents receiving drinking water from the Speedway, Riverside, and White River well fields could not be exposed to Site contamination because ground water does not flow toward these well fields; therefore these wells should be not scored as potential targets. The potential target determination was made consistently with the HRS regulation as is demonstrated in section 3.15.3, Potential Targets, of this support document.

This comment results in no change to the HRS score and no change in the decision to place the Site on the NPL.

3.5 Adequacy of the Administrative Record

Comment: AMMH and GPC alleged that the HRS package at proposal did not include all available data relevant to assessing the conditions at the Site and that EPA failed to include in the administrative record numerous investigations and reports that are critical to an accurate evaluation of the Site. GPC and AMMH commented that wells installed to investigate whether Allison Transmission may be a possible source of contamination found at the Site were inadequate and that EPA incorrectly asserted that data gaps related to this issue have been completely filled. GPC also commented that AMMH "destroyed" evidence, creating a "spoliation of evidence problem."

GPC commented that the Site evaluation ignored ground water information "published by USEPA[2], the State of Indiana[3], the Marion County Health Department,[4]" and reports from other sites approved by IDEM and EPA.

AMMH commented that EPA did not include all data from residential wells sampled in the residential area since 2009 and that other neighborhood wells sampled have not had detections of vinyl chloride. AMMH asserted that the residential well information provided to establish an observed release at the residential wells does not present an accurate picture of risk at the Site and that EPA failed to provide a rationale for relying on data that is not the most recent information available. AMMH asserted that this lack of information impairs the public's ability to assess and meaningfully comment on the proposed Site listing.

AMMH listed multiple documents that it requested be added to the administrative record[5]. AMMH commented that EPA need not consider the most recent data when placing a site on the NPL, but that it must explain its reasons for relying on old data.

GPC commented that AMMH, through unauthorized actions, "created a spoliation of evidence problem." GPC commented that when AMMH injected chemicals into the subsurface without approval, they "made it impossible to differentiate between its contamination and [GPC's] contamination. Essentially, it destroyed the evidence."

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[2] Reference cited by GPC: "Ref. 38, HRS Document Record pp. 12-13."

[3] Reference cited by GPC: Fleming, A. H., Brown, S. E., and Ferguson, V. R., 2000, Geologic and hydrogeologic framework, in Brown, S. E., and Laudick, A. J., eds., 2003, Hydrogeologic framework of Marion County, Indiana – a digital atlas illustrating hydrogeologic terrain and sequence: Indiana Geological Survey Open-File Study 00-14, CD-ROM. (prepared in cooperation with the Marion County Health Department). This reference was submitted by GPC as an attachment to GPC's Ramboll Environ Comment document, dated December 11, 2015. Available at Regulations.gov, search Docket ID NO. EPA-HQ-SFUND-2015-0575.

[4] References cited by GPC: Meyer, William, et al. 1975. Availability of Ground Water in Marion County Indiana, USGS OFR 75-312, Prepared in cooperation with Indiana Department of Natural Resources, Division of Water. July; Fleming, A.H., Brown, S.E., and Ferguson, V.R., 2000, Geologic and hydrogeologic framework, in Brown, S.E., and Laudick, A.J., eds., 2003, Hydrogeologic framework of Marion County, Indiana – a digital atlas illustrating hydrogeologic terrain and sequence: Indiana Geological Survey Open-File Study 00-14, CD-ROM. (prepared in cooperation with the Marion County Health Department); Grove, G. E. 2012a. Potentiometric Surface Map of the Bedrock Aquifers of Marion County Indiana. Indiana Department of Natural Resources Division of Water. September; Grove, G. E. 2012b. Potentiometric Surface Map of the Unconsolidated Aquifers of Marion County Indiana. Indiana Department of Natural Resources Division of Water. September. These references were submitted by GPC as attachments to GPC's Ramboll Environ Comment document, dated December 11, 2015. Available at Regulations.gov, search Docket ID NO. EPA-HQ-SFUND-2015-0575.

[5] AMMH listed the following investigations and reports: 2011 Weston Report (AMMH Appendix J), 2011 Technical Response (AMMH Appendix M), 2013 Technical Response (AMMH Appendix N), 2013 Letter Report (AMMH Appendix P), 2014 Technical Update (AMMH Appendix 0), Letter from S. Reisch (Hogan Lovells) to T. Nash (EPA) and L. McCoy (IDEM), West Vermont Street Drinking Water Contamination Site, Speedway Indiana (Jul. 2, 2015) ("PA Comments") (AMMH Appendix Q), AMMH Quarterly Monitoring Reports, Michigan Plaza Site (2007-2015) (AMMH Appendix B), Michigan Plaza 2Q 2015 Report (AMMH Appendix D), AR CAD IS, RCRA Corrective Action Description of Current Conditions, General Motors Corporation Powertrain-Allison Transmission (Jul. 19, 2005) (AMMH Appendix Y), ARCADIS, RCRA Corrective Action Interim Measures Semi-Annual Remediation Status & Groundwater Monitoring Report- First Half 2015 (Jul. 14, 2015) (AMMH Appendix Z), Allison Transmission Statement of Basis (AMMH Appendix H), ARCADIS, RCRA Corrective Action Interim Measures Semi-Annual Remediation Status & Groundwater Monitoring Report- Second Half2014 (Jan. 14, 2015) (AMMH Appendix AA), ARCADIS, DATA REPORT- Investigation in Off-site Area Southeast of GM Powertrain-Allison Transmission (Oct. 12, 2005) (AMMH Appendix BB), Global Environmental Compliance & Sustainability Remediation Services, General Motors LLC Comments on EPA's Statement of Basis for Proposed Soil and Groundwater Cleanup at Allison Transmission, Inc. S2B Potentiometric Groundwater Flow-AOI 51 (Oct. 9, 2015) (AMMH Appendix CC), 2011 Weston Report (AMMH Appendix J), ARCADIS, MEMO-MW-0102-S2 Investigation Summary and Proposed Additional Investigation (Aug. 30, 2012) (AMMH Appendix DD), ARCADIS, MEMO - General Motors RCRA Corrective Action at Allison Transmission, MW-0102-S2 Area Proposed Investigation (Nov. 15, 2013) (AMMH Appendix EE), ARCADIS, MEMO - General Motors RCRA Corrective Action at Allison Transmission, MW-0102-S2 Area Investigation, December 2013-January 2014 (Apr. 11, 2014) (AMMH Appendix FF).

Response: The documents and information provided in the HRS package at the time of proposal was sufficient for the purposes of conducting an HRS evaluation for the Site and meets all CERCLA and HRS standards. This information was made available to the public and provided citizens sufficient information to review the Site score and meaningfully comment on the proposed Site listing. Specific allegations of missing or outdated data, to the extent it is relevant to the Site score at promulgation and listing the Site on the NPL, are addressed in later sections of this support document. The documents outlined by the commenters that were not included in the HRS documentation record at proposal were provided in commenters' submissions and are included as part of the administrative record for the Site because commenters submitted them as attachments to their comments and are in the online docket at Regulations.gov (see footnotes 2, 3, and 4 of this support document). In addition, EPA has reviewed all of these documents and has determined that these additional documents are either not necessary to support the HRS documentation record scoring, not relevant to support the HRS site score, or provide inconclusive information that does not support or refute the listing decision. In one instance, upon review, EPA noticed a typo in a memorandum regarding the ground water flow direction; this change is addressed below and an addendum to Reference 53 of the HRS documentation record has been added to the reference at promulgation. Documents that are not relevant to the Site scoring or listing decision (e.g., outdated data or biased data) and not specifically mentioned by the commenters will remain part of the administrative record but will not be addressed in this support document.

GPC's comments regarding the alleged "spoliation of evidence" or "destruction of evidence" are made in relation to GPC's argument that GPC is not a source of contaminants found in the West Vermont Street residential wells. GPC does not explain with specificity exactly how this alleged destruction of evidence issue impacts attribution. To the extent this comment may be intended to challenge attribution to Level I targets, the residential wells are no longer being evaluated as having an observed release and there is no attribution of contaminants to these wells at promulgation (see section 3.13.2, Scoring of an Observed Release to the Level I Drinking Water Wells, of this support document).

This comment results in no change to the HRS score and no change in the decision to place the Site on the NPL.

3.6 Stigma and Economic Impact of Site Listing

Comment: AMMH commented that listing the Site on the NPL would subject AMMH to reputational harm by linking it to new contamination that it did not cause.

Ms. Pfisterer commented that "any news of a super fund will have a dramatic effect on home values in and near [the] area."

Response: Indirect economic and liability factors, such as those raised by the commenters, are generally not considered when EPA assesses whether a site qualifies for the NPL. Inclusion of a Site on the NPL does not reflect economic value or a judgment on the activities of any owner or operator, but rather reflects EPA's judgment that a significant release, or threat of a release, has occurred and that a site is a priority for further investigations under CERCLA.

Even if indirect economic factors were considered at this stage of the Superfund process, the alleged negative impacts noted by the commenters would be caused by the contamination in the area, not by placing the Site on the NPL. EPA notes that there may be both costs and benefits that can be associated with listing a site. Among the benefits are increases health and environmental protection as a result of increased public awareness of potential hazards and the possibility of accelerated cleanup efforts available through CERCLA remedies. Listing sites as a national priority may provide States increased support for funding responses at some sites, resulting in lower human exposure to hazardous substances and increased water and air quality. Therefore, it is possible that any perceived or actual negative fluctuations in property values or development opportunities that may result from

contamination may also be countered by positive fluctuations when a CERCLA investigation and any necessary cleanup are completed.

This comment results in no change to the HRS score and no change in the decision to place the Site on the NPL.

3.7 Alternatives to Listing

Comment: AMMH and GPC commented that there are alternative programs that could be used to address contamination at the Site and an NPL listing is unwarranted. GPC commented that placing the Site on the NPL is unwarranted, inappropriate, and should not be used as a substitute for party-specific enforcement or "as a substitute for the need for enforcement as to the Michigan Plaza plume." AMMH and GPC commented that EPA failed to consider alternatives to listing the Site on the NPL, and that these alternatives would also protect human health and the environment. AMMH and GPC also commented that other enforcement alternatives would be more direct, precise, timely, require less environmental investigation and enforcement, and would therefore be less costly.

AMMH commented that listing the Site on the NPL is not necessary because each area of the Site and the Allison Transmission Plant is undergoing government-supervised response action. AMMH commented that EPA fails to consider that both AMMH and Genuine Parts are conducting voluntary remediation at their parcels within the Site. AMMH also commented that it is committed to continuing remediation of the Michigan Plaza facility until remedial objectives are met and it contests IDEM's grounds for termination the company's enrollment in the Voluntary Remediation Program (VRP). AMMH commented that EPA's assumption that NPL listing is needed to address the Site is unfounded because contamination at the Site should be addressed by other means.

GPC commented that it has not objected to participating in EPA's proposed removal action that is outlined in IDEM's concurrence letter dated June 30, 2015. GPC commented that IDEM suggested that GPC is unwilling to participate in the letter, but GPC stated that it has repeatedly indicated its preparedness to work cooperatively with EPA. GPC commented that it had successfully worked with IDEM to address the 700 North Olin contaminant issues under the VRP program and suggest that the same results could be achieved at Michigan Plaza without an NPL listing.

GPC continued by stating that this NPL listing would "snare" GPC in the listing process and punish GPC when GPC has been in full cooperation with IDEM. GPC stated that "NPL listing should not be used as a substitute for party enforcement issues, particularly where, as here, it has the effect of punishing another party." GPC commented that AMMH was expelled from the VRP program in June of 2015 because they had not satisfactorily responded to IDEM's requests over an approximate eight-year period to appropriately address the hazardous substances at the Michigan Plaza site. GPC commented that IDEM's experience with AMMH in the VRP might have led EPA to initiate the NPL process, but GPC does not agree that NPL placement is "an appropriate substitute for the apparent need for a different enforcement posture by IDEM."

Response: The decision to list the Site on the NPL is appropriate because it is based on the HRS site evaluation, has State support for the listing, and listing the Site does not conflict with EPA's deferral policy. The HRS documentation record at proposal and this support document provide evidence that EPA has complied with the HRS in evaluating the Site score and that the Site score meets the required listing threshold of 28.50. IDEM has expressed support for placing the Site on the NPL. In a June 30, 2015, letter, Commissioner of IDEM, Thomas W. Easterly, stated that IDEM supported including the Site on the NPL.

The Commissioner explained IDEM supports listing the Site on the NPL because the nature and extent of contamination had not been delineated by parties enrolled in IDEM's VRP, stating that "PRPs did not agree to conduct time-critical removal actions under an Administrative Settlement Agreement and Order on Consent," and that the Site requires long-term response action to protect human health and the environment. The Commissioner

further explained that NPL listing will allow for proper and timely investigation of the nature and extent of the contamination and enable the EPA to determine appropriate cleanup actions for impacted areas.

GPC commented that listing the Site on the NPL is not necessary because GPC is willing to participate in a potentially responsible party (PRP) lead removal plan, as outlined in IDEM's concurrence letter. Listing the Site on NPL does not prohibit GPC from participating in approved removal activities. If any PRP wishes to undertake cleanup efforts, such as those discussed by GPC and AMMH, it may do so under EPA supervision pursuant to appropriate agreements. Listing the Site on the NPL does not encumber or preclude PRP's from entering into these agreements. The EPA has entered into such agreements between proposal and promulgation at other sites, and such an alternative is available to the commenter.

Additionally, deferring the Site to the State of Indiana is not appropriate because the State of Indiana fully supports the designation of the Site for inclusion on the NPL. This decision does not conflict with EPA's state deferral policy[6]. The deferral program is an administrative tool that enables States and Tribes, under their own laws, to respond at sites that EPA would otherwise not soon address. This policy provides several criteria for EPA and the State to consider when determining the eligibility of sites for deferral to a state program. The first of which is that that State must express interest in having the site deferred to it. As discussed above, the State of Indiana has expressed that it is interested in the Site being listed on the NPL, not having the Site deferred to the State, as the State has noted that the VRP has not been effective at the Michigan Plaza facility. Therefore, deferral to the State is not appropriate for this site.

Regarding the assertion that the Site should not be listed on the NPL because alternative means of addressing the Site would be less costly, future remedial actions, and the cost or timeliness of such actions, are not considered when EPA assesses whether a site qualifies for the NPL. Inclusion of the Site on the NPL does not dictate future remedial actions. The NPL is only identification that a site warrants further investigation. Any EPA actions that may impose costs on other parties are based on separate decisions made later in the Superfund process on a case-by-case basis. Therefore, cost considerations raised by the commenter are associated with events that generally follow listing the site, not with the listing itself.

Furthermore, GPC incorrectly asserted that listing the Site on the NPL would inappropriately "snare" GPC in the listing process when instead it should be addressing the releases at the Site through State enforcement processes. For the reasons discussed above, listing the Site on the NPL is appropriate because the listing is based on the HRS site evaluation, the State of Indiana supports listing the Site, and listing the Site does not conflict with EPA's deferral policy. To the extent GPC's comment is related to site cleanup action liability, inclusion of a site on the NPL does not require any action of any private party, nor does it determine the liability for the cost of cleanup at the site. This is discussed further in section 3.8, Liability, of this support document.

This comment results in no change to the HRS score and no change in the decision to place the Site on the NPL.

3.8 Liability

Comment: Both AMMH and GPC commented their respective properties are not responsible for the contamination in the residential drinking water wells. AMMH stated it did not cause contamination at the Site. GPC denied its property is a source of contamination at the Site. GPC further commented that AMMH's "unauthorized [bioremediation] injections caused the vinyl chloride to rise 'exponentially'" in the vicinity of the drinking water wells and asserted that AMMH is the cause of vinyl chloride in the drinking water wells and that AMMH created the potential vapor intrusion issues in the West Vermont street area.

[6] This policy is outlined in EPA's *Guidance on Deferral of NPL Listing Determinations While States Oversee Response Actions*, Document ID: 9375.6-11, 1995. Federal Register notice (60 FR 44488 (Aug. 28, 1995)) available online at: https://www.gpo.gov/fdsys/granule/FR-1995-08-28/95-21278/content-detail.html.

GPC commented that "EPA inexplicably seems to excuse the owners and operators of and other responsible parties for" any alleged contributions of hazardous substances to the contamination found at the West Vermont Street wells.

Response: Liability for site cleanup actions is not established at the time a site is placed on the NPL. The NPL serves primarily as an informational tool for use by the EPA in identifying those sites that appear to present a risk to public health or the environment. Listing a site on the NPL does not reflect a judgment on the activities of any owner or operator of a site. The primary purpose of the NPL is stated in the legislative history of CERCLA:

> The priority list serves primarily informational purposes, identifying for the States and the public those facilities and sites or other releases which appear to warrant remedial actions. Inclusion of a facility or site on the list does not in itself reflect a judgment of the activities of its owner or operator, it does not require those persons to undertake any action, nor does it assign liability to any person. Subsequent government action in the form of remedial actions or enforcement actions will be necessary in order to do so, and these actions will be attended by all appropriate procedural safeguards.

(Report of the Committee on Environment and Public Works, Senate Report No. 96-848, 96th Cong., 2d Sess. 60 (1980); also see *Kent County v. EPA*, 963 F.2d 391 (D.C. Cir. 1992)).

This comment results in no change to the HRS score and no change in the decision to place the Site on the NPL.

