Juan Thomas /R5/USEPA/US
05/02/2008 01:15 PM

To Bhooma Sundar/R5/USEPA/US@EPA
cc
bcc
Subject Re: BASF HHRA review

OK,

Enjoy your trip.

US EPA RECORDS CENTER REGION 5
1004618

Juan
-----Bhooma Sundar/R5/USEPA/US wrote: -----

To: Juan Thomas/R5/USEPA/US@EPA
From: Bhooma Sundar/R5/USEPA/US
Date: 05/02/2008 12:49PM
Subject: Re: BASF HHRA review

Juan,

I'll report back to work after the trip from India on May 27th. I will not be able to attend the meeting. The comments can simply be addressed by adding an appendix to the screening report or as institutional controls in CMS report.

Bhooma

-----Juan Thomas/R5/USEPA/US wrote: -----

To: Bhooma Sundar/R5/USEPA/US@EPA
From: Juan Thomas/R5/USEPA/US
Date: 05/02/2008 10:37AM
Subject: Re: BASF HHRA review

Bhooma,

Thank you for your comments. I will send these comments onto BASF via email or letter. We are scheduled to have a conference call meeting on May 15, 2008 and they would like to have some feedback on the Tier II, would you like to attend?

Juan
-----Bhooma Sundar/R5/USEPA/US wrote: -----

To: Juan Thomas/R5/USEPA/US@EPA
From: Bhooma Sundar/R5/USEPA/US
Date: 05/01/2008 03:27PM
Subject: BASF HHRA review

Juan,

I finally completed my review on the Tier2 risk evaluation summary report for BASF North works facility , Wyandot te, Michigan. The meeting we had prior to the submission of the human health risk assessment report paid off. The report is thorough in nature and provides reasonable recommendations for the CMS measures. I only have very few general comments.

Bhooma Sundar
Toxicologist
RCRA Corrective Action
Land and Chemicals Division
USEPA Region 5
77, W.Jackson Blvd, Chicago, IL 60604
Tel: 312-886-1660
Fax: 312-353-4342

[attachment "BASF HHRA 31308.doc" removed by Juan Thomas/R5/USEPA/US]

Comments on Tier2 risk Evaluation Summary Report for BASF North Works Facility , Wyandotte, Michigan

The Tier2 Risk Evaluation Summary Report is well written with in the context of human health risk assessment following MDEQ part 201 criteria. I agree with the conclusions and recommendations as suggested in section 6.2 of the report. My general comments are provided below:

Conceptual Site Model: The Risk Evaluation summary report should include a figure of conceptual model for the site. Table 1 of appendix A highlights only the exposure pathways and the potential receptors. The significance of this selection should be supported by the conceptual site model that includes the primary source, migration pathways and location of point(s) of exposure.

Use of Industrial Screening criteria: The HHRA presents an evaluation of receptors that implies an industrial use scenario for the BASF site (i.e., on-site current and future workers, current and future redevelopment workers). However, BASF does not provide any information on how or why this property will remain industrial in the future. In order for the site to be evaluated for industrial use only, for both current and future exposures, institutional controls preventing future residential use of the site will be required because residential risks have not been evaluated in the HHRA. BASF should indicate that residential use restrictions will be included in the corrective measures selected for the BASF site.

Similarly, the HHRA does not contain any information on current and potential future uses of groundwater at or in the vicinity of the BASF site. While this information may be presented elsewhere (i.e., RFI Report), the HHRA should be a stand-alone document and this information is necessary to justify BASF's decision not to include ingestion of groundwater as a complete exposure pathway for any current or future receptor (except "inadvertent" ingestion by future construction workers).

Exclusion of Sediment as the Medium of Exposure: It does not appear that any pathways applicable to sediment exposure have been evaluated in the Tier2 Risk evaluation summary report. Correspondingly, none of the exposure parameters comprising exposure pathways applicable to sediment contact have been presented in the report. It is not transparently clear why sediment is absent from this analysis, particularly since this contact medium is fundamental to pertinent exposure pathways for recreational receptors. Please make sure that the conceptual site model includes sediment as the potential exposure medium and provide the justification as to why the exposure pathway to the potential receptors is considered complete or incomplete.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF
DE-9J

MAR 1 0 2005

Mr. Bruce Roberts
BASF Corporation
1609 Biddle Avenue
Wyandotte, Michigan 48192

Re: Risk Screening Work Plan
Conference Call Meeting of March 4, 2005

Dear Mr. Roberts:

The United States Environmental Protection Agency (USEPA) has considered your request to apply the Michigan Part 201 Soil Screening and Cleanup Criteria for the seven constituents previously identified in our February 4, 2005 letter correspondence to you, more specifically, arsenic, PCB, benzopyrene, benzo(b)fluoranthene, benzo(K)fluoranthene, dibenzanthracene and indeno(1,2,3-cd)pyrene. After further discussions of this issue amongst our Regional Toxicologist and BASF Corporation's Consultant Toxicologist, your approach as outlined in the work plan to compute a constituent-specific ratio and subsequent cumulative risk appear to satisfy our concerns of an appropriate risk screening methodology. However, USEPA reserves its discretion to apply the USEPA Region 9 Preliminary Remediation Goals (PRG's) as appropriate screening tools for data analysis relative to an evaluation of an Environmental Indicator 725, i.e., Current Human Exposures Under Control (EI 725) as required under the Government Performance and Results Act of 1993 (GPRA) as well as part of the selection criteria for a final remedy for the BASF Corporation, Wyandotte, Michigan Facility. Additionally, the USEPA is continuing to evaluate all of the existing data with the objective of identifying potential data needs necessary in meeting the requirements of an EI 750 Determination, (Migration of Groundwater Under Control) as well as completing the Corrective Measures Study Report. A letter correspondence addressing these issues if any will be forthcoming.

As agreed, and consistent with Section IX of the 3008 (h) Administrative Order on Consent, dated February 1994, the BASF Corporation will implement and complete the task as outlined in the December 2004, "Risk Screening Work Plan" and submit to USEPA a summary report by April 4, 2005. Lastly, upon completion and submittal of the "Risk Screening Work Plan Summary Report," the USEPA is requesting a meeting (date and time TBA) to be held here at Region V, whereby the BASF Corporation will present their findings and conclusions from the Risk Screening Work Plan Summary Report, RFI, and provide some perspective on current conditions and possible remedial alternatives.

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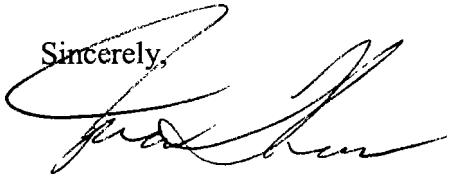
If you have any questions or comments, please don't hesitate to contact me at (312) 886-6010.

Sincerely,



Juan Thomas, MPH
Environmental Scientist

cc: Bhooma Sundar, DE-9J
Reginald Pallesen, C-14J
Beth Vens, MDEQ
Betsy Ruffle, ENSR International
Timothy Adams, ENSR International

Juan Thomas /R5/USEPA/US
02/11/2005 11:09 AM

To Bruce D Roberts <robertb@basf-corp.com>
cc bruffle@ensr.com, mona.sutherland@parsons.com, TAdams@ensr.com, George Hamper/R5/USEPA/US@EPA, Bhooma Sundar/R5/USEPA/US@EPA, Beth Vens <vensb@michigan.gov>
bcc
Subject Re: TELEPHONE CALL TO DISCUSS RISK SCREENING WORK PLAN

Bruce,

I wanted to include one additional topic to the agenda for our conference call later today, that is BASF's rationale for not including groundwater and surface water ingestion as part of its risk screening evaluation. After consideration of this issue, I believe that these potential exposure pathways should be made part of the workplan. We will discuss this further during our call. Thanks.

Juan Thomas

Bruce D Roberts <robertb@basf-corp.com>

Bruce D Roberts <robertb@basf-corp.com>
02/09/2005 03:38 PM

To
Subject TELEPHONE CALL TO DISCUSS RISK SCREENING WORK PLAN

Based upon USEPA's availability, a telephone call will be held on Friday February 11 at 2:00 PM CST to discuss ENSR's Risk Screening Work Plan.

BASF is in receipt of USEPA's February 4th letter to BASF concerning the Risk Screening Work Plan.

BASF does not want to have to repeat this risk screening at some future date to address MDEQ's concerns.

Proposed Agenda

1. EPA's efforts to involve MDEQ and obtain their concurrence (April 15, 2002 letter from Mr. Jim Sygo to Mr. Robert Springer states that USEPA will work closely with the MDEQ-WMD to identify and address the Part 201 standards and requirements at any Michigan facilities where the USEPA has the lead role for RCRA corrective action).

2. EPA's request that BASF not use Part 201 Soil Screening and Clean Up Criteria for 6 compounds (USEPA-MDEQ Technical Agreement 8.a states "...EPA will seek to have all new corrective action activities initiated at Michigan facilities use and comply with the Part 201 criteria..." and 8.b. that states "cumulative risk decisions during the corrective action process will be evaluated with thorough peer review discussions between MDEQ-WMD and U. S. EPA staff on a case-by-case basis..."

3. Clarification from EPA on the statement in their February 4th letter concerning not subtracting background concentrations from the individual SWMUs and AOCs.

4. Timing for submittal of Summary Report

Call in number (888) 279-1273 code 271549

using inhalation CSFs (IURFs), where available, that are identical or nearly identical to the most recent Region IX's inhalation CSFs? -- Yes

Since there have been no changes in the oral CSFs and MDEQ's IURFs are equivalent to Region IX's most recent inhalation CSFs, is there a technical basis not use the Part 201 cirteria? -- No

BASF and ENSR can be available this Thursday or Friday to discuss this.

----- Forwarded by Bruce D Roberts/NP/WYANDOTT/BASF-CORP/BASF on 03/01/2005 01:09 PM -----

"Ruffle, Betsy" <bruffle@ensr.com> 02/28/2005 03:13 PM

To: "Bruce D Roberts "
cc: "Adams, Tim"
Subject: RE: FOLLOW UP FROM 2-11-05 TELEPHONE CONVERSATION

Hi Bruce,

Please see attached table comparing EPA and MDEQ cancer slope factors (CSF) for the five potentially carcinogenic PAH compounds in question.

While there was a change in the inhalation CSF for these compounds between 2000 and 2002 as presented in the EPA Region 9 PRG tables, EPA's inhalation CSF in 2002 (and in 2004) for BaP is the same as that used by MDEQ in the Part 201 criteria (published in Dec. 2002). Thus, MDEQ has not used a modified inhalation CSF for BaP. MDEQ does not present inhalation CSFs for the other four carcinogenic PAH compounds.

As previously noted and discussed with EPA, the oral CSFs for the five carcinogenic PAH compounds do differ between EPA and MDEQ. The EPA's oral CSFs for the carcinogenic PAH compounds have been the same since 2000. MDEQ had access to this information when they developed the Part 201 criteria and decided to use different (and somewhat less stringent) oral CSFs for carcinogenic PAH compounds.

I hope this information is helpful. Let me know if you would like to discuss.

Regards,
Betsy Ruffle

-----Original Message-----
From: Bruce D Roberts
To: Ruffle, Betsy
Sent: 2/24/2005 4:28 PM
Subject: Fw: FOLLOW UP FROM 2-11-05 TELEPHONE CONVERSATION

Betsy,

Bruce D Roberts
<robertb@basf-corp.com>
03/01/2005 02:27 PM

To

Subject RE: FOLLOW UP FROM 2-11-05 TELEPHONE CONVERSATION

Juan,

Please see Betsy Ruffle's response dated 2/28/05 directly below. Her attached table is at the very bottom of the email and it shows the CSFs. In the 2000 PRG table, the inhalation CSFs for the PAHs are based upon NCEA data. In the 2002 and 2004 PRG tables, the inhalation CSFs for the PAHs are based upon route extrapolation.

In your February 4th letter to BASF, you requested that BASF use 1 E-5 based Region IX PRG screening criteria for several chemicals because the toxicity values for some of the chemicals in the Part 201 clean up criteria tables had not been updated.

As Betsy's table shows, the Region IX PRG oral CSFs for the PAHs have not changed since 2000. The Region IX PRG oral CSFs for arsenic and PCBs (high risk in 2004) have not changed either. Also, the Region IX PRG inhalation CSFs for arsenic and PCBs (high risk in 2004) have not changed since 2000.

MDEQ shows an inhalation unit risk factor (IURF) in their Part 201 tables. The conversion formula is shown in Betsy's table. Betsy back calculated an inhalation CSF for benzo(a)pyrene. That calculated value is the same as shown in the 2002 and 2004 Region IX PRG tables. MDEQ does not have IURFs for the other PAHs. Using the same formula, the back calculated MDEQ inhalation CSF for arsenic is identical to the 2004 PRG value. The back calculated MDEQ inhalation CSF for PCBs is 2.1 vs. 2.0 in the 2004 PRG table (difference could be due to rounding).

The Region IX PRG screening criteria for soil direct contact is based upon dermal, ingestion, and inhalation exposure. The MDEQ Part 201 screening criteria for soil direct contact is based upon dermal and ingestion. MDEQ has a separate screening criteria for inhalation in ambient air.

BASF does not believe it is necessary to use 1 E-5 based Region IX PRG screening criteria for the chemicals in question for the following reasons:

1. The Region IX PRG oral CSFs have not changed since 2000, so there have been no changes in toxicity values. The oral CSFs are used to calculate the MDEQ soil direct contact criteria. Item 8a in the Technical Agreement states that EPA will use the Part 201 criteria.

2. The Region IX PRG inhalation CSF for benzo(a)pyrene did change between 2000 and 2002, but MDEQ's IURF for benzo(a)pyrene is equivalent to Region IX's 2002 and 2004 value. MDEQ's IURF is used to calculate volatile soil inhalation criteria. Item 8a in the Technical Agreement states that EPA will use the Part 201 criteria.

3. Region IX and MDEQ use different algorithms for calculating soil direct contact criteria. Items 8a and 10 in the Technical Agreement states that EPA will use the Part 201 criteria.

Below are a few simple questions and answers for the chemicals in question.

Have either Region IX's or MDEQ's oral CSFs changed since 2000? -- No

Have Region IX's inhalation CSFs changed since 2000? -- Yes Is MDEQ

I just received this from EPA.

----- Forwarded by Bruce D Roberts/NP/WYANDOTT/BASF-CORP/BASF on 02/24/2005
04:27 PM -----

Thomas.Juan@epamail.epa.gov

To: Bruce D Roberts

cc:

02/24/2005 03:23 PM

Subject: Fw: FOLLOW UP FROM 2-11-05 TELEPHONE CONVERSATION

Bruce,

I am forwarding you an email from Bhooma Sundar concerning your email of Feb. 14, 2005. Hopefully this satisfies your concerns.

----- Forwarded by Juan Thomas/R5/USEPA/US on 02/24/2005 02:19 PM -----

Bhooma Sundar/R5/USEPA/US

02/24/2005 12:09 PM

To: Juan Thomas/R5/USEPA/US@EPA

cc:

Subject: Re: Fw: FOLLOW UP FROM 2-11-05 TELEPHONE CONVERSATION(Document link: Juan Thomas)

The rationale for EPA not wanting BASF to use part 201 criteria for carcinogenic PAHs for screening purposes alone is based on the following information.

Please refer to paragraph 2 in page 2 of the attached URL.

http://www.epa.gov/region09/waste/sfund/prg/files/02userguide.pdf

Also refer to Attachment B of toxicological and chemical-physical data

of OP Memo#18 for Part 201 cleanup criteria and screening levels with particular emphasis on Oral slope factor (SF) and Inhalation Unit Risk factor.

Compare these with Region 9 PRG 2004 table for carcinogenic PAHs along with Toxicity information paying particular emphasis on how the inhalation slope factor has been modified with respect to Region 9 PRG 2000 table and MDEQ's toxicological data.

After BASF had a chance to analyze all these information, we could discuss the relevance of this information for BASF site screening needs.

Bhooma

Juan
Thomas/R5/USEPA/
US

02/15/2005 01:31
PM

To
To Bhooma Sundar/R5/USEPA/US@EPA
cc
George Hamper/R5/USEPA/US@EPA
George Hamper/R5/USEPA/US@EPA
bcc

Fax to

Subject
Fw: FOLLOW UP FROM 2-11-05
TELEPHONE CONVERSATION

Bhooma,

Below is Bruce Roberts of BASF response to our discussion concerning the six constituents. Let me know your thoughts. Thanks.

Juan Thomas
----- Forwarded by Juan Thomas/R5/USEPA/US on 02/15/2005 01:28 PM -----

Bruce D Roberts
<robertb@basf-co
rp.com>

To

02/14/2005 02:22 PM

To
Juan Thomas/R5/USEPA/US@EPA

cc
TAdams@ensr.com,
bruffle@ensr.com,
mona.sutherland@parsons.com,
vensb@michigan.gov
TAdams@ensr.com,
bruffle@ensr.com,
mona.sutherland@parsons.com,
vensb@michigan.gov

bcc

Fax to

Subject
FOLLOW UP FROM 2-11-05 TELEPHONE CONVERSATION

Juan,

In your February 4th letter to BASF you state "...because the RCRA Corrective Action Program at Region 5 has identified that the toxicity values for some of the chemicals in Part 201 Soil Screening and Clean Up Criteria have not been updated, more specifically, arsenic, PCB, benzopyrene, benzo(b)flouranthene, benzo(k)flouranthene, dibenzoanthracene,
and indeno(1,2,3-cd)pyrene, it is requested that BASF use the 1E-5 based Region 9 PRG screening criteria for these chemicals." Also during our telephone call last Friday, EPA stated that the toxicity values had been updated in the past few years.
part 201 ciriteria
I reviewed the cancer slope factor for the above compounds in the 2000, 2002, and 2004 Region IX PRG tables and the toxicity values have not changed since 2000.

Since the toxicity values have not changed since before 2000, please explain EPA's rationale for not wanting to use the Part 201 criteria as agreed to the MOU.

Thank you.

(See attached file: C.htm)
(See attached file: CSF for cPAH.xls)

C.htm

CSF for cPAH.xls

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

Juan

REPLY TO THE ATTENTION OF
DE-9J

February 4, 2005

Mr. Bruce Roberts
BASF Corporation
1609 Biddle Avenue
Wyandotte, Michigan 48192

Dear Mr. Roberts:

The USEPA has reviewed the BASF Corporation, Wyandotte, Michigan, "Risk Screening Work Plan" for the Wyandotte, Michigan Site dated December 2004. The work undertaken in accordance with the workplan will be completed by your consultants, ENSR International. The USEPA believes that the work plan adequately addresses the concerns raised in its correspondence to you dated May 2004 that centered on USEPA's review of the BASF's Corporation Baseline or Preliminary Human Health Risk Assessment completed as part of the Final Phase I RFI Report. As indicated in the work plan and consistent with the concerns raised by USEPA, BASF's proposed approach to address the deficiencies of the Preliminary Human Health Risk Assessment by following the State of Michigan's Part 201 Generic Criteria is acceptable. Since the data to be used in this analysis has already been collected as part of the Phase I RFI and will be screened against the Michigan Part 201 criteria, the Quality Assurance Project Plan should be updated to reflect these changes. BASF and/or its Consultant, ENSR International, should also verify that the detection limits of all analyzed constituents in soil and groundwater are below the most stringent media specific Part 201 screening criteria.

Additionally, because the RCRA Corrective Action Program at Region 5 has identified that the toxicity values for some of the chemicals in the Part 201 Soil Screening and Clean Up Criteria have not been updated, more specifically, arsenic, PCB, benzopyrene, benzo(b)fluoranthene, benzo(K)fluoranthene, dibenzanthracene and indeno(1,2,3-cd)pyrene, it is requested that BASF use the 1E-05 based Region 9 PRG screening criteria for these chemicals. Further, in accordance with the Part 201 Generic Cleanup Criteria Guidance (MDEQ, 2002), site specific background concentrations should not be subtracted from the Individual SWMU/AOCs during the initial site screening evaluation. USEPA is suggesting this modification be made in lieu of the last paragraph taken from page 1-2, "Screening Criteria", of Section 1.1.1. The cumulative risk screening approach for the above mentioned chemicals should also use Region 9 PRG's instead of Part 201 screening criteria to generate a constituent-specific ratio, as specified in Section 1.1.2 of the "Risk Screening Work Plan". The USEPA is hopeful that the proposed risk screening methodology as outlined in the "Risk Screening Work Plan" will provide the tool needed to conduct an Environmental Indicator 725 analysis, i.e., Current Human Exposures Under Control (EI 725) for the BASF Corporation, Wyandotte Facility as required under the

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Government Performance and Results Act of 1993 (GPRA). The USEPA will continue to evaluate all of the existing data pertaining to the BASF Corporation, Wyandotte, Michigan Facility, with the objective of identifying potential data needs necessary in meeting the requirements of both the GPRA EI 725 and EI 750 (Migration of Groundwater Under Control) as well as completing the Corrective Measures Study Report in order to identify and evaluate remedial alternatives for the corrective action at the BASF Corporation Site.

Consistent with Section IX. of the 3008 (h) Administrative Order on Consent, dated February 1994, the BASF Corporation shall implement and complete the task as outlined in the December 2004, "Risk Screening Work Plan" and submit to USEPA a summary report by March 15, 2005.

If you have any questions or comments, please don't hesitate to contact me at (312) 886-6010.

Sincerely,

Juan Thomas, MPH
Environmental Scientist

cc:

Bhooma Sundar, USEPA
Reginald Pallesen, USEPA, ORC
Beth Vens, MDEQ
Jon Russell, MDEQ
Timothy Adams, ENSR International

Juan Thomas /R5/USEPA/US To
06/09/2004 09:27 AM Subject Fw: CUMULATIVE RISK

Bhooma, Mario,

Could you provide me feedback concerning the issues addressed below. Thanks.

Juan Thomas
----- Forwarded by Juan Thomas/R5/USEPA/US on 06/09/04 09:25 AM -----

Bruce D Roberts To
<robertb@basf-corp.com>
06/04/04 12:53 PM Subject CUMULATIVE RISK

Juan,

During our telephone conversation on May 27th, EPA mentioned doing a cumulative risk assessment. If cumulative risk calculations are necessary, I want to ensure what is required is consistent with other Michigan sites under Corrective Action.

Michigan's Part 201 program is not set up to do cumulative risk assessments, so I am asking for some documentation from you.

As a result of the November 2000 MOU between EPA and MDEQ, agreements were reached at Technical Meetings held on March 7, 2002. MDEQ's Jim Sygo wrote a letter to EPA's Robert Springer on April 15, 2002. The second paragraph in that cover letter states:

> "As a result, the U.S. EPA will work closely with the MDEQ-WMD to identify and
> address the Part 201 standards and requirements at any Michigan facilities where the
> U.S. EPA has the lead role for RCRA corrective action. The U.S. EPA will rely on the
> MDEQ-WMD to clearly outline those standards and requirements so that they can be
> included in the U.S. EPA's corrective action process. In this way, the programs will
> achieve consistent results."

Item 8b of the attached agreement states:

> "Cumulative risk decisions during the corrective action process will be evaluated with thorough peer review discussions between MDEQ-WMD and U.S. EPA staff on a case-by-case basis for all U.S. EPA-lead sites."

Please send me a copy of all available documentation on these peer review discussions that have been held since 2002 for any EPA-lead sites in Michigan. If no discussions have been held with MDEQ, it would be premature for BASF and EPA to be discussing cumulative risk decisions. BASF would not want to put EPA in the position of potentially violating any of the conditions of the MOU.

Thanks.

Bruce D Roberts
<robertb@basf-corp.com>
07/02/2004 01:07 PM

To

Subject Re: CUMULATIVE RISK

Juan,

I didn't think your June 30 email was very helpful for cumulative risk issues. Since Bhooma cited some correspondence, there appears to have been some dialog between EPA and MDEQ concerning cumulative risk. I had hoped to receive more information. I would have expected EPA and MDEQ to have talked about which cleanup criteria were not based entirely upon risk and therefore would not be subject to cumulative risk. Another topic expected was what does one do when a chemical is not on the MI Part 201 list. The Region IX PRGs don't consider as many pathways so, one might not want to automatically use the Region IX PRGs.

Since I didn't receive much information on cumulative risk, I plan to request file information through the Freedom of Information Act from both EPA and MDEQ. BASF is not opposed to doing the cumulative risk. I want to make sure what is done concerning cumulative risk is in accordance with the MOU between EPA and MDEQ. Therefore, I would like to wait until I see what file information is available.

My goal is to send you a response to your May 13, 2004 email by the end of next week. Since next week is a short week, it may not go out until the following week.

Bhooma used the term "COPC" I assume that means constituent of potential concern. If it means something else, please let me know.

Bruce Roberts
BASF Corporation

Thomas.Juan@epamail.epa.gov

To: Bruce D Roberts

cc: Sundar.Bhooma, Mangino.Mario

06/30/2004 11:09 AM Subject: Re: CUMULATIVE RISK

Bruce,

I have had an opportunity to confer with our regional toxicologist regarding the issues you have raised concerning EPA's and MDEQ's roles

with respect to cumulative risk derivations while conducting human health risk assessments. The proceeding "bolded" correspondence below is a response to these issues that Bhooma Sundar drafted and should hopefully address your concerns but more importantly, continue momentum in getting BASF to the next phase of the RCRA Corrective Action process. As we discussed during our May 27, telephone conference call, the primary objective is for us to obtain a better understanding of BASF's risk assessment methodology, more specifically, the development of your risk screening numbers as well as the basis for those numbers so that we can make an informed decision relative to the selection of a remedy as well as what areas/media must be addressed in the corrective measures study. At this point we are expecting some revision to the human health risk assessment report that addresses the areas mentioned in the file attached to my email correspondence to you dated May 13, 2004. This correspondence served as the basis for our telephone conference call of May 27, 2004. I would appreciate a status report as to where things from your end so that we can plan and schedule accordingly. Thanks.

Juan Thomas

Juan,

In my comments on preliminary risk assessment report submitted by BASF, under specific comments section, I recommended MDEQ part 201 criteria for the COPC selection process. The entire discussion in that paragraph was about screening and not about risk assessment characterization. As a federal lead agency on the corrective action sites in Michigan, USEPA provides the flexibility of conducting cumulative risk on individual SWMUs/AOCs based on statistical evaluation if there is a multiple chemical exposure pathway. Since the facility submitted the preliminary risk assessment report following the traditional RAGS approach and it is acceptable to USEPA, we suggested refining this risk assessment with the incorporation of part 201 requirements for COPC selection. By following this approach we would not be deviating from the 201 requirements. Although, the part 201 program is set primarily to evaluate risk on an individual chemical basis, there are provisions for the assessment of multiple chemicals with toxicological interactions (MAC R 299.5734). MCL 324.20120a(4) requires that cleanup criteria derived for cancer risk shall be the 95 percent upper bound on the calculated risk of one additional cancer above the background cancer rate per 100,000 individuals (10-5 cancer risk), although it is not explicitly stated that this applies to assessment of risk to multiple chemicals. The risk level established by Michigan Legislature for Part 201 is the 10-5 cancer risk for individuals.

If BASF chooses not to conduct cumulative risk, if is fine with EPA. However,as per part 201 regulations, the following conditions should be met with:

(note: The following paragraphs were reproduced verbatim from the correspondence between MDEQ and EPA on a particular facility which we cannot disclose at this point. The paragraphs outline the part 201 requirements related to sampling approach, statistical methods and the application of cumulative risk. The paragraph in bold font explain the alternative approach used by USEPA that essentially reproduced the same results).

- "In Michigan, corrective action or response activity is required when a site exceeds concentrations that satisfy the requirements of MCL324.20120a(1)(a) and (17). This includes sites that exceed generic

residential cleanup criteria and other factors determined by the MDEQ as necessary to protect the public health, safety and welfare and the environment, such as risks to multiple chemicals. If it is the goal of the concerned facility and the EPA to cover the other state or federal response activity requirements as part of corrective action under RCRA, those specific requirements must be considered prior to making a no further action determination." (If the intended use of the site in question remains industrial and supported by deed restriction, the analytical data on soil samples can be compared against generic industrial cleanup criteria which is less stringent than residential cleanup criteria).

- " A generalized sampling plan should include decision points for switching sampling strategies (e.g., random) as necessary to assure the approach used is not subjective and does not result in dilution of the sample population. This is necessary to fulfill the requirements of MCL 324.20120a(14) that the statistical method used is reliable, scientifically valid and best represents the actual site conditions and exposure potential. An exceedance of Cleanup Criteria in Part 201 may be associated with a potential "hotspot" of chemical contamination. Additional sampling should be performed around the outliers in a pattern of random sampling. This may be done to demonstrate the lateral and/or vertical extent of the exceedance and/or to apply statistical procedures to establish a representative concentration of a constituent(s) for comparison to Part 201 Cleanup Criteria". (USEPA in general agrees with this approach. These requirements are generally met during Phase II RFI where in the extent of contamination is delineated in a non biased approach although in most instances phase I RFI begins with a biased sampling approach. BASF conducted statistical analysis on biased samples and prematurely conducted cumulative risk assessment without taking additional samples around outliers or hotspots and screened out number of SWMUs or AOCs from corrective action. Under general comments in the memorandum dated May 13, 2004 it was mentioned that additional investigative work is necessary before submitting a revised human health risk assessment).

If BASF has more questions on the points discussed above, I will be available at 312-886-1660.

Bhooma Sundar
Toxicologist
RCRA Corrective Action
Enforcement and Compliance Assurance Branch
Waste, Pesticides and Toxics Division
USEPA Region 5
312-886-1660

Bruce D Roberts
<robertb@basf-corp.com>

06/14/04 11:13 AM

To: Juan Thomas/R5/USEPA/US@EPA

cc: Brian W Diepeveen <diepevb@basf-corp.com>, mona.sutherland@parsons.com, Ralph Parod

Juan Thomas /R5/USEPA/US
06/30/2004 10:09 AM

To Bruce D Roberts <robertb@basf-corp.com>
cc Bhooma Sundar/R5/USEPA/US@EPA, Mario Mangino/R5/USEPA/US@EPA
bcc
Subject Re: CUMULATIVE RISK

Bruce,

I have had an opportunity to confer with our regional toxicologist regarding the issues you have raised concerning EPA's and MDEQ's roles with respect to cumulative risk derivations while conducting human health risk assessments. The proceeding "bolded" correspondence below is a response to these issues that Bhooma Sundar drafted and should hopefully address your concerns but more importantly, continue momentum in getting BASF to the next phase of the RCRA Corrective Action process. As we discussed during our May 27, telephone conference call, the primary objective is for us to obtain a better understanding of BASF's risk assessment methodology, more specifically, the development of your risk screening numbers as well as the basis for those numbers so that we can make an informed decision relative to the selection of a remedy as well as what areas/media must be addressed in the corrective measures study. At this point we are expecting some revision to the human health risk assessment report that addresses the areas mentioned in the file attached to my email correspondence to you dated May 13, 2004. This correspondence served as the basis for our telephone conference call of May 27, 2004. I would appreciate a status report as to where things from your end so that we can plan and schedule accordingly. Thanks.