3.9 Delay in Cleanup

Comment: AMMH commented that listing the Site on the NPL would delay its ability to complete a voluntary cleanup and to fulfill its contractual obligations regarding its former properties.

Response: AMMH's concerns regarding delays in remediation due to placement of the site on the NPL are unfounded because listing does not necessarily delay response actions. Any response actions taken, or ongoing, will be considered during later stages of the Superfund process. Placing a site on the NPL does not necessarily delay the ability of any PRPs to negotiate possible response actions, or delay ongoing response actions at a site. PRPs can affect remedy selection, as can any other member of the public, through the public comment process that occurs prior to determining if remedial actions are needed and if so, what those actions may be for a site. PRPs may also undertake the remedial investigation/feasibility (RI/FS) and/or remedial design/remedial action stages under EPA supervision and pursuant to appropriate agreements with governmental authorities (under enforcement authorities of CERCLA or those of other statutes). The listing process does not encumber or preclude PRPs from entering into these agreements. The EPA has entered into such agreements between proposal and promulgation at other sites, and such an alternative is available to the commenter.

This comment results in no change to the HRS score and no change in the decision to place the Site on the NPL.

3.10 Consideration of Removal Actions in HRS Scoring

Comment: GPC asserted that the HRS site score and the HRS documentation record at proposal did not adequately consider or discuss key removal actions conducted at the GPC facility in 2001 and 2006. GPC commented that the HRS documentation record at proposal did not acknowledge that an additional 4,805.2 tons of TCE-impacted non-hazardous waste were excavated and disposed of during the same time as the removal activities discussed in the HRS documentation record at proposal. (Removal actions occurred on April 9, 2001 and July 6, 2001.) GPC also commented that the HRS documentation record at proposal did not discuss

bioremediation performed at Genuine Parts in July 2004 and October 2004 that removed contamination by decreasing TCE concentrations in ground water over time.

Response: The 2001 and 2006 removal actions discussed by the commenters were adequately considered in accordance with the HRS and EPA's removal policy. EPA acknowledges GPC removed additional waste from the GPC property in 2001 and 2006, as discussed by the commenter. These removal actions and post-removal conditions were considered in the HRS evaluation, and the Site qualifies for listing because the risks posed to the public and the environment by past and future releases at the Site have not been fully addressed.

The HRS considers removal actions in the evaluation of the hazardous waste quantity factor value. HRS Section 2.4.2.2 *Calculation of hazardous waste quantity factor value*, discusses how to assign a pathway waste quantity for a site. It states that portions of a source or release remaining after a removal action may be considered in the Hazardous Waste Quantity Factor Value.

For a removal action to be considered in HRS scoring, particularly in scoring waste quantity, certain requirements must be met. As stated in Section Q, *Consideration of Removal Actions*, of the preamble to the HRS (55 FR 51567, 51568):

> EPA will evaluate a site based on current conditions provided that response actions actually have removed wastes from the site for proper disposal or destruction in a facility permitted under the Resource Conservation and Recovery Act (RCRA), the Toxic Substances Control Act (TSCA), or by the Nuclear Regulatory Commission.

These 2001 and 2006 removal actions discussed by GPC neither removed all the hazardous substances from the GPC facility sources that may be currently leaching to ground water, nor did they eliminate the risk posed by the release of those hazardous substances to the ground water pathway prior to those removal actions. Therefore, these removal actions discussed by the commenters were adequately considered, in accordance with EPA's removal policy, in the evaluation of the sources in the HRS documentation record at proposal.

Similarly, the bioremediation conducted at the GPC site was not ignored; rather, it was conducted prior to the 2006 sampling event and did not eliminate contamination from the Site. While the bioremediation may lower the concentration of TCE in the ground water over time, this action did not eliminate the risk posed by the release of hazardous substances at the site or eliminate the future migration of this contamination. Therefore, the bioremediation actions performed were appropriately considered at proposal.

This comment results in no change to the HRS score and no change in the decision to place the Site on the NPL.

3.11 Risk to Human Health and the Environment

Comment: AMMH asserted that EPA exaggerates the risks the Site poses because Site contamination does not pose a significant risk to residential areas and does not pose potential risk to the Municipal well fields. AMMH commented that this inaccurate assessment of risk will needlessly alarm residents.

AMMH commented that the risk posed to residential wells is exaggerated because EPA's determination that vinyl chloride was found above safe drinking water standards allegedly ignores important facts. AMMH asserted that the site does not pose a risk to the Municipal Well Fields and these targets should not be scored as potential targets. AMMH also commented that EPA exaggerates the risk posed by the site because cleanup actions are already underway in all portions of the Site.

Response: Consistent with CERCLA and the NCP, the Site has been placed on the NPL based on an HRS evaluation of the relative risk posed by a release of volatile organic compounds to ground water and the threat that

these releases may pose to drinking water in the area. The HRS site evaluation appropriately indicates the Site's relative risk to health and the environment when compared to other sites also being evaluated for HRS purposes.

The HRS is not a site-specific risk assessment; rather, it is a screening tool used to help EPA determine priorities for cleanup and to determine possible response activities among sites on the NPL based on their relative risk. As a screening tool, the HRS provides a relative risk comparison; it does not identify site-specific risk level, rather, it identifies a relative risk level used to compare risk levels amongst sites. Following listing, a site-specific risk assessment may be performed to determine the actual risk posed by the releases from the AMMH and GPC sites to determine what remedial action, if any, is needed to protect human health and the environment.

The NPL is intended to assist EPA in determining which sites warrant further investigation to assess the risk associated with the site; an HRS score above 28.50 represents EPA's determination that the Site poses a risk to human health and the environment relative to other sites evaluated under the HRS; see also 55 FR 51532 (Final Rule, Hazard Ranking System, December 14, 1990). CERCLA § 105(a)(8)(a) requires EPA to determine NPL priorities based on the "relative risk or danger to public health or welfare, or the environment." The criteria EPA applies to determine this relative risk or danger is codified in the HRS, and is the Agency's primary tool for deriving a site score based on the factors identified in CERCLA. Therefore, AMMH's comments asserting the HRS Site score improperly evaluates relative risk is actually a challenge to specific technical aspects of the HRS evaluation, which are addressed in the remaining sections of this support document.

This comment results in no change to the HRS score and no change in the decision to place the Site on the NPL.

3.12 Aquifer Delineation

Comment: GPC and AMMH commented that the geologic conditions at the Site have been mischaracterized and the aquifer underlying the Site has been improperly evaluated. GPC commented that the actual properties of the aquifer underlying the Site are unknown and the "default assumptions" made by EPA about the aquifer are incorrect. GPC stated that EPA ignored what is actually known about the "aquifers, flow, and geologic features in the vicinity of the Site" and commented that the known information actually "would 'run counter' to the [agency's] evidence."

GPC also commented that the wells in the Riverside and White River well fields are generally screened in the limestone bedrock that is a different formation than where the contamination exists, and asserted that the two layers are not in hydraulic connection (i.e., a discontinuity is present between the layers). GPC commented that Site contamination could not reach the Riverside or White River well fields.

AMMH commented that EPA relied on incomplete data and ignored relevant reports and key facts when it determined the geologic conditions beneath the West Vermont Site. AMMH commented that EPA's description of the geologic conditions at the Site differ from a regional study conducted in 2000 by the Indiana Geological Survey. This study states that southwestern Marion County is underlain by the New Albany Shale formation. AMMH commented that EPA fails to address the inconsistencies with the underlying geology.

Response: The hydrogeological conditions at the Site were appropriately characterized and evaluated in the HRS documentation record according to the information that was available at proposal for the purposes of performing an HRS evaluation. Specifically, the properties of the hydrological units, or aquifer strata, underlying the Site were appropriately evaluated for interconnections, discontinuities, and flow direction and the aquifers were documented to be interconnected within 2 miles of the Site sources. Therefore, these aquifer strata were appropriately considered one hydrological unit in the HRS documentation record at proposal and no change was made to the aquifer description in the HRS documentation record at promulgation.

HRS Section 3.0, *Ground Water Migration Pathway*, states that the ground water pathway score is based on contamination threats to the ground water in an aquifer at a site. HRS Section 3.0.1, *General considerations*, instructs the scorer how to evaluate the hydrological conditions at a site and instructs how to appropriately delineate the aquifers for HRS scoring purposes. HRS Section 3.0.1.1, *Ground water target distance limit*, first instructs that a target distance limit (TDL) be established. This TDL delineates the extent of the aquifer being evaluated. HRS Section 3.0.1.1 states:

> The target distance limit defines the maximum distance from the sources at the site over which targets are evaluated. Use a target distance limit of 4 miles for the ground water migration pathway, except when aquifer discontinuities apply (see section 3.0.1.2.2). Furthermore, consider any well with an observed release from a source at the site (see section 3.1.1) to lie within the target distance limit of the site, regardless of the well's distance from the sources at the site…

After establishing the TDL, HRS Section 3.0.1.2, *Aquifer boundaries*, instructs that if multiple aquifers are present, the scorer should:

> [c]ombine multiple aquifers into a single hydrologic unit for scoring purposes if aquifer interconnections can be established for these aquifers. In contrast, restrict aquifer boundaries if aquifer discontinuities can be established.

HRS Section 3.0.1.2.1, *Aquifer interconnections*, provides direction for how and where to evaluate interconnections to determine if two aquifers can be considered a single hydrologic unit. It states:

> Evaluate whether aquifer interconnections occur within 2 miles of the sources at the site. If they occur within this 2-mile distance, combine the aquifers having interconnections in scoring the site. In addition, if observed ground water contamination attributable to the sources at the site extends beyond 2 miles from the sources, use any locations within the limits of this observed ground water contamination in evaluating aquifer interconnections. If data are not adequate to establish aquifer interconnections, evaluate the aquifers as separate aquifers.

HRS Section 3.0.1.2.2, *Aquifer discontinuities*, directs how to evaluate for discontinuities that can limit the TDL to less than 4 miles in radius from the source(s) at the site. It states:

> Evaluate whether aquifer discontinuities occur within the 4-mile target distance limit. An aquifer discontinuity occurs for scoring purposes only when a geologic, topographic, or other structure or feature entirely transects an aquifer within the 4-mile target distance limit, thereby creating a continuous boundary to ground water flow within this limit. If two or more aquifers can be combined into a single hydrologic unit for scoring purposes, an aquifer discontinuity occurs only when the structure or feature entirely transects the boundaries of this single hydrologic unit.
>
> When an aquifer discontinuity is established within the 4-mile target distance limit, exclude that portion of the aquifer beyond the discontinuity in evaluating the ground water migration pathway. However, if hazardous substances have migrated across an apparent discontinuity within the 4-mile target distance limit, do not consider this to be a discontinuity in scoring the site.

Section 3.0.1, *General Considerations*, of the HRS documentation record at proposal includes the general description of the geology at the site and establishes the 4-mile TDL. Page 43 states:

> Subsurface materials beneath the site, the Speedway wellfield, and the Riverside wellfield are part of one continuous sand and gravel outwash plain that extends across the White River and lower Eagle Creek stream valleys (Ref. 120, pp. 6, 8, 9). In the area of interest and the Speedway

> wellfield, sediments consist of variable thicknesses of outwash overlying complexly interbedded sand and gravel and till… Regionally, the New Albany Shale underlies the sand and gravel outwash and Muskatatuck (limestone) group underlies the shale (Refs. 120; 130). However, the New Albany Shale is not present throughout the entire region and where the shale is absent, unconsolidated sand and gravel materials sit directly on the carbonate Muskatatuck group (Fig 1-5: Ref 120, p. 10; 116, pp. 51-55). The aquifer is unconfined and the recharge rate is high (Ref. 120, pp. 12-13).
>
> The 4-mile TDL has been established from the sources at this site as shown in Figure 1-5.

The HRS documentation record at proposal also discusses the local geology and aquifer systems on which the extent of the TDL and the presence or absence of aquifer interconnections and discontinuities is based. Page 43 of the HRS documentation record at proposal states:

> The ground water system in the area of the West Vermont Drinking Water site consists of two hydraulically interconnected aquifer layers/strata. These aquifers are described below.
>
> - Aquifer/Stratum 1 (uppermost): Sand and Gravel Outwash Overburden
>
> Description
>
> Surficial soils near the residential wells and potential sources consist of Urban Land-Genesee complex along the north bank of Little Eagle Creek and in a small area near west Vermont St in the southwest corner of the area of interest. Genesee soil consists of very deep, well drained soils that formed in flood plains along the White River and larger creeks. Urban Land-Fox complex is present through the remainder of the area of interest and in most of the land between the two creeks. Fox complex soil consists of well drained soils overlying sand and gravelly sand. (Ref. 125)
>
> Boring logs in the project area show that unconsolidated sediments consist primarily of sand, with interbedded fine-grained units between 30 and 80 feet bgs (Refs. 40, pp. 885-1113; 131; 132; 133, pp. 446-571). Nearby locations, notably wells MMW-20LA, MMW-21LA, MMW-P-22LA (Ref. 122, pp. 91-96, 98-101, 105-109), MW-WES-01C (Ref. 131, p 1), and MW-WES-6D (Ref. 132, p. 1) show vinyl chloride contamination migrating below the fine-grained sediments down to a depth of 70 feet (Refs. 122, pp. 46-72; 131; 132; Table 7; Table 8). This migration of a non-naturally occurring contaminant (vinyl chloride) through the fine-grained sediments, and subsequent presence of contamination throughout the aquifer to a depth of at least 70 feet, demonstrates that the interbedded fine-grained units do not act as a local barrier to ground water flow and the sand and gravel aquifer is one hydraulic unit.
>
> - Aquifer/Stratum 2 (deepest): Limestone Bedrock
>
> Description
>
> The Muskatatuck group consists of crystalline limestone and lesser calcareous shales (Ref. 120, p. 10). Prior to glaciation, the top of the bedrock surface was exposed to weathering and underwent karst development (Ref. 130, p. 15). Within the Riverside wellfield, the outwash aquifer is directly on the bedrock, (Ref. 129, p. 23), which is relict karst, therefore, "the limestone aquifer is hydraulically connected to the outwash sand and gravel aquifer" (Ref. 129, p. 27). The "…carbonate rocks lying…immediately beneath the outwash have undergone extensive solution-

> channel development…" (Ref. 127, p. 3). Possible solution cavities and/or voids were identified in the test piezometers cored near RS-29 (Ref. 128, pp. 6, 12, 18-20).

Page 44 of the HRS documentation record at proposal documents the interconnection of the two local aquifer strata that were identified at the Site. It states:

> **Aquifer Interconnections/Distance from Source**
>
> Description
>
> Subsurface materials beneath the project area, the Speedway wellfield, and the Riverside wellfield are part of one continuous sand and gravel outwash plain that extends across the White River and lower Eagle Creek stream valleys (Ref. 120, pp. 6, 8, 9). The thickness and extent of the finer grained material in the project area are insufficient to form a barrier to vertical contaminant migration. The finer grained unit from 35-50 ft bgs is not present in parts of the project area (Ref. 16; 40, pp. 955-963, 986-997; 133, pp. 557 and 559). Additionally, the migration of a non-naturally occurring contaminant (vinyl chloride) through the fine-grained sediments, and subsequent presence of contamination throughout the aquifer to a depth of at least 70 feet bgs demonstrates that the interbedded fine-grained units do not act as a local barrier to ground water flow.
>
> Shale bedrock of the New Albany Formation (Ref. 120, p. 10) is present in the project area between 70-80 feet bgs (Refs. 122, pp. 108, 113, 117; 131). However, the New Albany Shale is not present throughout the study area and is specifically not present within 2 miles east of the study area where unconsolidated materials (the sand and gravel outwash overburden) sit directly on the carbonate Muskatatuck group (Fig 1-5; Refs. 120, p. 10; 116, pp. 51-55). Within the Riverside wellfield, the outwash aquifer is directly on the bedrock, (Ref. 129, p. 23), which is relict karst. The materials in the aquifers have hydraulic conductivities that are within two orders of magnitude of one another; therefore, "the limestone aquifer is hydraulically connected to the outwash sand and gravel aquifer" (Ref 1, pp, 51601; 129, p. 27).

Finally, page 45 of the HRS documentation record at proposal identifies if any aquifer discontinuities exist within the TDL. It states:

> **Aquifer Discontinuities within Target Distance Limit**
>
> There are no known aquifer boundaries or discontinuities present within 4 miles of the project area and the Riverside, White River, and Speedway wellfields that completely transects an aquifer in the 4-mile TDL (Refs. 3; 120, pp 6, 8-9). The Speedway, and Riverside wellfields are located between 1 to 3 miles from the source areas (Figure 1-5). The White River wellfield is located 2 to 4 miles from the source areas (Figure 1-5). The New Albany Shale is not present less than 2 miles east of the study area, and Little Eagle Creek does not form a hydraulic barrier, as evidenced by contamination sourced north of the creek which underflows the stream (Ref. 119, pp. 57-61).

As demonstrated in the HRS documentation record at proposal, the EPA appropriately evaluated the hydrogeological conditions and properly evaluated the aquifers underlying the Site. Two primary aquifer strata (layers) were identified at the site: the sand and gravel outwash overburden aquifer (i.e., the overburden aquifer) and the limestone bedrock aquifer. As discussed in section 3.12.1, Aquifer Interconnections, of this support document, the overburden aquifer is documented to not contain any effective confining layers that would further subdivide the overburden aquifer into a "glacial outwash" and "glacial till" aquifers as AMMH suggests. Because

it is not appropriate to subdivide the overburden aquifer into a "glacial outwash" and "glacial till" aquifers, for HRS purposes these two layers are referred to as the overburden aquifer. Further, the two HRS aquifers (overburden aquifer and limestone aquifer) identified in the HRS documentation record at proposal are documented to be interconnected within 2 miles of the Site sources and no discontinuities have been identified. Therefore, for the purposes of performing an HRS evaluation, the EPA appropriately evaluated the geological conditions and aquifer underlying the Site.