Juan Thomas

Juan,

In my comments on preliminary risk assessment report submitted by BASF, under specific comments section, I recommended MDEQ part 201 criteria for the COPC selection process . The entire discussion in that paragraph was about screening and not about risk assessment characterization . As a federal lead agency on the corrective action sites in Michigan, USEPA provides the flexibility of conducting cumulative risk on individual SWMUs /AOCs based on statistical evaluation if there is a multiple chemical exposure pathway . Since the facility submitted the preliminary risk assessment report following the traditional RAGS approach and it is acceptable to USEPA, we suggested refining this risk assessment with the incorporation of part 201 requirements for COPC selection . By following this approach we would not be deviating from the 201 requirements. Although, the part 201 program is set primarily to evaluate risk on an individual chemical basis, there are provisions for the assessment of multiple chemicals with toxicological interactions (MAC R 299.5734). MCL 324.20120a(4) requires that cleanup criteria derived for cancer risk shall be the 95 percent upper bound on the calculated risk of one additional cancer above the background cancer rate per 100,000 individuals (10-5 cancer risk), although it is not explicitly stated that this applies to assessment of risk to multiple chemicals . The risk level established by Michigan Legislature for Part 201 is the 10-5 cancer risk for individuals .

If BASF chooses not to conduct cumulative risk, if is fine with EPA . However,as per part 201 regulations, the following conditions should be met with :

(note: The following paragraphs were reproduced verbatim from the correspondence between MDEQ and EPA on a particular facility which we cannot disclose at this point . The paragraphs outline the part 201 requirements related to sampling approach, statistical methods and the application of cumulative risk. The paragraph in bold font explain the alternative approach used by USEPA that essentially reproduced the same results).

- "In Michigan, corrective action or response activity is required when a site exceeds concentrations that satisfy the requirements of MCL 324.20120a(1)(a) and (17). This includes sites that exceed generic

residential cleanup criteria and other factors determined by the MDEQ as necessary to protect the public health, safety and welfare and the environment, such as risks to multiple chemicals . If it is the goal of the concerned facility and the EPA to cover the other state or federal response activity requirements as part of corrective action under RCRA, those specific requirements must be considered prior to making a no further action determination ." (If the intended use of the site in question remains industrial and supported by deed restriction, the analytical data on soil samples can be compared against generic industrial cleanup criteria which is less stringent than residential cleanup criteria).

- " A generalized sampling plan should include decision points for switching sampling strategies (e.g., random) as necessary to assure the approach used is not subjective and does not result in dilution of the sample population . This is necessary to fulfill the requirements of MCL 324.20120a(14) that the statistical method used is reliable, scientifically valid and best represents the actual site conditions and exposure potential . An exceedance of Cleanup Criteria in Part 201 may be associated with a potential "hotspot" of chemical contamination . Additional sampling should be performed around the outliers in a pattern of random sampling . This may be done to demonstrate the lateral and /or vertical extent of the exceedance and /or to apply statistical procedures to establish a representative concentration of a constituent (s) for comparison to Part 201 Cleanup Criteria ". (USEPA in general agrees with this approach. These requirements are generally met during Phase II RFI where in the extent of contamination is delineated in a non biased approach although in most instances phase I RFI begins with a biased sampling approach . BASF conducted statistical analysis on biased samples and prematurely conducted cumulative risk assessment without taking additional samples around outliers or hotspots and screened out number of SWMUs or AOCs from corrective action . Under general comments in the memorandum dated May 13, 2004 it was mentioned that additional investigative work is necessary before submitting a revised human health risk assessment).

If BASF has more questions on the points discussed above, I will be available at 312-886-1660.

Bhooma Sundar
Toxicologist
RCRA Corrective Action
Enforcement and Compliance Assurance Branch
Waste, Pesticides and Toxics Division
USEPA Region 5
312-886-1660

Bruce D Roberts <robertb@basf-corp.com>

Bruce D Roberts
<robertb@basf-corp.com>
06/14/04 11:13 AM

To

Subject Re: CUMULATIVE RISK

Juan,

Before we have any discussions on your data needs for cumulative risk, I would like to see what information your regional toxicologists have. As you know, Part 201 was not designed for cumulative risks and MDEQ is not requiring cumulative risks when only MDEQ is involved. BASF does not want to have to re-do another cumulative risk assessment. To me the March 2002 technical agreements are very clear that EPA and MDEQ must have peer discussions. If EPA and MDEQ have already had discussions on other sites and the outcome is always the same, then the path forward is clear. If no discussions with MDEQ have been held to date then the path forward is not clear.

Therefore, I would like to wait until we see what information the regional

Bhooma
Sundar/R5/USEPA/US
06/28/2004 01:48 PM

To Juan Thomas/R5/USEPA/US@EPA, Mario Mangino/R5/USEPA/US@EPA
cc
bcc
Subject Re: Fw: CUMULATIVE RISK-response

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In my comments on preliminary risk assessment report submitted by BASF, under specific comments section, I recommended MDEQ part 201 criteria for the COPC selection process. The entire discussion in that paragraph was about screening and not about risk assessment characterization. As a federal lead agency on the corrective action sites in Michigan, USEPA provides the flexibility of conducting cumulative risk on individual SWMUs/AOCs based on statistical evaluation if there is a multiple chemical exposure pathway. Since the facility submitted the preliminary risk assessment report following the traditional RAGS approach and it is acceptable to USEPA, we suggested refining this risk assessment with the incorporation of part 201 requirements for COPC selection. By following this approach we would not be deviating from the 201 requirements. Although, the part 201 program is set primarily to evaluate risk on an individual chemical basis, there are provisions for the assessment of multiple chemicals with toxicological interactions (MAC R 299.5734). MCL 324.20120a(4) requires that cleanup criteria derived for cancer risk shall be the 95 percent upper bound on the calculated risk of one additional cancer above the background cancer rate per 100,000 individuals (10-5 cancer risk), although it is not explicitly stated that this applies to assessment of risk to multiple chemicals. The risk level established by Michigan Legislature for Part 201 is the 10-5 cancer risk for individuals.

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cumulative risk assessment without taking additional samples around outliers or hotspots and screened out number of SWMUs or AOCs from corrective action . Under general comments in the memorandum dated May 13, 2004 it was mentioned that additional investigative work is necessary before submitting a revised human health risk assessment).

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Bhooma Sundar
Toxicologist
RCRA Corrective Action
Enforcement and Compliance Assurance Branch
Waste, Pesticides and Toxics Division
USEPA Region 5
312-886-1660

Juan Thomas/R5/USEPA/US

Juan Thomas /R5/USEPA/US To

06/15/2004 02:04 PM Subject Fw: CUMULATIVE RISK

Mario, Bhooma,

Are you aware of any written correspondences concerning any dialogue we may have had with the MDEQ as it relates to cumulative risk derivations or rather, decisions based upon cumulative risk . Bruce Roberts would prefer to see any written dialogue on this matter that we may have before agreeing to another telephone conference call. Please let me know your thoughts.

Juan Thomas
----- Forwarded by Juan Thomas/R5/USEPA/US on 06/15/04 01:57 PM -----

Bruce D Roberts <robertb@basf-corp.com> To

06/14/04 11:13 AM Subject Re: CUMULATIVE RISK

Juan,

Before we have any discussions on your data needs for cumulative risk, I would like to see what information your regional toxicologists have. As you know, Part 201 was not designed for cumulative risks and MDEQ is not requiring cumulative risks when only MDEQ is involved. BASF does not want to have to re-do another cumulative risk assessment. To me the March 2002 technical agreements are very clear that EPA and MDEQ must have peer discussions. If EPA and MDEQ have already had discussions on other sites and the outcome is always the same, then the path forward is clear. If no discussions with MDEQ have been held to date then the path forward is not clear.

Therefore, I would like to wait until we see what information the regional toxicologists have.

If Bhooma would like to clarify her data needs excluding cumulative risk, please send an email and I can circulate it.

Mario Mangino/R5/USEPA/US
06/16/2004 09:35 AM

To Juan Thomas/R5/USEPA/US@EPA
cc Bhooma Sundar/R5/USEPA/US@EPA, George Hamper/R5/USEPA/US@EPA, Hak Cho/R5/USEPA/US@EPA
bcc
Subject Re: Fw: CUMULATIVE RISK

JUAN: I am not aware that we (Region 5 RCRA program) have had any "peer review" discussions with MDEQ about the cumulative risk for a specific site investigation . We have had some discussions with MDEQ about their policy on how cumulative risk fits into the Part 201 program.

- Mario Mangino

Juan Thomas/R5/USEPA/US

Juan Thomas /R5/USEPA/US
06/15/2004 02:04 PM

To
Subject Fw: CUMULATIVE RISK

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Thanks.

Thomas.Juan@epamail.epa.gov

To: Bruce D Roberts

cc: Sundar.Bhooma

06/10/2004 11:21 AM Subject:

Re: CUMULATIVE RISK

Bruce,

I forwarded your message to our regional toxicologists whom I thought could better respond to the issue you raised. Bhooma suggested that we set up a conference call meeting with your toxicologist/risk assessor and that would be the best forum to answer your questions as well as better clarify our position in terms of our data needs. Wednesday or Thursday of next week or the week after would be a good time for us. Please let me know what works for you. Thanks.

Juan Thomas

<parodr@basf-corp.com>
Brian W Diepeveen
<diepevb@basf-corp.com>,
mona.sutherland@parsons.com,
Ralph Parod
<parodr@basf-corp.com>

bcc

Fax to

Subject

Re: CUMULATIVE RISK

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Thomas.Juan@epamail.epa.gov

To: Bruce D Roberts

Thanks.

Thomas.Juan@epamail.epa.gov

To: Bruce D Roberts

cc: Sundar.Bhooma

06/10/2004 11:21 AM Subject:

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Juan Thomas

Bruce D Roberts
<robertb@basf-corp.com>

06/04/04 12:53 PM

To
To Juan Thomas/R5/USEPA/US@EPA
cc Brian W Diepeveen <diepevb@basf-corp.com>, mona.sutherland@parsons.com
Brian W Diepeveen <diepevb@basf-corp.com>, mona.sutherland@parsons.com
bcc

Fax to

Subject

CUMULATIVE RISK

Juan,

During our telephone conversation on May 27th, EPA mentioned doing a cumulative risk assessment. If cumulative risk calculations are necessary,
I want to ensure what is required is consistent with other Michigan sites
under Corrective Action.

Michigan's Part 201 program is not set up to do cumulative risk assessments, so I am asking for some documentation from you.

As a result of the November 2000 MOU between EPA and MDEQ, agreements were
reached at Technical Meetings held on March 7, 2002. MDEQ's Jim Sygo wrote
a letter to EPA's Robert Springer on April 15, 2002. The second paragraph
in that cover letter states:

> "As a result, the U.S. EPA will work closely with the MDEQ-WMD to identify and
> address the Part 201 standards and requirements at any Michigan facilities where the
> U.S. EPA has the lead role for RCRA corrective action. The U.S. EPA will
> rely on the
> MDEQ-WMD to clearly outline those standards and requirements so that they can be
> included in the U.S. EPA's corrective action process. In this way, the
> programs will
> achieve consistent results."

Item 8b of the attached agreement states:

> "Cumulative risk decisions during the corrective action process will be
> evaluated with thorough peer review discussions between MDEQ-WMD and
> U.S. EPA staff on a case-by-case basis for all U.S. EPA-lead sites."

Please send me a copy of all available documentation on these peer review
discussions that have been held since 2002 for any EPA-lead sites in Michigan. If no discussions have been held with MDEQ, it would be premature for BASF and EPA to be discussing cumulative risk decisions. BASF would not want to put EPA in the position of potentially violating any
of the conditions of the MOU.

Thanks.

Bruce D Roberts
<robertb@basf-corp.com>
05/14/2004 01:45 PM

To

Subject Re: BASF North Works Facility

Juan,

I started looking at your comments and I have a partial response to one of your concerns for Table 8.1.

On page 8-2 of the Final RFI, the last sentence states that "The UCL95 was calculated assuming that all of the data was distributed lognormally." The UCL95 was calculated using the Land method. In situations where the UCL95 exceeded the maximum concentration, the maximum concentration was used in the risk assessment. The OSWER directive you referenced (OSWER 9285.6-10) states on page 20 that EPA "allows the maximum observed concentration to be used as the exposure point concentration rather than the calculated UCL in cases where the UCL exceeds the maximum concentration." A 1992 document was referenced in the OSWER directive.

I hope I have cleared up any confusion you had on RFI Tables 8-1 to 8-11concerning what concentration was used in the risk calculations. The tables in RFI Appendix G show the RAE and RME concentrations used.

Thomas.Juan@epamail.epa.gov

To: Bruce D Roberts

cc: Sundar.Bhooma

05/13/2004 03:54 PM Subject: BASF North Works Facility

Bruce,

As we discussed a few weeks ago, I wanted to do what is necessary in getting this project back on track, so that we can successfully move forward in the RCRA Corrective Action process. As I mentioned, and as you might also recall from our last discussions before our communications stalled, it was important for us to conduct an evaluation of your human health risk assessment completed as part of your Phase I RFI Report dated Feb. 26, 1999. This evaluation is essential to our being able to effectively move forward into the corrective measures study phase as well as our evaluating the existing data necessary towards achieving our two Environmental Indicator performance goals of "Current Human Exposures Under Control" and "Migration of Contaminated Groundwater Under Control", i.e., EI 725 and 750 respectively. Our

toxicologist has reviewed BASF's human health risk assessment methodology and conclusions and found that there were a number of issues and concerns that will require further clarification before we are able to proceed. Please see the attached file below. I am proposing that you take a look at the comments provided in the attached file and after you have had an opportunity to confer with your respective team members, that we schedule an initial telephone conference call meeting to discuss these issues. I am proposing that we have a telephone conference meeting either Wednesday or Thursday of next week, if that works with your schedule. Please let me know. Thanks,

Juan Thomas
Environmental Scientist.

(See attached file: BASFBhoomacmmts0504.wpd)
(See attached file: BASFBhoomacmmts0504.wpd)

BASFBhoomacmmts0504.wpd

Juan Thomas /R5/USEPA/US To
05/13/2004 02:54 PM Subject BASF North Works Facility

Bruce,

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Juan Thomas
Environmental Scientist.

BASFBhoomacmmts0504 wpd

Note: AOC 1 is illustrated on Figure 3-1 of the RFI and Figure 2 of the April 2005 Risk Screening Summary Report. I will need to obtain some information as to what this unit was. It is located adjacent to AOC4. In addition, the April 2005 Risk Screening Summary report, did not discuss AOC 5 and SWMU E which were both discussed in the 1999 Phase I RFI Report. ***....However, p.1-4 section 1.2 , 2nd paragraph provides a rationale as to why the units were not discussed in the summary report and the rationale is that those area are addressed as part of another SWMU/AOC, hence the rationale given is acceptable.***

Phase RFI Objectives and Supporting Data Requirements

Soil, groundwater and stormwater locations were selected in and around SWUM's/AOC's at locations where constituents of concern were ,most likely to be found. In addition, aquifer testing plans were prepared to evaluate the effectiveness of the current groundwater extraction system.

RFI p. 5-6, 29 groundwater monitoring wells were installed fro the RFI (RFIMW1 - RFIMW29). RFIMW24 thru RFIMW29 were installed along the western perimeter of the site as background wells. Each well was installed to a depth of least 2' into the lacustrine clay unit (generally 20 -25'bls). Two ft screens screen sections were installed to the top of the lacustrine clay unit. Six groundwater monitoring events (3 monthly and 3 quarterly) were conducted to acquire groundwater quality/eleva6tuion data at the facility. the initial monitoring event(Sept. 1996) included coverage of the seven background monitoring wells, fifteen perimeter monitoring wells and ten additional non-network wells. These non-network wells were sampled only for the initial event. Two additional monitoring events (October 1996 and November 1996) were then completed to evaluate conditions of seven background wells only. Three subsequent quarterly monitoring events (December 1996, March 1997, and June 1997) were completed to provide additional groundwater quality/elevation data for the seven background wells and th fifteen perimeter monitoring (RFI p. 5-7). Groundwater samples from the perimeter and background monitoring wells were analyzed for

Note: RFI does not have copies of figures 5-1, (summary of Phase I RFI soil boring and monitoring well locations); 5-2, (groundwater monitoring well locations). Also, two additional background wells were installed west of the site, ERB-1 and ENSR BG-MW-1. (per p. 1-5 of Risk Screening Summary Report).

stormwater runoff analysis were also conducted at three locations based on an assessment of runoff patterns during heavy rain events. The locations were a) along the northen property boundary of the facility east of AOC 7A, b) along the shoreline o the Detroit River on the southeast side of the facility adjacent to AOC6 and c) adjacen6t to the cemetery on the west central portion of the facility. stormwater runoff were sampled for the same constituents, i.e., Appendix IX constituents as analyzed for groundwater samples.
(RFI p. 5-8)

Note: Due to viscous nature of the AOC 4 tar samples, lack of soil content, and presence of volatile organic constituents, geotechnical analysis including moisture content, compaction, and strength could not be performed. (RFI p. 6-1).

Note: Focused research and evaluation tasks were collected to evaluate sediment quality in the Trenton Channel adjacent to the facility. During this process a computerized search was performed to identify pertinent documentation of sediment quality and water quality in the vicinity of the facility as well as numerous reports that evaluated the quality within the Trenton channel. This is the extent of the sediment work performed buy BASF; they did not perform any sediment quality investigations themselves. (RFI p. 6-1).

Note: Copies of soil borings and monitoring well logs are locate din Appendix B. Data of background soil borings RFIMW-24 thru RFIMW-29 along the western corridor of the facility indicated the presence of the Native Sand Unit and general absence of fill unit. (RFI p. 7-1). Background soil boring data confirmed the presence of the first three of four stratigraphic units beneath the facility, i.e, fill unit, clay and peat unit, native sand unit and lacustrine clay unit. (RFI p.7-1)

Soil boring data indicate the heterogeneous fill unit overlies the native materials at the facility. Fill material generally consist of a mixture of byproducts from past manufacturing operations, rubble from past facility demolition activities, and natural native materials. Categories specifically encountered include 1) clinker gravel with coal, coke, tar, gravel and sand, 2) distillate blow-off (DBO), 3) gravel, mottled clay or construction debris including large blocks o concrete, brick, an pipe. Fill thickness varied throughout the facility but typically ranged from 6-15' (see figure 6 for isopachs of fill thickness variations) RFI p. 7-2). The next recognized sequence is the clay and peat unit, which is a silty organic-rich clay and interbedded peat sequence which ranges from 0-4' in thickness across the facility, although in locations it attains a thickness of up to 9'. The thickness of the unit generally increase along the southeastern boundary of the facility. The next unit is the native sand unit a fine-grained, well sorted silty sand that ranges in thickeners form 4-12'. This sand unit is generally thickest in the southeast and throughput the center portion of the facility. The last geological unity is the lacustrine clay unit, this unit is encountered generally 20-30' bls. (RFI 7-3).

The potentiometric surface generated from the data acquired on August 10, 1997 indicate that significant areas of the facility are not controlled by the extraction wells for which static measurements are taken (E2NA, E10NB, E13NB, and E14NC). Figure 7-15 of the RFI indicates that a component of groundwater flow is likely discharging to the river. The extraction system appears to be most effective in the southern half of the facility where a majority of the horizontal gradients are essentially flat or slightly toward the interior of the facility. In contrast, horizontal gradients toward the river along the northern portion of the facility indicate reasonable potential for off-site migration in these areas. (RFI p. 7-13).

Soil samples - a total of ten samples were collected for background. Five represented the

fill material, five represented the sand material. Site-specific background values were derived for constituents detected in background soil samples based on the mean of the background concentrations of each soil horizon. Background soil values for detected constituents were compared with the MDEQ GSI-based action levels to yield appropriate PSAL values. The selected PSAL's were then compared with the analytical data from investigative samples collected during the Phase I RFI to delineate th extent of any releases to soil at a particular sampling location. (RFI p. 7-16).

Note: The Risk Screening Summary Report of April 2005 compiles summary statistics and risk screening for groundwater for the most recent two years of monitoring data for 71 monitoring wells.

Note: The Risk Screening Summary Report of April 2005 p.2-2, para 2, state that subsequent to the submission of the Risk Screening Workplan, BASF has obtained a copy the City of Wyandottes's Plumbing Code (see appendix of report), that state in Article 3, Section P-303.0"the water distribution and drainage system of any building in which plumbing fixtures are installed shall be connected to a public water main and sewer system, respectively". This statement provides BASF with the justification for not considering the groundwater as a potable source for the facility.
Nevertheless, Appendix C of document shows the results of the drinking water pathway risk screening for soil and groundwater. Section 2.1.1 discusses that there were surrogates used for screening levels in soil for bis(2-chloroisopropyl)ether and tin. The surrogates used were bis(2-chloroethyl)ether and for tin, the region 9 PRG was used instead of the Part 201 screening criteria.
See Table 2-3 which illustrates where at least one exceedance of soil screening criteria and Appendix D provides risk screening tables for Part 201 criteria. it should be noted that although there may have been GSI soil screening exceedances in general, there are only two locations that could be considered GSI locations, i.e, located adjacent to or in close proximity to the Detroit River. (RFIMW 07, and at the easternmost portion of SWMU H).

According to the Summary Report, considering results of all pathways except GSI protection and state background, a limited number of constituents of interest (COI) and areas of concern are identified in Table 2-3 and summarized on pages 2-3 and 2-4 (see attached copied pages from report)

Section 2.3 of Summary Report state that a total of 149 analytes were analyzed for in site-wide soil and never detected. The detection limits for these analytes were compared to the most stringent Part 201 Criteria. If no Part 201 criteria were available for screen, then the USEPA Region 9 PRG was used as a screening criteria. For 17 analytes, no Part 201 nor Region 9 PRG were available. See Appendix F for full list of non -detects and results are summarized in Table 2-5. Of note is that fore 131 analytes with screening levels, the detection limit was met for all except 14 analytes and in these cases, the detection limit was <u>close</u> to the lowest screening level

Table 3-2
Summary of Risk Screening Results
Using Part 201 Criteria
Exceedance List for Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	Area	FOD (b)	Maximum Detected Conc (c)	GVIIC Cancer	GVIIC NonCancer	GCC Cancer	GCC NonCancer	Water Solubility	GSI	GSI Well? (d)
TOTAL DISSOLVED SOLIDS	CMSMW-1	1 : 1 : 1	3.20E+06						Yes	No
TOTAL DISSOLVED SOLIDS	CMSMW-10	1 : 1 : 1	4.60E+06						Yes	Yes
TOTAL DISSOLVED SOLIDS	CMSMW-11	1 : 1 : 1	1.60E+07						Yes	Yes
TOTAL DISSOLVED SOLIDS	CMSMW-12	1 : 1 : 1	1.10E+07						Yes	No
NAPHTHALENE	CMSMW-13F	1 : 1 : 1	1.90E+01	No	No		No	No	Yes	No
TOTAL DISSOLVED SOLIDS	CMSMW-13F	1 : 1 : 1	5.00E+06						Yes	No
BENZENE	CMSMW-13S	1 : 1 : 1	6.60E+01	No		No		No	Yes	No
TOTAL DISSOLVED SOLIDS	CMSMW-13S	1 : 1 : 1	7.90E+06						Yes	No
TOTAL DISSOLVED SOLIDS	CMSMW-14S	1 : 1 : 1	2.95E+06						Yes	No
TOTAL DISSOLVED SOLIDS	CMSMW-15	1 : 1 : 1	7.40E+05						Yes	Yes
TOTAL DISSOLVED SOLIDS	CMSMW-16F	1 : 1 : 1	5.60E+06						Yes	No
TOTAL DISSOLVED SOLIDS	CMSMW-18	1 : 1 : 1	4.50E+06						Yes	No
CHLORIDE	CMSMW-2	1 : 1 : 1	3.20E+05						Yes	Yes
MERCURY	CMSMW-2	1 : 1 : 1	4.34E-01				No	No	Yes	Yes
TOTAL DISSOLVED SOLIDS	CMSMW-2	1 : 1 : 1	2.00E+06						Yes	Yes
TOTAL DISSOLVED SOLIDS	CMSMW-3	1 : 1 : 1	3.10E+06						Yes	No
TOTAL DISSOLVED SOLIDS	CMSMW-4	1 : 1 : 1	2.90E+06						Yes	No
TOTAL DISSOLVED SOLIDS	CMSMW-5	1 : 1 : 1	4.40E+06						Yes	Yes
TOTAL DISSOLVED SOLIDS	CMSMW-6	1 : 1 : 1	2.10E+07						Yes	Yes
TOTAL DISSOLVED SOLIDS	CMSMW-7	1 : 1 : 1	5.70E+06						Yes	No
MERCURY	CMSMW-8	1 : 1 : 1	3.90E+00				No	No	Yes	No
TOTAL DISSOLVED SOLIDS	CMSMW-8	1 : 1 : 1	1.20E+07						Yes	No
TOTAL DISSOLVED SOLIDS	CMSMW-9	1 : 1 : 1	5.00E+06						Yes	No
CHLORIDE	ENSR BG-M	1 : 1 : 1	1.80E+05						Yes	No
MERCURY	ENSR BG-M	2 : 2 : 2	1.62E-02				No	No	Yes	No
THALLIUM	ENSR BG-M	1 : 1 : 1	1.00E+01				No		Yes	No
BENZENE	GTI SB-16	1 : 1 : 1	6.80E+01	No		No		No	Yes	No
TOTAL DISSOLVED SOLIDS	GTI-TPW-1	1 : 1 : 1	7.92E+05						Yes	No
TOTAL XYLENES	GTI-TPW-1	1 : 1 : 1	3.69E+01		No		No	No	Yes	No
1,2-DICHLOROPROPANE	P-15-N	1 : 1 : 1	6.63E+01		No	No	No	No	Yes	No
TOTAL DISSOLVED SOLIDS	P-15-N	1 : 1 : 1	7.72E+05						Yes	No
VANADIUM	P-15-N	1 : 1 : 1	1.30E+01				No		Yes	No
ARSENIC	P-34-N	6 : 6 : 6	2.70E+02			No	No		Yes	No

Table 3-1
Michigan DEQ Part 201 Groundwater Criteria (a)
BASF Wyandotte, MI Facility

Chemical	CAS	Industrial Cancer GVIIC	Industrial NonCancer GVIIC	Cancer GCC	NonCancer GCC	Industrial Cancer DWC	Industrial NonCancer DWC	Water Solubility	GSI
SULFATE	14808-79-8								
TETRACHLOROETHENE	127-18-4	1.65E+05		1.17E+04	9.13E+04	1.34E+02	2.09E+02	2.00E+05	1.10E+01 (c)
THALLIUM	7440-28-0				1.30E+04		1.40E+00		1.20E+00 (c)
TOLUENE	108-88-3		1.48E+06		9.92E+05		4.59E+03	5.26E+05	1.40E+02
TOTAL CYANIDE	57-12-5								5.20E+00
TOTAL DISSOLVED SOLIDS	TDS								5.00E+05
TOTAL METHYLPHENOL	(b) otal Methylpl		1.05E+09		8.13E+05		1.04E+03	2.80E+07	7.10E+01
TOTAL XYLENES	(b) Total Xylenes		1.79E+07		5.36E+06		3.75E+04	1.86E+05	3.50E+01
TRICHLOROETHENE	79-01-6	9.68E+04		2.20E+04		3.48E+02		1.10E+06	2.90E+01 (c)
VANADIUM	7440-62-2				9.68E+05		1.04E+02		1.20E+01
VINYL CHLORIDE	75-01-4	1.30E+04	8.71E+04	1.00E+03	6.65E+04	2.50E+00	6.26E+01	2.76E+06	1.50E+01
ZINC	7440-66-6				1.06E+08		6.88E+03		1.20E+02 (d)

Notes:

All expressed in units of ug/L.
CAS - Chemical Abstract Service.
GVIIC - Groundwater Volatilization to Indoor Air Inhalation Criteria.
GCC - Groundwater Contact Criteria.
DWC - Drinking Water Criteria.
GSI - Groundwater Surface Water Interface.
(a) MDEQ. Part 201 Generic Cleanup Criteria, Dec. 2002.
(b) Sum of isomers for comparison with criteria.
(c) GSI Criteria for Surface Water Human Drinking Water Value (HDV) for groundwater that discharges to surface water used as drinking water (Footnote X of generic cleanup criteria tables).
(d) GSI Criteria - calculated using site-specific hardness of 100 mg CaCO3/L and MDEQ algorithm (footnote G of generic cleanup criteria tables).
(e) EPA Region 9 Industrial Tap Water PRG (Oct. 2004) used due to lack of Part 201 criteria. PRGs for carcinogens multiplied by 10 to equal 1X10(-5) risk level.
(f) 2,4-Dichlorophenol selected as surrogate.
(g) Pyridine selected as surrogate.
(h) Bis(2-Chloroethyl)ether selected as surrogate.
(i) Chromium VI criteria used for total chromium.
(j) Criteria for lead are derived using biological based model, and are not calculated using the Part 201 assumptions and algorithms. Compare on a straight exceed/not exceed basis.

Table 3-2
Summary of Risk Screening Results
Using Part 201 Criteria
Exceedance List for Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	Area	FOD (b)	Maximum Detected Conc (c)	GVIIC Cancer	GVIIC NonCancer	GCC Cancer	GCC NonCancer	Water Solubility	GSI	GSI Well? (d)
CHROMIUM	P-34-N	5 : 6 : 6	5.00E+01				No		Yes	No
COPPER	P-34-N	4 : 6 : 6	5.70E+01				No		Yes	No
LEAD	P-34-N	6 : 6 : 6	6.00E+01						Yes	No
NICKEL	P-34-N	3 : 6 : 6	9.40E+01				No		Yes	No
TOTAL CYANIDE	P-34-N	6 : 6 : 6	2.20E+01						Yes	No
VANADIUM	P-34-N	4 : 6 : 6	8.70E+01				No		Yes	No
ZINC	P-34-N	4 : 6 : 6	3.30E+02				No		Yes	No
ARSENIC	P-36-N	1 : 1 : 1	7.70E+01			No	No		Yes	No
BIS(2-ETHYLHEXYL) PHTHALATE	P-36-N	1 : 1 : 1	1.02E+02	No		No	No	No	Yes	No
TOTAL DISSOLVED SOLIDS	P-36-N	1 : 1 : 1	2.59E+06						Yes	No
ANTIMONY	PM1NA	1 : 4 : 4	2.00E+01				No		Yes	No
ARSENIC	PM1NA	4 : 4 : 4	6.60E+02			No	No		Yes	No
CADMIUM	PM1NA	2 : 4 : 4	2.00E+01				No		Yes	No
CHROMIUM	PM1NA	4 : 4 : 4	1.40E+02				No		Yes	No
COPPER	PM1NA	3 : 4 : 4	1.10E+02				No		Yes	No
LEAD	PM1NA	4 : 4 : 4	8.90E+01						Yes	No
MERCURY	PM1NA	2 : 4 : 4	1.00E+00				No	No	Yes	No
NICKEL	PM1NA	3 : 4 : 4	1.50E+02				No		Yes	No
TOTAL CYANIDE	PM1NA	4 : 4 : 4	1.50E+04						Yes	No
VANADIUM	PM1NA	4 : 4 : 4	8.50E+01				No		Yes	No
ZINC	PM1NA	2 : 4 : 4	4.50E+02				No		Yes	No
BIS(2-CHLOROISOPROPYL) ETHER	PM3NB	1 : 1 : 1	3.90E+01	No		No		No	Yes	No
ANTIMONY	PM4NA	1 : 1 : 1	1.30E+01				No		Yes	No
ARSENIC	PM4NA	1 : 1 : 1	3.00E+02			No	No		Yes	No
CHLORIDE	PM4NA	1 : 1 : 1	2.20E+07						Yes	No
CHROMIUM	PM4NA	1 : 1 : 1	4.10E+01				No		Yes	No
MERCURY	PM4NA	1 : 1 : 1	5.26E-02				No	No	Yes	No
NICKEL	PM4NA	1 : 1 : 1	5.30E+01				No		Yes	No
TOTAL DISSOLVED SOLIDS	PM4NA	1 : 1 : 1	4.30E+07						Yes	No
VANADIUM	PM4NA	1 : 1 : 1	6.60E+01				No		Yes	No
1,4-DIOXANE	RFIMW 01	1 : 1 : 1	1.20E+02	No		No		No	Yes	Yes
CHLORIDE	RFIMW 01	1 : 1 : 1	1.85E+07						Yes	Yes
MERCURY	RFIMW 01	1 : 1 : 1	2.83E-02				No	No	Yes	Yes

Table 3-2
Summary of Risk Screening Results
Using Part 201 Criteria
Exceedance List for Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	Area	FOD (b)	Maximum Detected Conc (c)	GVIIC Cancer	GVIIC NonCancer	GCC Cancer	GCC NonCancer	Water Solubility	GSI	GSI Well? (d)
THALLIUM	RFIMW 01	1 : 1 : 1	7.65E+00				No		Yes	Yes
TOTAL CYANIDE	RFIMW 01	4 : 4 : 4	5.30E+01						Yes	Yes
TOTAL DISSOLVED SOLIDS	RFIMW 01	1 : 1 : 1	3.00E+07						Yes	Yes
BARIUM	RFIMW 02	4 : 4 : 4	7.70E+02				No		Yes	Yes
BIS(2-CHLOROETHYL) ETHER	RFIMW 02	4 : 4 : 4	4.50E+01	No		No		No	Yes	Yes
CADMIUM	RFIMW 02	2 : 4 : 4	6.80E+00				No		Yes	Yes
CHROMIUM	RFIMW 02	4 : 4 : 4	1.80E+02				No		Yes	Yes
COPPER	RFIMW 02	3 : 4 : 4	1.40E+02				No		Yes	Yes
LEAD	RFIMW 02	2 : 4 : 4	4.60E+01						Yes	Yes
MERCURY	RFIMW 02	1 : 1 : 1	4.16E-03				No	No	Yes	Yes
NICKEL	RFIMW 02	3 : 4 : 4	1.70E+02				No		Yes	Yes
TOTAL CYANIDE	RFIMW 02	4 : 4 : 4	2.20E+01						Yes	Yes
TOTAL METHYLPHENOL	RFIMW 02	3 : 3 : 3	1.95E+02		No		No	No	Yes	Yes
VANADIUM	RFIMW 02	3 : 4 : 4	1.30E+02				No		Yes	Yes
ZINC	RFIMW 02	2 : 4 : 4	3.10E+02				No		Yes	Yes
BARIUM	RFIMW 03	4 : 4 : 4	1.70E+03				No		Yes	Yes
CADMIUM	RFIMW 03	1 : 4 : 4	3.30E+00				No		Yes	Yes
CHROMIUM	RFIMW 03	4 : 4 : 4	1.50E+02				No		Yes	Yes
COPPER	RFIMW 03	3 : 4 : 4	1.20E+02				No		Yes	Yes
LEAD	RFIMW 03	4 : 4 : 4	7.10E+01						Yes	Yes
NICKEL	RFIMW 03	4 : 4 : 4	1.80E+02				No		Yes	Yes
TOTAL CYANIDE	RFIMW 03	1 : 4 : 4	6.00E+00						Yes	Yes
TOTAL METHYLPHENOL	RFIMW 03	3 : 4 : 4	7.80E+01		No		No	No	Yes	Yes
VANADIUM	RFIMW 03	4 : 4 : 4	1.30E+02				No		Yes	Yes
ZINC	RFIMW 03	3 : 4 : 4	3.40E+02				No		Yes	Yes
ARSENIC	RFIMW 04	4 : 4 : 4	5.70E+02			No	No		Yes	Yes
CHROMIUM	RFIMW 04	3 : 4 : 4	2.20E+01				No		Yes	Yes
COPPER	RFIMW 04	1 : 4 : 4	1.80E+01				No		Yes	Yes
MERCURY	RFIMW 04	1 : 1 : 1	7.45E-03				No	No	Yes	Yes
TOTAL CYANIDE	RFIMW 04	4 : 4 : 4	1.30E+02						Yes	Yes
TOTAL DISSOLVED SOLIDS	RFIMW 04	1 : 1 : 1	4.10E+06						Yes	Yes
BARIUM	RFIMW 05	4 : 4 : 4	1.40E+03				No		Yes	Yes
CHROMIUM	RFIMW 05	2 : 4 : 4	3.00E+01				No		Yes	Yes

Table 3-2
Summary of Risk Screening Results
Using Part 201 Criteria
Exceedance List for Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	Area	FOD (b)	Maximum Detected Conc (c)	GVIIC Cancer	GVIIC NonCancer	GCC Cancer	GCC NonCancer	Water Solubility	GSI	GSI Well? (d)
COPPER	RFIMW 05	1 : 4 : 4	2.20E+01				No		Yes	Yes
SELENIUM	RFIMW 05	3 : 4 : 4	9.90E+00				No		Yes	Yes
TOTAL CYANIDE	RFIMW 05	2 : 3 : 3	7.00E+00						Yes	Yes
TOTAL DISSOLVED SOLIDS	RFIMW 05	1 : 1 : 1	1.50E+07						Yes	Yes
TOTAL METHYLPHENOL	RFIMW 05	4 : 4 : 4	9.33E+01		No		No	No	Yes	Yes
1,2-DICHLOROPROPANE	RFIMW 06	4 : 4 : 4	3.50E+01		No	No	No	No	Yes	Yes
BIS(2-CHLOROISOPROPYL) ETHER	RFIMW 06	4 : 4 : 4	1.80E+01	No		No		No	Yes	Yes
CHROMIUM	RFIMW 06	4 : 4 : 4	3.30E+01				No		Yes	Yes
COPPER	RFIMW 06	2 : 4 : 4	2.20E+01				No		Yes	Yes
MERCURY	RFIMW 06	1 : 1 : 1	3.24E-01				No	No	Yes	Yes
SELENIUM	RFIMW 06	1 : 4 : 4	6.00E+00				No		Yes	Yes
TOTAL CYANIDE	RFIMW 06	4 : 4 : 4	3.00E+01						Yes	Yes
1,4-DIOXANE	RFIMW 07	4 : 4 : 4	4.40E+01	No		No		No	Yes	Yes
CHLORIDE	RFIMW 07	1 : 1 : 1	5.20E+06						Yes	Yes
MERCURY	RFIMW 07	1 : 1 : 1	1.21E-01				No	No	Yes	Yes
NAPHTHALENE	RFIMW 07	4 : 4 : 4	6.55E+01	No	No		No	No	Yes	Yes
PHENANTHRENE	RFIMW 07	3 : 3 : 4	3.05E+00		No		No	No	Yes	Yes
PHENOL	RFIMW 07	3 : 4 : 4	3.10E+02		No		No	No	Yes	Yes
TOTAL CYANIDE	RFIMW 07	4 : 4 : 4	1.30E+02						Yes	Yes
TOTAL DISSOLVED SOLIDS	RFIMW 07	1 : 1 : 1	1.30E+07						Yes	Yes
TOTAL METHYLPHENOL	RFIMW 07	4 : 4 : 4	1.37E+02		No		No	No	Yes	Yes
BARIUM	RFIMW 08	3 : 3 : 3	1.10E+03				No		Yes	Yes
CHROMIUM	RFIMW 08	1 : 4 : 4	3.20E+01				No		Yes	Yes
COPPER	RFIMW 08	1 : 4 : 4	3.30E+01				No		Yes	Yes
MERCURY	RFIMW 08	1 : 1 : 1	5.32E-03				No	No	Yes	Yes
TOTAL CYANIDE	RFIMW 08	1 : 3 : 3	1.00E+01						Yes	Yes
ZINC	RFIMW 08	1 : 4 : 4	2.40E+02				No		Yes	Yes
CHLORIDE	RFIMW 09	1 : 1 : 1	3.80E+06						Yes	Yes
CHROMIUM	RFIMW 09	1 : 1 : 1	8.80E+01				No		Yes	Yes
MERCURY	RFIMW 09	1 : 1 : 1	1.37E-03				No	No	Yes	Yes
THALLIUM	RFIMW 09	1 : 1 : 1	9.40E+00				No		Yes	Yes
TOTAL CYANIDE	RFIMW 09	1 : 3 : 3	1.00E+01						Yes	Yes
BARIUM	RFIMW 10	4 : 4 : 4	8.60E+02				No		Yes	Yes

Table 3-2
Summary of Risk Screening Results
Using Part 201 Criteria
Exceedance List for Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	Area	FOD (b)	Maximum Detected Conc (c)	GVIIC Cancer	GVIIC NonCancer	GCC Cancer	GCC NonCancer	Water Solubility	GSI	GSI Well? (d)
CHROMIUM	RFIMW 10	1 : 4 : 4	1.40E+01				No		Yes	Yes
TOTAL CYANIDE	RFIMW 10	3 : 4 : 4	1.00E+01						Yes	Yes
ANTIMONY	RFIMW 11	2 : 4 : 4	1.00E+01				No		Yes	Yes
ARSENIC	RFIMW 11	4 : 4 : 4	1.40E+02			No	No		Yes	Yes
CADMIUM	RFIMW 11	3 : 4 : 4	4.30E+00				No		Yes	Yes
CHROMIUM	RFIMW 11	4 : 4 : 4	1.10E+02				No		Yes	Yes
COPPER	RFIMW 11	3 : 4 : 4	4.20E+02				No		Yes	Yes
LEAD	RFIMW 11	4 : 4 : 4	2.20E+02						Yes	Yes
MERCURY	RFIMW 11	1 : 1 : 1	1.62E-03				No	No	Yes	Yes
NICKEL	RFIMW 11	3 : 4 : 4	1.30E+02				No		Yes	Yes
TOTAL CYANIDE	RFIMW 11	4 : 4 : 4	5.20E+01						Yes	Yes
VANADIUM	RFIMW 11	3 : 4 : 4	7.90E+01				No		Yes	Yes
ZINC	RFIMW 11	3 : 4 : 4	6.00E+02				No		Yes	Yes
CHLORIDE	RFIMW 12	1 : 1 : 1	7.40E+06						Yes	Yes
CHROMIUM	RFIMW 12	1 : 1 : 1	1.90E+01				No		Yes	Yes
MERCURY	RFIMW 12	1 : 1 : 1	1.45E-02				No	No	Yes	Yes
PHENOL	RFIMW 12	3 : 4 : 4	1.10E+03		No		No	No	Yes	Yes
THALLIUM	RFIMW 12	1 : 1 : 1	5.90E+00				No		Yes	Yes
TOTAL CYANIDE	RFIMW 12	4 : 4 : 4	1.80E+03						Yes	Yes
TOTAL METHYLPHENOL	RFIMW 12	4 : 4 : 4	4.70E+02		No		No	No	Yes	Yes
VANADIUM	RFIMW 12	1 : 1 : 1	4.20E+01				No		Yes	Yes
1,2-DICHLOROETHANE	RFIMW 13	1 : 1 : 1	2.20E+01	No		No		No	Yes	No
1,4-DIOXANE	RFIMW 13	1 : 1 : 1	2.40E+02	No		No		No	Yes	No
CHLORIDE	RFIMW 13	1 : 1 : 1	1.90E+07						Yes	No
CHROMIUM	RFIMW 13	1 : 1 : 1	5.40E+01				No		Yes	No
MERCURY	RFIMW 13	1 : 1 : 1	5.54E-02				No	No	Yes	No
THALLIUM	RFIMW 13	1 : 1 : 1	7.80E+00				No		Yes	No
TOTAL CYANIDE	RFIMW 13	1 : 1 : 1	4.60E+01						Yes	No
TOTAL DISSOLVED SOLIDS	RFIMW 13	1 : 1 : 1	3.10E+07						Yes	No
TOTAL DISSOLVED SOLIDS	RFIMW 14	1 : 1 : 1	7.65E+07						Yes	No
CHLORIDE	RFIMW 15	1 : 1 : 1	1.10E+07						Yes	No
CHROMIUM	RFIMW 15	1 : 1 : 1	2.50E+02				No		Yes	No
COPPER	RFIMW 15	1 : 1 : 1	1.90E+01				No		Yes	No

Table 3-2
Summary of Risk Screening Results
Using Part 201 Criteria
Exceedance List for Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	Area	FOD (b)	Maximum Detected Conc (c)	GVIIC Cancer	GVIIC NonCancer	GCC Cancer	GCC NonCancer	Water Solubility	GSI	GSI Well? (d)
MERCURY	RFIMW 15	1 : 1 : 1	3.06E-03				No	No	Yes	No
NICKEL	RFIMW 15	1 : 1 : 1	1.50E+03				No		Yes	No
THALLIUM	RFIMW 15	1 : 1 : 1	9.60E+00				No		Yes	No
TOTAL CYANIDE	RFIMW 15	1 : 1 : 1	6.90E+01						Yes	No
1,4-DIOXANE	RFIMW 16	1 : 1 : 1	3.90E+01	No		No		No	Yes	No
CHROMIUM	RFIMW 16	1 : 1 : 1	4.00E+01				No		Yes	No
COPPER	RFIMW 16	1 : 1 : 1	1.80E+01				No		Yes	No
PHENOL	RFIMW 16	1 : 1 : 1	3.50E+02		No		No	No	Yes	No
SELENIUM	RFIMW 16	1 : 1 : 1	6.50E+00				No		Yes	No
TOTAL CYANIDE	RFIMW 16	1 : 1 : 1	3.90E+02						Yes	No
VANADIUM	RFIMW 16	1 : 1 : 1	2.00E+02				No		Yes	No
ACETONE	RFIMW 21	1 : 1 : 1	2.10E+03		No		No	No	Yes	No
1,4-DIOXANE	RFIMW 22	1 : 1 : 1	8.70E+01	No		No		No	Yes	Yes
ACETONE	RFIMW 22	1 : 1 : 1	5.20E+03		No		No	No	Yes	Yes
ARSENIC	RFIMW 22	1 : 1 : 1	1.90E+02			No	No		Yes	Yes
BENZENE	RFIMW 22	1 : 1 : 1	2.30E+03	No		No		No	Yes	Yes
CHLORIDE	RFIMW 22	1 : 1 : 1	8.90E+06						Yes	Yes
CHLOROBENZENE	RFIMW 22	1 : 1 : 1	6.40E+02		No		No	No	Yes	Yes
CHROMIUM	RFIMW 22	1 : 1 : 1	6.10E+01				No		Yes	Yes
COPPER	RFIMW 22	1 : 1 : 1	1.70E+01				No		Yes	Yes
ETHYLBENZENE	RFIMW 22	1 : 1 : 1	5.30E+01	No	No		No	No	Yes	Yes
MERCURY	RFIMW 22	1 : 1 : 1	3.33E-02				No	No	Yes	Yes
PHENOL	RFIMW 22	1 : 1 : 1	2.20E+02		No		No	No	Yes	Yes
TOTAL CYANIDE	RFIMW 22	4 : 4 : 4	4.60E+04						Yes	Yes
TOTAL DISSOLVED SOLIDS	RFIMW 22	1 : 1 : 1	1.50E+07						Yes	Yes
VANADIUM	RFIMW 22	1 : 1 : 1	5.00E+02				No		Yes	Yes
VINYL CHLORIDE	RFIMW 22	1 : 1 : 1	2.80E+02	No	No	No	No	No	Yes	Yes
CHROMIUM	RFIMW 23	3 : 4 : 4	3.50E+01				No		Yes	No
COPPER	RFIMW 23	1 : 4 : 4	2.30E+01				No		Yes	No
FLUORANTHENE	RFIMW 23	1 : 1 : 1	4.50E+00		No		No	No	Yes	No
TOTAL CYANIDE	RFIMW 23	4 : 4 : 4	1.40E+03						Yes	No
TOTAL DISSOLVED SOLIDS	RFIMW 23	1 : 1 : 1	3.20E+06						Yes	No
CHROMIUM	RFIMW 24	6 : 6 : 6	6.20E+02				No		Yes	No

Table 3-2
Summary of Risk Screening Results
Using Part 201 Criteria
Exceedance List for Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	Area	FOD (b)	Maximum Detected Conc (c)	GVIIC Cancer	GVIIC NonCancer	GCC Cancer	GCC NonCancer	Water Solubility	GSI	GSI Well? (d)
COPPER	RFIMW 24	3:6:6	2.10E+01				No		Yes	No
NICKEL	RFIMW 24	3:5:5	1.60E+02				No		Yes	No
SELENIUM	RFIMW 24	1:6:6	6.90E+00				No		Yes	No
TOTAL CYANIDE	RFIMW 24	6:6:6	6.30E+02						Yes	No
VANADIUM	RFIMW 24	1:6:6	2.30E+01				No		Yes	No
CHROMIUM	RFIMW 25	6:6:6	1.40E+03				No		Yes	No
COPPER	RFIMW 25	5:6:6	6.10E+01				No		Yes	No
LEAD	RFIMW 25	5:6:6	1.70E+01						Yes	No
NICKEL	RFIMW 25	6:6:6	2.90E+02				No		Yes	No
TOTAL CYANIDE	RFIMW 25	6:6:6	5.40E+02						Yes	No
VANADIUM	RFIMW 25	3:6:6	9.10E+01				No		Yes	No
ZINC	RFIMW 25	4:6:6	1.90E+02				No		Yes	No
CHLORIDE	RFIMW 26	1:1:1	1.20E+06						Yes	No
CHROMIUM	RFIMW 26	2:2:2	5.17E+03				No		Yes	No
COPPER	RFIMW 26	2:2:2	1.40E+02				No		Yes	No
MERCURY	RFIMW 26	1:1:2	1.97E-02				No	No	Yes	No
NICKEL	RFIMW 26	2:2:2	2.46E+03				No		Yes	No
THALLIUM	RFIMW 26	1:2:2	1.01E+01				No		Yes	No
TOTAL CYANIDE	RFIMW 26	4:6:6	3.20E+02						Yes	No
TOTAL DISSOLVED SOLIDS	RFIMW 26	1:1:1	1.24E+07						Yes	No
VANADIUM	RFIMW 26	2:2:2	2.00E+01				No		Yes	No
ZINC	RFIMW 26	1:2:2	2.20E+02				No		Yes	No
CHROMIUM	RFIMW 27	6:6:6	3.50E+01				No		Yes	No
COPPER	RFIMW 27	3:6:6	5.20E+01				No		Yes	No
SILVER	RFIMW 27	1:6:6	1.50E+01				No		Yes	No
TOTAL CYANIDE	RFIMW 27	5:6:6	4.80E+01						Yes	No
VANADIUM	RFIMW 27	1:6:6	2.30E+01				No		Yes	No
ZINC	RFIMW 27	2:6:6	3.40E+02				No		Yes	No
ARSENIC	RFIMW 28	6:6:6	6.90E+01			No	No		Yes	No
CADMIUM	RFIMW 28	5:6:6	2.80E+00				No		Yes	No
CHROMIUM	RFIMW 28	6:6:6	5.00E+01				No		Yes	No
COPPER	RFIMW 28	4:6:6	6.35E+01				No		Yes	No
LEAD	RFIMW 28	5:6:6	1.51E+01						Yes	No

Table 3-2
Summary of Risk Screening Results
Using Part 201 Criteria
Exceedance List for Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	Area	FOD (b)	Maximum Detected Conc (c)	GVIIC Cancer	GVIIC NonCancer	GCC Cancer	GCC NonCancer	Water Solubility	GSI	GSI Well? (d)
MERCURY	RFIMW 28	2 : 2 : 2	4.31E-03				No	No	Yes	No
TOTAL CYANIDE	RFIMW 28	5 : 6 : 6	1.90E+01						Yes	No
VANADIUM	RFIMW 28	5 : 6 : 6	8.05E+01				No		Yes	No
ZINC	RFIMW 28	4 : 6 : 6	1.45E+02				No		Yes	No
ANTIMONY	RFIMW 29	2 : 6 : 6	7.95E+00				No		Yes	No
CHROMIUM	RFIMW 29	6 : 6 : 6	2.75E+02				No		Yes	No
COPPER	RFIMW 29	4 : 6 : 6	5.00E+01				No		Yes	No
LEAD	RFIMW 29	5 : 6 : 6	1.90E+01						Yes	No
NICKEL	RFIMW 29	5 : 6 : 6	1.10E+03				No		Yes	No
TOTAL CYANIDE	RFIMW 29	5 : 6 : 6	3.30E+01						Yes	No
VANADIUM	RFIMW 29	5 : 6 : 6	5.85E+01				No		Yes	No
ZINC	RFIMW 29	3 : 6 : 6	1.25E+02				No		Yes	No
ARSENIC	WHI1-3S	1 : 1 : 1	8.80E+01			No	No		Yes	No
BENZENE	WHI1-3S	1 : 1 : 1	6.81E+02	No		No		No	Yes	No
CHROMIUM	WHI1-3S	1 : 1 : 1	1.22E+02				No		Yes	No
COPPER	WHI1-3S	1 : 1 : 1	3.80E+01				No		Yes	No
LEAD	WHI1-3S	1 : 1 : 1	1.30E+01						Yes	No
SELENIUM	WHI1-3S	1 : 1 : 1	7.00E+00				No		Yes	No
TOTAL DISSOLVED SOLIDS	WHI1-3S	1 : 1 : 1	5.63E+06						Yes	No
VANADIUM	WHI1-3S	1 : 1 : 1	4.77E+02				No		Yes	No
BIS(2-ETHYLHEXYL) PHTHALATE	WHI2-1S	1 : 1 : 1	8.10E+02	No		Yes	Yes	Yes	Yes	No
CHROMIUM	WHI2-1S	1 : 1 : 1	4.50E+01				No		Yes	No
COPPER	WHI2-1S	1 : 1 : 1	2.20E+01				No		Yes	No
LEAD	WHI2-1S	1 : 1 : 1	1.10E+01						Yes	No
MERCURY	WHI2-1S	1 : 1 : 2	3.71E-03				No	No	Yes	No
TOTAL DISSOLVED SOLIDS	WHI2-1S	1 : 1 : 1	6.97E+05						Yes	No
VANADIUM	WHI2-1S	1 : 1 : 1	2.60E+01				No		Yes	No
CADMIUM	WHI2-2S	1 : 1 : 1	8.00E+00				No		Yes	No
CHROMIUM	WHI2-2S	1 : 1 : 1	6.20E+01				No		Yes	No
COPPER	WHI2-2S	1 : 1 : 1	1.18E+02				No		Yes	No
LEAD	WHI2-2S	1 : 1 : 1	2.39E+02						Yes	No
MERCURY	WHI2-2S	1 : 1 : 1	3.34E+01				No	No	Yes	No
TOTAL DISSOLVED SOLIDS	WHI2-2S	1 : 1 : 1	1.18E+07						Yes	No

Table 3-2
Summary of Risk Screening Results
Using Part 201 Criteria
Exceedance List for Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	Area	FOD (b)	Maximum Detected Conc (c)	GVIIC Cancer	GVIIC NonCancer	GCC Cancer	GCC NonCancer	Water Solubility	GSI	GSI Well? (d)
VANADIUM	WHI2-2S	1:1:1	7.70E+01				No		Yes	No
ZINC	WHI2-2S	1:1:1	6.66E+02				No		Yes	No
BIS(2-ETHYLHEXYL) PHTHALATE	WHI2-3S	1:1:1	1.21E+02	No		No	No	No	Yes	No
TOTAL DISSOLVED SOLIDS	WHI2-3S	1:1:1	1.04E+06						Yes	No
ARSENIC	WHI3-1S	2:2:2	1.42E+02			No	No		Yes	No
BIS(2-ETHYLHEXYL) PHTHALATE	WHI3-1S	1:1:1	8.23E+01	No		No	No	No	Yes	No
CHROMIUM	WHI3-1S	2:2:2	1.31E+02				No		Yes	No
COPPER	WHI3-1S	2:2:2	1.48E+02				No		Yes	No
LEAD	WHI3-1S	2:2:2	2.16E+02						Yes	No
MERCURY	WHI3-1S	2:2:2	6.00E-01				No	No	Yes	No
NICKEL	WHI3-1S	2:2:2	1.08E+02				No		Yes	No
TOTAL DISSOLVED SOLIDS	WHI3-1S	1:1:1	7.53E+05						Yes	No
VANADIUM	WHI3-1S	2:2:2	2.40E+02				No		Yes	No
ZINC	WHI3-1S	2:2:2	4.65E+02				No		Yes	No
CHROMIUM	WHI3-2S	1:1:1	4.20E+01				No		Yes	No
COPPER	WHI3-2S	1:1:1	2.60E+01				No		Yes	No
DINOSEB	WHI3-2S	1:1:1	3.44E+00				No	No	Yes	No
LEAD	WHI3-2S	1:1:1	2.30E+01						Yes	No
MERCURY	WHI3-2S	2:2:2	2.00E-01				No	No	Yes	No
TOTAL DISSOLVED SOLIDS	WHI3-2S	1:1:1	3.23E+06						Yes	No
VANADIUM	WHI3-2S	1:1:1	4.20E+01				No		Yes	No
ZINC	WHI3-2S	1:1:1	1.79E+02				No		Yes	No
BIS(2-ETHYLHEXYL) PHTHALATE	WHI3-3S	1:1:1	6.38E+01	No		No	No	No	Yes	No
TOTAL DISSOLVED SOLIDS	WHI3-3S	1:1:1	2.88E+06						Yes	No
ANTIMONY	WHI4-1S	1:2:2	5.54E+02				No		Yes	No
ARSENIC	WHI4-1S	1:2:2	1.03E+02			No	No		Yes	No
BARIUM	WHI4-1S	2:2:2	7.08E+02				No		Yes	No
CHLORIDE	WHI4-1S	1:1:1	1.40E+05						Yes	No
CHROMIUM	WHI4-1S	1:2:2	1.46E+02				No		Yes	No
COPPER	WHI4-1S	2:2:2	8.69E+03				No		Yes	No
LEAD	WHI4-1S	2:2:2	5.58E+03						Yes	No
MERCURY	WHI4-1S	2:2:2	1.02E+01				No	No	Yes	No
NICKEL	WHI4-1S	1:2:2	8.10E+01				No		Yes	No

Table 3-2
Summary of Risk Screening Results
Using Part 201 Criteria
Exceedance List for Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	Area	FOD (b)	Maximum Detected Conc (c)	GVIIC Cancer	GVIIC NonCancer	GCC Cancer	GCC NonCancer	Water Solubility	GSI	GSI Well? (d)
TOTAL DISSOLVED SOLIDS	WHI4-1S	1:1:1	2.02E+06						Yes	No
VANADIUM	WHI4-1S	1:2:2	1.71E+02				No		Yes	No
ZINC	WHI4-1S	1:2:2	8.11E+02				No		Yes	No
CHROMIUM	WHI4-2S	1:1:1	3.00E+01				No		Yes	No
COPPER	WHI4-2S	1:1:1	5.40E+01				No		Yes	No
LEAD	WHI4-2S	1:1:1	3.16E+02						Yes	No
MERCURY	WHI4-2S	2:2:2	8.00E-01				No	No	Yes	No
TOTAL DISSOLVED SOLIDS	WHI4-2S	1:1:1	2.41E+06						Yes	No
VANADIUM	WHI4-2S	1:1:1	4.20E+01				No		Yes	No
ZINC	WHI4-2S	1:1:1	2.24E+02				No		Yes	No
ANTIMONY	WHI9-2F	1:1:2	3.60E+00				No		Yes	No
CADMIUM	WHI9-2F	2:2:2	2.90E+00				No		Yes	No
CHLORIDE	WHI9-2F	1:1:1	2.00E+05						Yes	No
CHROMIUM	WHI9-2F	2:2:2	2.70E+01				No		Yes	No
COPPER	WHI9-2F	2:2:2	4.09E+02				No		Yes	No
LEAD	WHI9-2F	2:2:2	1.10E+03						Yes	No
MERCURY	WHI9-2F	2:2:2	2.00E+00				No	No	Yes	No
NAPHTHALENE	WHI9-2F	1:1:1	1.79E+01	No	No		No	No	Yes	No
TOTAL DISSOLVED SOLIDS	WHI9-2F	1:1:1	1.54E+06						Yes	No
VANADIUM	WHI9-2F	2:2:2	8.30E+01				No		Yes	No
ZINC	WHI9-2F	2:2:2	5.25E+02				No		Yes	No
BARIUM	WHI9-2S	1:1:1	5.64E+02				No		Yes	No
MERCURY	WHI9-2S	1:1:2	4.11E-02				No	No	Yes	No
TOTAL DISSOLVED SOLIDS	WHI9-2S	1:1:1	8.07E+06						Yes	No

Table 3-2
Summary of Risk Screening Results
Using Part 201 Criteria
Exceedance List for Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	Area	FOD (b)	Maximum Detected Conc (c)	GVIIC Cancer	GVIIC NonCancer	GCC Cancer	GCC NonCancer	Water Solubility	GSI	GSI Well? (d)

Notes:

CAS - Chemical Abstract Service.
GVIIC - Groundwater Volatilization to Indoor Air Inhalation Criteria.
GCC - Groundwater Contact Criteria.
GSI - Groundwter Surface Water Interface.
(a) Only chemicals with at least one positively detected result are reported.
(b) Frequency of detection - Number of detected samples: Number of samples used to calculate statistics: Number of total samples.
(c) Maximum detected concentration for each chemical, after duplicates have been averaged.
(d) Well located at the groundwater-surface water interface (i.e., along the Detroit River).