The following subsections of this support document address the specific aspects of the aquifer delineation raised by the commenters.

- 3.12.1 Aquifer Interconnections
- 3.12.2 Aquifer Discontinuities
- 3.12.3 Ground Water Flow Direction

3.12.1 Aquifer Interconnections

Comment: AMMH and GPC commented that there are multiple aquifers underlying the Site and asserted that interconnections within and between the separate aquifers have not been established, and that the interconnection was not demonstrated within the appropriate distance from the Site. The commenters claim that there are several aquifers in the overburden, that there is no demonstrated interconnection between the overburden and limestone aquifers, and that the interconnection between the overburden and limestone aquifers at the municipal well fields is too distant from the Site to be considered hydraulically interconnected at those locations.

AMMH commented that the hydrology in the area of the Site is very complex and noted that the overburden material under the Site might contain sand lenses in which the water is constrained by a clay layer above and below the lens, and thus each sand lens acts as an independent aquifer(s). AMMH commented that not all of these sand lenses beneath the residential area are hydraulically connected to one another.

AMMH also argued that there is a lack of aquifer interconnections between the overburden aquifer and that of the deeper limestone bedrock aquifer at the Riverside and White River well fields; AMMH asserted that these layers should be evaluated as separate aquifers. AMMH asserted that the interconnection of the limestone bedrock with the Glacial Outwash Aquifer cannot be made because there is a lack of evidence to support such a finding. Further, AMMH commented that EPA failed to identify the clay layer that separates the overburden aquifer from deeper deposits and limestone bedrock beneath the Riverside and White River well fields, and instead EPA simply claims that the two layers are in direct contact.

In addition, AMMH commented that the extent to which the overburden aquifer is connected to the limestone aquifer below the White River and Riverside well fields is not relevant to HRS scoring because the well fields are more than 2 miles from the source areas.

GPC commented that the ground water flow direction at the Site makes it implausible that the overburden aquifer is connected to the limestone bedrock aquifer. GPC asserted that even if the ground water flow could flow toward the east/northeast, the ground water would have to flow for over a mile to reach an area where the aquifers might be connected.

Response: The overburden and limestone aquifers were appropriately discussed as two aquifers that qualify to be considered a single hydrologic unit (a combined aquifer) for HRS purposes. The aquifers were described in the HRS documentation record at proposal as consisting of two stratums (i.e., the sand and gravel outwash overburden and the limestone bedrock) that are physically and hydraulically connected with each other within 2 miles of the Site sources; therefore, the aquifers were considered interconnected throughout the TDL. Furthermore, the clay layers in the overburden are not preventing hydraulic connection within the overburden

material. The overburden limestone aquifers are in direct contact in parts of the TDL and contain hydraulic conductivities that are within two orders of magnitude of one another.

As quoted in section 3.12, Aquifer Delineation, of this support document, the HRS directs that aquifers be evaluated for interconnections to "occur within 2 miles of the sources at the site." If these interconnections occur between aquifers within 2 miles, the HRS instructs to "combine the aquifers having interconnections in scoring the site."

Similarly, as quoted in section 3.12, Aquifer Delineation, of this support document, the HRS documentation record at proposal describes the interconnections within and between the aquifers at the Site. In documenting the clay layers that are present in the overburden aquifer, page 44 of the HRS documentation record at proposal describes how these layers are not preventing hydraulic connection within the overburden. It states:

> The thickness and extent of the finer grained material [i.e., the clay lenses in the overburden] in the project area are insufficient to form a barrier to vertical contaminant migration. The finer grained unit from 35-50 ft bgs is not present in parts of the project area (Ref. 16; 40, pp. 955-963, 986-997; 133, pp. 557 and 559). Additionally, the migration of a non-naturally occurring contaminant (vinyl chloride) through the fine-grained sediments, and subsequent presence of contamination throughout the aquifer to a depth of at least 70 feet bgs demonstrates that the interbedded fine-grained units do not act as a local barrier to ground water flow.

The HRS documentation record at proposal then documents the interconnection between the overburden aquifer and the limestone aquifer. It states:

> Shale bedrock of the New Albany Formation (Ref. 120, p. 10) is present in the project area between 70-80 feet bgs (Refs. 122, pp. 108, 113, 117; 131). However, the New Albany Shale is not present throughout the study area and is specifically not present within 2 miles east of the study area where unconsolidated materials (the sand and gravel outwash overburden) sit directly on the carbonate Muskatatuck group (Fig 1-5; Refs. 120, p. 10; 116, pp. 51-55). Within the Riverside wellfield, the outwash aquifer is directly on the bedrock, (Ref. 129, p. 23), which is relict karst. The materials in the aquifers have hydraulic conductivities that are within two orders of magnitude of one another; therefore, "the limestone aquifer is hydraulically connected to the outwash sand and gravel aquifer" (Ref 1, pp, 51601; 129, p. 27).

The evaluation of the aquifers at the Site is consistent with the HRS and is appropriately documented in the HRS documentation record at proposal. The overburden aquifer and the limestone aquifer were first evaluated independently to ensure that the respective aquifers did not contain local confining units (e.g., clay layers) that would hydraulically separate the local aquifer unit into multiple aquifers. As presented in the HRS documentation record at proposal (and quoted in section 3.12, Aquifer Delineation, of this support document) both overburden and limestone aquifers were determined to not contain local confining units that restrict ground water migration within the aquifers.

Regarding AMMH's comment that "clay lenses" are present in the overburden aquifer that restrict vertical ground water flow, it was documented on pages 43 and 44 of the HRS documentation record at proposal that these lenses are incomplete barriers and do not restrict ground water from travelling downward deeper into the aquifer[7]. The thickness and extent of the fine-grained lenses in the local overburden aquifer were evaluated and considered to be insufficient to form a barrier to prevent ground water from migrating below, or through, the fine-grained

[7] These horizontal clay layers are evaluated and considered when interconnecting aquifer strata. These layers, for HRS purposes, are not considered discontinuities. See section 3.12.2, Aquifer Discontinuity, of this support document for discussion of "boundary" layers.

lenses. It has also been documented in local residential wells that non-naturally occurring substances associated with the Site sources (e.g., vinyl chloride) have migrated beneath these clay lenses to a depth of over 70 feel bgs. This vertical migration of contamination provides empirical evidence that the clay lenses in the vicinity of the Site do not act as a local barrier to ground water in the overburden aquifer.

To demonstrate the two aquifers (overburden and limestone aquifers) are correctly considered one hydrologic unit, the local and regional geology was examined to determine if the aquifers were in direct contact with one another within 2 miles of the Site sources. The December 14, 1990, Federal Register (Vol. 55 No. 241) discusses on page 51553 that EPA considers aquifers to be interconnected when there is no confining layer present, that contains a hydraulic conductivity lower by two or more orders of magnitude, to separate the aquifers. Page 44 of the HRS documentation record at proposal identifies shale bedrock of the New Albany Formation to be present beneath the Site (containing a hydraulic conductivity lower by over two orders of magnitude), but also documented this shale layer is absent to the northeast of the site between 1 and 2 miles from the site sources. At these documented well locations (DNR Well 179985 and DNR Well 414789; see figures 1-5, 1-8 and 1-9 of the HRS documentation record at proposal), the overburden and limestone aquifer layers are in direct contact with one another where the shale layer, or any other confining layer between the aquifers, is absent. DNR Wells 179985 and 414789 are both located within 2 miles of the Site and the well borehole data for the wells show that the overburden aquifer sits directly on the limestone bedrock aquifer (Reference 116, pp. 51, 53-54 of the HRS documentation record at proposal). The hydrological properties of these aquifers (hydraulic conductivities within two orders of magnitude) confirms that these two aquifer layers were determined to be interconnected within 2 miles of the sources at the Site.

Regarding AMMH's comment that the EPA failed to identify a clay layer that separates the overburden aquifer from the limestone aquifer beneath the White River and Riverside well fields, the EPA identified clay layers throughout the overburden aquifer but did not identify a clay layer that was consistently present to separate the overburden aquifer from the limestone aquifer. An example location of no clay layer being present above the limestone aquifer occurs at DNR well 414789 that is located approximately 1 mile northeast of the sources at the Site. This well contains more than 35 feet of sand and gravel that resides directly on the overburden and limestone aquifer interface and documents that there is no continuous clay layer that separates the overburden aquifer from the limestone aquifer (see figure 1-5 of the HRS documentation record at proposal and Reference 116, pp. 53, 54).

Regarding AMMH's comments that a hydraulic connection between the overburden and limestone aquifers is not relevant to HRS scoring because the target well fields are farther than 2 miles from the Site, as required by the HRS, the EPA documented that the aquifers are interconnected within 2 miles of the Site sources. The location of the target well fields is irrelevant to establishing interconnections between the aquifers (however, the distance to the well fields is considered when assigning targets subject to potential contamination; see section 3.15.3, Potential Targets, of this support document for discussion of distance weighting target wells in the HRS scoring). Similarly, the distance and direction that the water would have to flow, or the plausibility of the ground water flowing, to the interface where the aquifers are interconnected is not part of the HRS evaluation.

This comment results in no change to the HRS score and no change in the decision to place the Site on the NPL.

3.12.2 Aquifer Discontinuities

Comment: AMMH and GPC commented that the actual properties of the aquifer underlying the Site are unknown and discontinuities appear to be present at the Site. The commenters assert that boundaries[8] such as clay layers within overburden aquifer and a shale layer between the overburden and limestone aquifers are discontinuities.

[8] Both AMMH and GPC sometimes use the term "boundary" in their comments to refer to geological features that might constitute an HRS discontinuity. While the term "boundary" in the HRS can have a slightly different meaning, the EPA is addressing this term, as it appears to be intended by the commenters, as an HRS discontinuity.

AMMH and GPC asserted that the Site should be evaluated as having more than one aquifer due to the presence of these aquifer discontinuities. AMMH argued that the existence of aquifer boundaries requires that deeper glacial till and limestone bedrock aquifers at the Riverside and White River well fields be evaluated separately, instead of together, with the Glacial Outwash Overburden Aquifer (i.e., outwash overburden aquifer).

AMMH claimed that EPA failed to identify a clay layer separating the Glacial Outwash Overburden Aquifer from deeper deposits of bedrock beneath Riverside and White River well fields. AMMH commented that this clay layer meets the definition of an aquifer boundary. AMMH asserted that published studies indicate that the clay deposited throughout the Site area acts as an aquifer boundary because its highest hydraulic conductivity is three orders of magnitude lower than the hydraulic conductivity of the Glacial Outwash Overburden Aquifer and thereby restricts ground water flow. GPC commented that wells in the Riverside and White River well fields are screened in the limestone bedrock that is a different formation than where the contamination exists at the Site and asserted that the contamination could not reach the Riverside or White River well fields.

Further, AMMH asserted that the New Albany Shale bedrock is present under the Site between the overburden and limestone aquifers and that this shale layer is considered an aquitard. AMMH asserted that this aquitard is a discontinuity between the surficial aquifer and limestone bedrock aquifer and serves as an aquifer boundary beneath the Site. AMMH challenged EPA's determination that New Albany Shale is missing to the east of the Site and commented that EPA does not define or describe the areas where the shale is missing. AMMH added that excerpts from the study cited by EPA from the Indiana Geological Survey are internally inconsistent as to where New Albany Shale is located. AMMH commented that despite EPA's assertion that shale "is not present throughout the entire region," numerous studies describe New Albany Shale as being present in "western to southwestern Marion County." Therefore, AMMH asserted that the Site is underlain by the New Albany Shale that is considered an aquitard.

Additionally, AMMH commented that maps used by EPA to describe aquifer boundaries within the 4-mile TDL of the Site are too generalized. AMMH commented that, instead of using these maps, EPA should have created cross sections from well log data.

Response: The aquifers underlying the Site were properly evaluated for discontinuities within the 4-mile TDL. Specifically, the New Albany Shale layer and a clay layer located at the base of the overburden aquifer are not preventing aquifer interconnection (as discussed above in section 3.12.1, Aquifer Interconnections, of this support document), and they do not qualify as discontinuities as defined by the HRS, as they do not transect the combined aquifer being evaluated. Neither the EPA nor GPC nor AMMH have identified any aquifer discontinuities within the TDL that would limit the extent of aquifer for HRS scoring purposes. The horizontal clay layers that GPC and AMMH refer to in the overburden aquifer were fully evaluated and determined to be of insufficient thickness and extent to form a barrier to vertical ground water migration within the overburden or between the overburden and the limestone strata. Similarly, the New Albany Shale layer was demonstrated to be absent at the location of multiple wells located less than 2 miles to the northeast of the Site sources. Therefore, no geologic, topographic, or other structure was found to be present at the Site that completely transect the combined aquifer or would create a continuous boundary to ground water flow in the TDL.

As quoted in section 3.12, Aquifer Delineation, of this support document, the HRS considers a discontinuity to be present when a "feature entirely transects an aquifer within the 4-mile target distance limit, thereby creating a continuous boundary to ground water flow within this limit." Because the overburden and limestone aquifers were appropriately determined to be interconnected (see section 3.12.1, Aquifer Interconnections, of this support document), an aquifer discontinuity for HRS purposes only occurs when a "structure or feature entirely transects the boundaries of this single hydrologic unit."

Page 45 of the HRS documentation record at proposal discusses the evaluation of aquifer discontinuities within the TDL. It states:

Aquifer Discontinuities within Target Distance Limit

There are no known aquifer boundaries or discontinuities present within 4 miles of the project area and the Riverside, White River, and Speedway wellfields that completely transects an aquifer in the 4-mile TDL (Refs. 3; 120, pp 6, 8-9). The Speedway, and Riverside wellfields are located between 1 to 3 miles from the source areas (Figure 1-5). The White River wellfield is located 2 to 4 miles from the source areas (Figure 1-5). The New Albany Shale is not present less than 2 miles east of the study area, and Little Eagle Creek does not form a hydraulic barrier, as evidenced by contamination sourced north of the creek which underflows the stream (Ref. 119, pp. 57-61).

The clay lenses in the overburden, the clay layer at the base of the overburden and New Albany Shale formation, were appropriately considered when interconnecting the aquifers at the Site. As explained in section 3.12.1, Aquifer Interconnections, of this support document, the clay lenses and layers at the base of the overburden aquifer, regardless of their hydraulic conductivities, were determined to be of insufficient thickness and extent to create a barrier to vertical ground water migration. As mentioned in section 3.12.1, Aquifer Interconnections, of this support document, DNR well 414789 is located approximately 1 mile northeast of the sources at the Site and contains more than 35 feet of sand and gravel that resides directly on the overburden and limestone aquifer interface; this documents that there is no continuous clay layer separating the overburden aquifer from the limestone aquifer. Additionally, the New Albany Shale was found to be absent in portions of the 4-mile TDL (see Figure 1-5 of the HRS documentation record for exact locations of both DNR wells that document the shale layer to be absent). Both of these geological features were appropriately considered when interconnecting the aquifers at the Site; however, insomuch as these layers could be considered a discontinuity, or barrier, to ground water flow, these layers do not entirely transect the aquifer and do not form a continuous boundary within the 4-mile TDL. Therefore, these layers were not determined to be discontinuities for HRS purposes.

Regarding the AMMH's comment that the maps were too generalized and that well borehole data and cross sections should have been used, while there is no HRS-specific requirement, the EPA did use well borehole data and included cross sections of the underlying geology in the HRS documentation record package at proposal. HRS documentation record References 16 and 120 provide examples of site-specific cross sections of the underlying geology that were used to help interpret the hydrological conditions. These cross sections, in addition to data showing that vinyl chloride is migrating below clay layers, were used to document that the aquifers were appropriately interconnected, and no HRS qualifying discontinuities were identified within the TDL at the Site.

This comment results in no change to the HRS score and no change in the decision to place the Site on the NPL.

3.12.3 Ground Water Flow Direction

Comment: AMMH and GPC commented that the ground water flow direction has not been adequately evaluated at the Site and noted that substantial evidence was ignored in determining the direction of ground water flow. As detailed below, GPC generally focused its comments on the ground water flow direction between the contaminated ground water plume and the municipal well fields within the TDL, and AMMH generally focused its comments on the ground water flow direction between the Michigan Plaza property and the residential properties located less than ¼ mile west/southwest.

GPC stated that EPA ignored what is actually known about the "aquifers, flow, and geologic features in the vicinity of the Site" and commented that the known information indicates that ground water flow is not toward the municipal well fields. GPC commented that the regional ground water flow from the Site is toward the south southeast, terminating along Big Eagle Creek no further south than the White River and that this has been

confirmed by various measurements and presented in EPA and IDEM approved documents. GPC commented that the impacted ground water in the overburden at the Site could not migrate toward the east/northeast toward the limestone bedrock and stated that even if this "absurd assumption were accepted," the contamination would have to migrate for another mile to reach the ground water protection zones for the White River and Riverside well fields.

GPC commented that EPA adopted a scoring approach that does not take into consideration the ground water flow direction. Further, GPC commented that even though ground water flow direction may not need to be evaluated to score potential targets according to the HRS, that rationale is not applicable at this Site because the record contains information showing that the municipal well fields cannot possibly be affected.

AMMH challenged the ground water flow direction in the vicinity of the Michigan Plaza area and the residential area. AMMH commented that that EPA failed to analyze relevant evidence or provide substantial evidence to support its ground water flow determination. AMMH commented that EPA issued two separate technical memoranda[9] that have conflicting information about the direction of ground water flow between the Michigan Plaza site and the residential area to the southwest. AMMH asserts that this conflicting data presented by EPA and the data that AMMH presents in its comments show that the ground water flow direction is cross gradient from the residential area and is away from the well fields identified by EPA.

In addition to the conflicting data, AMMH commented that it had conducted its own investigations into the contamination in the residential area and has presented the findings to IDEM and EPA throughout the process. AMMH asserted that its own data demonstrates ground water flow direction to be toward the south/southeast throughout the Michigan Plaza property with no ground water flow lines passing through the Site source areas to the residential area. AMMH commented that it has submitted four technical reports[10] to EPA rebutting EPA's determination of ground water flow direction and asserted that these investigations document that the ground water beneath the Michigan Plaza source area flows toward the south and not toward the residential area. AMMH alleged that EPA did not reply to these reports.

Specifically, AMMH challenged EPA's ground water flow determination for the following reasons:

- EPA's own consultant, Weston, also found in its March 27, 2011, report that the residential area is "cross gradient" to the Michigan Plaza source area;
- Weston's conclusion in its January 30, 2013, report that ground water flow can be toward the residential area, was based largely on the same maps used in its March 27, 2011, report that determined that the flow is "cross gradient" to the residential area. These flow direction differences cannot be reconciled with Weston's original analysis;
- The maps relied upon by Weston are either hand drawn and conflict with computer-drawn maps using the same data or omit valid data that was available to EPA when the maps were being prepared;
- Maps prepared by Genuine Parts, which indicate that the ground water flow toward the southwest from the Michigan Plaza source area to the residential area, contain obvious errors that include: using a limited number of data points, omitting relevant data, and relying on data considered anomalous by EPA. AMMH

[9] The two technical memoranda AMMH refer to are: Weston Solutions, Inc., Technical Memorandum, Analytical and Hydrogeological Evaluation (Jan. 30, 2013) (i.e., HRS Documentation Record Ref. 38); and Weston Solutions, Inc., Technical Memorandum, Analytical and Hydrogeological Evaluation (Mar. 27, 2011) (included as appendix J of AMMH's comments).

[10] The four technical reports AIMCO refers to are: MUNDELL, Technical Response (May 9, 2011) (included as Appendix M of AMMH's comments); R.C. Minning & Associates, Inc. and MUNDELL, Technical Response (Apr. 18, 2013) (included as Appendix N of AMMH's comments); R.C. Minning & Associates, Inc. and Acuity Environmental Solutions, LLC, Technical Update (Aug. 4, 2014) (included as Appendix O of AMMH's comments); R.C. Minning & Associates, Inc., Letter Report (Oct. 17, 2013) (included as Appendix P of AMMH's comments).

asserted that when these issues are corrected, the maps show ground water flow to the south through the Michigan Plaza source areas and not southwest;
- Maps prepared by Allison Transmission show a southerly flow, which would be cross-gradient from the residential area.

AMMH also commented that EPA's rationales for determining a southwesterly ground water flow component from Michigan Plaza source areas go against established scientific principles and known data. Specifically, AMMH challenged the following rationales that EPA presented to show that a southwesterly ground water flow component is present:

- Bioremediation injections show that migration is occurring from the Michigan Plaza facility;
- Residential pumping is influencing local ground water flow toward the southwest;
- Drought;
- Pre-1972 re-channelization of a local creek;
- EPA's use of triangulation to analyze ground water flow data

Finally, AMMH challenged EPA's use of three references (HRS documentation record References 3, 119, and 122) and contended that AMMH's own data (Minning report) establishes that none of these references can support the EPA's conclusion that the ground water can flow toward the southwest from at the Michigan Plaza Source Area.

Response: The HRS documentation record at proposal contains sufficient information to establish an observed release of contamination from the GPC facility and the Michigan Plaza facility. The HRS does not contain any specific requirements for establishing the ground water flow direction at a site. The ground water flow direction was evaluated consistent with the hydrological data that was available at proposal and this information is sufficient to establish a background level and an observed release of contamination for the GPC and Michigan Plaza facilities.

The HRS does not contain any specific requirements for establishing the ground water flow direction at a site, however, the preamble to the HRS (December 14, 1990, Federal Register Volume 55, Number 241, page 51553) discusses the consideration of evaluating ground water flow direction. The preamble states that accounting for ground water flow direction is an increased level of complexity that is not required for a screening tool such as the HRS, and that determining the level of remedial action warrants a more accurate understanding of the ground water; therefore it was appropriate to evaluate the ground water flow direction during a remedial investigation (RI). The preamble further states that the HRS does consider ground water flow indirectly by distance weighting populations not subject to actual contamination.

The EPA did not ignore data or known facts about the aquifer, ground water flow, or geological features; rather, the EPA evaluated all of the known and reliable data and summarized that the predominant ground water flow direction in the vicinity of the sources at the Site is toward the south with some possible southeast or southwest components to the flow direction. In the immediate vicinity of the GPC and Michigan Plaza sources, both GPC and AMMH agree that the local ground water flow direction is generally toward the south; this determination is sufficient to determine the Site score.

Discussion of the ground water flow direction has been revised in the HRS documentation record at promulgation to only evaluate the ground water flow in the immediate vicinity of the sources at each facility. Due to the complexity of hydrological interactions in the subsurface between the Level I wells scored at proposal and the sources at the Site, the ground water flow direction will not be discussed between the former Level I wells and the facility properties. The HRS documentation record at promulgation includes discussion of the ground water flow

in the immediate vicinity of the sources at the Site where both the EPA and the commenters agree that the ground water flow direction is generally toward the south with a possible southeast component.

Regarding GPC's comments that that the contaminated ground water at the Site sources could not migrate toward the municipal well fields, the ground water flow direction between the sources and the municipal well fields was not evaluated as part of the HRS evaluation and thus it cannot be determined that contaminated ground water cannot reach the municipal well fields. As stated in the preamble to the HRS, determining the direction of ground water flow throughout the TDL is not consistent with a screening level evaluation such as the HRS, and the ground water flow direction is more accurately determined during a later stage of the superfund listing process (during the RI). The EPA is not ignoring data; rather, sufficient data are not available at this stage in the listing process to accurately assess the ground water flow directions throughout the TDL.

This comment results in no change to the HRS score and no change in the decision to place the Site on the NPL.

3.13 Likelihood of Release

Comment: AMMH and GPC challenged the likelihood of release evaluation in the HRS documentation record at proposal for both the scoring of the combined listing of the GPC and Michigan Plaza facilities and the demonstration that each facility would individually qualify for the NPL. AMMH challenged the assignment of the likelihood of release to the combined aquifers, claiming that instead the factor should be evaluated for the individual aquifers. GPC also noted that the PCE was not associated with the Genuine Parts facility and therefore, there was no release at the GPC facility. AMMH challenged the attribution of the increase in contaminant levels in the two residential wells scored as Level I targets in the HRS documentation record at proposal to the facilities.

Response: The likelihood of release factor value was correctly assigned for the combined release as well as for the two facilities independently.

HRS Section 2.3, *Likelihood of release*, presents the basic requirements for establishing an observed release:

> Establish an observed release either by direct observation of the release of a hazardous substance into the media being evaluated (for example, surface water) or by chemical analysis of samples appropriate to the pathway being evaluated (see sections 3, 4, and 6). The minimum standard to establish an observed release by chemical analysis is analytical evidence of a hazardous substance in the media significantly above the background level. Further, some portion of the release must be attributable to the site.

HRS Section 3.1, *Likelihood of release*, and its subsections provide the specific requirements for assigning a likelihood of release factor category value for the ground water migration pathway:

> For an aquifer, evaluate the likelihood of release factor category in terms of an observed release factor or a potential to release factor.

HRS Section 3.1.1, *Observed release*, states in relevant part:

> Establish an observed release to an aquifer by demonstrating that the site has released a hazardous substance to the aquifer. Base this demonstration on either:
>
> - Direct observation . . .

- Chemical analysis—an analysis of ground water samples from the aquifer indicates that the concentration of hazardous substance(s) has increased significantly above the background concentration for the site (see section 2.3). Some portion of the significant increase must be attributable to the site to establish the observed release, except: when the source itself consists of a ground water plume with no identified source, no separate attribution is required.

HRS Table 2-3 outlines the criteria to determine analytical significance in a contaminant concentration when establishing a significant increase between background and release concentrations. It states:

Table 2–3—Observed Release Criteria for Chemical Analysis

Sample Measurement< Sample Quantitation Limit[a]
No observed release is established.
Sample Measurement≥ Sample Quantitation Limit[a]
An observed release is established as follows:
• If the background concentration is not detected (or is less than the detection limit), an observed release is established when the sample measurement equals or exceeds the sample quantitation limit.[a]
• If the background concentration equals or exceeds the detection limit, an observed release is established when the sample measurement is 3 times or more above the background concentration.

[a] If the sample quantitation limit (SQL) cannot be established, determine if there is an observed release as follows:
—If the sample analysis was performed under the EPA Contract Laboratory Program, use the EPA contract-required quantitation limit (CRQL) in place of the SQL.
—If the sample analysis is not performed under the EPA Contract Laboratory Program, use the detection limit (DL) in place of the SQL.

Section 3.1, Likelihood of Release, of the HRS documentation record at proposal establishes that hazardous substances (TCE, trans-1,2-DCE, cis-1,2-DCE ,and vinyl chloride) in the ground water were significantly above background levels of those substances and that some portion of the observed release is attributable to the GPC facility and the Michigan Plaza facility. While PCE was detected at the GPC facility, the observed release of contamination at the facility does not require the presence or association of PCE, as other contaminants are present. The following subsections address GPC's and AMMH's comments related to the likelihood of release in additional detail and discuss any impact their comments might have on the Site score.

- 3.13.1 Likelihood of Release - Aquifer Being Evaluated
- 3.13.2 Scoring of an Observed Release to the Level I Drinking Water Wells

3.13.1 Likelihood of Release - Aquifer Being Evaluated

Comment: AMMH challenged the likelihood of release factor value for the Site[11] and for the scoring of the individual facilities.

AMMH agreed that an observed release factor of 550 could be assigned to the Glacial Outwash Aquifer (the overburden aquifer) because VOCs released at Michigan Plaza and Genuine Parts have migrated to this unit. However, AMMH commented that the limestone aquifer should be evaluated as a separate aquifer from the overburden aquifer and therefore likelihood of release value for the limestone aquifer should be evaluated based on potential to release because no VOCs have been detected in this aquifer. AMMH, in its rescoring of the Site,

[11] The HRS Site includes the commingled release from both the GPC and Michigan Plaza facilities.

separately assigned the likelihood of release for both facilities based on a potential to release to the limestone aquifer.

GPC commented that EPA's assertion that its facility is a source of PCE contamination is erroneous and asserted that PCE has not been released from the GPC facility.

Response: The likelihood of release factor value is based on an observed release of hazardous substances by chemical analysis and is appropriately established in the HRS documentation record at proposal to the single hydrologic unit consistent with the HRS. As described in section 3.12, Aquifer Delineation, of this support document, the aquifers were appropriately evaluated as being interconnected with no known discontinuities at the Site. Because, this aquifer is evaluated for both facilities, the likelihood of release value for both facilities receives an observed release factor value of 550. EPA notes that while the observed release factor value was appropriately assigned in the HRS documentation record at proposal, the HRS documentation record has been revised at promulgation to demonstrate that observed releases occurred at each facility; and, the observed release factor value remains unchanged at 550 for each facility.

This comment results in no change to the HRS score and no change in the decision to place the Site on the NPL.

3.13.2 Scoring of an Observed Release to the Level I Drinking Water Wells

Comment: AMMH and GPC questioned the scoring of an observed release to the West Vermont Street residential area drinking water wells as being attributable to the GPC and Michigan Plaza facilities. GPC and AMMH therefore questioned the identification of the residential wells as being subject to Level I contamination.

Response: The HRS documentation record has been revised at promulgation to not identify an observed release from this Site to the West Vermont Street residential area. This revision includes a more specific identification of an observed release from each independent facility (GPC and Michigan Plaza). All information used in this re-evaluation is contained in the HRS documentation package at proposal. The residential drinking water wells have been revised from Level I actual contamination to potential contamination to represent Site conditions as they are evaluated at promulgation. Although this revision affects the observed release description for each facility, the Waste Characteristics Factor Category Value and the Population Factor Value, the individual site score from both the GPC facility and Michigan Plaza facility remains above 28.50. Therefore, the decision to place the Site on the NPL is unchanged. These revisions are fully explained in the following sections and the overall site score is presented in section 3.16, HRS Score, of this support document.

- 3.13.2.1 Background Levels
- 3.13.2.2 Significant Increase of PCE in an Observed Release Monitoring Well
- 3.13.2.3 Attribution - Significant Increase of Contamination in Monitoring Wells

3.13.2.1 Background Levels

Comment: AMMH and GPC commented that other potential sources in the vicinity of the Site must be considered when establishing background levels for use in establishing observed releases to ground water. Additionally, AMMH commented that the HRS documentation record does not establish that the Site background samples were selected in accordance with the *HRS Guidance Manual*.

AMMH commented that EPA failed to take into account the Allison Transmission Plant contamination in its calculation of the background concentration when evaluating whether the observed release in the residential area wells is attributable to the Site and stated that a reasonable background level for vinyl chloride is 60 µg/L when the Allison Transmission Plant is considered part of the Site. AMMH further commented that if EPA does not include Allison Transmission as part of the Site, then EPA should consider the Allison Transmission

contamination when establishing a background level. Additionally, GPC commented that the contamination migrating south from their facility was not properly evaluated when the Michigan Plaza site was evaluated.

Response: The background levels have been revised at promulgation to establish facility-specific background levels consistent with the HRS. The HRS documentation record at promulgation has revised the background levels to reflect the change in scoring of the residential wells that were scored as subject to Level I contamination at proposal. This change in background level specific to each facility is discussed below.

In evaluating the likelihood of release, HRS Section 3.1.1, *Observed Release*, states:

> Chemical analysis—an analysis of ground water samples from the aquifer indicates that the concentration of hazardous substance(s) has increased significantly above **the background concentration for the site** (see section 2.3). [emphasis added]

HRS Section 2.3, *Likelihood of Release*, in part, states:

> The minimum standard to establish an observed release by chemical analysis is analytical evidence of a hazardous substance in the media significantly above **the background level.** [emphasis added]

Pages 47-49 of the HRS documentation record at proposal discuss the background concentration used in establishing an observed release by chemical analysis and state:

> -Background Concentrations:
>
> EPA contractor staff obtained background ground water samples from monitoring wells and one residential private well. Table 4 below on the following pages depicts the background ground water samples, hazardous substances concentrations, and other associated sample information.