Table 3-2
Summary of Risk Screening Results
Using Part 201 Criteria
Exceedance List for Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	Area	FOD (b)	Maximum Detected Concentration (c)	GVIIC Cancer	GVIIC NonCancer	GCC Cancer	GCC NonCancer	Water Solubility	GSI	GSI Well? (d)
TOTAL DISSOLVED SOLIDS	CMSMW-1	1 : 1 : 1	3.20E+06						Yes	No
TOTAL DISSOLVED SOLIDS	CMSMW-10	1 : 1 : 1	4.60E+06						Yes	Yes
TOTAL DISSOLVED SOLIDS	CMSMW-11	1 : 1 : 1	1.60E+07						Yes	Yes
TOTAL DISSOLVED SOLIDS	CMSMW-12	1 : 1 : 1	1.10E+07						Yes	No
NAPHTHALENE	CMSMW-13F	1 : 1 : 1	1.90E+01	No	No		No	No	Yes	No
TOTAL DISSOLVED SOLIDS	CMSMW-13F	1 : 1 : 1	5.00E+06						Yes	No
BENZENE	CMSMW-13S	1 : 1 : 1	6.60E+01	No		No		No	Yes	No
TOTAL DISSOLVED SOLIDS	CMSMW-13S	1 : 1 : 1	7.90E+06						Yes	No
TOTAL DISSOLVED SOLIDS	CMSMW-14S	1 : 1 : 1	2.95E+06						Yes	No
TOTAL DISSOLVED SOLIDS	CMSMW-15	1 : 1 : 1	7.40E+05						Yes	Yes
TOTAL DISSOLVED SOLIDS	CMSMW-16F	1 : 1 : 1	5.60E+06						Yes	No
TOTAL DISSOLVED SOLIDS	CMSMW-18	1 : 1 : 1	4.50E+06						Yes	No
CHLORIDE	CMSMW-2	1 : 1 : 1	3.20E+05						Yes	Yes
MERCURY	CMSMW-2	1 : 1 : 1	4.34E-01				No	No	Yes	Yes
TOTAL DISSOLVED SOLIDS	CMSMW-2	1 : 1 : 1	2.00E+06						Yes	Yes
TOTAL DISSOLVED SOLIDS	CMSMW-3	1 : 1 : 1	3.10E+06						Yes	No
TOTAL DISSOLVED SOLIDS	CMSMW-4	1 : 1 : 1	2.90E+06						Yes	No
TOTAL DISSOLVED SOLIDS	CMSMW-5	1 : 1 : 1	4.40E+06						Yes	Yes
TOTAL DISSOLVED SOLIDS	CMSMW-6	1 : 1 : 1	2.10E+07						Yes	Yes
TOTAL DISSOLVED SOLIDS	CMSMW-7	1 : 1 : 1	5.70E+06						Yes	No
MERCURY	CMSMW-8	1 : 1 : 1	3.90E+00				No	No	Yes	No
TOTAL DISSOLVED SOLIDS	CMSMW-8	1 : 1 : 1	1.20E+07						Yes	No
TOTAL DISSOLVED SOLIDS	CMSMW-9	1 : 1 : 1	5.00E+06						Yes	No
CHLORIDE	ENSR BG-MW-1	1 : 1 : 1	1.80E+05						Yes	No
MERCURY	ENSR BG-MW-1	2 : 2 : 2	1.62E-02				No	No	Yes	No
THALLIUM	ENSR BG-MW-1	1 : 1 : 1	1.00E+01				No		Yes	No
BENZENE	GTI SB-16	1 : 1 : 1	6.80E+01	No		No		No	Yes	No
TOTAL DISSOLVED SOLIDS	GTI-TPW-1	1 : 1 : 1	7.92E+05						Yes	No
TOTAL XYLENES	GTI-TPW-1	1 : 1 : 1	3.69E+01		No		No	No	Yes	No
1,2-DICHLOROPROPANE	P-15-N	1 : 1 : 1	6.63E+01		No	No	No	No	Yes	No
TOTAL DISSOLVED SOLIDS	P-15-N	1 : 1 : 1	7.72E+05						Yes	No
VANADIUM	P-15-N	1 : 1 : 1	1.30E+01				No		Yes	No
ARSENIC	P-34-N	6 : 6 : 6	2.70E+02			No	No		Yes	No

Table 3-2
Summary of Risk Screening Results
Using Part 201 Criteria
Exceedance List for Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	Area	FOD (b)	Maximum Detected Concentration (c)	GVIIC Cancer	GVIIC NonCancer	GCC Cancer	GCC NonCancer	Water Solubility	GSI	GSI Well? (d)
CHROMIUM	P-34-N	5 : 6 : 6	5.00E+01				No		Yes	No
COPPER	P-34-N	4 : 6 : 6	5.70E+01				No		Yes	No
LEAD	P-34-N	6 : 6 : 6	6.00E+01						Yes	No
NICKEL	P-34-N	3 : 6 : 6	9.40E+01				No		Yes	No
TOTAL CYANIDE	P-34-N	6 : 6 : 6	2.20E+01						Yes	No
VANADIUM	P-34-N	4 : 6 : 6	8.70E+01				No		Yes	No
ZINC	P-34-N	4 : 6 : 6	3.30E+02				No		Yes	No
ARSENIC	P-36-N	1 : 1 : 1	7.70E+01			No	No		Yes	No
BIS(2-ETHYLHEXYL) PHTHALATE	P-36-N	1 : 1 : 1	1.02E+02	No		No	No	No	Yes	No
TOTAL DISSOLVED SOLIDS	P-36-N	1 : 1 : 1	2.59E+06						Yes	No
ANTIMONY	PM1NA	1 : 4 : 4	2.00E+01				No		Yes	No
ARSENIC	PM1NA	4 : 4 : 4	6.60E+02			No	No		Yes	No
CADMIUM	PM1NA	2 : 4 : 4	2.00E+01				No		Yes	No
CHROMIUM	PM1NA	4 : 4 : 4	1.40E+02				No		Yes	No
COPPER	PM1NA	3 : 4 : 4	1.10E+02				No		Yes	No
LEAD	PM1NA	4 : 4 : 4	8.90E+01						Yes	No
MERCURY	PM1NA	2 : 4 : 4	1.00E+00				No	No	Yes	No
NICKEL	PM1NA	3 : 4 : 4	1.50E+02				No		Yes	No
TOTAL CYANIDE	PM1NA	4 : 4 : 4	1.50E+04						Yes	No
VANADIUM	PM1NA	4 : 4 : 4	8.50E+01				No		Yes	No
ZINC	PM1NA	2 : 4 : 4	4.50E+02				No		Yes	No
BIS(2-CHLOROISOPROPYL) ETHER	PM3NB	1 : 1 : 1	3.90E+01	No		No		No	Yes	No
ANTIMONY	PM4NA	1 : 1 : 1	1.30E+01				No		Yes	No
ARSENIC	PM4NA	1 : 1 : 1	3.00E+02			No	No		Yes	No
CHLORIDE	PM4NA	1 : 1 : 1	2.20E+07						Yes	No
CHROMIUM	PM4NA	1 : 1 : 1	4.10E+01				No		Yes	No
MERCURY	PM4NA	1 : 1 : 1	5.26E-02				No	No	Yes	No
NICKEL	PM4NA	1 : 1 : 1	5.30E+01				No		Yes	No
TOTAL DISSOLVED SOLIDS	PM4NA	1 : 1 : 1	4.30E+07						Yes	No
VANADIUM	PM4NA	1 : 1 : 1	6.60E+01				No		Yes	No
1,4-DIOXANE	RFIMW 01	1 : 1 : 1	1.20E+02	No		No		No	Yes	Yes
CHLORIDE	RFIMW 01	1 : 1 : 1	1.85E+07						Yes	Yes
MERCURY	RFIMW 01	1 : 1 : 1	2.83E-02				No	No	Yes	Yes
THALLIUM	RFIMW 01	1 : 1 : 1	7.65E+00				No		Yes	Yes

Table 3-2
Summary of Risk Screening Results
Using Part 201 Criteria
Exceedance List for Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	Area	FOD (b)	Maximum Detected Concentration (c)	GVIIC Cancer	GVIIC NonCancer	GCC Cancer	GCC NonCancer	Water Solubility	GSI	GSI Well? (d)
TOTAL CYANIDE	RFIMW 01	4 : 4 : 4	5.30E+01						Yes	Yes
TOTAL DISSOLVED SOLIDS	RFIMW 01	1 : 1 : 1	3.00E+07						Yes	Yes
BARIUM	RFIMW 02	4 : 4 : 4	7.70E+02				No		Yes	Yes
BIS(2-CHLOROETHYL) ETHER	RFIMW 02	4 : 4 : 4	4.50E+01	No		No		No	Yes	Yes
CADMIUM	RFIMW 02	2 : 4 : 4	6.80E+00				No		Yes	Yes
CHROMIUM	RFIMW 02	4 : 4 : 4	1.80E+02				No		Yes	Yes
COPPER	RFIMW 02	3 : 4 : 4	1.40E+02				No		Yes	Yes
LEAD	RFIMW 02	2 : 4 : 4	4.60E+01						Yes	Yes
MERCURY	RFIMW 02	1 : 1 : 1	4.16E-03				No	No	Yes	Yes
NICKEL	RFIMW 02	3 : 4 : 4	1.70E+02				No		Yes	Yes
TOTAL CYANIDE	RFIMW 02	4 : 4 : 4	2.20E+01						Yes	Yes
TOTAL METHYLPHENOL	RFIMW 02	3 : 3 : 3	1.95E+02		No		No	No	Yes	Yes
VANADIUM	RFIMW 02	3 : 4 : 4	1.30E+02				No		Yes	Yes
ZINC	RFIMW 02	2 : 4 : 4	3.10E+02				No		Yes	Yes
BARIUM	RFIMW 03	4 : 4 : 4	1.70E+03				No		Yes	Yes
CADMIUM	RFIMW 03	1 : 4 : 4	3.30E+00				No		Yes	Yes
CHROMIUM	RFIMW 03	4 : 4 : 4	1.50E+02				No		Yes	Yes
COPPER	RFIMW 03	3 : 4 : 4	1.20E+02				No		Yes	Yes
LEAD	RFIMW 03	4 : 4 : 4	7.10E+01						Yes	Yes
NICKEL	RFIMW 03	4 : 4 : 4	1.80E+02				No		Yes	Yes
TOTAL CYANIDE	RFIMW 03	1 : 4 : 4	6.00E+00						Yes	Yes
TOTAL METHYLPHENOL	RFIMW 03	3 : 4 : 4	7.80E+01		No		No	No	Yes	Yes
VANADIUM	RFIMW 03	4 : 4 : 4	1.30E+02				No		Yes	Yes
ZINC	RFIMW 03	3 : 4 : 4	3.40E+02				No		Yes	Yes
ARSENIC	RFIMW 04	4 : 4 : 4	5.70E+02			No	No		Yes	Yes
CHROMIUM	RFIMW 04	3 : 4 : 4	2.20E+01				No		Yes	Yes
COPPER	RFIMW 04	1 : 4 : 4	1.80E+01				No		Yes	Yes
MERCURY	RFIMW 04	1 : 1 : 1	7.45E-03				No	No	Yes	Yes
TOTAL CYANIDE	RFIMW 04	4 : 4 : 4	1.30E+02						Yes	Yes
TOTAL DISSOLVED SOLIDS	RFIMW 04	1 : 1 : 1	4.10E+06						Yes	Yes
BARIUM	RFIMW 05	4 : 4 : 4	1.40E+03				No		Yes	Yes
CHROMIUM	RFIMW 05	2 : 4 : 4	3.00E+01				No		Yes	Yes
COPPER	RFIMW 05	1 : 4 : 4	2.20E+01				No		Yes	Yes
SELENIUM	RFIMW 05	3 : 4 : 4	9.90E+00				No		Yes	Yes

Table 3-2
Summary of Risk Screening Results
Using Part 201 Criteria
Exceedance List for Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	Area	FOD (b)	Maximum Detected Concentration (c)	GVIIC Cancer	GVIIC NonCancer	GCC Cancer	GCC NonCancer	Water Solubility	GSI	GSI Well? (d)
TOTAL CYANIDE	RFIMW 05	2 : 3 : 3	7.00E+00						Yes	Yes
TOTAL DISSOLVED SOLIDS	RFIMW 05	1 : 1 : 1	1.50E+07						Yes	Yes
TOTAL METHYLPHENOL	RFIMW 05	4 : 4 : 4	9.33E+01		No		No	No	Yes	Yes
1,2-DICHLOROPROPANE	RFIMW 06	4 : 4 : 4	3.50E+01		No	No	No	No	Yes	Yes
BIS(2-CHLOROISOPROPYL) ETHER	RFIMW 06	4 : 4 : 4	1.80E+01	No		No		No	Yes	Yes
CHROMIUM	RFIMW 06	4 : 4 : 4	3.30E+01				No		Yes	Yes
COPPER	RFIMW 06	2 : 4 : 4	2.20E+01				No		Yes	Yes
MERCURY	RFIMW 06	1 : 1 : 1	3.24E-01				No	No	Yes	Yes
SELENIUM	RFIMW 06	1 : 4 : 4	6.00E+00				No		Yes	Yes
TOTAL CYANIDE	RFIMW 06	4 : 4 : 4	3.00E+01						Yes	Yes
1,4-DIOXANE	RFIMW 07	4 : 4 : 4	4.40E+01	No		No		No	Yes	Yes
CHLORIDE	RFIMW 07	1 : 1 : 1	5.20E+06						Yes	Yes
MERCURY	RFIMW 07	1 : 1 : 1	1.21E-01				No	No	Yes	Yes
NAPHTHALENE	RFIMW 07	4 : 4 : 4	6.55E+01	No	No		No	No	Yes	Yes
PHENANTHRENE	RFIMW 07	3 : 3 : 4	3.05E+00		No		No	No	Yes	Yes
PHENOL	RFIMW 07	3 : 4 : 4	3.10E+02		No		No	No	Yes	Yes
TOTAL CYANIDE	RFIMW 07	4 : 4 : 4	1.30E+02						Yes	Yes
TOTAL DISSOLVED SOLIDS	RFIMW 07	1 : 1 : 1	1.30E+07						Yes	Yes
TOTAL METHYLPHENOL	RFIMW 07	4 : 4 : 4	1.37E+02		No		No	No	Yes	Yes
BARIUM	RFIMW 08	3 : 3 : 3	1.10E+03				No		Yes	Yes
CHROMIUM	RFIMW 08	1 : 4 : 4	3.20E+01				No		Yes	Yes
COPPER	RFIMW 08	1 : 4 : 4	3.30E+01				No		Yes	Yes
MERCURY	RFIMW 08	1 : 1 : 1	5.32E-03				No	No	Yes	Yes
TOTAL CYANIDE	RFIMW 08	1 : 3 : 3	1.00E+01						Yes	Yes
ZINC	RFIMW 08	1 : 4 : 4	2.40E+02				No		Yes	Yes
CHLORIDE	RFIMW 09	1 : 1 : 1	3.80E+06						Yes	Yes
CHROMIUM	RFIMW 09	1 : 1 : 1	8.80E+01				No		Yes	Yes
MERCURY	RFIMW 09	1 : 1 : 1	1.37E-03				No	No	Yes	Yes
THALLIUM	RFIMW 09	1 : 1 : 1	9.40E+00				No		Yes	Yes
TOTAL CYANIDE	RFIMW 09	1 : 3 : 3	1.00E+01						Yes	Yes
BARIUM	RFIMW 10	4 : 4 : 4	8.60E+02				No		Yes	Yes
CHROMIUM	RFIMW 10	1 : 4 : 4	1.40E+01				No		Yes	Yes
TOTAL CYANIDE	RFIMW 10	3 : 4 : 4	1.00E+01						Yes	Yes
ANTIMONY	RFIMW 11	2 : 4 : 4	1.00E+01				No		Yes	Yes

Table 3-2
Summary of Risk Screening Results
Using Part 201 Criteria
Exceedance List for Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	Area	FOD (b)	Maximum Detected Concentration (c)	GVIIC Cancer	GVIIC NonCancer	GCC Cancer	GCC NonCancer	Water Solubility	GSI	GSI Well? (d)
ARSENIC	RFIMW 11	4 : 4 : 4	1.40E+02			No	No		Yes	Yes
CADMIUM	RFIMW 11	3 : 4 : 4	4.30E+00				No		Yes	Yes
CHROMIUM	RFIMW 11	4 : 4 : 4	1.10E+02				No		Yes	Yes
COPPER	RFIMW 11	3 : 4 : 4	4.20E+02				No		Yes	Yes
LEAD	RFIMW 11	4 : 4 : 4	2.20E+02						Yes	Yes
MERCURY	RFIMW 11	1 : 1 : 1	1.62E-03				No	No	Yes	Yes
NICKEL	RFIMW 11	3 : 4 : 4	1.30E+02				No		Yes	Yes
TOTAL CYANIDE	RFIMW 11	4 : 4 : 4	5.20E+01						Yes	Yes
VANADIUM	RFIMW 11	3 : 4 : 4	7.90E+01				No		Yes	Yes
ZINC	RFIMW 11	3 : 4 : 4	6.00E+02				No		Yes	Yes
CHLORIDE	RFIMW 12	1 : 1 : 1	7.40E+06						Yes	Yes
CHROMIUM	RFIMW 12	1 : 1 : 1	1.90E+01				No		Yes	Yes
MERCURY	RFIMW 12	1 : 1 : 1	1.45E-02				No	No	Yes	Yes
PHENOL	RFIMW 12	3 : 4 : 4	1.10E+03		No		No	No	Yes	Yes
THALLIUM	RFIMW 12	1 : 1 : 1	5.90E+00				No		Yes	Yes
TOTAL CYANIDE	RFIMW 12	4 : 4 : 4	1.80E+03						Yes	Yes
TOTAL METHYLPHENOL	RFIMW 12	4 : 4 : 4	4.70E+02		No		No	No	Yes	Yes
VANADIUM	RFIMW 12	1 : 1 : 1	4.20E+01				No		Yes	Yes
1,2-DICHLOROETHANE	RFIMW 13	1 : 1 : 1	2.20E+01	No		No		No	Yes	No
1,4-DIOXANE	RFIMW 13	1 : 1 : 1	2.40E+02	No		No		No	Yes	No
CHLORIDE	RFIMW 13	1 : 1 : 1	1.90E+07						Yes	No
CHROMIUM	RFIMW 13	1 : 1 : 1	5.40E+01				No		Yes	No
MERCURY	RFIMW 13	1 : 1 : 1	5.54E-02				No	No	Yes	No
THALLIUM	RFIMW 13	1 : 1 : 1	7.80E+00				No		Yes	No
TOTAL CYANIDE	RFIMW 13	1 : 1 : 1	4.60E+01						Yes	No
TOTAL DISSOLVED SOLIDS	RFIMW 13	1 : 1 : 1	3.10E+07						Yes	No
TOTAL DISSOLVED SOLIDS	RFIMW 14	1 : 1 : 1	7.65E+07						Yes	No
CHLORIDE	RFIMW 15	1 : 1 : 1	1.10E+07						Yes	No
CHROMIUM	RFIMW 15	1 : 1 : 1	2.50E+02				No		Yes	No
COPPER	RFIMW 15	1 : 1 : 1	1.90E+01				No		Yes	No
MERCURY	RFIMW 15	1 : 1 : 1	3.06E-03				No	No	Yes	No
NICKEL	RFIMW 15	1 : 1 : 1	1.50E+03				No		Yes	No
THALLIUM	RFIMW 15	1 : 1 : 1	9.60E+00				No		Yes	No
TOTAL CYANIDE	RFIMW 15	1 : 1 : 1	6.90E+01						Yes	No

Table 3-2
Summary of Risk Screening Results
Using Part 201 Criteria
Exceedance List for Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	Area	FOD (b)	Maximum Detected Concentration (c)	GVIIC Cancer	GVIIC NonCancer	GCC Cancer	GCC NonCancer	Water Solubility	GSI	GSI Well? (d)
1,4-DIOXANE	RFIMW 16	1 : 1 : 1	3.90E+01	No		No		No	Yes	No
CHROMIUM	RFIMW 16	1 : 1 : 1	4.00E+01				No		Yes	No
COPPER	RFIMW 16	1 : 1 : 1	1.80E+01				No		Yes	No
PHENOL	RFIMW 16	1 : 1 : 1	3.50E+02		No		No	No	Yes	No
SELENIUM	RFIMW 16	1 : 1 : 1	6.50E+00				No		Yes	No
TOTAL CYANIDE	RFIMW 16	1 : 1 : 1	3.90E+02						Yes	No
VANADIUM	RFIMW 16	1 : 1 : 1	2.00E+02				No		Yes	No
ACETONE	RFIMW 21	1 : 1 : 1	2.10E+03		No		No	No	Yes	No
1,4-DIOXANE	RFIMW 22	1 : 1 : 1	8.70E+01	No		No		No	Yes	Yes
ACETONE	RFIMW 22	1 : 1 : 1	5.20E+03		No		No	No	Yes	Yes
ARSENIC	RFIMW 22	1 : 1 : 1	1.90E+02			No	No		Yes	Yes
BENZENE	RFIMW 22	1 : 1 : 1	2.30E+03	No		No		No	Yes	Yes
CHLORIDE	RFIMW 22	1 : 1 : 1	8.90E+06						Yes	Yes
CHLOROBENZENE	RFIMW 22	1 : 1 : 1	6.40E+02		No		No	No	Yes	Yes
CHROMIUM	RFIMW 22	1 : 1 : 1	6.10E+01				No		Yes	Yes
COPPER	RFIMW 22	1 : 1 : 1	1.70E+01				No		Yes	Yes
ETHYLBENZENE	RFIMW 22	1 : 1 : 1	5.30E+01	No	No		No	No	Yes	Yes
MERCURY	RFIMW 22	1 : 1 : 1	3.33E-02				No	No	Yes	Yes
PHENOL	RFIMW 22	1 : 1 : 1	2.20E+02		No		No	No	Yes	Yes
TOTAL CYANIDE	RFIMW 22	4 : 4 : 4	4.60E+04						Yes	Yes
TOTAL DISSOLVED SOLIDS	RFIMW 22	1 : 1 : 1	1.50E+07						Yes	Yes
VANADIUM	RFIMW 22	1 : 1 : 1	5.00E+02				No		Yes	Yes
VINYL CHLORIDE	RFIMW 22	1 : 1 : 1	2.80E+02	No	No	No	No	No	Yes	Yes
CHROMIUM	RFIMW 23	3 : 4 : 4	3.50E+01				No		Yes	No
COPPER	RFIMW 23	1 : 4 : 4	2.30E+01				No		Yes	No
FLUORANTHENE	RFIMW 23	1 : 1 : 1	4.50E+00		No		No	No	Yes	No
TOTAL CYANIDE	RFIMW 23	4 : 4 : 4	1.40E+03						Yes	No
TOTAL DISSOLVED SOLIDS	RFIMW 23	1 : 1 : 1	3.20E+06						Yes	No
CHROMIUM	RFIMW 24	6 : 6 : 6	6.20E+02				No		Yes	No
COPPER	RFIMW 24	3 : 6 : 6	2.10E+01				No		Yes	No
NICKEL	RFIMW 24	3 : 5 : 5	1.60E+02				No		Yes	No
SELENIUM	RFIMW 24	1 : 6 : 6	6.90E+00				No		Yes	No
TOTAL CYANIDE	RFIMW 24	6 : 6 : 6	6.30E+02						Yes	No
VANADIUM	RFIMW 24	1 : 6 : 6	2.30E+01				No		Yes	No

Table 3-2
Summary of Risk Screening Results
Using Part 201 Criteria
Exceedance List for Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	Area	FOD (b)	Maximum Detected Concentration (c)	GVIIC Cancer	GVIIC NonCancer	GCC Cancer	GCC NonCancer	Water Solubility	GSI	GSI Well? (d)
CHROMIUM	RFIMW 25	6 : 6 : 6	1.40E+03				No		Yes	No
COPPER	RFIMW 25	5 : 6 : 6	6.10E+01				No		Yes	No
LEAD	RFIMW 25	5 : 6 : 6	1.70E+01						Yes	No
NICKEL	RFIMW 25	6 : 6 : 6	2.90E+02				No		Yes	No
TOTAL CYANIDE	RFIMW 25	6 : 6 : 6	5.40E+02						Yes	No
VANADIUM	RFIMW 25	3 : 6 : 6	9.10E+01				No		Yes	No
ZINC	RFIMW 25	4 : 6 : 6	1.90E+02				No		Yes	No
CHLORIDE	RFIMW 26	1 : 1 : 1	1.20E+06						Yes	No
CHROMIUM	RFIMW 26	2 : 2 : 2	5.17E+03				No		Yes	No
COPPER	RFIMW 26	2 : 2 : 2	1.40E+02				No		Yes	No
MERCURY	RFIMW 26	1 : 1 : 2	1.97E-02				No	No	Yes	No
NICKEL	RFIMW 26	2 : 2 : 2	2.46E+03				No		Yes	No
THALLIUM	RFIMW 26	1 : 2 : 2	1.01E+01				No		Yes	No
TOTAL CYANIDE	RFIMW 26	4 : 6 : 6	3.20E+02						Yes	No
TOTAL DISSOLVED SOLIDS	RFIMW 26	1 : 1 : 1	1.24E+07						Yes	No
VANADIUM	RFIMW 26	2 : 2 : 2	2.00E+01				No		Yes	No
ZINC	RFIMW 26	1 : 2 : 2	2.20E+02				No		Yes	No
CHROMIUM	RFIMW 27	6 : 6 : 6	3.50E+01				No		Yes	No
COPPER	RFIMW 27	3 : 6 : 6	5.20E+01				No		Yes	No
SILVER	RFIMW 27	1 : 6 : 6	1.50E+01				No		Yes	No
TOTAL CYANIDE	RFIMW 27	5 : 6 : 6	4.80E+01						Yes	No
VANADIUM	RFIMW 27	1 : 6 : 6	2.30E+01				No		Yes	No
ZINC	RFIMW 27	2 : 6 : 6	3.40E+02				No		Yes	No
ARSENIC	RFIMW 28	6 : 6 : 6	6.90E+01			No	No		Yes	No
CADMIUM	RFIMW 28	5 : 6 : 6	2.80E+00				No		Yes	No
CHROMIUM	RFIMW 28	6 : 6 : 6	5.00E+01				No		Yes	No
COPPER	RFIMW 28	4 : 6 : 6	6.35E+01				No		Yes	No
LEAD	RFIMW 28	5 : 6 : 6	1.51E+01						Yes	No
MERCURY	RFIMW 28	2 : 2 : 2	4.31E-03				No	No	Yes	No
TOTAL CYANIDE	RFIMW 28	5 : 6 : 6	1.90E+01						Yes	No
VANADIUM	RFIMW 28	5 : 6 : 6	8.05E+01				No		Yes	No
ZINC	RFIMW 28	4 : 6 : 6	1.45E+02				No		Yes	No
ANTIMONY	RFIMW 29	2 : 6 : 6	7.95E+00				No		Yes	No
CHROMIUM	RFIMW 29	6 . 6 : 6	2.75E+02				No		Yes	No

Table 3-2
Summary of Risk Screening Results
Using Part 201 Criteria
Exceedance List for Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	Area	FOD (b)	Maximum Detected Concentration (c)	GVIIC Cancer	GVIIC NonCancer	GCC Cancer	GCC NonCancer	Water Solubility	GSI	GSI Well? (d)
COPPER	RFIMW 29	4 : 6 : 6	5.00E+01				No		Yes	No
LEAD	RFIMW 29	5 : 6 : 6	1.90E+01						Yes	No
NICKEL	RFIMW 29	5 : 6 : 6	1.10E+03				No		Yes	No
TOTAL CYANIDE	RFIMW 29	5 : 6 : 6	3.30E+01						Yes	No
VANADIUM	RFIMW 29	5 : 6 : 6	5.85E+01				No		Yes	No
ZINC	RFIMW 29	3 : 6 : 6	1.25E+02				No		Yes	No
ARSENIC	WHI1-3S	1 : 1 : 1	8.80E+01			No	No		Yes	No
BENZENE	WHI1-3S	1 : 1 : 1	6.81E+02	No		No		No	Yes	No
CHROMIUM	WHI1-3S	1 : 1 : 1	1.22E+02				No		Yes	No
COPPER	WHI1-3S	1 : 1 : 1	3.80E+01				No		Yes	No
LEAD	WHI1-3S	1 : 1 : 1	1.30E+01						Yes	No
SELENIUM	WHI1-3S	1 : 1 : 1	7.00E+00				No		Yes	No
TOTAL DISSOLVED SOLIDS	WHI1-3S	1 : 1 : 1	5.63E+06						Yes	No
VANADIUM	WHI1-3S	1 : 1 : 1	4.77E+02				No		Yes	No
BIS(2-ETHYLHEXYL) PHTHALATE	WHI2-1S	1 : 1 : 1	8.10E+02	No		Yes	Yes	Yes	Yes	No
CHROMIUM	WHI2-1S	1 : 1 : 1	4.50E+01				No		Yes	No
COPPER	WHI2-1S	1 : 1 : 1	2.20E+01				No		Yes	No
LEAD	WHI2-1S	1 : 1 : 1	1.10E+01						Yes	No
MERCURY	WHI2-1S	1 : 1 : 2	3.71E-03				No	No	Yes	No
TOTAL DISSOLVED SOLIDS	WHI2-1S	1 : 1 : 1	6.97E+05						Yes	No
VANADIUM	WHI2-1S	1 : 1 : 1	2.60E+01				No		Yes	No
CADMIUM	WHI2-2S	1 : 1 : 1	8.00E+00				No		Yes	No
CHROMIUM	WHI2-2S	1 : 1 : 1	6.20E+01				No		Yes	No
COPPER	WHI2-2S	1 : 1 : 1	1.18E+02				No		Yes	No
LEAD	WHI2-2S	1 : 1 : 1	2.39E+02						Yes	No
MERCURY	WHI2-2S	1 : 1 : 1	3.34E+01				No	No	Yes	No
TOTAL DISSOLVED SOLIDS	WHI2-2S	1 : 1 : 1	1.18E+07						Yes	No
VANADIUM	WHI2-2S	1 : 1 : 1	7.70E+01				No		Yes	No
ZINC	WHI2-2S	1 : 1 : 1	6.66E+02				No		Yes	No
BIS(2-ETHYLHEXYL) PHTHALATE	WHI2-3S	1 : 1 : 1	1.21E+02	No		No	No	No	Yes	No
TOTAL DISSOLVED SOLIDS	WHI2-3S	1 : 1 : 1	1.04E+06						Yes	No
ARSENIC	WHI3-1S	2 : 2 : 2	1.42E+02			No	No		Yes	No
BIS(2-ETHYLHEXYL) PHTHALATE	WHI3-1S	1 : 1 : 1	8.23E+01	No		No	No	No	Yes	No
CHROMIUM	WHI3-1S	2 : 2 : 2	1.31E+02				No		Yes	No

Table 3-2
Summary of Risk Screening Results
Using Part 201 Criteria
Exceedance List for Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	Area	FOD (b)	Maximum Detected Concentration (c)	GVIIC Cancer	GVIIC NonCancer	GCC Cancer	GCC NonCancer	Water Solubility	GSI	GSI Well? (d)
COPPER	WHI3-1S	2 : 2 : 2	1.48E+02				No		Yes	No
LEAD	WHI3-1S	2 : 2 : 2	2.16E+02						Yes	No
MERCURY	WHI3-1S	2 : 2 : 2	6.00E-01				No	No	Yes	No
NICKEL	WHI3-1S	2 : 2 : 2	1.08E+02				No		Yes	No
TOTAL DISSOLVED SOLIDS	WHI3-1S	1 : 1 : 1	7.53E+05						Yes	No
VANADIUM	WHI3-1S	2 : 2 : 2	2.40E+02				No		Yes	No
ZINC	WHI3-1S	2 : 2 : 2	4.65E+02				No		Yes	No
CHROMIUM	WHI3-2S	1 : 1 : 1	4.20E+01				No		Yes	No
COPPER	WHI3-2S	1 : 1 : 1	2.60E+01				No		Yes	No
DINOSEB	WHI3-2S	1 : 1 : 1	3.44E+00				No	No	Yes	No
LEAD	WHI3-2S	1 : 1 : 1	2.30E+01						Yes	No
MERCURY	WHI3-2S	2 : 2 : 2	2.00E-01				No	No	Yes	No
TOTAL DISSOLVED SOLIDS	WHI3-2S	1 : 1 : 1	3.23E+06						Yes	No
VANADIUM	WHI3-2S	1 : 1 : 1	4.20E+01				No		Yes	No
ZINC	WHI3-2S	1 : 1 : 1	1.79E+02				No		Yes	No
BIS(2-ETHYLHEXYL) PHTHALATE	WHI3-3S	1 : 1 : 1	6.38E+01	No		No	No	No	Yes	No
TOTAL DISSOLVED SOLIDS	WHI3-3S	1 : 1 : 1	2.88E+06						Yes	No
ANTIMONY	WHI4-1S	1 : 2 : 2	5.54E+02				No		Yes	No
ARSENIC	WHI4-1S	1 : 2 : 2	1.03E+02			No	No		Yes	No
BARIUM	WHI4-1S	2 : 2 : 2	7.08E+02				No		Yes	No
CHLORIDE	WHI4-1S	1 : 1 : 1	1.40E+05						Yes	No
CHROMIUM	WHI4-1S	1 : 2 : 2	1.46E+02				No		Yes	No
COPPER	WHI4-1S	2 : 2 : 2	8.69E+03				No		Yes	No
LEAD	WHI4-1S	2 : 2 : 2	5.58E+03						Yes	No
MERCURY	WHI4-1S	2 : 2 : 2	1.02E+01				No	No	Yes	No
NICKEL	WHI4-1S	1 : 2 : 2	8.10E+01				No		Yes	No
TOTAL DISSOLVED SOLIDS	WHI4-1S	1 : 1 : 1	2.02E+06						Yes	No
VANADIUM	WHI4-1S	1 : 2 : 2	1.71E+02				No		Yes	No
ZINC	WHI4-1S	1 : 2 : 2	8.11E+02				No		Yes	No
CHROMIUM	WHI4-2S	1 : 1 : 1	3.00E+01				No		Yes	No
COPPER	WHI4-2S	1 : 1 : 1	5.40E+01				No		Yes	No
LEAD	WHI4-2S	1 : 1 : 1	3.16E+02						Yes	No
MERCURY	WHI4-2S	2 : 2 : 2	8.00E-01				No	No	Yes	No
TOTAL DISSOLVED SOLIDS	WHI4-2S	1 : 1 : 1	2.41E+06						Yes	No

Table 3-2
Summary of Risk Screening Results
Using Part 201 Criteria
Exceedance List for Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	Area	FOD (b)	Maximum Detected Concentration (c)	GVIIC Cancer	GVIIC NonCancer	GCC Cancer	GCC NonCancer	Water Solubility	GSI	GSI Well? (d)
VANADIUM	WHI4-2S	1 : 1 : 1	4.20E+01				No		Yes	No
ZINC	WHI4-2S	1 : 1 : 1	2.24E+02				No		Yes	No
ANTIMONY	WHI9-2F	1 : 1 : 2	3.60E+00				No		Yes	No
CADMIUM	WHI9-2F	2 : 2 : 2	2.90E+00				No		Yes	No
CHLORIDE	WHI9-2F	1 : 1 : 1	2.00E+05						Yes	No
CHROMIUM	WHI9-2F	2 : 2 : 2	2.70E+01				No		Yes	No
COPPER	WHI9-2F	2 : 2 : 2	4.09E+02				No		Yes	No
LEAD	WHI9-2F	2 : 2 : 2	1.10E+03						Yes	No
MERCURY	WHI9-2F	2 : 2 : 2	2.00E+00				No	No	Yes	No
NAPHTHALENE	WHI9-2F	1 : 1 : 1	1.79E+01	No	No		No	No	Yes	No
TOTAL DISSOLVED SOLIDS	WHI9-2F	1 : 1 : 1	1.54E+06						Yes	No
VANADIUM	WHI9-2F	2 : 2 : 2	8.30E+01				No		Yes	No
ZINC	WHI9-2F	2 : 2 : 2	5.25E+02				No		Yes	No
BARIUM	WHI9-2S	1 : 1 : 1	5.64E+02				No		Yes	No
MERCURY	WHI9-2S	1 : 1 : 2	4.11E-02				No	No	Yes	No
TOTAL DISSOLVED SOLIDS	WHI9-2S	1 : 1 : 1	8.07E+06						Yes	No

Notes:
All expressed in units of ug/L.
CAS - Chemical Abstract Service.
GVIIC - Groundwater Volatilization to Indoor Air Inhalation Criteria.
GCC - Groundwater Contact Criteria.
GSI - Groundwter Surface Water Interface.
(a) Only chemicals with at least one positively detected result are reported.
(b) Frequency of detection - Number of detected samples: Number of samples used to calculate statistics: Number of total samples.
(c) Maximum detected concentration for each chemical, after duplicates have been averaged.
(d) Well located at the groundwater-surface water interface (i.e., along the Detroit River).