Table 4
Background Ground Water Sample
(Obtained from established monitoring wells and one private residential well)

EPA CLP#	EPA ID	Date	Location	Type of Ground Water Sample	Depth Below Ground Surface	Hazardous Substance**	Hazardous Substance Concentration (Adjusted Concentration) µg/L	Contract-Required Quantitation Limit (CRQL) µg/L	Reference
E5AZ2	BUJ-0068	11/26/14	MW-WVs-10	Monitoring Well	45 Feet	VC	ND	0.5	Refs. 76, pp. 7, 8; 77, pp. 1, 94, pp. 6, 7, 31, 46-48, 201; 101, p. 2
						Trans-1,2-DCE	ND	0.5	
						Cis-1,2-DCE	ND	0.5	
						TCE	0.37 * (ND)	0.5	
						1,1-DCA	ND	0.5	

EPA CLP#	EPA ID	Date	Location	Type of Ground Water Sample	Depth Below Ground Surface	Hazardous Substance**	Hazardous Substance Concentration (Adjusted Concentration) µg/L	Contract-Required Quantitation Limit (CRQL) µg/L	Reference
E5AZ3	BUJ-0069	11/26/14	MW-WVS-11	Monitoring Well	53 Feet	VC	ND	0.5	Refs. 76, pp. 7, 8, 9; 94, pp. 8,9, 31, 64-66, 201; 101, pp. 3, 4
						Trans-1,2-DCE	ND	0.5	
						Cis-1,2-DCE	ND	0.5	
						TCE	ND	0.5	
						1,1-DCA	ND	0.5	
E5AS5	WV-RES-4020cos	10/17/2014	4020 Cossell	Residential Well		VC	ND	0.5	Ref. 54, pp. 2, 3; 89, pp. 17, 92, 147, 148, 149; 103, pp, 1, 2
						Trans-1,2-DCE	ND	0.5	
						Cis-1,2-DCE	ND	0.5	
						TCE	ND	0.5	
						1,1-DCA	ND	0.5	
E5BH3	MW 10	02/06/15	Olin Park/WVS-10	Monitoring Well	50 Feet	VC	ND	0.5	Refs. 60, p. 1; 67, pp. 1-6; 113, ; pp. 9-10, 37, 57-59
						Trans-1,2-DCE	ND	0.5	
						Cis-1,2-DCE	0.12* (ND)	0.5	
						TCE	ND	0.5	
						1,1-DCA	ND	0.5	
E5BH4	MW 10	02/06/15	Olin Park/WVS-10	Monitoring Well	50 Feet	VC	ND	0.5	Refs. 60, p. 1; 67, pp. 1-6; 113, pp. 17-18, 37, 67-69
						Trans-1,2-DCE	ND	0.5	
						Cis-1,2-DCE	0.11 * (ND)	0.5	
						TCE	ND	0.5	
						1,1-DCA	ND	0.5	
E5BH7	MW 11	02/06/15	Olin Park/WVS-11	Monitoring Well	55 Feet	VC	ND	0.5	Refs. 60, p. 2; 67, pp. 1-6; 113, pp. 25-26, 37, 79-81
						Trans-1,2-DCE	ND	0.5	
						Cis-1,2-DCE	ND	0.5	
						TCE	ND	0.5	
						1,1-DCA	ND	0.5	

EPA CLP#	EPA ID	Date	Location	Type of Ground Water Sample	Depth Below Ground Surface	Hazardous Substance**	Hazardous Substance Concentration (Adjusted Concentration) µg/L	Contract-Required Quantitation Limit (CRQL) µg/L	Reference
E5AW8	WV-MW-4B-GW	10/29/14	Existing USEPA monitoring well MWWES-04b, north side of residential area	Monitoring Well	39-44 feet	VC Trans-1,2-DCE Cis-1,2-DCE TCE 1,1-DCA	ND ND ND ND ND	0.5 0.5 0.5 0.5 0.5	Refs. 38, p. 426; 85, p. 27; 92, pp. 15-16, 90, 118-120; 114, p.2
E5AW9	WV-MW-4A	10/29/14	Existing USEPA monitoring well MWWES-04a, north side of residential area	Monitoring Well	25-30 feet	VC Trans-1,2-DCE Cis-1,2-DCE TCE 1,1-DCA	ND ND ND ND ND	0.5 0.5 0.5 0.5 0.5	Ref. 38, p. 426; 85, p. 27; 92: Pg. 17-18, 90, 121-123
E5AW6	WV-MW-10	10/21/14	Existing Allison Transmission monitoring well MW-1003-S3, north of NW corner of residential area	Monitoring Well	55 feet	VC Trans-1,2-DCE Cis-1,2-DCE TCE 1,1-DCA	ND ND ND ND ND	0.5 0.5 0.5 0.5 0.5	Refs. 23, p. 95; 85, p. 28; 90, pp. 18-19, 36, 67-69; 111, p. 2
E5AW5	WV-MW-11-GW	10/24/14	Existing Allison Transmission monitoring well MW-1105-S3/4, north of residential area	Monitoring Well		VC Trans-1,2-DCE Cis-1,2-DCE TCE 1,1-DCA	ND ND ND ND ND	0.5 0.5 0.5 0.5 0.5	Refs. 85, p. 28; 89, pp. 71-72, 95, 228-230; 108, p. 3; 111, pp. 3, 4
E5AW0	WV-MW-12-GW	10/23/14	Existing Genuine Parts monitoring well MW-135	Monitoring Well	10-20 feet	VC Trans-1,2-DCE Cis-1,2-DCE TCE 1,1-DCA	ND ND ND ND ND	0.5 0.5 0.5 0.5 0.5	Refs. 36, p. 97; 85, p. 28; 89, pp. 55-56, 94, 204-206

EPA CLP#	EPA ID	Date	Location	Type of Ground Water Sample	Depth Below Ground Surface	Hazardous Substance**	Hazardous Substance Concentration (Adjusted Concentration) µg/L	Contract-Required Quantitation Limit (CRQL) µg/L	Reference
E5AT9	WV-MW-13-GW	10/23/14	Existing Genuine Parts monitoring well MW-154	Monitoring Well	5-20 feet	VC	ND	0.5	Refs. 36, p. 101; 85, p. 28; 89: pp. 53-54, 94, 201-203
						Trans-1,2-DCE	ND	0.5	
						Cis-1,2-DCE	ND	0.5	
						TCE	ND	0.5	
						1,1-DCA	ND	0.5	

In an HRS evaluation, the background level is used to establish that an increase in contaminant concentrations has occurred as the result of a release and the background level is used to define a reference point to make this determination. The background level is intended to screen out contamination that may be located upgradient of the Site sources. As quoted above, the HRS does not provide specific requirements regarding how to determine a background level for the ground water pathway but rather directs a scorer to establish a background level. In identifying this background level, the HRS documentation record at proposal indicates that wells selected to establish background concentrations were selected based on the location of wells, the depth of wells, and the type of wells. (The locations of the wells used as background wells are included on Figure 1-2 of the HRS documentation record at proposal, which is included as Figure 2 of this support document [Figure 1-2 of the HRS documentation record at proposal to be added at a later stage.]).

GPC

The wells used to determine a background level for the GPC facility are all located to the north and are hydrologically upgradient of the GPC facility and all of the Site sources[12]. The samples from these wells are presented on pages 47-49 of the HRS documentation record at proposal and all of these samples were determined to contain non-detected concentrations of hazardous substances (i.e., 1,1-DCA, Trans 1,2-DCE, TCE and Cis-1,2-DCE). Additionally, these hazardous substances are non-naturally occurring substances and, as documented by these background samples, are also not ubiquitous in the area of the Site.

As these wells are located upgradient of GPC and its associated soil source, the levels of contaminants associated with samples are appropriate to use to determine a background level for the GPC Facility as required by HRS Sections 2.3 and 3.1.1. Samples from these wells appropriately establish a background level of 1,1-DCA, Trans-1,2-DCE, TCE, Vinyl Chloride and Cis-1,2-DCE as being non-detect for areas upgradient of the GPC facility.

Michigan Plaza

At promulgation, the background level for the Michigan Plaza facility has been revised to account for the migration of any contamination from the GPC facility. This refinement of the background level includes the presentation of a Michigan Plaza specific background level in the HRS documentation record at promulgation. The background level for Michigan Plaza in the HRS documentation record at promulgation is used to establish a significant increase specific to hazardous substance releases from the Michigan Plaza facility and accounts for any contribution that may be present in the background ground water due to the release at the GPC facility (located upgradient of the Michigan Plaza facility). As indicated on Figure 1-4 of the HRS documentation record at

[12] A southerly ground water flow direction component is present at GPC and Michigan Plaza. The presence of this flow direction component is discussed in section 3.12.3, Ground Water Flow Direction, of this support document.

proposal, well MMW-2S is located between the Michigan Plaza facility and the GPC facility but upgradient of Michigan Plaza facility. Well MMW-2S is used in the HRS documentation record at promulgation to identify a background level of contaminant concentrations that would be present in the absence of a release from the Michigan Plaza facility. Well MMW-2S is screened from 10-20 feet bgs and is located downgradient of the GPC facility and soil source on the Maple Creek Apartments property, but the well is upgradient of the soil source located on the Michigan Plaza property (see Figure 1 of this support document and HRS documentation record Reference 122). As presented on page 47 of the HRS documentation record at promulgation, PCE, TCE, Trans-1,2-DCE and cis-1,2-DCE were not detected in samples collected from this well, and vinyl chloride was detected at a maximum concentration of 5.2 µg/L[13] (see Reference 122, page 46 of the HRS documentation record; the data in this reference was submitted to IDEM by AMMH as part of the voluntary response program that Michigan Plaza participated in). Based on the location and depth of this well, well MMW-2S provides an appropriate background level for hazardous substances directly upgradient of the Michigan Plaza facility that is in accordance with HRS Sections 2.3 and 3.1.1.

The Combined Site

Regarding the background level identified for the Site in the HRS documentation record at promulgation, a background level of non-detection of 1,1-DCA, Trans 1,2-DCE, Cis-1,2-DCE, TCE and Vinyl Chloride is determined for the Site and is presented in detail on pages 48-49 of the HRS documentation record at promulgation. The background level for the Site is consistent with the background level for GPC. As discussed above, the wells used to establish the background level for GPC (and the Site) are appropriate for defining the background level for the Site. The wells are located upgradient of both sources and facilities and establish that contaminants under consideration (1,2-DCA, Trans-1,2-DCE, TCE, Cis-1,2-DCE and Vinyl Chloride) are both not detected and not ubiquitous to the area. Therefore, as the samples used to establish the background level take into consideration the non-ubiquity of contaminants in the release and the location of these wells relative to the sources, the background level of non-detection for 1,2-DCA, Trans-1,2-DCE, Cis-1,2-DCE, and Vinyl Chloride identified at promulgation for the Site is appropriate for use as a background level consistent with the requirement of identifying a background level in HRS Sections 2.3 and 3.1.1.

Regarding AMMH's comment that the *HRS Guidance Manual* was not appropriately considered in evaluating the background conditions at the Site, as discussed in Section 3.4, Consistency with the HRS, EPA Guidance, and Policies, of this support document, the *HRS Guidance Manual* is only guidance and not a regulation. As such, the *HRS Guidance Manual* imposes no requirements on the agency. However, in evaluating the background level for HRS purposes, the *HRS Guidance Manual* as well as site-specific circumstances were taken into consideration in selecting appropriate background samples (e.g., upgradient background samples, similar background and release depths[14] [see page 47 of the HRS documentation record at promulgation for complete presentation of the characteristics of these samples]). The discussion above explains the appropriateness of the background samples used in establishing a significant increase in contaminant concentrations specific to each facility based on site-specific considerations.

Regarding AMMH's comments that an appropriate background level for the residential area wells, accounting for contamination migration from other facilities, would be 60 µg/L, AMMH's assertion is not germane to the Site score at promulgation. As discussed above, background locations in the HRS documentation record at promulgation are located immediately upgradient of site sources and are specific to each facility and release. The background level that AMMH is suggesting for the residential area wells is not relevant to establishing a

[13] This concentration represents the highest concentration that was recorded at this location. The most recent sampling completed in 2014 contained a non-detection for vinyl chloride. See page 46 of Reference 122 for a full list of results for MMW-2S.

[14] Page 68 of the *HRS Guidance Manual* outlines considerations and guidelines such as these in establishing a background level.

significant increase in contaminant concentrations in the monitoring wells at each facility. Regarding a background level for the residential wells, as discussed in section 3.13.2, Scoring of an Observed Release to the Level I Drinking Water Wells, of this support document, at promulgation, these residential wells are no longer scored as subject to Level I contamination. Therefore, background concentrations specific to these wells are not relevant for consideration in the HRS score.

This comment results in no change to the HRS score and no change in the decision to place the Site on the NPL.

3.13.2.2 Significant Increase of Contaminant Concentrations in Monitoring Wells

Comment: GPC commented that EPA improperly established an observed release of PCE for the GPC facility. GPC commented that PCE is not a contaminant of concern in the ground water at the GPC facility monitoring wells. GPC commented that PCE has only been detected once in GPC's wells, but that result was not reproduced and stated that it was an anomalous result; therefore, GPC questioned the determination that an observed release of PCE has occurred at the GPC facility. GPC asserted that despite the single detection of PCE, multiple prior and subsequent sample results did not detect PCE, suggesting that the single identification of PCE was not reproducible. GPC commented that EPA's assertion that GPC is a source of PCE contamination is erroneous and asserted that PCE has not been released from the GPC facility.

Response: GPC is incorrect in asserting that a significant increase in PCE was established at proposal. A significant increase in PCE was not established in the HRS documentation record at proposal from Michigan Plaza or GPC. However, a significant increase in contaminant concentrations associated with each facility is established at promulgation. Specifically, a significant increase in TCE, trans-1,2-DCE, cis-1,2-DCE, Vinyl Chloride, and 1,1-DCA in monitoring wells (Wells WV-MW-16 [MW-10-1R], WV-MW-17 [MW-148R], and MMW-P-06) associated with GPC and Michigan Plaza was established in the HRS documentation record at proposal and has been refined in the HRS documentation record at promulgation.

In establishing an observed release to ground water, HRS Section 3.1.1, *Observed release,* states in part:

> Establish an observed release to an aquifer by demonstrating that the site has released a hazardous substance to the aquifer. Base this demonstration on either:
> …
> • Chemical analysis—an analysis of ground water samples from the aquifer indicates that the concentration of hazardous substance(s) has increased significantly above the background concentration for the site (see section 2.3). Some portion of the significant increase must be attributable to the site to establish the observed release, except: when the source itself consists of a ground water plume with no identified source, no separate attribution is required.

HRS Section 2.3, *Likelihood of release,* elaborates on establishing an observed release and states:

> Establish an observed release either by direct observation of the release of a hazardous substance into the media being evaluated (for example, surface water) or by chemical analysis of samples appropriate to the pathway being evaluated (see sections 3, 4, and 6). The minimum standard to establish an observed release by chemical analysis is analytical evidence of a hazardous substance in the media significantly above the background level. Further, some portion of the release must be attributable to the site. Use the criteria in table 2–3 as the standard for determining analytical significance.

HRS Table 2-3 provides specific criteria for establishing an observed release by chemical analysis:

Table 2–3—Observed Release Criteria for Chemical Analysis

Sample Measurement< Sample Quantitation Limit[a]
No observed release is established.
Sample Measurement≥ Sample Quantitation Limit[a]
An observed release is established as follows:
• If the background concentration is not detected (or is less than the detection limit), an observed release is established when the sample measurement equals or exceeds the sample quantitation limit.[a]
• If the background concentration equals or exceeds the detection limit, an observed release is established when the sample measurement is 3 times or more above the background concentration.

[a] If the sample quantitation limit (SQL) cannot be established, determine if there is an observed release as follows:
—If the sample analysis was performed under the EPA Contract Laboratory Program, use the EPA contract-required quantitation limit (CRQL) in place of the SQL.
—If the sample analysis is not performed under the EPA Contract Laboratory Program, use the detection limit (DL) in place of the SQL.

In establishing that an observed release has occurred, page 47 of the HRS documentation record at proposal states:

> EPA contractor staff obtained background ground water samples from monitoring wells and one residential private well. Table 4 below on the following pages depicts the background ground water samples, hazardous substances concentrations, and other associated sample information

Page 50 of the HRS documentation record at proposal indicates:

> Table 5 and Table 6 below depict the samples that meet the observed release criteria (Ref. 1, Table 2-3, p. 63). These tables list the organic hazardous substances with their concentrations and CRQLs for each sample. These samples qualify as "observed releases" based on the criteria in the HRS (Ref. 1, Section 2.3, Table 2-3, p. 63). The well locations are depicted on Figure 1-2 of this HRS documentation record.

Tables on pages 47-54 of the HRS documentation record at proposal present the samples and concentrations discussed on page 50 of the HRS documentation record at proposal that depict the samples meeting observed release criteria. The revised tables presenting concentrations meeting observed release criteria are presented on pages 53-57 of the HRS documentation record at promulgation, which exclude residential wells. (The change in scoring to not score residential wells as subject to actual contamination is addressed in section 3.13.2, Scoring of an Observed Release to the Level I Drinking Water Wells, of this support document.)

Page 70 of the HRS documentation record at proposal states:

> Hazardous Substances Released
> • TCE
> • trans-1,2-DCE
> • cis-1,2-DCE
> • VC
> • 1,1-DCA
>
> Trans-1,2-DCE, cis-1,2-DCE, VC are degradation products of TCE and PCE (Ref. 64, pp. 1-5).

The HRS documentation record at proposal establishes that, as concentrations of hazardous substances downgradient of the background wells exceeded the background level of non-detection[15] a significant increase was established in accordance with HRS Section 2.3. However, when a background sample equals or exceeds the detection limit, an observed release is established when the sample measurement is 3 times or more above the background concentration.

The HRS documentation record at promulgation has been revised to not score residential wells as subject to Level I concentrations at promulgation. In the HRS documentation record at promulgation, a significant increase in contaminant concentrations is established specific to each facility. The significant increase in contaminant concentrations specific to each facility is presented on pages 51-52 of the HRS documentation record at promulgation.

For the combined site (the Site), a background level is defined by the highest concentration of VOCs from wells located upgradient of GPC, as discussed in Section 3.13.2.1, Background Levels, of this support document. As hazardous substances were not detected in samples collected from these wells, a background level was identified as below the detection limit (i.e., not detected). Downgradient of these wells, located on/adjacent to GPC, a significant increase in contaminant concentrations is established by detections of contaminants (1,1-DCA, Trans-1,2-DCE, TCE, Vinyl Chloride, and cis-1,2-DCE) in wells MW-148R (WV-MW-17), MW-10-1R (WV-MW-16), and Well MMW-P-06 that were above the sample quantitation limit. (See pages 51-52 of the HRS documentation record at promulgation, Figure 2 of this support document, and Table 1 of this support document below.) As these concentrations downgradient of GPC are above the quantitation limit and exceed the non-detection background level, a significant increase in contaminant concentrations was appropriately established for the Site consistently with HRS Section 2.3 and HRS Table 2-3.