Table 2-3
Summary of Risk Screening Results
Using Part 201 Criteria
Exceedance List for Soil
BASF Wyandotte, MI Facility

Chemical (a)	Area	FOD (b)	Maximum Detected Conc (c)	DCC Cancer	DCC NonCancer	PSIC Cancer	PSIC NonCancer	SVIIC Cancer	SVIIC NonCancer	Infinite VSIC Cancer	Infinite VSIC NonCancer	Soil Saturation Screening Level	State Bkg	GW Contact Protection	GSI Protection	GSI Protection Area? (e)
BENZENE	AOC 1	1 : 43 : 52	3.80E+02	No		No		No		No		No		No	Yes	No
ARSENIC	AOC 2	8 : 8 : 8	4.11E+04	Yes	No	No							Yes	No	Yes	No
BARIUM	AOC 2	8 : 8 : 8	7.89E+04		No		No						Yes	No	No	No
CADMIUM	AOC 2	8 : 8 : 8	3.50E+03		No	No							Yes	No	Yes	No
CHROMIUM	AOC 2	8 : 8 : 8	1.01E+05		No	No	No							No	Yes	No
LEAD	AOC 2	8 : 8 : 8	9.01E+04		(d)		(d)						Yes		No	No
MERCURY	AOC 2	5 : 8 : 8	1.71E+04		No		No		No		No		Yes	No	Yes	No
NAPHTHALENE	AOC 2	4 : 8 : 8	2.50E+03		No	No	No	No	No	No	No			No	Yes	No
SELENIUM	AOC 2	1 : 8 : 8	7.60E+02		No		No						Yes	No	Yes	No
TOTAL CYANIDE	AOC 2	6 : 8 : 8	4.60E+04		No		No						Yes	No	Yes	No
ZINC	AOC 2	8 : 8 : 8	9.66E+05		No								Yes	No	Yes	No
2-METHYLNAPHTHALENE	AOC 4	2 : 2 : 2	9.00E+06		Yes									Yes		No
ACENAPHTHYLENE	AOC 4	2 : 2 : 2	9.30E+06		Yes		No		Yes		Yes			Yes		No
ANTHRACENE	AOC 4	2 : 2 : 2	7.10E+06		No		No		No		No			Yes		No
ARSENIC	AOC 4	2 : 2 : 2	2.05E+04	No	No	No							Yes	No	No	No
BENZENE	AOC 4	2 : 2 : 2	6.80E+05	Yes		No		Yes		Yes		Yes		Yes	Yes	No
BENZO(A)ANTHRACENE	AOC 4	2 : 2 : 2	4.90E+06	Yes												No
BENZO(A)PYRENE	AOC 4	2 : 2 : 2	4.10E+06	Yes		Yes		No		Yes						No
BENZO(B)FLUORANTHENE	AOC 4	2 : 2 : 2	4.40E+06	Yes												No
BENZO(K)FLUORANTHENE	AOC 4	2 : 2 : 2	2.50E+06	Yes												No
CADMIUM	AOC 4	2 : 2 : 2	1.40E+03		No	No							Yes	No	No	No
CHRYSENE	AOC 4	2 : 2 : 2	5.20E+06	Yes												No
DIBENZOFURAN	AOC 4	2 : 2 : 2	5.90E+06												Yes	No
FLUORANTHENE	AOC 4	2 : 2 : 2	1.40E+07		No		No		No		No			Yes	Yes	No
FLUORENE	AOC 4	2 : 2 : 2	9.50E+06		No		No		No		No			Yes	Yes	No
INDENO(1,2,3-CD)PYRENE	AOC 4	2 : 2 : 2	1.60E+06	Yes												No
LEAD	AOC 4	2 : 2 : 2	8.28E+04		(d)		(d)						Yes		No	No
MERCURY	AOC 4	2 : 2 : 2	6.20E+02		No		No		No		No		Yes	No	Yes	No
NAPHTHALENE	AOC 4	2 : 2 : 2	4.80E+07		Yes	No	No	Yes	Yes	Yes	Yes			Yes	Yes	No
PHENANTHRENE	AOC 4	2 : 2 : 2	2.30E+07		Yes		Yes		Yes		Yes			Yes	Yes	No
PHENOL	AOC 4	1 : 2 : 2	2.30E+06		No		No		No		No	No		No	Yes	No
PYRENE	AOC 4	2 : 2 : 2	9.90E+06		No		No		No					Yes		No
SELENIUM	AOC 4	2 : 2 : 2	3.60E+03		No		No						Yes	No	Yes	No

Table 2-3
Summary of Risk Screening Results
Using Part 201 Criteria
Exceedance List for Soil
BASF Wyandotte, MI Facility

Chemical (a)	Area	FOD (b)	Maximum Detected Conc (c)	DCC Cancer	DCC NonCancer	PSIC Cancer	PSIC NonCancer	SVIIC Cancer	SVIIC NonCancer	Infinite VSIC Cancer	Infinite VSIC NonCancer	Soil Saturation Screening Level	State Bkg	GW Contact Protection	GSI Protection	GSI Protection Area? (e)
STYRENE	AOC 4	2 : 2 : 2	2.40E+05	No	No	No	No	No	No	No	No	No		No	Yes	No
THALLIUM	AOC 4	2 : 2 : 2	1.40E+04		No									No	Yes	No
TOLUENE	AOC 4	2 : 2 : 2	5.90E+05		No		No		Yes		No	Yes		Yes	Yes	No
TOTAL CYANIDE	AOC 4	2 : 2 : 2	1.90E+04		No		No						Yes	No	Yes	No
Total METHYLPHENOL	AOC 4	2 : 2 : 2	9.90E+06		Yes		No		No		No			No	Yes	No
Total XYLENES	AOC 4	2 : 2 : 2	9.80E+05		No		No		No		No	Yes		Yes	Yes	No
ZINC	AOC 4	2 : 2 : 2	1.14E+05		No								Yes	No	No	No
ACENAPHTHENE	AOC 6	3 : 10 : 12	1.20E+04		No		No		No		No			No	Yes	No
ANTHRACENE	AOC 6	6 : 11 : 12	1.20E+05		No		No		No		No			Yes		No
ARSENIC	AOC 6	12 : 12 : 12	2.00E+05	Yes	No	No							Yes	No	Yes	No
BARIUM	AOC 6	12 : 12 : 12	1.87E+05		No		No						Yes	No	No	No
BENZENE	AOC 6	5 : 12 : 12	1.40E+06	Yes		No		Yes		Yes		Yes		Yes	Yes	No
BENZO(A)ANTHRACENE	AOC 6	9 : 11 : 12	1.30E+05	Yes												No
BENZO(A)PYRENE	AOC 6	9 : 11 : 12	9.40E+04	Yes		No		No		No						No
BENZO(B)FLUORANTHENE	AOC 6	9 : 11 : 12	1.00E+05	Yes												No
BIS(2-CHLOROISOPROPYL) ETHER	AOC 6	5 : 10 : 12	5.20E+03	No		No		No		No		No		No	Yes	No
CADMIUM	AOC 6	9 : 12 : 12	2.00E+03		No	No							Yes	No	No	No
CHROMIUM	AOC 6	12 : 12 : 12	5.32E+04		No	No	No							No	Yes	No
COPPER	AOC 6	12 : 12 : 12	4.94E+04		No		No						Yes	No	No	No
DIBENZ(A,H)ANTHRACENE	AOC 6	7 : 10 : 12	1.20E+04	Yes												No
DIBENZOFURAN	AOC 6	9 : 11 : 12	9.90E+04												Yes	No
ETHYLBENZENE	AOC 6	1 : 9 : 9	3.20E+04		No	No	No	No	No	No	No	No		No	Yes	No
FLUORANTHENE	AOC 6	9 : 12 : 12	3.50E+05		No		No		No		No			No	Yes	No
FLUORENE	AOC 6	10 : 12 : 12	2.10E+05		No		No		No		No			No	Yes	No
LEAD	AOC 6	12 : 12 : 12	3.08E+05		(d)		(d)						Yes		No	No
MERCURY	AOC 6	8 : 12 : 12	3.30E+03		No		No		No		No		Yes	No	Yes	No
NAPHTHALENE	AOC 6	10 : 12 : 12	2.70E+06		No	No	No	No	Yes	Yes	Yes			Yes	Yes	No
NICKEL	AOC 6	8 : 12 : 12	3.39E+04		No	No							Yes	No	No	No
PHENANTHRENE	AOC 6	9 : 12 : 12	4.90E+05		No		No		No		Yes			No	Yes	No
SELENIUM	AOC 6	7 : 12 : 12	2.30E+04		No		No						Yes	No	Yes	No
TOTAL CYANIDE	AOC 6	8 : 12 : 12	2.40E+03		No		No						Yes	No	Yes	No
Total XYLENES	AOC 6	1 : 9 : 9	1.76E+05		No		No		No		No	Yes		Yes	Yes	No
ZINC	AOC 6	12 : 12 : 12	2.52E+05		No								Yes	No	Yes	No

Table 2-3
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BASF Wyandotte, MI Facility

Chemical (a)	Area	FOD (b)	Maximum Detected Conc (c)	DCC Cancer	DCC NonCancer	PSIC Cancer	PSIC NonCancer	SVIIC Cancer	SVIIC NonCancer	Infinite VSIC Cancer	Infinite VSIC NonCancer	Soil Saturation Screening Level	State Bkg	GW Contact Protection	GSI Protection	GSI Protection Area? (e)
ARSENIC	AOC 7A	14 : 14 : 14	6.24E+04	Yes	No	No							Yes	No	Yes	No
BARIUM	AOC 7A	14 : 14 : 14	1.48E+05		No		No						Yes	No	No	No
CHROMIUM	AOC 7A	14 : 14 : 14	2.91E+04		No	No	No							No	Yes	No
COBALT	AOC 7A	2 : 14 : 14	9.70E+03		No		No						Yes	No	Yes	No
COPPER	AOC 7A	14 : 14 : 14	3.70E+04		No		No						Yes	No	No	No
LEAD	AOC 7A	14 : 14 : 14	3.35E+05		(d)		(d)						Yes		No	No
MERCURY	AOC 7A	11 : 14 : 14	4.80E+03		No		No		No		No		Yes	No	Yes	No
NICKEL	AOC 7A	13 : 14 : 14	3.18E+04		No	No							Yes	No	No	No
SELENIUM	AOC 7A	4 : 14 : 14	1.70E+03		No		No						Yes	No	Yes	No
SILVER	AOC 7A	1 : 14 : 14	1.00E+04		No		No						Yes	No	Yes	No
TOTAL CYANIDE	AOC 7A	15 : 19 : 19	5.70E+03		No		No						Yes	No	Yes	No
ZINC	AOC 7A	14 : 14 : 14	1.90E+05		No								Yes	No	Yes	No
ARSENIC	AOC 7B	4 : 4 : 4	1.17E+04	No	No	No							Yes	No	No	No
BARIUM	AOC 7B	4 : 4 : 4	1.08E+05		No		No						Yes	No	No	No
CHROMIUM	AOC 7B	4 : 4 : 4	2.69E+04		No	No	No							No	Yes	No
LEAD	AOC 7B	4 : 4 : 4	3.06E+04		(d)		(d)						Yes		No	No
MERCURY	AOC 7B	2 : 4 : 4	5.70E+02		No		No		No		No		Yes	No	Yes	No
ZINC	AOC 7B	4 : 4 : 4	1.51E+05		No								Yes	No	Yes	No
ARSENIC	AOC 7C	4 : 4 : 4	3.45E+04	Yes	No	No							Yes	No	Yes	No
BARIUM	AOC 7C	4 : 4 : 4	1.47E+05		No		No						Yes	No	No	No
CHROMIUM	AOC 7C	4 : 4 : 4	1.72E+04		No	No	No							No	Yes	No
LEAD	AOC 7C	4 : 4 : 4	1.13E+05		(d)		(d)						Yes		No	No
MERCURY	AOC 7C	2 : 4 : 4	2.20E+03		No		No		No		No		Yes	No	Yes	No
NICKEL	AOC 7C	4 : 4 : 4	8.99E+04		No	No							Yes	No	Yes	No
SELENIUM	AOC 7C	4 : 4 : 4	2.40E+03		No		No						Yes	No	Yes	No
ZINC	AOC 7C	4 : 4 : 4	6.03E+05		No								Yes	No	Yes	No
NAPHTHALENE	RFIMW 07	2 : 6 : 6	9.65E+02		No	No	No	No	No	No	No			No	Yes	Yes
PHENOL	RFIMW 07	2 : 6 : 6	1.10E+04		No		No		No		No	No		No	Yes	Yes
Total METHYLPHENOL	RFIMW 07	2 : 6 : 6	4.30E+03		No		No		No		No			No	Yes	Yes
ARSENIC	RFIMW 24	2 : 2 : 2	8.00E+03	No	No	No							Yes	No	No	No
BARIUM	RFIMW 24	2 : 2 : 2	9.70E+04		No		No						Yes	No	No	No
CADMIUM	RFIMW 24	1 : 2 : 2	1.40E+03		No	No							Yes	No	No	No
CHROMIUM	RFIMW 24	2 : 2 : 2	8.41E+05		No	Yes	Yes							No	Yes	No

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Chemical (a)	Area	FOD (b)	Maximum Detected Conc (c)	DCC Cancer	DCC NonCancer	PSIC Cancer	PSIC NonCancer	SVIIC Cancer	SVIIC NonCancer	Infinite VSIC Cancer	Infinite VSIC NonCancer	Soil Saturation Screening Level	State Bkg	GW Contact Protection	GSI Protection	GSI Protection Area? (e)
LEAD	RFIMW 24	2 : 2 : 2	3.34E+04		(d)		(d)						Yes		No	No
TOTAL CYANIDE	RFIMW 24	2 : 2 : 2	2.70E+03		No		No						Yes	No	Yes	No
VANADIUM	RFIMW 24	2 : 2 : 2	2.22E+05		No									No	Yes	No
ZINC	RFIMW 24	2 : 2 : 2	1.16E+05		No								Yes	No	No	No
ARSENIC	RFIMW 25	2 : 2 : 2	6.00E+03	No	No	No							Yes	No	No	No
BARIUM	RFIMW 25	2 : 2 : 2	1.01E+05		No		No						Yes	No	No	No
CHROMIUM	RFIMW 25	2 : 2 : 2	9.00E+03		No	No	No							No	Yes	No
MERCURY	RFIMW 25	1 : 2 : 2	1.60E+02		No		No		No		No		Yes	No	Yes	No
TOTAL CYANIDE	RFIMW 25	2 : 2 : 2	1.90E+03		No		No						Yes	No	Yes	No
ARSENIC	RFIMW 26	2 : 2 : 2	9.50E+03	No	No	No							Yes	No	No	No
CHROMIUM	RFIMW 26	2 : 2 : 2	1.56E+04		No	No	No							No	Yes	No
COBALT	RFIMW 26	1 : 2 : 2	6.10E+03		No		No						No	No	Yes	No
LEAD	RFIMW 26	2 : 2 : 2	3.20E+04		(d)		(d)						Yes		No	No
MERCURY	RFIMW 26	1 : 2 : 2	2.70E+02		No		No		No		No		Yes	No	Yes	No
SELENIUM	RFIMW 26	1 : 2 : 2	1.20E+03		No		No						Yes	No	Yes	No
TOTAL CYANIDE	RFIMW 26	1 : 2 : 2	3.70E+03		No		No						Yes	No	Yes	No
ZINC	RFIMW 26	2 : 2 : 2	5.81E+04		No								Yes	No	No	No
ARSENIC	RFIMW 27	2 : 2 : 2	7.40E+03	No	No	No							Yes	No	No	No
BARIUM	RFIMW 27	2 : 2 : 2	8.07E+04		No		No						Yes	No	No	No
CHROMIUM	RFIMW 27	2 : 2 : 2	9.70E+03		No	No	No							No	Yes	No
MERCURY	RFIMW 27	1 : 2 : 2	5.20E+02		No		No		No		No		Yes	No	Yes	No
TOTAL CYANIDE	RFIMW 27	1 : 2 : 2	7.80E+02		No		No						Yes	No	Yes	No
ZINC	RFIMW 27	2 : 2 : 2	1.34E+05		No								Yes	No	Yes	No
ARSENIC	RFIMW 28	2 : 2 : 2	8.90E+03	No	No	No							Yes	No	No	No
BARIUM	RFIMW 28	2 : 2 : 2	1.79E+05		No		No						Yes	No	No	No
CHROMIUM	RFIMW 28	2 : 2 : 2	1.61E+04		No	No	No							No	Yes	No
ZINC	RFIMW 28	2 : 2 : 2	1.17E+05		No								Yes	No	No	No
1,2-DICHLOROPROPANE	SWMU F	5 : 10 : 10	7.00E+04	No	No		No		Yes		Yes	No		No	Yes	No
2,4-DIMETHYLPHENOL	SWMU F	1 : 10 : 10	2.20E+04		No		No		No		No			No	Yes	No
ACETONE	SWMU F	9 : 10 : 10	1.90E+05		No		No		No		No	No		No	Yes	No
ANTIMONY	SWMU F	3 : 10 : 10	1.60E+04		No		No							No	Yes	No
ARSENIC	SWMU F	10 : 10 : 10	6.39E+04	Yes	No	No							Yes	No	Yes	No
BARIUM	SWMU F	10 : 10 : 10	4.91E+05		No		No						Yes	No	Yes	No

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Exceedance List for Soil
BASF Wyandotte, MI Facility

Chemical (a)	Area	FOD (b)	Maximum Detected Conc (c)	DCC Cancer	DCC NonCancer	PSIC Cancer	PSIC NonCancer	SVIIC Cancer	SVIIC NonCancer	Infinite VSIC Cancer	Infinite VSIC NonCancer	Soil Saturation Screening Level	State Bkg	GW Contact Protection	GSI Protection	GSI Protection Area? (e)	
BENZENE	SWMU F	1 : 9 : 10	2.00E+03	No		No		No		No		No		No	Yes	No	
BIS(2-CHLOROISOPROPYL) ETHER	SWMU F	6 : 10 : 10	2.80E+04	Yes		No		No		Yes		No		No	Yes	No	
CADMIUM	SWMU F	10 : 10 : 10	7.30E+03		No	No							Yes	No	Yes	No	
CHROMIUM	SWMU F	10 : 10 : 10	1.30E+05		No	No	No							No	Yes	No	
COBALT	SWMU F	1 : 10 : 10	4.05E+04		No		No						Yes	No	Yes	No	
COPPER	SWMU F	10 : 10 : 10	7.71E+06		No		No						Yes	No	Yes	No	
LEAD	SWMU F	10 : 10 : 10	8.76E+05		(d)		(d)						Yes		No	No	
MERCURY	SWMU F	6 : 10 : 10	2.11E+04		No		No		No		No		Yes	No	Yes	No	
NICKEL	SWMU F	9 : 10 : 10	1.70E+05		No	No							Yes	No	Yes	No	
PHENANTHRENE	SWMU F	4 : 7 : 10	6.00E+03		No		No		No		No			No	Yes	No	
PHENOL	SWMU F	2 : 7 : 10	6.40E+03		No		No		No		No	No		No	Yes	No	
SELENIUM	SWMU F	5 : 10 : 10	6.30E+03		No		No						Yes	No	Yes	No	
SILVER	SWMU F	1 : 10 : 10	1.05E+04		No		No						Yes	No	Yes	No	
TOLUENE	SWMU F	7 : 10 : 10	1.10E+05		No		No		No		No	No		No	Yes	No	
TOTAL CYANIDE	SWMU F	8 : 10 : 10	5.10E+03		No		No						Yes	No	Yes	No	
Total METHYLPHENOL	SWMU F	4 : 10 : 10	4.41E+04		No		No		No		No			No	Yes	No	
ZINC	SWMU F	9 : 10 : 10	1.00E+06		No								Yes	No	Yes	No	
ANTIMONY	SWMU G	1 : 10 : 10	2.60E+03		No		No							No	Yes	No	
ARSENIC	SWMU G	10 : 10 : 10	1.01E+05	Yes	No	No							Yes	No	Yes	No	
BARIUM	SWMU G	10 : 10 : 10	1.66E+05		No		No						Yes	No	No	No	
CADMIUM	SWMU G	10 : 10 : 10	2.30E+03		No	No							Yes	No	No	No	
CHROMIUM	SWMU G	10 : 10 : 10	3.36E+04		No	No	No							No	Yes	No	
COBALT	SWMU G	1 : 10 : 10	1.01E+04		No		No						Yes	No	Yes	No	
COPPER	SWMU G	10 : 10 : 10	9.53E+04		No		No						Yes	No	Yes	No	
LEAD	SWMU G	10 : 10 : 10	2.38E+05		(d)		(d)						Yes		No	No	
MERCURY	SWMU G	8 : 10 : 10	5.40E+03		No		No		No		No		Yes	No	Yes	No	
NICKEL	SWMU G	10 : 10 : 10	2.56E+04		No	No							Yes	No	No	No	
SELENIUM	SWMU G	1 : 10 : 10	4.40E+02		No		No						Yes	No	Yes	No	
TOTAL CYANIDE	SWMU G	1 : 10 : 10	6.60E+02		No		No						Yes	No	Yes	No	
ZINC	SWMU G	10 : 10 : 10	3.35E+05		No								Yes	No	Yes	No	
1,2-DICHLOROBENZENE	SWMU H	1 : 8 : 11	6.80E+02		No		No		No		No	No		No	Yes	Yes	(f)
1,2-DICHLOROPROPANE	SWMU H	9 : 11 : 11	5.00E+07	Yes	No		No		Yes		Yes	Yes		Yes	Yes	Yes	(f)
2,4-DIMETHYLPHENOL	SWMU H	1 : 10 : 11	8.30E+03		No		No		No		No			No	Yes	Yes	(f)

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Chemical (a)	Area	FOD (b)	Maximum Detected Conc (c)	DCC Cancer	DCC NonCancer	PSIC Cancer	PSIC NonCancer	SVIIC Cancer	SVIIC NonCancer	Infinite VSIC Cancer	Infinite VSIC NonCancer	Soil Saturation Screening Level	State Bkg	GW Contact Protection	GSI Protection	GSI Protection Area? (e)	
ACENAPHTHENE	SWMU H	1 : 10 : 11	6.70E+03		No		No		No		No			No	Yes	Yes	(f)
ANTIMONY	SWMU H	4 : 11 : 11	1.53E+04		No		No							No	Yes	Yes	(f)
ARSENIC	SWMU H	11 : 11 : 11	1.16E+05	Yes	No	No							Yes	No	Yes	Yes	(f)
BARIUM	SWMU H	11 : 11 : 11	2.23E+05		No		No						Yes	No	No	Yes	(f)
BENZENE	SWMU H	1 : 8 : 11	7.80E+02	No		No		No		No		No		No	Yes	Yes	(f)
BIS(2-CHLOROETHYL) ETHER	SWMU H	2 : 10 : 11	1.20E+04	No		No		No		No		No		No	Yes	Yes	(f)
BIS(2-CHLOROISOPROPYL) ETHER	SWMU H	8 : 11 : 11	1.40E+06	Yes		No		Yes		Yes		No		Yes	Yes	Yes	(f)
CADMIUM	SWMU H	10 : 11 : 11	4.20E+03		No	No							Yes	No	Yes	Yes	(f)
CHROMIUM	SWMU H	11 : 11 : 11	1.95E+05		No	No	Yes							No	Yes	Yes	(f)
COBALT	SWMU H	6 : 11 : 11	1.37E+04		No		No						Yes	No	Yes	Yes	(f)
COPPER	SWMU H	11 : 11 : 11	2.21E+05		No		No						Yes	No	Yes	Yes	(f)
DIBENZOFURAN	SWMU H	2 : 10 : 11	4.20E+03												Yes	Yes	(f)
ETHYLBENZENE	SWMU H	1 : 8 : 11	4.70E+02		No	No	No	No	No	No	No	No		No	Yes	Yes	(f)
FLUORANTHENE	SWMU H	3 : 10 : 11	1.10E+04		No		No		No		No			No	Yes	Yes	(f)
FLUORENE	SWMU H	1 : 10 : 11	5.40E+03		No		No		No		No			No	Yes	Yes	(f)
LEAD	SWMU H	11 : 11 : 11	4.33E+05		(d)		(d)						Yes		No	Yes	(f)
MERCURY	SWMU H	5 : 11 : 11	5.29E+04		No		No		No		Yes		Yes	Yes	Yes	Yes	(f)
NAPHTHALENE	SWMU H	3 : 10 : 11	1.60E+04		No	No	No	No	No	No	No			No	Yes	Yes	(f)
NICKEL	SWMU H	11 : 11 : 11	9.34E+04		No	No							Yes	No	Yes	Yes	(f)
PHENANTHRENE	SWMU H	3 : 10 : 11	2.00E+04		No		No		No		No			No	Yes	Yes	(f)
SELENIUM	SWMU H	2 : 11 : 11	1.40E+03		No		No						Yes	No	Yes	Yes	(f)
SILVER	SWMU H	1 : 11 : 11	2.17E+04		No		No						Yes	No	Yes	Yes	(f)
TOLUENE	SWMU H	2 : 10 : 11	5.80E+03		No		No		No		No	No		No	Yes	Yes	(f)
TOTAL CYANIDE	SWMU H	4 : 11 : 11	1.60E+04		No		No						Yes	No	Yes	Yes	(f)
Total METHYLPHENOL	SWMU H	2 : 10 : 11	1.89E+04		No		No		No		No			No	Yes	Yes	(f)
Total XYLENES	SWMU H	1 : 8 : 11	2.07E+03		No		No		No		No	No		No	Yes	Yes	(f)
ZINC	SWMU H	11 : 11 : 11	6.28E+05		No								Yes	No	Yes	Yes	(f)

Table 2-3
Summary of Risk Screening Results
Using Part 201 Criteria
Exceedance List for Soil
BASF Wyandotte, MI Facility

Chemical (a)	Area	FOD (b)	Maximum Detected Conc (c)	DCC Cancer	DCC NonCancer	PSIC Cancer	PSIC NonCancer	SVIIC Cancer	SVIIC NonCancer	Infinite VSIC Cancer	Infinite VSIC NonCancer	Soil Saturation Screening Level	State Bkg	GW Contact Protection	GSI Protection	GSI Protection Area? (e)

Notes:

CAS - Chemical Abstract Service.
DCC - Direct Contact Criteria.
GSI - Groundwater Surface Water Interface Protection Criteria.
GW - Groundwater Contact Protection Criteria.
PSIC - Particulate Soil Inhalation Criteria (Ambient Air).
SVIIC - Soil Volatilization to Indoor Air Inhalation Criteria.
VSIC - Infinite Source Volatilization Inhalation Criteria (Ambient Air).
(a) Only chemicals with at least one positively detected result are reported.
(b) Frequency of detection - Number of detected samples: Number of samples used to calculate statistics: Number of total samples.
(c) Maximum detected concentration for each chemical, after duplicates have been averaged.
(d) Criteria for lead are derived using biological based model, and are not calculated using the Part 201 assumptions and algorithms. Comparison performed in a seperate table on a straight exceed/not exceed basis.
(e) Soil area located at the groundwater-surface water interface (i.e., along the Detroit River).
(f) Easternmost portion of SWMU H only.

Table E-5
Risk Screening
Using Part 201 Criteria Groundwater Surface Water Interface (GSI) Criteria
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	GSI (g)	Exceeds? (h)
ZINC	7440-66-6	ug/L	1 : 1 : 1	100	6.80E+01	6.80E+01	6.80E+01	1.20E+02	No

Notes:

CAS - Chemical Abstract Service.
(a) Only chemicals with at least one positively detected result are reported.
(b) Frequency of detection - Number of detected samples: Number of samples used to calculate statistics: Number of total samples.
(c) Percent of samples with detects out of samples used to calculate statistics.
(d) Minimum detected concentration for each chemical, after duplicates have been averaged.
(e) Maximum detected concentration for each chemical, after duplicates have been averaged.
(f) Arithmetic mean concentration for each chemical, after duplicates have been averaged and any non detected results with one-half the sample quantitation limit greater than the maximum detected concentration have been excluded.
(g) Groundwater Surface Water Interface (GSI) Criteria (MDEQ, Dec. 2002). Only chemicals with Part 201 Groundwater Surface Water Interface (GSI) Criteria reported.
(h) Chemicals where maximum detected concentration exceeds criterion.

Table E-5
Risk Screening
Using Part 201 Criteria Groundwater Surface Water Interface (GSI) Criteria
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	GSI (g)	Exceeds? (h)
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1:1:1	100	2.41E+06	2.41E+06	2.41E+06	5.00E+05	Yes
VANADIUM	7440-62-2	ug/L	1:1:1	100	4.20E+01	4.20E+01	4.20E+01	1.20E+01	Yes
ZINC	7440-66-6	ug/L	1:1:1	100	2.24E+02	2.24E+02	2.24E+02	1.20E+02	Yes
WHI9-2F									
1,2-DICHLOROPROPANE	78-87-5	ug/l	1:1:2	100	1.74E+00	1.74E+00	1.74E+00	9.10E+00	No
ANTIMONY	7440-36-0	ug/L	1:1:2	100	3.60E+00	3.60E+00	3.60E+00	2.00E+00	Yes
ARSENIC	7440-38-2	ug/L	2:2:2	100	3.30E+01	4.10E+01	3.70E+01	5.00E+01	No
BARIUM	7440-39-3	ug/L	2:2:2	100	1.10E+01	7.50E+01	4.30E+01	4.40E+02	No
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/l	1:1:1	100	3.29E+00	3.29E+00	3.29E+00	1.50E+01	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1:1:1	100	2.38E+01	2.38E+01	2.38E+01	3.20E+01	No
CADMIUM	7440-43-9	ug/L	2:2:2	100	1.00E+00	2.90E+00	1.95E+00	2.20E+00	Yes
CHLORIDE	16887-00-6	ug/L	1:1:1	100	2.00E+05	2.00E+05	2.00E+05	1.25E+05	Yes
CHROMIUM	7440-47-3	ug/L	2:2:2	100	6.20E+00	2.70E+01	1.66E+01	1.10E+01	Yes
COPPER	7440-50-8	ug/L	2:2:2	100	8.30E+01	4.09E+02	2.46E+02	9.00E+00	Yes
DIETHYL PHTHALATE	84-66-2	ug/l	1:1:1	100	1.40E+00	1.40E+00	1.40E+00	1.10E+02	No
LEAD	7439-92-1	ug/L	2:2:2	100	1.40E+02	1.10E+03	6.20E+02	1.00E+01	Yes
MERCURY	7439-97-6	ug/L	2:2:2	100	7.57E-01	2.00E+00	1.38E+00	1.30E-03	Yes
NAPHTHALENE	91-20-3	ug/l	1:1:1	100	1.79E+01	1.79E+01	1.79E+01	1.30E+01	Yes
NICKEL	7440-02-0	ug/L	2:2:2	100	1.10E+01	3.30E+01	2.20E+01	5.20E+01	No
PHENANTHRENE	85-01-8	ug/l	1:1:1	100	1.23E+00	1.23E+00	1.23E+00	2.40E+00	No
SELENIUM	7782-49-2	ug/L	1:2:2	50	4.00E+00	4.00E+00	2.98E+00	5.00E+00	No
TOLUENE	108-88-3	ug/l	1:2:2	50	3.00E+01	3.00E+01	1.53E+01	1.40E+02	No
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1:1:1	100	1.54E+06	1.54E+06	1.54E+06	5.00E+05	Yes
VANADIUM	7440-62-2	ug/L	2:2:2	100	5.20E+01	8.30E+01	6.75E+01	1.20E+01	Yes
ZINC	7440-66-6	ug/L	2:2:2	100	1.00E+02	5.25E+02	3.13E+02	1.20E+02	Yes
WHI9-2S									
BARIUM	7440-39-3	ug/L	1:1:1	100	5.64E+02	5.64E+02	5.64E+02	4.40E+02	Yes
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1:1:1	100	1.13E+00	1.13E+00	1.13E+00	3.20E+01	No
DIETHYL PHTHALATE	84-66-2	ug/l	1:1:1	100	2.05E+00	2.05E+00	2.05E+00	1.10E+02	No
MERCURY	7439-97-6	ug/l	1:1:2	100	4.11E-02	4.11E-02	4.11E-02	1.30E-03	Yes
NICKEL	7440-02-0	ug/L	1:1:1	100	5.00E+00	5.00E+00	5.00E+00	5.20E+01	No
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1:1:1	100	8.07E+06	8.07E+06	8.07E+06	5.00E+05	Yes

Table E-5
Risk Screening
Using Part 201 Criteria Groundwater Surface Water Interface (GSI) Criteria
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	GSI (g)	Exceeds? (h)
COPPER	7440-50-8	ug/L	1:1:1	100	8.00E+00	8.00E+00	8.00E+00	9.00E+00	No
DIETHYL PHTHALATE	84-66-2	ug/l	1:1:1	100	1.91E+00	1.91E+00	1.91E+00	1.10E+02	No
NICKEL	7440-02-0	ug/L	1:1:1	100	7.00E+00	7.00E+00	7.00E+00	5.20E+01	No
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1:1:1	100	2.88E+06	2.88E+06	2.88E+06	5.00E+05	Yes
VANADIUM	7440-62-2	ug/L	1:1:1	100	6.00E+00	6.00E+00	6.00E+00	1.20E+01	No
ZINC	7440-66-6	ug/L	1:1:1	100	2.00E+01	2.00E+01	2.00E+01	1.20E+02	No
WHI4-1S									
ANTIMONY	7440-36-0	ug/L	1:2:2	50	5.54E+02	5.54E+02	2.78E+02	2.00E+00	Yes
ARSENIC	7440-38-2	ug/L	1:2:2	50	1.03E+02	1.03E+02	5.40E+01	5.00E+01	Yes
BARIUM	7440-39-3	ug/L	2:2:2	100	2.60E+01	7.08E+02	3.67E+02	4.40E+02	Yes
CHLORIDE	16887-00-6	ug/L	1:1:1	100	1.40E+05	1.40E+05	1.40E+05	1.25E+05	Yes
CHROMIUM	7440-47-3	ug/L	1:2:2	50	1.46E+02	1.46E+02	7.33E+01	1.10E+01	Yes
COPPER	7440-50-8	ug/L	2:2:2	100	1.90E+01	8.69E+03	4.35E+03	9.00E+00	Yes
LEAD	7439-92-1	ug/L	2:2:2	100	8.50E+00	5.58E+03	2.79E+03	1.00E+01	Yes
MERCURY	7439-97-6	ug/L	2:2:2	100	6.73E-02	1.02E+01	5.13E+00	1.30E-03	Yes
NICKEL	7440-02-0	ug/L	1:2:2	50	8.10E+01	8.10E+01	4.11E+01	5.20E+01	Yes
TOLUENE	108-88-3	ug/l	1:2:2	50	1.40E+01	1.40E+01	7.25E+00	1.40E+02	No
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1:1:1	100	2.02E+06	2.02E+06	2.02E+06	5.00E+05	Yes
VANADIUM	7440-62-2	ug/L	1:2:2	50	1.71E+02	1.71E+02	8.57E+01	1.20E+01	Yes
ZINC	7440-66-6	ug/L	1:2:2	50	8.11E+02	8.11E+02	4.09E+02	1.20E+02	Yes
WHI4-2S									
ARSENIC	7440-38-2	ug/L	1:1:1	100	3.00E+01	3.00E+01	3.00E+01	5.00E+01	No
BARIUM	7440-39-3	ug/L	1:1:1	100	2.94E+02	2.94E+02	2.94E+02	4.40E+02	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1:1:1	100	2.68E+01	2.68E+01	2.68E+01	3.20E+01	No
BUTYL BENZYL PHTHALATE	85-68-7	ug/l	1:1:1	100	1.01E+00	1.01E+00	1.01E+00	6.90E+00	No
CADMIUM	7440-43-9	ug/L	1:1:1	100	2.00E+00	2.00E+00	2.00E+00	2.20E+00	No
CHROMIUM	7440-47-3	ug/L	1:1:1	100	3.00E+01	3.00E+01	3.00E+01	1.10E+01	Yes
COPPER	7440-50-8	ug/L	1:1:1	100	5.40E+01	5.40E+01	5.40E+01	9.00E+00	Yes
DIETHYL PHTHALATE	84-66-2	ug/l	1:1:1	100	2.05E+00	2.05E+00	2.05E+00	1.10E+02	No
LEAD	7439-92-1	ug/L	1:1:1	100	3.16E+02	3.16E+02	3.16E+02	1.00E+01	Yes
MERCURY	7439-97-6	ug/L	2:2:2	100	7.67E-01	8.00E-01	7.84E-01	1.30E-03	Yes
NICKEL	7440-02-0	ug/L	1:1:1	100	2.20E+01	2.20E+01	2.20E+01	5.20E+01	No

Table E-5
Risk Screening
Using Part 201 Criteria Groundwater Surface Water Interface (GSI) Criteria
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	GSI (g)	Exceeds? (h)
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1:1:1	100	8.23E+01	8.23E+01	8.23E+01	3.20E+01	Yes
CADMIUM	7440-43-9	ug/L	2:2:2	100	4.10E-01	1.00E+00	7.05E-01	2.20E+00	No
CHLORIDE	16887-00-6	ug/L	1:1:1	100	1.20E+05	1.20E+05	1.20E+05	1.25E+05	No
CHROMIUM	7440-47-3	ug/L	2:2:2	100	1.00E+01	1.31E+02	7.05E+01	1.10E+01	Yes
COPPER	7440-50-8	ug/L	2:2:2	100	1.10E+01	1.48E+02	7.95E+01	9.00E+00	Yes
DIETHYL PHTHALATE	84-66-2	ug/l	1:1:1	100	2.41E+00	2.41E+00	2.41E+00	1.10E+02	No
LEAD	7439-92-1	ug/L	2:2:2	100	2.30E+01	2.16E+02	1.20E+02	1.00E+01	Yes
MERCURY	7439-97-6	ug/L	2:2:2	100	1.05E-02	6.00E-01	3.05E-01	1.30E-03	Yes
NICKEL	7440-02-0	ug/L	2:2:2	100	9.20E+00	1.08E+02	5.86E+01	5.20E+01	Yes
TOLUENE	108-88-3	ug/l	1:2:2	50	3.50E+01	3.50E+01	1.78E+01	1.40E+02	No
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1:1:1	100	7.53E+05	7.53E+05	7.53E+05	5.00E+05	Yes
VANADIUM	7440-62-2	ug/L	2:2:2	100	1.70E+01	2.40E+02	1.29E+02	1.20E+01	Yes
ZINC	7440-66-6	ug/L	2:2:2	100	4.60E+01	4.65E+02	2.56E+02	1.20E+02	Yes
WHI3-2S									
ARSENIC	7440-38-2	ug/L	1:1:1	100	4.40E+01	4.40E+01	4.40E+01	5.00E+01	No
BARIUM	7440-39-3	ug/L	1:1:1	100	1.91E+02	1.91E+02	1.91E+02	4.40E+02	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1:1:1	100	1.60E+01	1.60E+01	1.60E+01	3.20E+01	No
CHROMIUM	7440-47-3	ug/L	1:1:1	100	4.20E+01	4.20E+01	4.20E+01	1.10E+01	Yes
COPPER	7440-50-8	ug/L	1:1:1	100	2.60E+01	2.60E+01	2.60E+01	9.00E+00	Yes
DINOSEB	88-85-7	ug/l	1:1:1	100	3.44E+00	3.44E+00	3.44E+00	1.00E+00	Yes
LEAD	7439-92-1	ug/L	1:1:1	100	2.30E+01	2.30E+01	2.30E+01	1.00E+01	Yes
MERCURY	7439-97-6	ug/L	2:2:2	100	6.44E-02	2.00E-01	1.32E-01	1.30E-03	Yes
NICKEL	7440-02-0	ug/L	1:1:1	100	2.10E+01	2.10E+01	2.10E+01	5.20E+01	No
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1:1:1	100	3.23E+06	3.23E+06	3.23E+06	5.00E+05	Yes
VANADIUM	7440-62-2	ug/L	1:1:1	100	4.20E+01	4.20E+01	4.20E+01	1.20E+01	Yes
ZINC	7440-66-6	ug/L	1:1:1	100	1.79E+02	1.79E+02	1.79E+02	1.20E+02	Yes
WHI3-3S									
ARSENIC	7440-38-2	ug/L	1:1:1	100	4.00E+00	4.00E+00	4.00E+00	5.00E+01	No
BARIUM	7440-39-3	ug/L	1:1:1	100	1.98E+02	1.98E+02	1.98E+02	4.40E+02	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1:1:1	100	6.38E+01	6.38E+01	6.38E+01	3.20E+01	Yes
BUTYL BENZYL PHTHALATE	85-68-7	ug/l	1:1:1	100	1.56E+00	1.56E+00	1.56E+00	6.90E+00	No
CHROMIUM	7440-47-3	ug/L	1:1:1	100	6.00E+00	6.00E+00	6.00E+00	1.10E+01	No

Table E-5
Risk Screening
Using Part 201 Criteria Groundwater Surface Water Interface (GSI) Criteria
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	GSI (g)	Exceeds? (h)
NICKEL	7440-02-0	ug/L	1:1:1	100	2.00E+01	2.00E+01	2.00E+01	5.20E+01	No
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1:1:1	100	6.97E+05	6.97E+05	6.97E+05	5.00E+05	Yes
VANADIUM	7440-62-2	ug/L	1:1:1	100	2.60E+01	2.60E+01	2.60E+01	1.20E+01	Yes
ZINC	7440-66-6	ug/L	1:1:1	100	4.90E+01	4.90E+01	4.90E+01	1.20E+02	No
WHI2-2S									
ARSENIC	7440-38-2	ug/L	1:1:1	100	3.80E+01	3.80E+01	3.80E+01	5.00E+01	No
BARIUM	7440-39-3	ug/L	1:1:1	100	4.32E+02	4.32E+02	4.32E+02	4.40E+02	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1:1:1	100	8.40E+00	8.40E+00	8.40E+00	3.20E+01	No
CADMIUM	7440-43-9	ug/L	1:1:1	100	8.00E+00	8.00E+00	8.00E+00	2.20E+00	Yes
CHROMIUM	7440-47-3	ug/L	1:1:1	100	6.20E+01	6.20E+01	6.20E+01	1.10E+01	Yes
COPPER	7440-50-8	ug/L	1:1:1	100	1.18E+02	1.18E+02	1.18E+02	9.00E+00	Yes
DIETHYL PHTHALATE	84-66-2	ug/l	1:1:1	100	4.35E+00	4.35E+00	4.35E+00	1.10E+02	No
LEAD	7439-92-1	ug/L	1:1:1	100	2.39E+02	2.39E+02	2.39E+02	1.00E+01	Yes
MERCURY	7439-97-6	ug/L	1:1:1	100	3.34E+01	3.34E+01	3.34E+01	1.30E-03	Yes
NICKEL	7440-02-0	ug/L	1:1:1	100	4.00E+01	4.00E+01	4.00E+01	5.20E+01	No
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1:1:1	100	1.18E+07	1.18E+07	1.18E+07	5.00E+05	Yes
VANADIUM	7440-62-2	ug/L	1:1:1	100	7.70E+01	7.70E+01	7.70E+01	1.20E+01	Yes
ZINC	7440-66-6	ug/L	1:1:1	100	6.66E+02	6.66E+02	6.66E+02	1.20E+02	Yes
WHI2-3S									
ARSENIC	7440-38-2	ug/L	1:1:1	100	4.20E+01	4.20E+01	4.20E+01	5.00E+01	No
BARIUM	7440-39-3	ug/L	1:1:1	100	1.43E+02	1.43E+02	1.43E+02	4.40E+02	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1:1:1	100	1.21E+02	1.21E+02	1.21E+02	3.20E+01	Yes
CHROMIUM	7440-47-3	ug/L	1:1:1	100	6.00E+00	6.00E+00	6.00E+00	1.10E+01	No
COPPER	7440-50-8	ug/L	1:1:1	100	8.00E+00	8.00E+00	8.00E+00	9.00E+00	No
DIETHYL PHTHALATE	84-66-2	ug/l	1:1:1	100	2.20E+00	2.20E+00	2.20E+00	1.10E+02	No
NICKEL	7440-02-0	ug/L	1:1:1	100	9.00E+00	9.00E+00	9.00E+00	5.20E+01	No
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1:1:1	100	1.04E+06	1.04E+06	1.04E+06	5.00E+05	Yes
VANADIUM	7440-62-2	ug/L	1:1:1	100	6.00E+00	6.00E+00	6.00E+00	1.20E+01	No
ZINC	7440-66-6	ug/L	1:1:1	100	4.30E+01	4.30E+01	4.30E+01	1.20E+02	No
WHI3-1S									
ARSENIC	7440-38-2	ug/L	2:2:2	100	1.60E+01	1.42E+02	7.90E+01	5.00E+01	Yes
BARIUM	7440-39-3	ug/L	2:2:2	100	1.10E+02	2.91E+02	2.01E+02	4.40E+02	No

Table E-5
Risk Screening
Using Part 201 Criteria Groundwater Surface Water Interface (GSI) Criteria
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	GSI (g)	Exceeds? (h)
BARIUM	7440-39-3	ug/L	6 : 6 : 6	100	6.60E+01	2.30E+02	1.56E+02	4.40E+02	No
CADMIUM	7440-43-9	ug/L	2 : 6 : 6	33	1.10E+00	1.40E+00	7.50E-01	2.20E+00	No
CHROMIUM	7440-47-3	ug/L	6 : 6 : 6	100	5.50E+01	2.75E+02	1.32E+02	1.10E+01	Yes
COPPER	7440-50-8	ug/L	4 : 6 : 6	67	1.50E+01	5.00E+01	2.80E+01	9.00E+00	Yes
LEAD	7439-92-1	ug/L	5 : 6 : 6	83	6.50E+00	1.90E+01	9.23E+00	1.00E+01	Yes
NICKEL	7440-02-0	ug/L	5 : 6 : 6	83	5.00E+01	1.10E+03	3.16E+02	5.20E+01	Yes
TOTAL CYANIDE	57-12-5	ug/L	5 : 6 : 6	83	8.00E+00	3.30E+01	1.63E+01	5.20E+00	Yes
VANADIUM	7440-62-2	ug/L	5 : 6 : 6	83	2.00E+01	5.85E+01	3.01E+01	1.20E+01	Yes
ZINC	7440-66-6	ug/L	3 : 6 : 6	50	4.65E+01	1.25E+02	5.81E+01	1.20E+02	Yes
WHI1-3S									
ACETONE	67-64-1	ug/l	1 : 1 : 1	100	1.70E+03	1.70E+03	1.70E+03	1.70E+03	No
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	8.80E+01	8.80E+01	8.80E+01	5.00E+01	Yes
BARIUM	7440-39-3	ug/L	1 : 1 : 1	100	1.28E+02	1.28E+02	1.28E+02	4.40E+02	No
BENZENE	71-43-2	ug/l	1 : 1 : 1	100	6.81E+02	6.81E+02	6.81E+02	1.20E+01	Yes
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	100	1.22E+02	1.22E+02	1.22E+02	1.10E+01	Yes
COPPER	7440-50-8	ug/L	1 : 1 : 1	100	3.80E+01	3.80E+01	3.80E+01	9.00E+00	Yes
DIETHYL PHTHALATE	84-66-2	ug/l	1 : 1 : 1	100	1.09E+00	1.09E+00	1.09E+00	1.10E+02	No
LEAD	7439-92-1	ug/L	1 : 1 : 1	100	1.30E+01	1.30E+01	1.30E+01	1.00E+01	Yes
NICKEL	7440-02-0	ug/L	1 : 1 : 1	100	4.70E+01	4.70E+01	4.70E+01	5.20E+01	No
PHENOL	108-95-2	ug/l	1 : 1 : 1	100	1.99E+01	1.99E+01	1.99E+01	2.10E+02	No
SELENIUM	7782-49-2	ug/L	1 : 1 : 1	100	7.00E+00	7.00E+00	7.00E+00	5.00E+00	Yes
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	100	5.63E+06	5.63E+06	5.63E+06	5.00E+05	Yes
VANADIUM	7440-62-2	ug/L	1 : 1 : 1	100	4.77E+02	4.77E+02	4.77E+02	1.20E+01	Yes
ZINC	7440-66-6	ug/L	1 : 1 : 1	100	6.10E+01	6.10E+01	6.10E+01	1.20E+02	No
WHI2-1S									
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	3.80E+01	3.80E+01	3.80E+01	5.00E+01	No
BARIUM	7440-39-3	ug/L	1 : 1 : 1	100	1.09E+02	1.09E+02	1.09E+02	4.40E+02	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	100	8.10E+02	8.10E+02	8.10E+02	3.20E+01	Yes
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	100	4.50E+01	4.50E+01	4.50E+01	1.10E+01	Yes
COPPER	7440-50-8	ug/L	1 : 1 : 1	100	2.20E+01	2.20E+01	2.20E+01	9.00E+00	Yes
LEAD	7439-92-1	ug/L	1 : 1 : 1	100	1.10E+01	1.10E+01	1.10E+01	1.00E+01	Yes
MERCURY	7439-97-6	ug/l	1 : 1 : 2	100	3.71E-03	3.71E-03	3.71E-03	1.30E-03	Yes

Table E-5
Risk Screening
Using Part 201 Criteria Groundwater Surface Water Interface (GSI) Criteria
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	GSI (g)	Exceeds? (h)
RFIMW 27									
ARSENIC	7440-38-2	ug/L	1 : 6 : 6	17	5.90E+00	5.90E+00	4.40E+00	5.00E+01	No
BARIUM	7440-39-3	ug/L	6 : 6 : 6	100	1.80E+02	2.60E+02	2.20E+02	4.40E+02	No
BENZENE	71-43-2	ug/l	1 : 1 : 6	100	1.10E-01	1.10E-01	1.10E-01	1.20E+01	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 4 : 4	25	4.10E+00	4.10E+00	2.90E+00	3.20E+01	No
CADMIUM	7440-43-9	ug/L	1 : 6 : 6	17	1.10E+00	1.10E+00	7.67E-01	2.20E+00	No
CHROMIUM	7440-47-3	ug/L	6 : 6 : 6	100	6.50E+00	3.50E+01	1.88E+01	1.10E+01	Yes
COPPER	7440-50-8	ug/L	3 : 6 : 6	50	1.50E+01	5.20E+01	1.83E+01	9.00E+00	Yes
LEAD	7439-92-1	ug/L	1 : 6 : 6	17	7.30E+00	7.30E+00	2.72E+00	1.00E+01	No
SILVER	7440-22-4	ug/L	1 : 6 : 6	17	1.50E+01	1.50E+01	6.67E+00	2.00E-01	Yes
TOTAL CYANIDE	57-12-5	ug/L	5 : 6 : 6	83	6.00E+00	4.80E+01	2.28E+01	5.20E+00	Yes
VANADIUM	7440-62-2	ug/L	1 : 6 : 6	17	2.30E+01	2.30E+01	1.22E+01	1.20E+01	Yes
ZINC	7440-66-6	ug/L	2 : 6 : 6	33	5.90E+01	3.40E+02	7.91E+01	1.20E+02	Yes
RFIMW 28									
2,4-DIMETHYLPHENOL	105-67-9	ug/l	6 : 6 : 6	100	6.70E+00	3.50E+01	2.05E+01	3.80E+02	No
ACETONE	67-64-1	ug/l	1 : 2 : 1	50	1.40E+01	1.40E+01	1.05E+01	1.70E+03	No
ARSENIC	7440-38-2	ug/L	6 : 6 : 6	100	4.00E+01	6.90E+01	5.07E+01	5.00E+01	Yes
BARIUM	7440-39-3	ug/L	6 : 6 : 6	100	5.20E+01	1.35E+02	8.17E+01	4.40E+02	No
BENZENE	71-43-2	ug/l	5 : 5 : 6	100	1.20E+00	2.30E+00	1.70E+00	1.20E+01	No
CADMIUM	7440-43-9	ug/L	5 : 6 : 6	83	1.00E+00	2.80E+00	1.57E+00	2.20E+00	Yes
CHROMIUM	7440-47-3	ug/L	6 : 6 : 6	100	5.20E+00	5.00E+01	1.92E+01	1.10E+01	Yes
COPPER	7440-50-8	ug/L	4 : 6 : 6	67	2.40E+01	6.35E+01	2.90E+01	9.00E+00	Yes
LEAD	7439-92-1	ug/L	5 : 6 : 6	83	3.10E+00	1.51E+01	5.97E+00	1.00E+01	Yes
MERCURY	7439-97-6	ug/l	2 : 2 : 2	100	3.13E-03	4.31E-03	3.72E-03	1.30E-03	Yes
NICKEL	7440-02-0	ug/L	2 : 6 : 6	33	4.10E+01	4.30E+01	2.73E+01	5.20E+01	No
TOTAL CYANIDE	57-12-5	ug/L	5 : 6 : 6	83	1.00E+01	1.90E+01	1.38E+01	5.20E+00	Yes
TOTAL METHYLPHENOL	otal Methylpl	ug/L	5 : 6 : 6	83	2.93E+01	4.53E+01	3.38E+01	7.10E+01	No
VANADIUM	7440-62-2	ug/L	5 : 6 : 6	83	2.30E+01	8.05E+01	3.41E+01	1.20E+01	Yes
ZINC	7440-66-6	ug/L	4 : 6 : 6	67	5.00E+01	1.45E+02	7.49E+01	1.20E+02	Yes
RFIMW 29									
ANTIMONY	7440-36-0	ug/L	2 : 6 : 6	33	7.00E+00	7.95E+00	5.33E+00	2.00E+00	Yes
ARSENIC	7440-38-2	ug/L	4 : 6 : 6	67	8.50E+00	3.05E+01	1.33E+01	5.00E+01	No

Table E-5
Risk Screening
Using Part 201 Criteria Groundwater Surface Water Interface (GSI) Criteria
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	GSI (g)	Exceeds? (h)
VANADIUM	7440-62-2	ug/L	1:6:6	17	2.30E+01	2.30E+01	1.22E+01	1.20E+01	Yes
ZINC	7440-66-6	ug/L	2:6:6	33	4.60E+01	5.10E+01	3.46E+01	1.20E+02	No
RFIMW 25									
ARSENIC	7440-38-2	ug/L	4:6:6	67	7.80E+00	2.60E+01	1.30E+01	5.00E+01	No
BARIUM	7440-39-3	ug/L	6:6:6	100	1.35E+02	2.70E+02	2.13E+02	4.40E+02	No
CADMIUM	7440-43-9	ug/L	2:6:6	33	1.10E+00	1.60E+00	7.83E-01	2.20E+00	No
CHROMIUM	7440-47-3	ug/L	6:6:6	100	1.90E+02	1.40E+03	6.78E+02	1.10E+01	Yes
COPPER	7440-50-8	ug/L	5:6:6	83	1.45E+01	6.10E+01	3.27E+01	9.00E+00	Yes
LEAD	7439-92-1	ug/L	5:6:6	83	3.60E+00	1.70E+01	8.40E+00	1.00E+01	Yes
NICKEL	7440-02-0	ug/L	6:6:6	100	5.70E+01	2.90E+02	1.52E+02	5.20E+01	Yes
TOTAL CYANIDE	57-12-5	ug/L	6:6:6	100	2.80E+01	5.40E+02	3.52E+02	5.20E+00	Yes
VANADIUM	7440-62-2	ug/L	3:6:6	50	5.70E+01	9.10E+01	3.98E+01	1.20E+01	Yes
ZINC	7440-66-6	ug/L	4:6:6	67	5.70E+01	1.90E+02	1.04E+02	1.20E+02	Yes
RFIMW 26									
ARSENIC	7440-38-2	ug/L	2:2:2	100	4.30E+00	7.00E+00	5.65E+00	5.00E+01	No
BARIUM	7440-39-3	ug/L	2:2:2	100	5.65E+01	2.74E+02	1.65E+02	4.40E+02	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1:1:1	100	1.80E+01	1.80E+01	1.80E+01	3.20E+01	No
CHLORIDE	16887-00-6	ug/L	1:1:1	100	1.20E+06	1.20E+06	1.20E+06	1.25E+05	Yes
CHROMIUM	7440-47-3	ug/L	2:2:2	100	9.15E+01	5.17E+03	2.63E+03	1.10E+01	Yes
COBALT	7440-48-4	ug/L	1:1:1	100	1.50E+00	1.50E+00	1.50E+00	1.00E+02	No
COPPER	7440-50-8	ug/L	2:2:2	100	8.15E+00	1.40E+02	7.41E+01	9.00E+00	Yes
DIETHYL PHTHALATE	84-66-2	ug/l	1:1:1	100	2.29E+01	2.29E+01	2.29E+01	1.10E+02	No
LEAD	7439-92-1	ug/L	1:2:2	50	8.00E+00	8.00E+00	4.75E+00	1.00E+01	No
MERCURY	7439-97-6	ug/l	1:1:2	100	1.97E-02	1.97E-02	1.97E-02	1.30E-03	Yes
NICKEL	7440-02-0	ug/L	2:2:2	100	4.85E+01	2.46E+03	1.25E+03	5.20E+01	Yes
SELENIUM	7782-49-2	ug/L	1:2:2	50	3.52E+00	3.52E+00	2.76E+00	5.00E+00	No
THALLIUM	7440-28-0	ug/L	1:2:2	50	1.01E+01	1.01E+01	7.55E+00	1.20E+00	Yes
TOLUENE	108-88-3	ug/l	1:2:2	50	2.70E+01	2.70E+01	1.38E+01	1.40E+02	No
TOTAL CYANIDE	57-12-5	ug/L	4:6:6	67	7.00E+00	3.20E+02	9.18E+01	5.20E+00	Yes
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1:1:1	100	1.24E+07	1.24E+07	1.24E+07	5.00E+05	Yes
VANADIUM	7440-62-2	ug/L	2:2:2	100	2.90E+00	2.00E+01	1.14E+01	1.20E+01	Yes
ZINC	7440-66-6	ug/L	1:2:2	50	2.20E+02	2.20E+02	1.13E+02	1.20E+02	Yes