Table 1 – Background and Release Well Sample Concentrations at Promulgation

EPA CLP ID	Well ID	Substance	Concentration (Adjusted Concentration) µg/L	CRQL µg/L	Sample Type
E5AZ2	MW-WVS-10	VC Trans-1,2-DCE Cis-1,2-DCE TCE 1,1-DCA	ND ND ND 0.37*(ND) ND	0.5 0.5 0.5 0.5 0.5	Background
E5AZ3	MW-WVS-11	VC Trans-1,2-DCE Cis-1,2-DCE TCE 1,1-DCA	ND ND ND ND ND	0.5 0.5 0.5 0.5 0.5	Background
E5BH3	Olin Park/WVS-10	VC Trans-1,2-DCE Cis-1,2-DCE TCE 1,1-DCA	ND ND 0.12*(ND) ND ND	0.5 0.5 0.5 0.5 0.5	Background
E5BH4	Olin	VC	ND	0.5	Background

[15] Samples used to establish an observed release were analyzed under the Superfund Contract Lab Program (CLP). See pages 46-65 of the HRS documentation record at proposal for a complete presentation of the analytical results and associated sample characteristics.

	Park/WVS-10	Trans-1,2-DCE Cis-1,2-DCE TCE 1,1-DCA	ND 0.11*(ND) ND ND	0.5 0.5 0.5 0.5	
E5AW8	WVMW-4B-GW	VC Trans-1,2-DCE Cis-1,2-DCE TCE 1,1-DCA	ND ND ND ND ND	0.5 0.5 0.5 0.5 0.5	Background
E5AW9	WV-MW-4A	VC Trans-1,2-DCE Cis-1,2-DCE TCE 1,1-DCA	ND ND ND ND ND	0.5 0.5 0.5 0.5 0.5	Background
E5AW6	WV-MW-10	VC Trans-1,2-DCE Cis-1,2-DCE TCE 1,1-DCA	ND ND ND ND ND	0.5 0.5 0.5 0.5 0.5	Background
E5AW5	WV-MW-11-GW	VC Trans-1,2-DCE Cis-1,2-DCE TCE 1,1-DCA	ND ND ND ND ND	0.5 0.5 0.5 0.5 0.5	Background
E5AW0	WV-MW-12-GW	VC Trans-1,2-DCE Cis-1,2-DCE TCE 1,1-DCA	ND ND ND ND ND	0.5 0.5 0.5 0.5 0.5	Background
E5AT9	WV-MW-13-GW	VC Trans-1,2-DCE Cis-1,2-DCE TCE 1,1-DCA	ND ND ND ND ND	0.5 0.5 0.5 0.5 0.5	Background
MMW-2S	MMW-2S	VC Trans-1,2-DCE Cis-1,2-DCE TCE	5.2 ND ND ND	0.5 0.5 0.5 0.5	Background
E5AW1	WV-MW-16 (MW-10-1R)	Trans-1,2-DCE Cis-1,2-DCE	8.8 5.7	2.5 2.5	Release
E5AW1DL	WV-MW-16 (MW-10-1R)	TCE	670	25	Release
E5AW2	WV-MW-17 (MW-148R)	Trans-1,2-DCE 1,1-DCA	6.4 1.4	0.5 0.5	Release
E5AW2DL	WV-MW-17 (MW-148R)	Cis-1,2-DCE TCE	29 100	5.0 5.0	Release
E5AX1DL	MMW-P-06	VC Cis-1,2-DCE	3,500 J+(350) 1,900 J+ (190)	50 50	Release
E5AX1	MMW-P-06	Trans-1,2-DCE	23 J-(23)	5	Release

J+ - Surrogate recoveries were out of control, high in samples E5AX1 and E5AX2DL, and associated compounds are qualified bias high. Results were adjusted according to procedures described in EPA 540-F-94-028, Using Qualified Data to Document an Observed Release and Observed Contamination, November 1996.

J- - Sample E5AX1 was analyzed outside the holding time and results are estimated with a low bias. Results for release samples require no adjustment according to procedures described in EPA 540-F-94-028, Using Qualified Data to Document an Observed Release and Observed Contamination, November 1996.

A complete presentation of background and release samples is presented on pages 47-57 of the HRS documentation record at promulgation.

For GPC, a significant increase specific to GPC is established at promulgation based on a significant increase in contaminant concentrations relative to the contaminant-specific background level. The significant increase in contaminant concentrations specific to GPC is presented on pages 51-52 of the HRS documentation record at promulgation. As noted in section 3.13.2.1, Background level, of this support document, the background level for all hazardous substances at the GPC facility was established as non-detect. The significant increase specific to GPC is based on the increase in contaminant concentrations as identified in samples collected from wells MW-148R (WV-MW-17) and MW-10-1R (WV-MW-16), which are located downgradient (south) of the GPC-specific soil source and background wells (see Figure 2 of this support document). By establishing an increase in contaminant concentrations specific to GPC based on the exceedance of concentrations of hazardous substances in samples from the downgradient wells relative to a background level specific to GPC, a significant increase in contaminant concentrations specific to GPC was identified in accordance with the HRS requirements outlined in HRS Sections 2.3, 3.1.1 and HRS Table 2-3.

Similarly, a significant increase specific to Michigan Plaza is based on a significant increase in contaminant concentrations relative to the background level specific to the facility (see page 52 of the HRS documentation record at promulgation). As discussed in section 3.13.2.1, Background Levels, of this support document, the background levels for hazardous substances at the Michigan Plaza facility were established based on well MMW-2S as non-detection for PCE, TCE, Cis-1,2-DCE and Trans-1,2-DCE and 5.2 µg/L for Vinyl Chloride. Therefore, a significant increase specific to Michigan Plaza is established when contaminant concentrations downgradient of the source area at the Michigan Plaza facility exceed three times their respective background levels. As documented in monitoring well MMW-P-06 (which is located immediately downgradient of the contaminated soil source at the Michigan Plaza facility), contaminant concentrations are greater than three times the background level (i.e., greater than 15.6 µg/L for vinyl chloride and greater than non-detection for Cis-1,2, -DCE and Trans-1,2-DCE) and a significant increase in contaminant concentrations specific to Michigan Plaza was identified in accordance with HRS Sections 2.3, 3.1.1 and HRS Table 2-3.

Regarding GPC's assertion that PCE was improperly identified in an observed release, as discussed above, substances that were identified in the observed release ground water monitoring wells did not include PCE However, GPC in its comments on the proposed addition of the Site to the NPL, states that "one [ground water sample] has exhibited detectable PCE… It was reported in 2000." Therefore, GPC itself acknowledges that PCE was detected in ground water associated with its 700 North Olin location. GPC and Michigan Plaza did not question significant increases in contaminant concentrations specific to wells just downgradient of each facility.

This comment results in no change to the HRS score and no change in the decision to place the Site on the NPL.

3.13.2.3 Attribution - Significant Increase of Contamination in Monitoring Wells

Comment: AMMH and GPC commented that EPA improperly documented that separate releases of hazardous substances have occurred from each facility to the ground water. AMMH commented that contamination in the releases at the Site is attributable to GPC and not to AMMH. GPC commented that the contamination in the releases at the Site is attributable to AMMH but not to GPC.

AMMH alleged that releases from GPC are responsible for the hazardous substances found in the monitoring wells surrounding the Michigan Plaza facility. Specifically, AMMH asserted that cis-1,2-DCE and vinyl chloride from the Genuine Auto facility continue to migrate with ground water flow to the south-southwest, beneath Little Eagle Creek, traveling onto and through the Michigan Plaza facility.

GPC commented that AMMH incorrectly attributes contamination on their property to releases at the GPC facility and asserts that AMMH overstates any impact that the contamination on their facility could have on the contamination found in the monitoring wells on the Michigan Plaza property. GPC commented that removal activities at the Genuine Parts facility have reduced levels of cis-1,2-DCE and vinyl chloride in the northern most monitoring wells on Maple Creek Village Apartments property, indicating the removal activities have reduced any potential contribution downgradient of Genuine Parts and limited plume migration. Additionally, GPC commented that TCE was not generally detected in monitoring wells immediately south of Little Eagle Creek or the Weston monitoring wells. GPC commented that EPA should "retract its unfounded 'attribution' of the conditions at issue to GPC."

Response: The HRS documentation record at promulgation has been revised to clarify the attribution of the significant increase in contamination identified in ground water at the Site. The significant increase in contamination specific to each facility has been properly attributed to each facility at promulgation. Appropriateness of the significant increase at the Site is discussed in section 3.13.2.2, Significant Increase in Contaminant Concentrations, of this support document. The significant increase in contaminant concentrations in monitoring wells downgradient of each facility is appropriately attributed to each facility individually, as presented in the HRS documentation record at promulgation, in accordance with the requirement of HRS Section 2.3 of establishing attribution of a significant increase to establish an observed release.

In establishing an observed release to ground water, HRS Section 3.1.1 states, in part:

> • Chemical analysis—an analysis of ground water samples from the aquifer indicates that the concentration of hazardous substance(s) has increased significantly above the background concentration for the site (see section 2.3). **Some portion of the significant increase must be attributable to the site to establish the observed release** [emphasis added]

HRS Section 2.3 elaborates on establishing an observed release by chemical analysis and states:

> The minimum standard to establish an observed release by chemical analysis is analytical evidence of a hazardous substance in the media significantly above the background level. Further, **some portion of the release must be attributable to the site**. [emphasis added]

In establishing an observed release by chemical analysis, the HRS Section 2.3 requires that some portion of the release must be attributable to the site.

Page 65 of the HRS documentation record at proposal presents the attribution rationale for the Site and indicates that Genuine Parts and Michigan Plaza are the two principle sources of contamination in the sand and gravel

aquifer. Specifically for GPC, pages 66-69 of the HRS documentation record at proposal document that that Site-related contaminants were used during normal operations at the facility and were detected in the soil at the facility. Similarly, for Michigan Plaza, pages 68-70 of the HRS documentation record at proposal document that that Site-related contaminants were used during normal operations at the facility and were detected in the soil at the facility. Section 3.13.2.2, Significant Increase of Contaminant Concentrations in Monitoring Wells, of this support document, establishes that both facilities independently are documented to have significant increases of hazardous substances at their respective facilities and that the Site similarly contains a significant increase of commingled contamination. Thus, the HRS documentation record at proposal establishes that a significant increase in hazardous substances, including Trans 1,2-DCE, Cis 1,2-DCE, TCE, 1,1-DCA and Vinyl Chloride could be attributed to GPC or Michigan Plaza.

Significant Increase of Contaminant Concentrations Attributable to the GPC Facility

The HRS documentation record at promulgation has been revised to clarify the attribution of a significant increase in contamination to the GPC facility. (See page 68 of the HRS documentation record at promulgation.) The attribution of the contamination identified in the significant increases specific to each facility is presented on page 68 of the HRS documentation record at promulgation. For GPC, the attribution of the significant increase in the HRS documentation record at promulgation is based on historical association of contaminants with the facility, the location of background and release wells, and the gradient in concentrations upgradient and downgradient of GPC.

The release is attributed to the Site in part based on the absence of contamination upgradient of GPC and the increase in contamination downgradient of GPC. The absence of contamination upgradient of GPC is demonstrated by the non-detection level of hazardous substances in samples collected from the background wells located upgradient of GPC (see section 3.13.2.1, Background Levels, of this support document). Because the background levels for the GPC facility are non-detect, the origin of the contamination cannot be from locations upgradient of the GPC facility. Additionally, the commenters did not challenge the background level established for the GPC facility. Therefore, contamination located immediately downgradient of the GPC facility in wells WV-MW-16 (MW-10-1R) and WV-MV-17 (MW-148R) is attributable to the historical operations as presented in the HRS documentation record at proposal.

Significant Increase of Contaminant Concentrations Attributable to Michigan Plaza Facility

Similarly, the HRS documentation record at promulgation has been revised to clarify the attribution to Michigan Plaza. (See page 68 of the HRS documentation record at promulgation.) For Michigan Plaza, the attribution of the significant increase in the HRS documentation record at promulgation is based on historical association of contaminants with the facility, the location of background and release wells, and the gradient in concentrations upgradient and downgradient of Michigan Plaza.

For the Michigan Plaza facility, the background levels are established in the HRS documentation record at promulgation using a monitoring well located immediately upgradient of the facility (MMW-2S). This monitoring well provides a background level that accounts for contamination that might migrate from the GPC facility toward the south to the Michigan Plaza facility. The concentration gradient from immediately upgradient of the source area at the Michigan Plaza facility to immediately downgradient of the facility supports the attribution of the significant increase, at least in part, to the operations at the Michigan Plaza facility, as the contamination immediately downgradient of the facility increases over three times the background concentrations (background well MMW-2S contained a maximum vinyl chloride concentration of 5.2 µg/L and MMW-P-06 downgradient of the facility is documented to contain 350 µg/L of vinyl chloride). This contaminant increase and historical association of Site-related

contaminants with the Michigan Plaza facility demonstrates that at least part of the significant increase in MMW-P-06 is due to the release of contamination at the Michigan Plaza facility.

Combined Releases at the Site

As discussed above, the contamination evaluated in the significant increases specific to each facility are attributable to each facility. This attribution, of at least part of the significant increases in Site contamination, is based on the location of the background sample relative to the downgradient release samples and the association of contamination with the operations at each facility. As the contamination in each significant increase is attributable to each facility (GPC and Michigan Plaza), the contamination associated with the listing of the Site is also attributable, at least in part, to the combined releases at the Site, consistent with the attribution requirements in HRS Section 2.3.

Regarding assertions by GPC and AMMH that contamination at each facility is resulting from the other facility, the background samples used to establish a significant increase in contaminant concentrations appropriately screen for outside concentrations and would account for contamination that could be spreading to downgradient facilities. As discussed in Section 3.13.2.1, Background Levels, of this support document, a background level specific to GPC and a separate background level specific to Michigan Plaza are established in the HRS documentation record at promulgation. As these background levels are upgradient of each facility and the associated contaminated soil source and the corresponding significant increase is just downgradient of these facilities in monitoring wells, these facility-specific background levels would account for contamination that could be migrating from each facility in establishing that a significant increase is attributable to each facility. (See section 3.12.3, Ground Water Flow Direction, of this support document.) In addition, as discussed in Section 3.13.2.2, Significant Increase in Contaminant Concentrations in Monitoring Wells, of this support document, the significant increase in contaminant concentrations in monitoring wells just downgradient of each facility was not challenged by GPC or AMMH.

See Section 3.16, HRS Score, of this support document, for a presentation of factor value changes associated with the revisions to the HRS documentation record at promulgation.

This comment results in no change to the HRS score and no change in the decision to place the Site on the NPL.

3.14 Waste Characteristics

Comment: AMMH commented that the hazardous waste quantity factor should be 10 rather than 100, with a corresponding waste characteristics factor value of 18. AMMH stated that the residential wells are not subject to actual contamination (Level I) and asserted that they should be considered subject to potential contamination because there is no significant increase to establish an observed release. AMMH stated, “based on these considerations, the hazardous waste quantity factor should be 10.”

AMMH also commented that EPA’s exclusion of the possibility of contamination from Allison Transmission erroneously increases the waste characteristics factor, because vinyl chloride detected in private drinking water wells is improperly attributed to releases at Michigan Plaza and Genuine Parts.

GPC commented that the HRS documentation record at proposal neglects to discuss that an additional 3,670 tons of TCE-impacted hazardous waste and 4,814 tons of TCE-impacted non-hazardous waste were removed and disposed off-property between August 2006 and October 2006. GPC asserted that more than 18,296 tons of hazardous and non-hazardous waste has been removed from Genuine Parts, more than the 4,981.51 tons discussed in the HRS documentation record at proposal.

Response: The pathway hazardous waste quantity and the corresponding waste characteristics factor values have been revised from 100 to 10 and from 32 to 18, respectively, in the HRS documentation record at promulgation to account for changes in the identified targets at promulgation. As discussed in section 3.13.2, Scoring of an Observed Release to Level I Drinking Water Wells, of this support document, Level I contamination is no longer being scored in the HRS documentation record at promulgation. Removal actions were not neglected in the evaluation of the waste characteristics of the Site sources as all source samples were collected following removal actions. In calculating a pathway hazardous waste quantity factor value, HRS Section 2.4.2.2, *Calculation of hazardous waste quantity value*, states:

> Sum the source hazardous waste quantity values assigned to all sources (including the unallocated source) or areas of observed contamination for the pathway being evaluated and round this sum to the nearest integer, except: if the sum is greater than 0, but less than 1, round it to 1. Based on this value, select a hazardous waste quantity factor value for the pathway from table 2–6.

Table 2–6—Hazardous Waste Quantity Factor Values

Hazardous waste quantity value	Assigned value
0	0
1[a] to 100	1[b]
Greater than 100 to 10,000	100
Greater than 10,000 to 1,000,000	10,000
Greater than 1,000,000	1,000,000

[a]If the hazardous waste quantity value is greater than 0, but less than 1, round it to 1 as specified in text.
[b]For the pathway, if hazardous constituent quantity is not adequately determined, assign a value as specified in the text; do not assign the value of 1.

•If any target for that migration pathway is subject to Level I or Level II concentrations (see section 2.5), assign either the value from table 2–6 or a value of 100, whichever is greater, as the hazardous waste quantity factor value for that pathway.

•If none of the targets for that pathway is subject to Level I or Level II concentrations, assign a factor value as follows:

–If there has been no removal action, assign either the value from table 2–6 or a value of 10, whichever is greater, as the hazardous waste quantity factor value for that pathway.

–If there has been a removal action:

–Determine values from table 2–6 with and without consideration of the removal action.

–If the value that would be assigned from table 2–6 without consideration of the removal action would be 100 or greater, assign either the value from table 2–6 with consideration of the removal action or a value of 100, whichever is greater, as the hazardous waste quantity factor value for the pathway.

–If the value that would be assigned from table 2–6 without consideration of the removal action would be less than 100, assign a value of 10 as the hazardous waste quantity factor value for the pathway.

…

2.4.3 *Waste characteristics factor category value*. Determine the waste characteristics factor category value as specified in section 2.4.3.1
…

For the pathway (or threat) being evaluated, multiply the toxicity or combined factor value, as appropriate, from section 2.4.1.2 and the hazardous waste quantity factor value from section 2.4.2.2, subject to a maximum product of 1×10^{8}. Based on this waste characteristics product, assign a waste characteristics factor category value to the pathway (or threat) from table 2–7.

Table 2–7—Waste Characteristics Factor Category Values

Waste characteristics product	**Assigned value**
0	0
Greater than 0 to less than 10	1
10 to less than 1×10^{2}	2
1×10^{2} to less than 1×10^{3}	3
1×10^{3} to less than 1×10^{4}	6
1×10^{4} to less than 1×10^{5}	10
1×10^{5} to less than 1×10^{6}	18
1×10^{6} to less than 1×10^{7}	32
1×10^{7} to less than 1×10^{8}	56
1×10^{8} to less than 1×10^{9}	100
1×10^{9} to less than 1×10^{10}	180
1×10^{10} to less than 1×10^{11}	320
1×10^{11} to less than 1×10^{12}	560
1×10^{12}	1,000

As mentioned in section 3.12, Aquifer Delineation, and 3.13.2, Scoring of an Observed Release to the Level I Drinking Water Wells, of this support document, the hydrology between the residential wells and both of the facilities is no longer being evaluated as part of the HRS evaluation. Therefore, the HRS documentation record at promulgation no longer scores Level I targets and no longer assigns a pathway hazardous waste quantity factor value of 100 due to the Level I targets scored at proposal.

Regarding GPC's comment that some of the source contamination has been removed at each facility, Source 2 was established using soil samples taken after the August 2006 and October 2006 removal action conducted by GPC at the west end of the GPC property. (See HRS Documentation Record at proposal, Ref. 25, pp. 17–24). These soil samples were taken as final post-removal confirmatory soil samples and were collected from the sidewalls of the excavation area. (See HRS Documentation Record at proposal Ref. 25, pp. 19–20). These samples represent current conditions because they were taken from soil that was not removed from the GPC property during the 2006 removal action. Hazardous substance concentrations found in these samples, presented in Table 3 of the HRS Documentation Record at proposal, pp. 36–37, indicate the continued presence of contamination in the soil source at the GPC property following the 2001 and 2006 removal actions. Removal actions were considered in the HRS documentation record at proposal but since contamination remains, a source hazardous waste quantity was assigned as unknown but greater than zero. Removal actions at the Site are further considered in assigning the pathway hazardous waste quantity factor value.

Pathway Hazardous Waste Quantity Factor Value

The HRS documentation record at promulgation scores both source hazardous waste quantities as unknown but greater than zero. As specified in footnote "a" of Table 2-6, for a value of greater than 0 but less than 1, the source hazardous waste quantity should be rounded to 1. In evaluating the pathway hazardous waste quantity, Table 2-6 footnote "b" directs that if the hazardous constituent quantity for a source is not adequately determined, assign a value as specified in the text of HRS Section 2.4.2.2. As no Level I or Level II targets are scored in the HRS documentation record at promulgation for either the combined Site or for the individual facility scores for each facility, the HRS directs that removal actions be considered. In considering the removal actions that have occurred at each facility, the HRS directs that a pathway hazardous waste quantity be assigned a factor value of 10 at promulgation for the combined site and for each individual facility site score.

Waste Characteristics

Regarding AMMH's assertion that the waste characteristics factor value should be revised due to the incorrect scoring of Level I targets, the waste characteristics factor value has also been revised at promulgation to account for the revised pathway hazardous waste quantity factor value. A toxicity/mobility factor of 10,000 was assigned in the HRS documentation record at proposal and remains the same in the HRS documentation record at promulgation. The toxicity/mobility and pathway hazardous waste quantity factor values are multiplied to determine a waste characteristics factor value. A corresponding waste characteristics factor value of 18 has been assigned in the HRS documentation record at promulgation, for both the combined Site score and for each facility as they are independently scored, in accordance with HRS Section 2.4.3.1 and HRS Table 2-7. (See page 76 of the HRS documentation record at promulgation for a detailed presentation of these values.)

This comment results in no change to the HRS score and no change in the decision to place the Site on the NPL.

3.15 Targets

Comment: AMMH and GPC commented that EPA incorrectly evaluated the targets in the HRS documentation record at proposal. AMMH commented that EPA incorrectly scored potential targets as Level I targets. Both AMMH and GPC commented that the potential target factor value was improperly evaluated.

Response: EPA has reevaluated the scoring of the target factor at promulgation, and this scoring of the target factor value at promulgation is consistent with the HRS. Specifically, EPA has reevaluated the wells scored as Level I targets (Wells WV-RES-4018WVS and WV-RES-4012COS) at proposal and is changing the scoring of these wells to being subject to potential contamination in the HRS documentation record at promulgation. The information used in rescoring the Site at promulgation was presented in the HRS package at proposal as is shown in the subsections below.

In evaluating targets, HRS Section 3.0, *Ground Water Migration Pathway*, states, in part:

> [I]nclude both the targets using water from that aquifer and the targets using water from all overlying aquifers through which the hazardous substances would migrate to reach the aquifer being evaluated.

HRS Section 3.0.1.1, *Ground water target distance limit*, states, in part:

> The target distance limit defines the maximum distance from the sources at the site over which targets are evaluated. Use a target distance limit of 4 miles for the ground water migration pathway, except when aquifer discontinuities apply (see section 3.0.1.2.2).

In evaluating targets in the ground water pathway, the HRS Section 3.3, *Targets*, directs a scorer to:

> Evaluate the targets factor category for an aquifer based on four factors: nearest well, population, resources, and Wellhead Protection Area. Evaluate these four factors based on targets within the target distance limit specified in section 3.0.1.1 and the aquifer boundaries specified in section 3.0.1.2.

The HRS documentation record at promulgation has revised the scoring of targets to score all targets at promulgation as subject to potential contamination. See pages 77-83 of the HRS documentation record at promulgation for detailed discussion regarding the scoring of the Site. The TDL for the Site is appropriately established in the HRS documentation record at proposal and has not been revised at promulgation. As discussed in Section 3.12, Aquifer Delineation, of this support document, the aquifers evaluated at the Site are appropriately interconnected into a single hydrologic unit for HRS scoring purposes; the eligibility of target wells drawing from this aquifer are discussed in this section. The following subsections of this support document address commenters' specific assertions pertaining to the scoring of targets:

- 3.15.1 Nearest Well
- 3.15.2 Level I and Level II Targets
- 3.15.3 Potential Targets
- 3.15.4 Revision of Target Factor Category Value

3.15.1 Nearest Well

Comment: AMMH commented that EPA did not properly evaluate the nearest well factor value in the HRS documentation record at proposal for the limestone aquifer because EPA incorrectly assumed the presence of actually contaminated target wells in the incorrectly interconnected hydrologic unit EPA evaluated. AMMH asserted that the nearest well factor value should be evaluated as 20 for the limestone aquifer because the contamination at the Site should be evaluated as potential contamination.

Response: The HRS documentation record has been revised at promulgation to evaluate all targets as subject to potential contamination. As a result of this change, the nearest well factor value for the combined hydrologic unit has been revised from 50 to 20 in the HRS documentation record at promulgation, in accordance with the HRS.

In evaluating the nearest well factor, HRS Section 3.3.1, *Nearest Well*, states, in part:

> In evaluating the nearest well factor, include both the drinking water wells drawing from the aquifer being evaluated and those drawing from overlying aquifers as specified in section 3.0.
>
> …
>
> Assign a value for the nearest well factor as follows:
>
> • If none of the drinking water wells is subject to Level I or Level II concentrations, assign a value as follows:
>
> –If one of the target aquifers is a karst aquifer….
>
> –If not, determine the shortest distance to any drinking water well, as measured from any source at the site with a ground water containment factor value greater than 0. Select a value from table 3–11 based on this distance. Assign it as the value for the nearest well factor.

…

Table 3–11—Nearest Well Factor Values

Distance from source (miles)	Assigned value
Level I concentrations[a]	50
Level II concentrations[a]	45
0 to 1/4	20
Greater than 1/4 to 1/2	18
Greater than 1/2 to 1	9
Greater than 1 to 2	5
Greater than 2 to 3	3
Greater than 3 to 4	2
Greater than 4	0

a Distance does not apply.

Pages 74-77 of the HRS documentation record at proposal identify the depths to which wells subject to potential contamination are completed and in which aquifer these wells are completed, establishing that these wells are completed in the combined hydrologic unit under evaluation.

The HRS documentation record at proposal assigns a nearest well factor value of 50 based on Level I contamination. However, as discussed in Section 3.13.2, Scoring of an Observed Release to the Drinking Water Wells, of this support document, EPA has revised the scoring of Level I targets and, consequently, the evaluation of the nearest well factor in the HRS documentation record at promulgation.

The HRS documentation record at promulgation has re-evaluated the nearest well factor for the Site based on a comingled release from both facilities to the nearest target well subject to potential contamination. Therefore, the nearest well factor value is based on well WV-RES-4012COS which is located less than 0.25 miles to the west of the Site sources in the residential neighborhood (see page 77 of the HRS documentation record at promulgation for a detailed presentation of this well). The corresponding nearest well factor value for this well is 20 based on HRS Table 3-11 for this distance based on potential contamination. Therefore, the nearest well factor value of 20 is assigned in the HRS documentation record at promulgation.

For the evaluation of the Michigan Plaza facility individually, a nearest well factor value of 20 is also assigned as the distance of the nearest well WV-RES-4012COS, which is subject to potential contamination, from the soil source associated with the Michigan Plaza facility is less than 0.25 mile.

For the evaluation of GPC, 18 is assigned as the nearest well factor value at promulgation. This factor value is assigned based on the distance of the nearest well WV-RES-4012COS from the soil source associated with the GPC facility, which is located between 0.25 mile and 0.5 mile from the GPC soil source.

For a detailed presentation of these changes to the targets scoring, see section 3.15.4, Reevaluation of Targets, of this support document.

This comment results in a change to the nearest well factor value for the Site and each individual facility site score, but does not result in a change to the overall HRS score and no change in the decision to list the Site on the NPL.

3.15.2 Level I and Level II Targets

Comment: AMMH commented that the residential wells scored as being subject to Level I contamination should instead be scored as only subject to potential contamination.

Response: The scoring of targets (Wells WV-RES-4018WVS and WV-RES-4012COS) as subject to Level I contamination has been removed in the HRS documentation record at promulgation, and comments regarding the scoring of Level I targets are not considered in this support document. Section 3.13.2, Scoring of an Observed Release to the Level I Drinking Water Wells, of this support document provides further detail on the removal of the scoring of Level I targets in the HRS documentation record at promulgation.

The removal of Level I targets from the HRS Site score results in no change to the overall HRS Site score and no change in the decision to list the Site on the NPL.

3.15.3 Potential Targets

Comment: AMMH and GPC commented that EPA improperly calculated the potential population factor value for Speedway, Riverside, and White River well fields. AMMH and GPC asserted that EPA's incorrect scoring of the potential targets significantly inflates the population scored as subject to potential contamination and the HRS Site score.

Response: The wells in the Speedway, Riverside, and White River well fields were properly evaluated consistently with the HRS as subject to potential contamination. The wells in the Speedway, Riverside, and White River well fields were correctly evaluated as eligible targets drawing water from the aquifer being evaluated within the TDL and subject to potential contamination in the scoring of the Site. However, in the HRS documentation record at promulgation, wells that were previously considered subject to Level I concentrations at proposal are now evaluated as subject to potential contamination at promulgation. Accordingly, the populations associated with these wells are included in determining a potential contamination value at promulgation, and a revised potential contamination factor value has been assigned in the HRS documentation record at promulgation.

In identifying the distance over which targets can be evaluated, HRS Section 3.0.1.1, *Ground Water Target Distance Limit,* in part states:

> The target distance limit defines the maximum distance from the sources at the site over which targets are evaluated. Use a target distance limit of 4 miles for the ground water migration pathway, except when aquifer discontinuities apply

In determining the eligibility of potential targets, HRS Section 3.3.2.4, *Potential Contamination,* directs a scorer to:

> Determine the number of people served by drinking water from points of withdrawal subject to potential contamination. Do not include those people already counted under the Level I and Level II concentrations factors.
>
> Assign distance-weighted population values from table 3–12 to this population …

Page 74 of the HRS documentation record at proposal states:

> Ground water from the White River and Riverside wells is pumped to the White River treatment plant where it blends with raw surface water, then passes through the entire surface water treatment process prior to distribution to customers (Ref. 68, p. 1).

> The Riverside and White River Municipal Well Calculations table (Ref. 138, p. 1) depicts the Well ID#, Well/Intake capacity, and population served per each well. The table explains how the population was apportioned for each well/intake based on capacity. The well capacity numbers for the Riverside and White River wells were supplied by Citizens Energy Group (Ref. 136, pp. 1, 2). The White River treatment plant supplies 60% of the population of Indianapolis (Ref. 137, p. 1). The population served by Citizens Water is 876,728 (Refs. 68, p. 1; 134, p. 2).
>
> The Speedway Well Calculations table (Ref. 139, p. 1) depicts the Well ID#, Well/Intake capacity, and population served per each well. The table explains how the population was apportioned for each well/intake based on capacity. The well capacity numbers for the Speedway wells were supplied by Speedway Water Works (Ref. 141, p. 2). The population served by Speedway Municipal wells is 11,812 (Ref. 135, p. 4).

Pages 74-77 of the HRS documentation at proposal present the depths to which and the aquifer in which the municipal wells evaluated as subject to potential contamination are completed and page 57 of the HRS documentation record at proposal presents the depths to which the two residential wells (that were evaluated as subject to Level I contamination at proposal) are completed. All of these well depths are finished in the combined hydrologic unit that is being evaluated at the Site.

Page 77 of the HRS documentation record at proposal states:

> There are two properties, Genuine Parts and Michigan Plaza, that contain sources for the contaminated ground water. The sources lay between the Riverside/White River and Speedway municipal well fields. The Potential Population Table below depict the distance ranges from Genuine Parts and Michigan Plaza to the municipal wells, the population served at each well, and the value assigned from Table 3-12 of Reference 1 of this HRS Documentation Record.

The HRS documentation record evaluated the population associated with the target wells completed in the interconnected aquifers based on distance from the sources and assigned values from HRS Table 3-12; therefore, the HRS documentation record at proposal properly evaluated potential targets in accordance with the HRS.

The following subsections address specific assertion related to the scoring of potential targets:

- 3.15.3.1 Consideration of Ground Water Flow Direction
- 3.15.3.2 Apportionment of Target Populations
- 3.15.3.3 Reevaluation of the Potential Population Factor Value

3.15.3.1 Consideration of Ground Water Flow Direction

Comment: AMMH and GPC challenged scoring these well fields as potential targets because ground water flow in the area of the Site is in the opposite direction from these well fields. AMMH and GPC contend that the flow direction prohibits Site contamination from migrating to these well fields. GPC commented that the HRS method improperly assumes contaminants in ground water can migrate in all directions. GPC asserted that the Site preliminary assessment supports this conclusion that ground water cannot migrate in all directions and therefore impact the municipal well fields. GPC asserted that the preliminary assessment supports that the ground water plume cannot impact any of the municipal wells. GPC asserted that even if it is assumed that ground water flows in one direction up to 4 miles toward the Speedway Well Field and the plume can impact those wells.

AMMH commented that EPA should consider the impact ground water flow has on the ability of contaminants to migrate toward potential target wells, regardless of whether the HRS requires EPA to do so.

Response: Wells in the Speedway, Riverside, and White River well fields were correctly evaluated as eligible targets subject to potential contamination in the HRS documentation record at proposal. As discussed in section 3.12, Aquifer Delineation, of this support document, the aquifers underlying the Site were appropriately determined to be interconnected and all of the wells in the well fields are finished in the combined aquifer unit that was evaluated in the HRS documentation record at proposal. Ground water flow direction is not considered in an HRS evaluation when identifying eligible target wells for potential contamination within the TDL at a site.

To identify eligible targets, the ground water migration pathway in the HRS requires that the distance from a source to each well drawing water from the hydrologic unit be evaluated to determine if the wells are eligible for consideration. HRS Section 3.0.1.1, *Ground water target distance limit*, states:

> The target distance limit defines the maximum distance from the sources at the site over which targets are evaluated. Use a target distance limit of 4 miles for the ground water migration pathway, except when aquifer discontinuities apply (see section 3.0.1.2.2). ….

To determine what qualifies as a target in the ground water pathway, HRS Section 3.3, *Targets*, instructs the scorer to:

> [e] valuate these four factors based on targets within the target distance limit specified in section 3.0.1.1 and the aquifer boundaries specified in section 3.0.1.2. Determine the targets to be included in evaluating these factors for an aquifer as specified in section 3.0.

HRS Section 3.0, *Ground Water Migration Pathway,* states, in part:

> Calculate a separate ground water migration pathway score for each aquifer, using the factor category values for that aquifer for likelihood of release, waste characteristics, and targets. In doing so, include both the targets using water from that aquifer and the targets using water from all overlying aquifers through which the hazardous substances would migrate to reach the aquifer being evaluated.