Table E-5
Risk Screening
Using Part 201 Criteria Groundwater Surface Water Interface (GSI) Criteria
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	GSI (g)	Exceeds? (h)
LEAD	7439-92-1	ug/L	1 : 1 : 1	100	2.80E+00	2.80E+00	2.80E+00	1.00E+01	No
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	3.33E-02	3.33E-02	3.33E-02	1.30E-03	Yes
METHYL ETHYL KETONE	78-93-3	ug/l	1 : 1 : 1	100	8.00E+01	8.00E+01	8.00E+01	2.20E+03	No
NICKEL	7440-02-0	ug/L	1 : 1 : 1	100	4.20E+01	4.20E+01	4.20E+01	5.20E+01	No
PHENOL	108-95-2	ug/l	1 : 1 : 1	100	2.20E+02	2.20E+02	2.20E+02	2.10E+02	Yes
TOTAL CYANIDE	57-12-5	ug/L	4 : 4 : 4	100	3.90E+04	4.60E+04	4.13E+04	5.20E+00	Yes
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	100	1.50E+07	1.50E+07	1.50E+07	5.00E+05	Yes
VANADIUM	7440-62-2	ug/L	1 : 1 : 1	100	5.00E+02	5.00E+02	5.00E+02	1.20E+01	Yes
VINYL CHLORIDE	75-01-4	ug/l	1 : 1 : 1	100	2.80E+02	2.80E+02	2.80E+02	1.50E+01	Yes
ZINC	7440-66-6	ug/L	1 : 1 : 1	100	2.20E+01	2.20E+01	2.20E+01	1.20E+02	No
RFIMW 23									
ARSENIC	7440-38-2	ug/L	4 : 4 : 4	100	6.30E+00	1.20E+01	9.57E+00	5.00E+01	No
BARIUM	7440-39-3	ug/L	4 : 4 : 4	100	9.90E+01	1.30E+02	1.12E+02	4.40E+02	No
CHROMIUM	7440-47-3	ug/L	3 : 4 : 4	75	7.20E+00	3.50E+01	1.42E+01	1.10E+01	Yes
COPPER	7440-50-8	ug/L	1 : 4 : 4	25	2.30E+01	2.30E+01	1.01E+01	9.00E+00	Yes
FLUORANTHENE	206-44-0	ug/l	1 : 1 : 1	100	4.50E+00	4.50E+00	4.50E+00	1.60E+00	Yes
LEAD	7439-92-1	ug/L	1 : 4 : 4	25	6.10E+00	6.10E+00	2.65E+00	1.00E+01	No
TOTAL CYANIDE	57-12-5	ug/L	4 : 4 : 4	100	1.10E+03	1.40E+03	1.25E+03	5.20E+00	Yes
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	100	3.20E+06	3.20E+06	3.20E+06	5.00E+05	Yes
ZINC	7440-66-6	ug/L	1 : 4 : 4	25	1.20E+02	1.20E+02	5.90E+01	1.20E+02	No
RFIMW 24									
ARSENIC	7440-38-2	ug/L	1 : 6 : 6	17	1.10E+01	1.10E+01	4.66E+00	5.00E+01	No
BARIUM	7440-39-3	ug/L	6 : 6 : 6	100	5.40E+01	1.20E+02	8.33E+01	4.40E+02	No
BENZENE	71-43-2	ug/l	1 : 1 : 6	100	1.10E-01	1.10E-01	1.10E-01	1.20E+01	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	3 : 5 : 5	60	2.00E+00	4.10E+00	2.84E+00	3.20E+01	No
CHROMIUM	7440-47-3	ug/L	6 : 6 : 6	100	1.70E+01	6.20E+02	2.72E+02	1.10E+01	Yes
COPPER	7440-50-8	ug/L	3 : 6 : 6	50	1.80E+01	2.10E+01	1.44E+01	9.00E+00	Yes
LEAD	7439-92-1	ug/L	5 : 6 : 6	83	4.30E+00	7.10E+00	4.91E+00	1.00E+01	No
METHYLENE CHLORIDE	75-09-2	ug/l	1 : 1 : 6	100	4.50E-01	4.50E-01	4.50E-01	4.70E+01	No
NICKEL	7440-02-0	ug/L	3 : 5 : 5	60	4.20E+01	1.60E+02	6.20E+01	5.20E+01	Yes
SELENIUM	7782-49-2	ug/L	1 : 6 : 6	17	6.90E+00	6.90E+00	3.82E+00	5.00E+00	Yes
TOTAL CYANIDE	57-12-5	ug/L	6 : 6 : 6	100	5.20E+01	6.30E+02	4.27E+02	5.20E+00	Yes

Table E-5
Risk Screening
Using Part 201 Criteria Groundwater Surface Water Interface (GSI) Criteria
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	GSI (g)	Exceeds? (h)
ACETONE	67-64-1	ug/l	1 : 1 : 1	100	5.40E+02	5.40E+02	5.40E+02	1.70E+03	No
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	3.90E+01	3.90E+01	3.90E+01	5.00E+01	No
BARIUM	7440-39-3	ug/L	1 : 1 : 1	100	2.40E+02	2.40E+02	2.40E+02	4.40E+02	No
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	100	4.00E+01	4.00E+01	4.00E+01	1.10E+01	Yes
COPPER	7440-50-8	ug/L	1 : 1 : 1	100	1.80E+01	1.80E+01	1.80E+01	9.00E+00	Yes
LEAD	7439-92-1	ug/L	1 : 1 : 1	100	3.00E+00	3.00E+00	3.00E+00	1.00E+01	No
METHYL ETHYL KETONE	78-93-3	ug/l	1 : 1 : 1	100	4.30E+01	4.30E+01	4.30E+01	2.20E+03	No
NICKEL	7440-02-0	ug/L	1 : 1 : 1	100	4.40E+01	4.40E+01	4.40E+01	5.20E+01	No
PHENOL	108-95-2	ug/l	1 : 1 : 1	100	3.50E+02	3.50E+02	3.50E+02	2.10E+02	Yes
SELENIUM	7782-49-2	ug/L	1 : 1 : 1	100	6.50E+00	6.50E+00	6.50E+00	5.00E+00	Yes
TOLUENE	108-88-3	ug/l	1 : 1 : 1	100	2.00E+00	2.00E+00	2.00E+00	1.40E+02	No
TOTAL CYANIDE	57-12-5	ug/L	1 : 1 : 1	100	3.90E+02	3.90E+02	3.90E+02	5.20E+00	Yes
VANADIUM	7440-62-2	ug/L	1 : 1 : 1	100	2.00E+02	2.00E+02	2.00E+02	1.20E+01	Yes
RFIMW 18									
1,4-DIOXANE	123-91-1	ug/l	1 : 1 : 1	100	3.80E+00	3.80E+00	3.80E+00	3.40E+01	No
RFIMW 21									
ACETONE	67-64-1	ug/l	1 : 1 : 1	100	2.10E+03	2.10E+03	2.10E+03	1.70E+03	Yes
PHENOL	108-95-2	ug/l	1 : 1 : 1	100	1.80E+01	1.80E+01	1.80E+01	2.10E+02	No
RFIMW 22									
1,4-DIOXANE	123-91-1	ug/l	1 : 1 : 1	100	8.70E+01	8.70E+01	8.70E+01	3.40E+01	Yes
2,4,5-TP (SILVEX)	93-72-1	ug/l	1 : 1 : 4	100	8.60E-01	8.60E-01	8.60E-01	3.00E+01	No
ACETONE	67-64-1	ug/l	1 : 1 : 1	100	5.20E+03	5.20E+03	5.20E+03	1.70E+03	Yes
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	1.90E+02	1.90E+02	1.90E+02	5.00E+01	Yes
BARIUM	7440-39-3	ug/L	1 : 1 : 1	100	1.10E+02	1.10E+02	1.10E+02	4.40E+02	No
BENZENE	71-43-2	ug/l	1 : 1 : 1	100	2.30E+03	2.30E+03	2.30E+03	1.20E+01	Yes
BERYLLIUM	7440-41-7	ug/L	1 : 1 : 1	100	1.20E+00	1.20E+00	1.20E+00	2.40E+00	No
CHLORIDE	16887-00-6	ug/L	1 : 1 : 1	100	8.90E+06	8.90E+06	8.90E+06	1.25E+05	Yes
CHLOROBENZENE	108-90-7	ug/l	1 : 1 : 1	100	6.40E+02	6.40E+02	6.40E+02	4.70E+01	Yes
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	100	6.10E+01	6.10E+01	6.10E+01	1.10E+01	Yes
COBALT	7440-48-4	ug/L	1 : 1 : 1	100	3.80E+00	3.80E+00	3.80E+00	1.00E+02	No
COPPER	7440-50-8	ug/L	1 : 1 : 1	100	1.70E+01	1.70E+01	1.70E+01	9.00E+00	Yes
ETHYLBENZENE	100-41-4	ug/l	1 : 1 : 1	100	5.30E+01	5.30E+01	5.30E+01	1.80E+01	Yes

Table E-5
Risk Screening
Using Part 201 Criteria Groundwater Surface Water Interface (GSI) Criteria
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	GSI (g)	Exceeds? (h)
RFIMW 13									
1,2-DICHLOROETHANE	107-06-2	ug/l	1 : 1 : 1	100	2.20E+01	2.20E+01	2.20E+01	6.00E+00	Yes
1,4-DIOXANE	123-91-1	ug/l	1 : 1 : 1	100	2.40E+02	2.40E+02	2.40E+02	3.40E+01	Yes
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	4.80E+00	4.80E+00	4.80E+00	5.00E+01	No
BARIUM	7440-39-3	ug/L	1 : 1 : 1	100	1.30E+02	1.30E+02	1.30E+02	4.40E+02	No
CHLORIDE	16887-00-6	ug/L	1 : 1 : 1	100	1.90E+07	1.90E+07	1.90E+07	1.25E+05	Yes
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	100	5.40E+01	5.40E+01	5.40E+01	1.10E+01	Yes
COPPER	7440-50-8	ug/L	1 : 1 : 1	100	5.70E+00	5.70E+00	5.70E+00	9.00E+00	No
LEAD	7439-92-1	ug/L	1 : 1 : 1	100	3.20E+00	3.20E+00	3.20E+00	1.00E+01	No
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	5.54E-02	5.54E-02	5.54E-02	1.30E-03	Yes
NICKEL	7440-02-0	ug/L	1 : 1 : 1	100	8.40E+00	8.40E+00	8.40E+00	5.20E+01	No
THALLIUM	7440-28-0	ug/L	1 : 1 : 1	100	7.80E+00	7.80E+00	7.80E+00	1.20E+00	Yes
TOLUENE	108-88-3	ug/l	1 : 1 : 1	100	7.60E+01	7.60E+01	7.60E+01	1.40E+02	No
TOTAL CYANIDE	57-12-5	ug/L	1 : 1 : 1	100	4.60E+01	4.60E+01	4.60E+01	5.20E+00	Yes
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	100	3.10E+07	3.10E+07	3.10E+07	5.00E+05	Yes
VANADIUM	7440-62-2	ug/L	1 : 1 : 1	100	7.20E+00	7.20E+00	7.20E+00	1.20E+01	No
ZINC	7440-66-6	ug/L	1 : 1 : 1	100	3.50E+01	3.50E+01	3.50E+01	1.20E+02	No
RFIMW 14									
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	100	7.65E+07	7.65E+07	7.65E+07	5.00E+05	Yes
RFIMW 15									
BARIUM	7440-39-3	ug/L	1 : 1 : 1	100	1.40E+02	1.40E+02	1.40E+02	4.40E+02	No
CHLORIDE	16887-00-6	ug/L	1 : 1 : 1	100	1.10E+07	1.10E+07	1.10E+07	1.25E+05	Yes
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	100	2.50E+02	2.50E+02	2.50E+02	1.10E+01	Yes
COBALT	7440-48-4	ug/L	1 : 1 : 1	100	1.80E+01	1.80E+01	1.80E+01	1.00E+02	No
COPPER	7440-50-8	ug/L	1 : 1 : 1	100	1.90E+01	1.90E+01	1.90E+01	9.00E+00	Yes
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	3.06E-03	3.06E-03	3.06E-03	1.30E-03	Yes
NICKEL	7440-02-0	ug/L	1 : 1 : 1	100	1.50E+03	1.50E+03	1.50E+03	5.20E+01	Yes
THALLIUM	7440-28-0	ug/L	1 : 1 : 1	100	9.60E+00	9.60E+00	9.60E+00	1.20E+00	Yes
TOLUENE	108-88-3	ug/l	1 : 1 : 1	100	1.80E+01	1.80E+01	1.80E+01	1.40E+02	No
TOTAL CYANIDE	57-12-5	ug/L	1 : 1 : 1	100	6.90E+01	6.90E+01	6.90E+01	5.20E+00	Yes
RFIMW 16									
1,4-DIOXANE	123-91-1	ug/l	1 : 1 : 1	100	3.90E+01	3.90E+01	3.90E+01	3.40E+01	Yes

Table E-5
Risk Screening
Using Part 201 Criteria Groundwater Surface Water Interface (GSI) Criteria
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	GSI (g)	Exceeds? (h)
CHROMIUM	7440-47-3	ug/L	1 : 4 : 4	25	1.40E+01	1.40E+01	5.38E+00	1.10E+01	Yes
TOTAL CYANIDE	57-12-5	ug/L	3 : 4 : 4	75	3.75E+00	1.00E+01	5.31E+00	5.20E+00	Yes
RFIMW 11									
ANTIMONY	7440-36-0	ug/L	2 : 4 : 4	50	8.50E+00	1.00E+01	6.34E+00	2.00E+00	Yes
ARSENIC	7440-38-2	ug/L	4 : 4 : 4	100	1.70E+01	1.40E+02	9.68E+01	5.00E+01	Yes
BARIUM	7440-39-3	ug/L	4 : 4 : 4	100	1.00E+02	3.40E+02	2.50E+02	4.40E+02	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	2 : 2 : 2	100	2.80E+00	3.50E+00	3.15E+00	3.20E+01	No
CADMIUM	7440-43-9	ug/L	3 : 4 : 4	75	2.80E+00	4.30E+00	2.90E+00	2.20E+00	Yes
CHROMIUM	7440-47-3	ug/L	4 : 4 : 4	100	1.90E+01	1.10E+02	7.90E+01	1.10E+01	Yes
COPPER	7440-50-8	ug/L	3 : 4 : 4	75	3.20E+02	4.20E+02	2.83E+02	9.00E+00	Yes
LEAD	7439-92-1	ug/L	4 : 4 : 4	100	1.90E+01	2.20E+02	1.62E+02	1.00E+01	Yes
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	1.62E-03	1.62E-03	1.62E-03	1.30E-03	Yes
NICKEL	7440-02-0	ug/L	3 : 4 : 4	75	1.00E+02	1.30E+02	9.50E+01	5.20E+01	Yes
TOTAL CYANIDE	57-12-5	ug/L	4 : 4 : 4	100	9.00E+00	5.20E+01	2.73E+01	5.20E+00	Yes
VANADIUM	7440-62-2	ug/L	3 : 4 : 4	75	7.20E+01	7.90E+01	5.85E+01	1.20E+01	Yes
ZINC	7440-66-6	ug/L	3 : 4 : 4	75	6.90E+01	6.00E+02	3.56E+02	1.20E+02	Yes
RFIMW 12									
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	3.80E+01	3.80E+01	3.80E+01	5.00E+01	No
BARIUM	7440-39-3	ug/L	1 : 1 : 1	100	7.80E+01	7.80E+01	7.80E+01	4.40E+02	No
CADMIUM	7440-43-9	ug/L	1 : 1 : 1	100	6.40E-01	6.40E-01	6.40E-01	2.20E+00	No
CHLORIDE	16887-00-6	ug/L	1 : 1 : 1	100	7.40E+06	7.40E+06	7.40E+06	1.25E+06	Yes
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	100	1.90E+01	1.90E+01	1.90E+01	1.10E+01	Yes
COPPER	7440-50-8	ug/L	1 : 1 : 1	100	3.30E+00	3.30E+00	3.30E+00	9.00E+00	No
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	1.45E-02	1.45E-02	1.45E-02	1.30E-03	Yes
NICKEL	7440-02-0	ug/L	1 : 1 : 1	100	4.60E+01	4.60E+01	4.60E+01	5.20E+01	No
PHENOL	108-95-2	ug/l	3 : 4 : 4	75	7.90E+02	1.10E+03	7.94E+02	2.10E+02	Yes
THALLIUM	7440-28-0	ug/L	1 : 1 : 1	100	5.90E+00	5.90E+00	5.90E+00	1.20E+00	Yes
TOLUENE	108-88-3	ug/l	1 : 1 : 1	100	1.60E+01	1.60E+01	1.60E+01	1.40E+02	No
TOTAL CYANIDE	57-12-5	ug/L	4 : 4 : 4	100	6.00E+00	1.80E+03	9.24E+02	5.20E+00	Yes
TOTAL METHYLPHENOL	otal Methylpl	ug/L	4 : 4 : 4	100	1.93E+02	4.70E+02	2.83E+02	7.10E+01	Yes
VANADIUM	7440-62-2	ug/L	1 : 1 : 1	100	4.20E+01	4.20E+01	4.20E+01	1.20E+01	Yes

Table E-5
Risk Screening
Using Part 201 Criteria Groundwater Surface Water Interface (GSI) Criteria
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	GSI (g)	Exceeds? (h)
TOTAL METHYLPHENOL	xtal Methylph	ug/L	4 : 4 : 4	100	1.87E+01	1.37E+02	5.61E+01	7.10E+01	Yes
TOTAL XYLENES	Total Xylenes	ug/l	1 : 1 : 1	100	2.20E+01	2.20E+01	2.20E+01	3.50E+01	No
VANADIUM	7440-62-2	ug/L	1 : 1 : 1	100	1.30E+00	1.30E+00	1.30E+00	1.20E+01	No
RFIMW 08									
BARIUM	7440-39-3	ug/L	3 : 3 : 3	100	8.70E+02	1.10E+03	9.90E+02	4.40E+02	Yes
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 4	100	1.80E+00	1.80E+00	1.80E+00	3.20E+01	No
CADMIUM	7440-43-9	ug/L	1 : 4 : 4	25	1.20E+00	1.20E+00	6.75E-01	2.20E+00	No
CHLOROFORM	67-66-3	ug/l	1 : 4 : 4	25	1.20E+01	1.20E+01	3.38E+00	7.70E+01	No
CHROMIUM	7440-47-3	ug/L	1 : 4 : 4	25	3.20E+01	3.20E+01	9.88E+00	1.10E+01	Yes
COPPER	7440-50-8	ug/L	1 : 4 : 4	25	3.30E+01	3.30E+01	1.25E+01	9.00E+00	Yes
LEAD	7439-92-1	ug/L	1 : 4 : 4	25	3.60E+00	3.60E+00	2.02E+00	1.00E+01	No
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	5.32E-03	5.32E-03	5.32E-03	1.30E-03	Yes
PHENOL	108-95-2	ug/l	1 : 4 : 4	25	4.80E+00	4.80E+00	3.08E+00	2.10E+02	No
TOTAL CYANIDE	57-12-5	ug/L	1 : 3 : 3	33	1.00E+01	1.00E+01	5.00E+00	5.20E+00	Yes
ZINC	7440-66-6	ug/L	1 : 4 : 4	25	2.40E+02	2.40E+02	7.68E+01	1.20E+02	Yes
RFIMW 09									
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	2.30E+01	2.30E+01	2.30E+01	5.00E+01	No
BARIUM	7440-39-3	ug/L	1 : 1 : 1	100	1.60E+02	1.60E+02	1.60E+02	4.40E+02	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 4	100	2.40E+00	2.40E+00	2.40E+00	3.20E+01	No
CHLORIDE	16887-00-6	ug/L	1 : 1 : 1	100	3.80E+06	3.80E+06	3.80E+06	1.25E+05	Yes
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	100	8.80E+01	8.80E+01	8.80E+01	1.10E+01	Yes
COBALT	7440-48-4	ug/L	1 : 1 : 1	100	1.50E+00	1.50E+00	1.50E+00	1.00E+02	No
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	1.37E-03	1.37E-03	1.37E-03	1.30E-03	Yes
NICKEL	7440-02-0	ug/L	1 : 1 : 1	100	4.80E+01	4.80E+01	4.80E+01	5.20E+01	No
PHENOL	108-95-2	ug/l	1 : 4 : 4	25	5.60E+00	5.60E+00	3.27E+00	2.10E+02	No
THALLIUM	7440-28-0	ug/L	1 : 1 : 1	100	9.40E+00	9.40E+00	9.40E+00	1.20E+00	Yes
TOTAL CYANIDE	57-12-5	ug/L	1 : 3 : 3	33	1.00E+01	1.00E+01	5.00E+00	5.20E+00	Yes
ZINC	7440-66-6	ug/L	1 : 1 : 1	100	1.40E+01	1.40E+01	1.40E+01	1.20E+02	No
RFIMW 10									
ARSENIC	7440-38-2	ug/L	4 : 4 : 4	100	1.50E+01	1.90E+01	1.64E+01	5.00E+01	No
BARIUM	7440-39-3	ug/L	4 : 4 : 4	100	7.50E+02	8.60E+02	8.10E+02	4.40E+02	Yes
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 3	100	1.50E+00	1.50E+00	1.50E+00	3.20E+01	No

Table E-5
Risk Screening
Using Part 201 Criteria Groundwater Surface Water Interface (GSI) Criteria
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	GSI (g)	Exceeds? (h)
MERCURY	7439-97-6	ug/l	1:1:1	100	3.24E-01	3.24E-01	3.24E-01	1.30E-03	Yes
NAPHTHALENE	91-20-3	ug/l	3:3:3	100	1.30E+00	1.60E+00	1.47E+00	1.30E+01	No
PHENANTHRENE	85-01-8	ug/l	1:1:3	100	1.40E+00	1.40E+00	1.40E+00	2.40E+00	No
PHENOL	108-95-2	ug/l	3:4:4	75	1.00E+01	1.40E+01	1.08E+01	2.10E+02	No
SELENIUM	7782-49-2	ug/L	1:4:4	25	6.00E+00	6.00E+00	3.38E+00	5.00E+00	Yes
TOLUENE	108-88-3	ug/l	2:2:4	100	1.60E-01	2.00E-01	1.80E-01	1.40E+02	No
TOTAL CYANIDE	57-12-5	ug/L	4:4:4	100	7.00E+00	3.00E+01	1.53E+01	5.20E+00	Yes
TOTAL METHYLPHENOL	otal Methylpl	ug/L	4:4:4	100	1.35E+01	2.45E+01	1.94E+01	7.10E+01	No
ZINC	7440-66-6	ug/L	1:4:4	25	7.70E+01	7.70E+01	3.65E+01	1.20E+02	No
RFIMW 07									
1,1,1-TRICHLOROETHANE	71-55-6	ug/l	1:1:1	100	1.30E+01	1.30E+01	1.30E+01	2.00E+02	No
1,1-DICHLOROETHANE	75-34-3	ug/l	1:1:1	100	1.20E+01	1.20E+01	1.20E+01	7.40E+02	No
1,1-DICHLOROETHENE	75-35-4	ug/l	1:1:1	100	1.70E+00	1.70E+00	1.70E+00	2.40E+01	No
1,4-DIOXANE	123-91-1	ug/l	4:4:4	100	2.40E+01	4.40E+01	3.21E+01	3.40E+01	Yes
ACENAPHTHENE	83-32-9	ug/l	2:2:4	100	2.70E+00	2.80E+00	2.75E+00	1.90E+01	No
ACETONE	67-64-1	ug/l	1:1:1	100	4.40E+01	4.40E+01	4.40E+01	1.70E+03	No
BARIUM	7440-39-3	ug/L	1:1:1	100	8.60E+01	8.60E+01	8.60E+01	4.40E+02	No
BENZENE	71-43-2	ug/l	1:1:1	100	8.30E-01	8.30E-01	8.30E-01	1.20E+01	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1:3:3	33	1.30E+01	1.30E+01	7.67E+00	3.20E+01	No
CHLORIDE	16887-00-6	ug/L	1:1:1	100	5.20E+06	5.20E+06	5.20E+06	1.25E+05	Yes
CHROMIUM	7440-47-3	ug/L	1:1:1	100	1.10E+00	1.10E+00	1.10E+00	1.10E+01	No
DIBENZOFURAN	132-64-9	ug/l	2:2:4	100	2.80E+00	2.95E+00	2.88E+00	4.00E+00	No
ETHYLBENZENE	100-41-4	ug/l	1:1:1	100	1.10E+01	1.10E+01	1.10E+01	1.80E+01	No
MERCURY	7439-97-6	ug/l	1:1:1	100	1.21E-01	1.21E-01	1.21E-01	1.30E-03	Yes
NAPHTHALENE	91-20-3	ug/l	4:4:4	100	3.40E+01	6.55E+01	5.46E+01	1.30E+01	Yes
NICKEL	7440-02-0	ug/L	1:1:1	100	3.60E+00	3.60E+00	3.60E+00	5.20E+01	No
PHENANTHRENE	85-01-8	ug/l	3:3:4	100	2.20E+00	3.05E+00	2.75E+00	2.40E+00	Yes
PHENOL	108-95-2	ug/l	3:4:4	75	4.55E+01	3.10E+02	1.24E+02	2.10E+02	Yes
SELENIUM	7782-49-2	ug/L	1:1:1	100	4.80E+00	4.80E+00	4.80E+00	5.00E+00	No
TOLUENE	108-88-3	ug/l	1:1:1	100	1.70E+01	1.70E+01	1.70E+01	1.40E+02	No
TOTAL CYANIDE	57-12-5	ug/L	4:4:4	100	4.10E+01	1.30E+02	6.98E+01	5.20E+00	Yes
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1:1:1	100	1.30E+07	1.30E+07	1.30E+07	5.00E+05	Yes

Table E-5
Risk Screening
Using Part 201 Criteria Groundwater Surface Water Interface (GSI) Criteria
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	GSI (g)	Exceeds? (h)
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	7.45E-03	7.45E-03	7.45E-03	1.30E-03	Yes
TOTAL CYANIDE	57-12-5	ug/L	4 : 4 : 4	100	1.70E+01	1.30E+02	6.70E+01	5.20E+00	Yes
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	100	4.10E+06	4.10E+06	4.10E+06	5.00E+05	Yes
ZINC	7440-66-6	ug/L	2 : 4 : 4	50	5.00E+01	5.20E+01	3.33E+01	1.20E+02	No
RFIMW 05									
1,2-DICHLOROPROPANE	78-8. 5	ug/l	4 : 4 : 4	100	3.90E-01	1.10E+00	7.32E-01	9.10E+00	No
ACETONE	67-6+-1	ug/l	3 : 4 : 4	75	6.90E+01	1.40E+02	8.35E+01	1.70E+03	No
BARIUM	7440-39-3	ug/L	4 : 4 : 4	100	8.60E+02	1.40E+03	1.10E+03	4.40E+02	Yes
BENZENE	71-43-2	ug/l	3 : 4 : 4	75	4.50E-01	6.80E-01	5.55E-01	1.20E+01	No
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/l	3 : 3 : 4	100	1.60E+00	1.80E+00	1.73E+00	1.50E+01	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	2 : 3 : 3	67	1.90E+00	3.00E+00	2.47E+00	3.20E+01	No
CHROMIUM	7440-47-3	ug/L	2 : 4 : 4	50	6.60E+00	3.00E+01	1.04E+01	1.10E+01	Yes
COPPER	7440-50-8	ug/L	1 : 4 : 4	25	2.20E+01	2.20E+01	1.00E+01	9.00E+00	Yes
METHYL ETHYL KETONE	78-93-3	ug/l	3 : 4 : 4	75	9.10E+00	9.90E+00	8.45E+00	2.20E+03	No
NAPHTHALENE	91-20-3	ug/l	4 : 4 : 4	100	2.90E+00	3.90E+00	3.35E+00	1.30E+01	No
PHENOL	108-95-2	ug/l	3 : 4 : 4	75	1.40E+01	4.10E+01	2.35E+01	2.10E+02	No
SELENIUM	7782-49-2	ug/L	3 : 4 : 4	75	5.40E+00	9.90E+00	6.76E+00	5.00E+00	Yes
TOLUENE	108-88-3	ug/l	3 : 4 : 4	75	2.80E-01	6.10E-01	4.22E-01	1.40E+02	No
TOTAL CYANIDE	57-12-5	ug/L	2 : 3 : 3	67	6.00E+00	7.00E+00	5.17E+00	5.20E+00	Yes
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	100	1.50E+07	1.50E+07	1.50E+07	5.00E+05	Yes
TOTAL METHYLPHENOL	otal Methylpl	ug/L	4 : 4 : 4	100	6.07E+01	9.33E+01	7.43E+01	7.10E+01	Yes
ZINC	7440-66-6	ug/L	1 : 4 : 4	25	7.60E+01	7.60E+01	2.75E+01	1.20E+02	No
RFIMW 06									
1,2-DICHLOROETHANE	107-06-2	ug/l	2 : 4 : 4	50	4.70E-01	5.80E-01	5.12E-01	6.00E+00	No
1,2-DICHLOROPROPANE	78-87-5	ug/l	4 : 4 : 4	100	2.20E+01	3.50E+01	2.90E+01	9.10E+00	Yes
ACETONE	67-64-1	ug/l	2 : 3 : 3	67	1.40E+01	1.90E+01	1.27E+01	1.70E+03	No
ARSENIC	7440-38-2	ug/L	2 : 4 : 4	50	5.60E+00	7.50E+00	4.53E+00	5.00E+01	No
BARIUM	7440-39-3	ug/L	4 : 4 : 4	100	9.20E+01	1.30E+02	1.13E+02	4.40E+02	No
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/l	4 : 4 : 4	100	1.40E+01	1.80E+01	1.63E+01	1.50E+01	Yes
CHROMIUM	7440-47-3	ug/L	4 : 4 : 4	100	1.10E+01	3.30E+01	1.80E+01	1.10E+01	Yes
COPPER	7440-50-8	ug/L	2 : 4 : 4	50	1.30E+01	2.20E+01	1.14E+01	9.00E+00	Yes
LEAD	7439-92-1	ug/L	1 : 4 : 4	25	7.90E+00	7.90E+00	3.45E+00	1.00E+01	No