To determine eligible populations associated with drinking water wells, HRS Section 3.3.2, *Population*, states:

> In evaluating the population factor, include those persons served by drinking water wells within the target distance limit specified in section 3.0.1.1. For the aquifer being evaluated, count those persons served by wells in that aquifer and those persons served by wells in overlying aquifers as specified in section 3.0.

To evaluate populations associated with points of withdrawal (e.g., wells, surface water intakes), HRS Section 3.3.2.1, *Level of contamination*, states:

> Evaluate the population served by water from a point of withdrawal based on the level of contamination for that point of withdrawal. Use the applicable factor: Level I concentrations, Level II concentrations, or potential contamination.
>
> If no samples meet the criteria for an observed release for a point of withdrawal and there is no observed release by direct observation for that point of withdrawal, evaluate that point of withdrawal using the potential contamination factor in section 3.3.2.4. …

> For the potential contamination factor, use population ranges in evaluating the factor as specified in section 3.3.2.4. …

Users of ground water not scored as subject to actual contamination and within the 4-mile TDL are evaluated using the potential contamination factor. HRS Section 3.3.2.4, *Potential contamination*, directs a scorer to:

> Determine the number of people served by drinking water from points of withdrawal subject to potential contamination. Do not include those people already counted under the Level I and Level II concentrations factors.
>
> Assign distance-weighted population values from Table 3-12 to this population …

The HRS directs to identify target populations drinking water from points of withdrawal within the TDL that are subject to potential contamination and assign the distance-weighted population values included in HRS Table 3-12. The HRS is silent on consideration of ground water flow in determining the TDL, and therefore restricting well eligibility within the TDL. The HRS documentation record at proposal delineated the 4-mile TDL and page 43 states:

> The 4-mile Target Distance Limit (TDL) has been established from the sources at this site as shown in Figure 1-5.

As discussed in section 3.12, Aquifer Delineation, of this support document, there were no aquifer discontinuities documented within the 4-mile TDL and the overburden and limestone aquifers were demonstrated to be interconnected within 2 miles of Site sources; therefore, the aquifers were appropriately evaluated as a single hydrologic unit for HRS purposes. Since no discontinuities were identified, all populations served drinking water from points of withdrawal that are located within the TDL are eligible for consideration as subject to potential contamination. Because all of the wells are located within the 4-mile TDL, they are eligible wells and scored in accordance with HRS Sections 3.3.2 and 3.3.2.1.

Regarding AMMH and GPC's assertion that municipal well fields are not eligible to be scored as targets subject to potential contamination because the ground water flow direction is generally not toward the well fields, the municipal well fields were properly scored as subject to potential contamination because the HRS does not consider ground water flow direction in determining the eligibility of wells subject to potential contamination. All wells in the target well fields were included in the HRS scoring of the Site based on the location within the TDL and the aquifer in which they are completed.

Regarding AMMH's comment that ground water flow direction should be considered at this site regardless of whether the HRS requires such consideration, comments on the HRS procedures are not a part of this rule making. The scope of this rulemaking concerns the HRS scoring of the West Vermont Drinking Water Contamination site HRS score and its placement on the NPL.

See section 3.16, HRS Score, of this support document, for a presentation of the factor values for the Site at promulgation.

This comment results in no change to the HRS score and no change in the decision to list the Site on the NPL.

3.15.3.2 Apportionment of Target Populations

Comment: AMMH commented that EPA did not correctly score the target well field populations because it assigned the populations on the basis of each well's relative contribution to the supply of drinking water. AMMH

asserted that the HRS requires the population be divided equally among the wells and surface water intake because none of the individual wells or surface water intake provide more than 40 percent of the water supply.

Response: The apportionment of the target populations associated with the municipal well fields (Speedway, White River, and Riverside) was properly completed as explained in the HRS documentation record at proposal in accordance with the HRS. AMMH is incorrect in asserting that none of the individual wells or the surface water intake provide more than 40 percent of the water supply, because the surface water intake contributes greater than 40 percent of the water supply. In apportioning target populations associated with the blended municipal well system, the HRS documentation record at proposal took into consideration the surface water intake that contributes over 40 percent of the water supply in the system.

In apportioning population based on well contribution, HRS Section 3.3.2, *Population*, directs, in part:

> In determining the population served by a well, if the water from the well is blended with other water (for example, water from other ground water wells or surface water intakes), apportion the total population regularly served by the blended system to the well based on the well's relative contribution to the total blended system. In estimating the well's relative contribution, assume each well and intake contributes equally and apportion the population accordingly, except: if the relative contribution of any one well or intake exceeds 40 percent based on average annual pumpage or capacity, estimate the relative contribution of the wells and intakes considering the following data, if available:
>
> • Average annual pumpage from the ground water wells and surface water intakes in the blended system.
>
> • Capacities of the wells and intakes in the blended system.

Page 74 of the HRS documentation record at proposal describes the process for apportioning the contribution of municipal wells and states:

> Ground water from the White River and Riverside wells is pumped to the White River treatment plant where it blends with raw surface water, then passes through the entire surface water treatment process prior to distribution to customers (Ref. 68, p. 1).
>
> The Riverside and White River Municipal Well Calculations table (Ref. 138, p. 1) depicts the Well ID#, Well/Intake capacity, and population served per each well. The table explains how the population was apportioned for each well/intake based on capacity. The well capacity numbers for the Riverside and White River wells were supplied by Citizens Energy Group (Ref. 136, pp. 1, 2). The White River treatment plant supplies 60% of the population of Indianapolis (Ref. 137, p. 1). The population served by Citizens Water is 876,728 (Refs. 68, p. 1; 134, p. 2).
>
> The Speedway Well Calculations table (Ref. 139, p. 1) depicts the Well ID#, Well/Intake capacity, and population served per each well. The table explains how the population was apportioned for each well/intake based on capacity. The well capacity numbers for the Speedway wells were supplied by Speedway Water Works (Ref. 141, p. 2). The population served by Speedway Municipal wells is 11,812 (Ref. 135, p. 4).

Page 1 of Reference 68 cited in the HRS documentation record at proposal indicates that the “Total water produced from White River treatment plant + 25,008 MG (54.9% of total).” This page also indicates that “Percent of Total Supply from White River and Riverside Wellfields = 9.8%.” Therefore, a total of approximately 45.1% of the total supply is provided by the surface water intake.

As greater than 40 percent of the water supply is provided by a single intake, the relative contribution and capacity of each well was considered in apportioning population, consistent with HRS Section 3.3.2.

This comment results in no change to the HRS score and no change in the decision to list the Site on the NPL.

3.15.3.3 Re-evaluation of the Potential Contamination Factor Value

Comment: AMMH and GPC asserted that EPA's incorrect scoring of the potential populations significantly inflates the population scored as subject to potential contamination and the HRS Site score. AMMH also asserted that the glacial till aquifer should be assigned a potential contamination factor of 678 and the limestone aquifer should be assigned a potential contamination factor of 772.

Response: The HRS documentation record at promulgation has been revised to score the three individuals served by the two wells (WV-RES-4018WVS and WV-RES-4012COS) scored as subject to Level I concentrations at proposal as subject to potential contamination at promulgation. (Wells WV-RES-4018WVS and WV-RES-4012COS are described on page 73 of the HRS documentation record at proposal and on page 77 of the HRS documentation record at promulgation.)

In evaluating potential populations, HRS Section 3.3.2.4, *Potential Contamination,* states, in part:

> Determine the number of people served by drinking water from points of withdrawal subject to potential contamination. Do not include those people already counted under the Level I and Level II concentrations factors.
>
> Assign distance-weighted population values from table 3–12 to this population

At promulgation, the three individuals served by the two former Level I wells (WV-RES-4018WVS and WV-RES-4012COS) are added to the potential population score in the 0-0.25 mile distance category for the combined site. Using HRS Table 3-12, the corresponding distance-weighted value remains 53, and the resulting potential contamination factor value at promulgation remains unchanged at 909. See page 81 of the HRS documentation record at promulgation for a presentation of the distance-weighted population values.

For scoring of the Michigan Plaza facility individually, the three individuals served by the two former Level I wells (WV-RES-4018WVS and WV-RES-4012COS) are similarly added to the potential population in the 0-0.25 mile distance category based on the distance of these wells from the Michigan Plaza source. Using HRS Table 3-12, the corresponding distance-weighted value remains 53, and the resulting potential contamination factor value at promulgation remains unchanged at 909. See page 87 of the HRS documentation record at promulgation for a presentation of the distance-weighted population values.

For scoring the GPC facility individually, the three individuals associated with former Level I wells (WV-RES-4018WVS and WV-RES-4012COS) are added to the potential population in the 0.25-0.5 mile distance category, with the other 21 residential wells based on the distance from these wells to the GPC source. Using HRS Table 3-12, the corresponding distance weighted category value is 33, and the resulting potential contamination factor value at promulgation is reduced from 909 to 907. See page 93 of the HRS documentation record at promulgation for a complete presentation of the distance- weighted population values for GPC. (Also, see section 3.15.4, Revision of Targets Factor Category Value and section 3.16, HRS Score, of this support document.)

3.15.4 Revision of Target Factor Category Value

Comment: AMMH commented that EPA incorrectly scored potential targets as Level I targets and both AMMH and GPC commented that the potential target factor value was improperly assigned.

Response: The HRS documentation record at promulgation has been revised to not score the two Level I target wells as subject to Level I contamination. At promulgation, the populations associated with these wells have been evaluated as subject to potential contamination. Consequently, the HRS target for the hydrologic unit evaluated has been revised at promulgation.

HRS Section 3.3, *Calculation of targets factor category value*, states:

> Sum the factor values for nearest well, population, resources, and Wellhead Protection Area. Do not round this sum to the nearest integer.

The HRS documentation record at promulgation has been revised, and the Level I concentrations value has been assigned a zero at promulgation. As discussed in section 3.15.1, Nearest Well, and section 3.15.3.3, Re-evaluation of the Potential Contamination Factor Value, of this support document, the resulting nearest well value has been revised at promulgation from 50 to 20, and the potential contamination value remains 909 at promulgation. The corresponding targets factor value at promulgation has been changed from 989 to 929.

For scoring of the Michigan Plaza facility individually at promulgation, the Level I concentrations value has been assigned a zero. The nearest well value has been revised at promulgation from 50 to 20, and the potential contamination value remains 909 at promulgation. Accordingly, the targets factor value at promulgation has been changed from 989 to 929.

For scoring of the GPC facility individually at promulgation, the Level I concentration has been assigned a zero. The corresponding nearest well factor value has been revised at promulgation from 50 to 18. The revised potential population value at promulgation includes the scoring of 23 wells, including the two wells considered Level I wells at proposal, within the 0.25-0.5 mile distance category, and the potential contamination value is 907 at promulgation. Accordingly, the targets factor value at promulgation has been changed from 989 to 925.

3.16 HRS Score

Comment: AMMH and GPC commented that the Site score should be re-calculated to account for EPA's improper HRS scoring procedures. GPC and AMMH asserted that this corrected Site score is below the 28.50 threshold for listing a site to the NPL. AMMH asserted that the correct HRS score for the Site is 20, below EPA's NPL threshold of 28.50. AMMH stated that this corrected score applies to both the HRS Site and to the Michigan Plaza facility alone. AMMH commented that each aquifer should receive its own ground water migration pathway score, with the highest scoring aquifer (Glacial Outwash Overburden Aquifer, 40.0) being used to recalculate the HRS score.

GPC commented that the 700 North Olin property, by itself, cannot result in an HRS score above 28.50 because the Speedway, Riverside, and White River municipal well fields should be not scored as potential targets because they cannot be impacted by Site contamination. GPC asserted that if the municipal wells located beyond two miles from the Site are excluded then the HRS score falls below 28.50.

Ground Water Migration Pathway Scoresheets Submitted by AMMH

Factor Categories and Factors	Maximum Value	Value Assigned at Proposal	Value Assigned by AMMH[1]	Value Assigned by AMMH[2]	Value Assigned by AMMH[3]
Likelihood of Release to an Aquifer:					
1. Observed Release	550	550	550	NS	NS
2. Potential to Release					
2a. Containment	10	NS	NS	10	10
2b. Net Precipitation	10	NS	NS	3	3
2c. Depth to Aquifer	5	NS	NS	NS	NS
2d. Travel Time	35	NS	NS	NS	NS
2e. Potential to Release [lines 2a x (2b + 2c + 2d)]	500	NS	NS	30	30
3. Likelihood of Release (higher of lines 1 and 2e)	550	550	550	30	30
Waste Characteristics:					
4. Toxicity/Mobility	(a)	10,000	10,000	10,000	10,000
5. Hazardous Waste Quantity	(a)	100	10	10	10
6. Waste Characteristics	100	32	18	18	18
Targets:					
7. Nearest Well	50	50	20	20	20
8. Population:					
8a. Level I Concentrations	(b)	30	NS	NS	NS
8b. Level II Concentrations	(b)	NS	NS	NS	NS
8c. Potential Contamination	(b)	909	313	678	772
8d. Population (lines 8a + 8b + 8c)	(b)	939	313	678	772
9. Resources	5	0	NS	NS	NS
10. Wellhead Protection Area	20	0	NS	NS	NS
11. Targets (lines 7 + 8d + 9 + 10)	(b)	989	333	698	792
Ground water Migration Score for an Aquifer:					
12. Aquifer Score [(lines 3 x 6 x 11)/82,500][c]	100	100	40.0	4.6	5.2
Ground water Migration Pathway Score					
13. Pathway Score (S_{gw}), (highest S_{gw} value from line 12 for all aquifers evaluated)[c]	100	100	40.0	4.6	5.2

Notes:
(a) Maximum value applies to waste characteristics category.
(b) Maximum value not applicable.
[c] Do not round to nearest integer.
[1] AMMH's assigned values for the Glacial Outwash Aquifer (Overburden)
[2] AMMH's assigned values for the Glacial Till Aquifer
[3] AMMH's assigned values for the Limestone Bedrock Aquifer

Response: The HRS documentation record has been revised at promulgation to account for commenters' concerns regarding the complex hydrology at the Site. As outlined in section 3.13, Likelihood of Release, of this support document, an observed release of site-related contamination is not being evaluated in any residential wells at promulgation. Instead, observed releases are documented in monitoring wells at each facility; thus, both facilities independently have a documented observed release of contamination. Since no wells scored at promulgation are subject to Level I or Level II contamination, the pathway hazardous waste quantity factor value is reduced from 100 to 10 for the Site score as well as for each independent facility score (see section 3.14, Waste Characteristics,

of this support document). This change results in a reduction in the waste characteristics factor category value in the HRS documentation record at promulgation from 32 to 18 for all revised scores (i.e., the Site score and individual facilities scores).

Since no Level I or II target wells are being evaluated at the Site, HRS documentation record at promulgation has revised the nearest well factor value for the Michigan Plaza facility from 50 to 20, for the GPC facility from 50 to 18, and the combined Site nearest well factor was reduced from 50 to 20 (see section 3.15, Targets, of this support document). The population scored as subject to potential contamination remains 909 at promulgation for both the Michigan Plaza facility and Site score. However, the population scored as subject to potential contamination for the Genuine Parts facility has been reduced because the residential wells (and nearest well) are located 0.25 mile to 0.5 mile from the source at the GPC facility, and the resulting sum of the population subject to potential contamination is reduced to 907 at promulgation.

The sum of these changes results in a reduction of the targets factor category value from 989 at proposal to 929 at promulgation for the Michigan Plaza facility, to 925 at promulgation for the GPC facility, and to 929 at promulgation for the Site targets factor category value. The resulting ground water migration score for the aquifer remains 100.00 and the HRS site score remains 50.00 at promulgation for the Site score and for each independent facility score.

Site Scoresheet Revision from Proposal to Promulgation

Factor categories and factors	Maximum value	Value assigned in HRS documentation record at proposal	Value assigned in HRS documentation record at Promulgation	Value Assigned in HRS documentation record at promulgation for the Michigan Plaza Facility	Value Assigned in HRS documentation record at promulgation for the GPC Facility
Likelihood of Release to an Aquifer:	550	550	550	550	550
Waste Characteristics:					
4. Toxicity/Mobility	(a)	10,000	10,000	10,000	10,000
5. Hazardous Waste Quantity	(a)	100	10	10	10
6. Waste Characteristics	100	32	18	18	18
Targets:					
7. Nearest Well.	(b)	50	20	20	18
8. Population:					
8a. Level I Concentrations	(b)	30	0	0	0
8b. Level II Concentrations	(b)	0	0	0	0
8c. Potential Contamination	(b)	909	909	909	907
8d. Population (lines 8a + 8b + 8c)	(b)	939	909	909	907
9. Resources	5	0	0	0	0
10. Wellhead Protection Area	20	0	0	0	0
11. Targets (lines 7 + 8d + 9 + 10)	(b)	989	929	929	925
Groundwater Migration Score for an Aquifer:	100.00	100.00	100.00	100.00	100.00
HRS Score		50.00	50.00	50.00	50.00

4. Conclusion

The original HRS score for this site was 50.00. Based on the above responses to public comments, the HRS documentation record has been revised at promulgation. While these revisions have resulted in changes to individual factors and factor category values, these revisions result in no change to the ground water migration pathway score or the overall HRS Site score. The final scores for the West Vermont Water Contamination site are:

Ground Water:	100.00
Surface Water:	NS
Soil Exposure:	NS
Air Pathway:	NS
HRS Score:	50.00