Table E-5
Risk Screening
Using Part 201 Criteria Groundwater Surface Water Interface (GSI) Criteria
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	GSI (g)	Exceeds? (h)
LEAD	7439-92-1	ug/L	2:4:4	50	1.00E+01	4.60E+01	1.51E+01	1.00E+01	Yes
MERCURY	7439-97-6	ug/l	1:1:1	100	4.16E-03	4.16E-03	4.16E-03	1.30E-03	Yes
NICKEL	7440-02-0	ug/L	3:4:4	75	4.40E+01	1.70E+02	7.13E+01	5.20E+01	Yes
PHENOL	108-95-2	ug/l	1:3:3	33	5.30E+00	5.30E+00	3.43E+00	2.10E+02	No
TOTAL CYANIDE	57-12-5	ug/L	4:4:4	100	9.00E+00	2.20E+01	1.30E+01	5.20E+00	Yes
TOTAL METHYLPHENOL	otal Methylpl	ug/L	3:3:3	100	3.85E+01	1.95E+02	1.15E+02	7.10E+01	Yes
VANADIUM	7440-62-2	ug/L	3:4:4	75	2.40E+01	1.30E+02	4.85E+01	1.20E+01	Yes
ZINC	7440-66-6	ug/L	2:4:4	50	7.60E+01	3.10E+02	1.17E+02	1.20E+02	Yes
RFIMW 03									
ACETONE	67-64-1	ug/l	2:3:3	67	1.70E+01	2.20E+01	1.58E+01	1.70E+03	No
ARSENIC	7440-38-2	ug/L	4:4:4	100	1.90E+01	5.00E+01	3.00E+01	5.00E+01	No
BARIUM	7440-39-3	ug/L	4:4:4	100	1.20E+03	1.70E+03	1.50E+03	4.40E+02	Yes
BIS(2-CHLOROETHYL) ETHER	111-44-4	ug/l	4:4:4	100	6.40E+00	1.50E+01	1.19E+01	1.50E+01	No
CADMIUM	7440-43-9	ug/L	1:4:4	25	3.30E+00	3.30E+00	1.20E+00	2.20E+00	Yes
CHROMIUM	7440-47-3	ug/L	4:4:4	100	3.00E+01	1.50E+02	6.33E+01	1.10E+01	Yes
COPPER	7440-50-8	ug/L	3:4:4	75	3.20E+01	1.20E+02	5.40E+01	9.00E+00	Yes
LEAD	7439-92-1	ug/L	4:4:4	100	1.60E+01	7.10E+01	3.23E+01	1.00E+01	Yes
METHYL ETHYL KETONE	78-93-3	ug/l	2:2:2	100	5.60E+00	6.40E+00	6.00E+00	2.20E+03	No
NICKEL	7440-02-0	ug/L	4:4:4	100	4.70E+01	1.80E+02	8.55E+01	5.20E+01	Yes
PHENOL	108-95-2	ug/l	1:1:2	100	1.50E+00	1.50E+00	1.50E+00	2.10E+02	No
TOLUENE	108-88-3	ug/l	2:2:4	100	1.60E-01	3.10E-01	2.35E-01	1.40E+02	No
TOTAL CYANIDE	57-12-5	ug/L	1:4:4	25	6.00E+00	6.00E+00	3.38E+00	5.20E+00	Yes
TOTAL METHYLPHENOL	otal Methylpl	ug/L	3:4:4	75	1.40E+01	7.80E+01	3.12E+01	7.10E+01	Yes
VANADIUM	7440-62-2	ug/L	4:4:4	100	3.50E+01	1.30E+02	6.25E+01	1.20E+01	Yes
ZINC	7440-66-6	ug/L	3:4:4	75	9.10E+01	3.40E+02	1.49E+02	1.20E+02	Yes
RFIMW 04									
1,4-DIOXANE	123-91-1	ug/l	4:4:4	100	1.10E+01	1.90E+01	1.58E+01	3.40E+01	No
ARSENIC	7440-38-2	ug/L	4:4:4	100	1.90E+02	5.70E+02	3.85E+02	5.00E+01	Yes
BARIUM	7440-39-3	ug/L	4:4:4	100	3.60E+01	1.00E+02	7.38E+01	4.40E+02	No
CHROMIUM	7440-47-3	ug/L	3:4:4	75	5.80E+00	2.20E+01	1.13E+01	1.10E+01	Yes
COPPER	7440-50-8	ug/L	1:4:4	25	1.80E+01	1.80E+01	9.25E+00	9.00E+00	Yes
LEAD	7439-92-1	ug/L	2:4:4	50	3.90E+00	4.30E+00	2.80E+00	1.00E+01	No

Table E-5
Risk Screening
Using Part 201 Criteria Groundwater Surface Water Interface (GSI) Criteria
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	GSI (g)	Exceeds? (h)
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	5.26E-02	5.26E-02	5.26E-02	1.30E-03	Yes
NICKEL	7440-02-0	ug/L	1 : 1 : 1	100	5.30E+01	5.30E+01	5.30E+01	5.20E+01	Yes
TOLUENE	108-88-3	ug/l	1 : 1 : 1	100	1.30E+01	1.30E+01	1.30E+01	1.40E+02	No
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	100	4.30E+07	4.30E+07	4.30E+07	5.00E+05	Yes
VANADIUM	7440-62-2	ug/L	1 : 1 : 1	100	6.60E+01	6.60E+01	6.60E+01	1.20E+01	Yes
ZINC	7440-66-6	ug/L	1 : 1 : 1	100	3.30E+01	3.30E+01	3.30E+01	1.20E+02	No
RFIMW 01									
1,4-DIOXANE	123-91-1	ug/l	1 : 1 : 1	100	1.20E+02	1.20E+02	1.20E+02	3.40E+01	Yes
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	3.50E+00	3.50E+00	3.50E+00	5.00E+01	No
BARIUM	7440-39-3	ug/L	1 : 1 : 1	100	1.85E+02	1.85E+02	1.85E+02	4.40E+02	No
CADMIUM	7440-43-9	ug/L	1 : 1 : 1	100	4.30E-01	4.30E-01	4.30E-01	2.20E+00	No
CHLORIDE	16887-00-6	ug/L	1 : 1 : 1	100	1.85E+07	1.85E+07	1.85E+07	1.25E+05	Yes
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	100	1.80E+00	1.80E+00	1.80E+00	1.10E+01	No
COBALT	7440-48-4	ug/L	1 : 1 : 1	100	1.25E+00	1.25E+00	1.25E+00	1.00E+02	No
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	2.63E-02	2.63E-02	2.63E-02	1.30E-03	Yes
NICKEL	7440-02-0	ug/L	1 : 1 : 1	100	3.90E+00	3.90E+00	3.90E+00	5.20E+01	No
THALLIUM	7440-28-0	ug/L	1 : 1 : 1	100	7.65E+00	7.65E+00	7.65E+00	1.20E+00	Yes
TOLUENE	108-88-3	ug/l	1 : 1 : 1	100	1.20E+02	1.20E+02	1.20E+02	1.40E+02	No
TOTAL CYANIDE	57-12-5	ug/L	4 : 4 : 4	100	2.70E+01	5.30E+01	4.15E+01	5.20E+00	Yes
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	100	3.00E+07	3.00E+07	3.00E+07	5.00E+05	Yes
VANADIUM	7440-62-2	ug/L	1 : 1 : 1	100	5.50E+00	5.50E+00	5.50E+00	1.20E+01	No
ZINC	7440-66-6	ug/L	1 : 1 : 1	100	1.70E+01	1.70E+01	1.70E+01	1.20E+02	No
RFIMW 02									
1,4-DIOXANE	123-91-1	ug/l	1 : 1 : 3	100	4.00E+00	4.00E+00	4.00E+00	3.40E+01	No
ACETONE	67-64-1	ug/l	1 : 2 : 2	50	2.70E+01	2.70E+01	1.60E+01	1.70E+03	No
ARSENIC	7440-38-2	ug/L	4 : 4 : 4	100	7.50E+00	4.40E+01	2.06E+01	5.00E+01	No
BARIUM	7440-39-3	ug/L	4 : 4 : 4	100	4.40E+02	7.70E+02	5.55E+02	4.40E+02	Yes
BENZENE	71-43-2	ug/l	2 : 4 : 4	50	2.80E-01	7.70E-01	5.12E-01	1.20E+01	No
BIS(2-CHLOROETHYL) ETHER	111-44-4	ug/l	4 : 4 : 4	100	2.40E+01	4.50E+01	3.30E+01	1.50E+01	Yes
CADMIUM	7440-43-9	ug/L	2 : 4 : 4	50	2.10E+00	6.80E+00	2.60E+00	2.20E+00	Yes
CHROMIUM	7440-47-3	ug/L	4 : 4 : 4	100	3.00E+01	1.80E+02	8.00E+01	1.10E+01	Yes
COPPER	7440-50-8	ug/L	3 : 4 : 4	75	4.20E+01	1.40E+02	6.28E+01	9.00E+00	Yes

Table E-5
Risk Screening
Using Part 201 Criteria Groundwater Surface Water Interface (GSI) Criteria
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	GSI (g)	Exceeds? (h)
DIETHYL PHTHALATE	84-66-2	ug/l	1:1:1	100	2.66E+00	2.66E+00	2.66E+00	1.10E+02	No
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1:1:1	100	2.59E+06	2.59E+06	2.59E+06	5.00E+05	Yes
PM1NA									
2,6-DICHLOROPHENOL	87-65-0	ug/l	3:3:4	100	2.40E+00	2.90E+00	2.70E+00	1.90E+01	No
ACETONE	67-64-1	ug/l	1:1:2	100	9.00E+00	9.00E+00	9.00E+00	1.70E+03	No
ANTIMONY	7440-36-0	ug/L	1:4:4	25	2.00E+01	2.00E+01	9.50E+00	2.00E+00	Yes
ARSENIC	7440-38-2	ug/L	4:4:4	100	3.10E+01	6.60E+02	4.43E+02	5.00E+01	Yes
BARIUM	7440-39-3	ug/L	4:4:4	100	6.90E+01	3.00E+02	1.61E+02	4.40E+02	No
BENZENE	71-43-2	ug/l	1:2:4	50	1.90E+00	1.90E+00	1.20E+00	1.20E+01	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1:2:2	50	1.90E+01	1.90E+01	1.08E+01	3.20E+01	No
CADMIUM	7440-43-9	ug/L	2:4:4	50	2.10E+00	2.00E+01	5.78E+00	2.20E+00	Yes
CHROMIUM	7440-47-3	ug/L	4:4:4	100	2.80E+01	1.40E+02	8.20E+01	1.10E+01	Yes
COPPER	7440-50-8	ug/L	3:4:4	75	1.80E+01	1.10E+02	5.25E+01	9.00E+00	Yes
LEAD	7439-92-1	ug/L	4:4:4	100	1.00E+01	8.90E+01	5.00E+01	1.00E+01	Yes
MERCURY	7439-97-6	ug/L	2:4:4	50	3.60E-01	1.00E+00	3.90E-01	1.30E-03	Yes
NICKEL	7440-02-0	ug/L	3:4:4	75	5.40E+01	1.50E+02	8.60E+01	5.20E+01	Yes
TOTAL CYANIDE	57-12-5	ug/L	4:4:4	100	6.80E+01	1.50E+04	7.30E+03	5.20E+00	Yes
TOTAL METHYLPHENOL	otal Methylpl	ug/L	3:3:4	100	4.00E+00	8.40E+00	4.43E+00	7.10E+01	No
VANADIUM	7440-62-2	ug/L	4:4:4	100	3.50E+01	8.50E+01	6.08E+01	1.20E+01	Yes
ZINC	7440-66-6	ug/L	2:4:4	50	6.20E+01	4.50E+02	1.67E+02	1.20E+02	Yes
PM3NB									
1,4-DIOXANE	123-91-1	ug/l	1:1:1	100	3.20E+00	3.20E+00	3.20E+00	3.40E+01	No
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/l	1:1:1	100	3.90E+01	3.90E+01	3.90E+01	1.50E+01	Yes
PM4NA									
ANTIMONY	7440-36-0	ug/L	1:1:1	100	1.30E+01	1.30E+01	1.30E+01	2.00E+00	Yes
ARSENIC	7440-38-2	ug/L	1:1:1	100	3.00E+02	3.00E+02	3.00E+02	5.00E+01	Yes
BARIUM	7440-39-3	ug/L	1:1:1	100	1.00E+02	1.00E+02	1.00E+02	4.40E+02	No
BENZENE	71-43-2	ug/l	1:1:1	100	1.10E+00	1.10E+00	1.10E+00	1.20E+01	No
CHLORIDE	16887-00-6	ug/L	1:1:1	100	2.20E+07	2.20E+07	2.20E+07	1.25E+05	Yes
CHROMIUM	7440-47-3	ug/L	1:1:1	100	4.10E+01	4.10E+01	4.10E+01	1.10E+01	Yes
COBALT	7440-48-4	ug/L	1:1:1	100	3.30E+00	3.30E+00	3.30E+00	1.00E+02	No
COPPER	7440-50-8	ug/L	1:1:1	100	4.70E+00	4.70E+00	4.70E+00	9.00E+00	No

Table E-5
Risk Screening
Using Part 201 Criteria Groundwater Surface Water Interface (GSI) Criteria
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	GSI (g)	Exceeds? (h)
GTI-TPW-1									
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	6.00E+00	6.00E+00	6.00E+00	5.00E+01	No
BARIUM	7440-39-3	ug/L	1 : 1 : 1	100	6.70E+01	6.70E+01	6.70E+01	4.40E+02	No
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	100	4.00E+00	4.00E+00	4.00E+00	1.10E+01	No
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	100	7.92E+05	7.92E+05	7.92E+05	5.00E+05	Yes
TOTAL XYLENES	Total Xylenes	ug/L	1 : 1 : 1	100	3.69E+01	3.69E+01	3.69E+01	3.50E+01	Yes
P-15-N									
1,2-DICHLOROPROPANE	78-87-5	ug/l	1 : 1 : 1	100	6.63E+01	6.63E+01	6.63E+01	9.10E+00	Yes
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	3.30E+01	3.30E+01	3.30E+01	5.00E+01	No
BARIUM	7440-39-3	ug/L	1 : 1 : 1	100	9.50E+01	9.50E+01	9.50E+01	4.40E+02	No
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/l	1 : 1 : 1	100	1.04E+01	1.04E+01	1.04E+01	1.50E+01	No
NAPHTHALENE	91-20-3	ug/l	1 : 1 : 1	100	3.76E+00	3.76E+00	3.76E+00	1.30E+01	No
NICKEL	7440-02-0	ug/L	1 : 1 : 1	100	5.00E+00	5.00E+00	5.00E+00	5.20E+01	No
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	100	7.72E+05	7.72E+05	7.72E+05	5.00E+05	Yes
VANADIUM	7440-62-2	ug/L	1 : 1 : 1	100	1.30E+01	1.30E+01	1.30E+01	1.20E+01	Yes
P-34-N									
1,4-DIOXANE	123-91-1	ug/l	3 : 3 : 5	100	3.00E+00	3.60E+00	3.20E+00	3.40E+01	No
ARSENIC	7440-38-2	ug/L	6 : 6 : 6	100	1.60E+01	2.70E+02	8.98E+01	5.00E+01	Yes
BARIUM	7440-39-3	ug/L	6 : 6 : 6	100	9.50E+01	2.70E+02	1.84E+02	4.40E+02	No
CADMIUM	7440-43-9	ug/L	3 : 6 : 6	50	1.30E+00	1.90E+00	1.05E+00	2.20E+00	No
CHROMIUM	7440-47-3	ug/L	5 : 6 : 6	83	8.00E+00	5.00E+01	2.56E+01	1.10E+01	Yes
COPPER	7440-50-8	ug/L	4 : 6 : 6	67	1.80E+01	5.70E+01	2.90E+01	9.00E+00	Yes
DIETHYL PHTHALATE	84-66-2	ug/l	1 : 1 : 4	100	1.70E+00	1.70E+00	1.70E+00	1.10E+02	No
LEAD	7439-92-1	ug/L	6 : 6 : 6	100	1.20E+01	6.00E+01	2.93E+01	1.00E+01	Yes
NICKEL	7440-02-0	ug/L	3 : 6 : 6	50	4.80E+01	9.40E+01	4.28E+01	5.20E+01	Yes
TOTAL CYANIDE	57-12-5	ug/L	6 : 6 : 6	100	5.00E+00	2.20E+01	1.83E+01	5.20E+00	Yes
VANADIUM	7440-62-2	ug/L	4 : 6 : 6	67	2.60E+01	8.70E+01	4.35E+01	1.20E+01	Yes
ZINC	7440-66-6	ug/L	4 : 6 : 6	67	7.00E+01	3.30E+02	1.46E+02	1.20E+02	Yes
P-36-N									
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	7.70E+01	7.70E+01	7.70E+01	5.00E+01	Yes
BARIUM	7440-39-3	ug/L	1 : 1 : 1	100	3.32E+02	3.32E+02	3.32E+02	4.40E+02	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	100	1.02E+02	1.02E+02	1.02E+02	3.20E+01	Yes

Table E-5
Risk Screening
Using Part 201 Criteria Groundwater Surface Water Interface (GSI) Criteria
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	GSI (g)	Exceeds? (h)
CMSMW-8									
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	3.90E+00	3.90E+00	3.90E+00	1.30E-03	Yes
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	100	1.20E+07	1.20E+07	1.20E+07	5.00E+05	Yes
CMSMW-9									
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	100	5.00E+06	5.00E+06	5.00E+06	5.00E+05	Yes
ENSR BG-MW-1									
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	3.50E+00	3.50E+00	3.50E+00	5.00E+01	No
BARIUM	7440-39-3	ug/L	1 : 1 : 1	100	4.90E+01	4.90E+01	4.90E+01	4.40E+02	No
CHLORIDE	16887-00-6	ug/L	1 : 1 : 1	100	1.80E+05	1.80E+05	1.80E+05	1.25E+05	Yes
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	100	2.10E+00	2.10E+00	2.10E+00	1.10E+01	No
COBALT	7440-48-4	ug/L	1 : 1 : 1	100	3.10E+00	3.10E+00	3.10E+00	1.00E+02	No
COPPER	7440-50-8	ug/L	1 : 1 : 1	100	4.10E+00	4.10E+00	4.10E+00	9.00E+00	No
MERCURY	7439-97-6	ug/l	2 : 2 : 2	100	3.53E-03	1.62E-02	9.86E-03	1.30E-03	Yes
NICKEL	7440-02-0	ug/L	1 : 1 : 1	100	4.40E+01	4.40E+01	4.40E+01	5.20E+01	No
THALLIUM	7440-28-0	ug/L	1 : 1 : 1	100	1.00E+01	1.00E+01	1.00E+01	1.20E+00	Yes
ZINC	7440-66-6	ug/L	1 : 1 : 1	100	2.40E+01	2.40E+01	2.40E+01	1.20E+02	No
ERB-1									
BENZENE	71-43-2	ug/l	1 : 1 : 1	100	2.50E-01	2.50E-01	2.50E-01	1.20E+01	No
CHLOROBENZENE	108-90-7	ug/l	1 : 1 : 1	100	3.40E-01	3.40E-01	3.40E-01	4.70E+01	No
CHLOROFORM	67-66-3	ug/l	1 : 1 : 1	100	3.80E+01	3.80E+01	3.80E+01	7.70E+01	No
METHYLENE CHLORIDE	75-09-2	ug/l	1 : 1 : 1	100	1.30E+01	1.30E+01	1.30E+01	4.70E+01	No
STYRENE	100-42-5	ug/l	1 : 1 : 1	100	2.80E-01	2.80E-01	2.80E-01	8.00E+01	No
TOLUENE	108-88-3	ug/l	1 : 1 : 1	100	6.00E-01	6.00E-01	6.00E-01	1.40E+02	No
GTI SB-11									
BENZENE	71-43-2	ug/l	1 : 1 : 1	100	2.00E+00	2.00E+00	2.00E+00	1.20E+01	No
GTI SB-16									
BENZENE	71-43-2	ug/l	1 : 1 : 1	100	6.80E+01	6.80E+01	6.80E+01	1.20E+01	Yes
GTI SB-3									
BENZENE	71-43-2	ug/l	1 : 1 : 1	100	1.60E+00	1.60E+00	1.60E+00	1.20E+01	No
STYRENE	100-42-5	ug/l	1 : 1 : 1	100	1.90E+00	1.90E+00	1.90E+00	8.00E+01	No

Table E-5
Risk Screening
Using Part 201 Criteria Groundwater Surface Water Interface (GSI) Criteria
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	GSI (g)	Exceeds? (h)
ETHYLBENZENE	100-41-4	ug/l	1:1:1	100	2.80E+00	2.80E+00	2.80E+00	1.80E+01	No
STYRENE	100-42-5	ug/l	1:1:1	100	3.60E+00	3.60E+00	3.60E+00	8.00E+01	No
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1:1:1	100	7.40E+05	7.40E+05	7.40E+05	5.00E+05	Yes
CMSMW-16F									
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1:1:1	100	5.60E+06	5.60E+06	5.60E+06	5.00E+05	Yes
CMSMW-18									
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1:1:1	100	4.50E+06	4.50E+06	4.50E+06	5.00E+05	Yes
CMSMW-2									
1,2-DICHLOROBENZENE	95-50-1	ug/l	1:1:1	100	1.10E+00	1.10E+00	1.10E+00	1.60E+01	No
ACETONE	67-64-1	ug/l	1:1:1	100	4.80E+01	4.80E+01	4.80E+01	1.70E+03	No
BARIUM	7440-39-3	ug/L	1:1:1	100	2.30E+02	2.30E+02	2.30E+02	4.40E+02	No
BENZENE	71-43-2	ug/l	1:1:1	100	5.10E+00	5.10E+00	5.10E+00	1.20E+01	No
CHLORIDE	16887-00-6	ug/L	1:1:1	100	3.20E+05	3.20E+05	3.20E+05	1.25E+05	Yes
CHLOROBENZENE	108-90-7	ug/l	1:1:1	100	9.40E-01	9.40E-01	9.40E-01	4.70E+01	No
MERCURY	7439-97-6	ug/l	1:1:1	100	4.34E-01	4.34E-01	4.34E-01	1.30E-03	Yes
NICKEL	7440-02-0	ug/L	1:1:1	100	4.20E+00	4.20E+00	4.20E+00	5.20E+01	No
PHENOL	108-95-2	ug/l	1:1:1	100	2.40E+01	2.40E+01	2.40E+01	2.10E+02	No
TOLUENE	108-88-3	ug/l	1:1:1	100	2.90E+01	2.90E+01	2.90E+01	1.40E+02	No
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1:1:1	100	2.00E+06	2.00E+06	2.00E+06	5.00E+05	Yes
VANADIUM	7440-62-2	ug/L	1:1:1	100	3.30E+00	3.30E+00	3.30E+00	1.20E+01	No
ZINC	7440-66-6	ug/L	1:1:1	100	4.90E+01	4.90E+01	4.90E+01	1.20E+02	No
CMSMW-3									
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1:1:1	100	3.10E+06	3.10E+06	3.10E+06	5.00E+05	Yes
CMSMW-4									
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1:1:1	100	2.90E+06	2.90E+06	2.90E+06	5.00E+05	Yes
CMSMW-5									
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1:1:1	100	4.40E+06	4.40E+06	4.40E+06	5.00E+05	Yes
CMSMW-6									
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1:1:1	100	2.10E+07	2.10E+07	2.10E+07	5.00E+05	Yes
CMSMW-7									
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1:1:1	100	5.70E+06	5.70E+06	5.70E+06	5.00E+05	Yes

Table E-5
Risk Screening
Using Part 201 Criteria Groundwater Surface Water Interface (GSI) Criteria
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	GSI (g)	Exceeds? (h)
AOC 6									
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	100	9.50E+00	9.50E+00	9.50E+00	1.10E+01	No
TETRACHLOROETHENE	127-18-4	ug/l	1 : 1 : 1	100	4.70E-01	4.70E-01	4.70E-01	1.10E+01	No
TRICHLOROETHENE	79-01-6	ug/l	1 : 1 : 1	100	4.20E-01	4.20E-01	4.20E-01	2.90E+01	No
CMSMW-1									
ACETONE	67-64-1	ug/l	1 : 1 : 1	100	9.40E+02	9.40E+02	9.40E+02	1.70E+03	No
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	100	3.20E+06	3.20E+06	3.20E+06	5.00E+05	Yes
CMSMW-10									
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	100	4.60E+06	4.60E+06	4.60E+06	5.00E+05	Yes
CMSMW-11									
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	100	1.60E+07	1.60E+07	1.60E+07	5.00E+05	Yes
CMSMW-12									
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	100	1.10E+07	1.10E+07	1.10E+07	5.00E+05	Yes
CMSMW-13F									
NAPHTHALENE	91-20-3	ug/l	1 : 1 : 1	100	1.90E+01	1.90E+01	1.90E+01	1.30E+01	Yes
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	100	5.00E+06	5.00E+06	5.00E+06	5.00E+05	Yes
CMSMW-13S									
2,4-DIMETHYLPHENOL	105-67-9	ug/l	1 : 1 : 1	100	5.50E+00	5.50E+00	5.50E+00	3.80E+02	No
ACETONE	67-64-1	ug/l	1 : 1 : 1	100	8.30E+01	8.30E+01	8.30E+01	1.70E+03	No
BENZENE	71-43-2	ug/l	1 : 1 : 1	100	6.60E+01	6.60E+01	6.60E+01	1.20E+01	Yes
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	100	7.90E+06	7.90E+06	7.90E+06	5.00E+05	Yes
TOTAL XYLENES	Total Xylenes	ug/L	1 : 1 : 1	100	3.18E+00	3.18E+00	3.18E+00	3.50E+01	No
CMSMW-14S									
1,2-DICHLOROPROPANE	78-87-5	ug/l	1 : 1 : 1	100	5.20E-01	5.20E-01	5.20E-01	9.10E+00	No
ACETONE	67-64-1	ug/l	1 : 1 : 1	100	4.65E+02	4.65E+02	4.65E+02	1.70E+03	No
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/l	1 : 1 : 1	100	5.90E+00	5.90E+00	5.90E+00	1.50E+01	No
NAPHTHALENE	91-20-3	ug/l	1 : 1 : 1	100	5.65E+00	5.65E+00	5.65E+00	1.30E+01	No
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	100	2.95E+06	2.95E+06	2.95E+06	5.00E+05	Yes
CMSMW-15									
1,4-DIOXANE	123-91-1	ug/l	1 : 1 : 1	100	4.80E+00	4.80E+00	4.80E+00	3.40E+01	No

BASF Corporation
Wyandotte, Michigan

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CONTENTS

1.0 INTRODUCTION **1-1**

1.1 Approach for Risk Screening 1-1
1.1.1 Screening Criteria 1-1
1.1.2 Screening Methodology 1-2
1.1.3 Verification of Detection Limits 1-4

1.2 Site Database 1-4

1.3 Summary Statistics 1-5

2.0 RISK SCREENING FOR SOIL **2-1**

2.1 Screening Approach for Soil 2-1
2.1.1 Assignment of Surrogates 2-2

2.2 Risk Screening Results for Soil 2-3
2.2.1 Risk Screening for Lead 2-5

2.3 Detection Limit Screen for Soil 2-5

3.0 RISK SCREENING FOR GROUNDWATER **3-1**

3.1 Screening Approach for Groundwater 3-1
3.1.1 Assignment of Surrogates 3-1

3.2 Risk Screening Results for Groundwater 3-2

3.3 Detection Limit Screen for Groundwater 3-2

4.0 SUMMARY AND CONCLUSIONS **4-1**

4.1 Summary of Risk Screening Results for Soil 4-1

4.2 Summary of Risk Screening Results for Groundwater 4-2

5.0 REFERENCES **5-1**

CONTENTS (Cont'd)

APPENDICES

A USEPA Comment Letters

B City of Wyandotte Plumbing Code

C Drinking Water Screening Tables

D Soil Screening Tables

E Groundwater Screening Tables

F Screening Criteria for Non-Detect Analytes

LIST OF TABLES

Table 1-1 Summary Statistics (Soil)

Table 1-2 Summary Statistics (Groundwater)

Table 2-1 Michigan DEQ Part 201 Soil - Industrial and Commercial II, III and IV (a) - Risk Based Criteria

Table 2-2 Michigan DEQ Part 201 Soil - Non-Risk Based Criteria

Table 2-3 Summary of Risk Screening Results Using Part 201 Criteria - Exceedance List for Soil

Table 2-4 Risk Screening for Lead Using Part 201 Criteria

Table 2-5 Detection Limit Screen - Analytes Never Detected - Soil

Table 3-1 Michigan DEQ Part 201 Groundwater Criteria

Table 3-2 Summary of Risk Screening Results Using Part 201 Criteria - Exceedance List for Groundwater

Table 3-3 Detection Limit Screen - Analytes Never Detected - Groundwater

LIST OF FIGURES

Figure 1 Site Location Map

Figure 2 Locations of SWMU/AOC and Monitoring Wells

1.0 INTRODUCTION

This report presents the results of the risk screening evaluation performed on soil and groundwater data collected during past phases of investigation, including the RFI, for the BASF North Works Facility in Wyandotte, Michigan (the "site"). The site is located on the U.S. shore of the Detroit River at 1609 Biddle Avenue in Wayne County. It is bounded on the west by Biddle Avenue, on the north by Perry Place, on the south by James DeSana Drive, and on the east by the Detroit River (Trenton Channel). The site occupies approximately 230 acres. The site location is provided in Figure 1.

The BASF North Works Facility is subject to the requirements of Corrective Action as outlined in the Administrative Order on Consent (Docket No. V-W-011-94). BASF and the U.S. Environmental Protection Agency (USEPA), Region 5, entered into the Administrative Order on Consent on February 28, 1994 pursuant to Section 3008(h) of the Resource Conservation and Recovery Act (RCRA) and the Hazardous and Solid Waste Amendments (HSWA) to RCRA.

The purpose of the risk screening presented in this document is to compare site groundwater and soil data with conservative, risk-based screening levels to determine what areas and potential constituents of interest (COI) may be candidates for no further action and what areas and potential COI may warrant further investigation and/or corrective action. The risk screening results identify potential COI present in the soil SWMUs and AOCs and in groundwater monitoring wells at concentrations higher than or approaching risk-based screening levels, which therefore may need further evaluation. On the other hand, the risk screening results also identify potential COI and potential exposure pathways that are consistently below risk-based screening levels and thus do not require any further evaluation.

1.1 Approach for Risk Screening

This risk screening was performed in accordance with the *Risk Screening Work Plan* (ENSR, December 2004), which was reviewed and approved by USEPA Region 5, as documented in correspondence from Mr. Juan Thomas, USEPA to Mr. Bruce Roberts, BASF, dated February 4, 2005 and March 10, 2005. [The EPA comment letters are provided in Appendix A.]

1.1.1 Screening Criteria

The screening criteria used in this evaluation are the Generic Cleanup Criteria developed under the Part 201 program by the Remediation and Redevelopment Division of the Michigan Department of Environmental Quality (MDEQ), issued in December 2002. The Michigan Part 201 generic criteria were used for the following reasons:

- Industrial soil and groundwater screening criteria are available, which is appropriate for the current and future use of the BASF Wyandotte site;
- Local climate has been accounted for in the derivation of the criteria (e.g., soil exposure frequency reflects local climate conditions). Specifically, the Part 201 Generic Soil Direct Contact Criteria Technical Support Document (January 5, 2001) states: "The exposure frequency for dermal contact (EFd) is 245 days per year for the residential scenario and represents outdoor soil exposure. It takes into account EPA's recommendation to consider local weather conditions (e.g., snow cover, frozen soils). It is assumed that Michigan winters last for 4 months (120 days) making soil unavailable for contact. The EFd for the industrial/commercial scenario is 160 days per year.";
- Screening criteria are available for exposure pathways potentially applicable to the BASF Wyandotte site, including ingestion and dermal contact with soil, dermal contact with groundwater, inhalation of volatiles in ambient and indoor air, and inhalation of fugitive dust in ambient air.
- Screening criteria are available for a key potential exposure pathway at the BASF Wyandotte site, which is migration of constituents in groundwater to surface water, referred to as Groundwater Surface Water Interface Protection Criteria (or GSI criteria). The GSI criteria are protective of human health, as well as aquatic and wildlife receptors, and comply with the state Water Quality Standards.

In addition, the use of the Michigan Part 201 generic criteria is consistent with the RCRA Facility Investigation (RFI) risk screening performed for the former BASF site in Holland, Michigan (ENSR, 2003) under the oversight of USEPA Region 5.

If no Part 201 criteria have been developed for a constituent detected in soil and/or groundwater, suitable constituents with Part 201 criteria were assigned as surrogates based on structural similarity whenever possible. If no suitable Part 201 surrogates could be identified, USEPA Region 9 PRGs were used for the soil and groundwater direct contact pathways (the only pathway for which Region 9 PRGs are available).

1.1.2 Screening Methodology

As proposed in the Work Plan, a cumulative risk screening methodology was used, which is consistent with the BASF Holland risk screening and is the approach recommended by USEPA Region 9 for application of their constituent and pathway-specific Preliminary Remediation Goals (PRGs) (USEPA, 2004). As noted in USEPA's March 5, 2005 approval letter, this approach and methodology is satisfactory.

A cumulative risk screening approach involves dividing the site concentration of each constituent by its Part 201 screening criterion to generate a constituent-specific ratio. The ratios are then summed to

generate a cumulative risk ratio total. If the cumulative risk total is less than 1, then the summed risk is below the risk management benchmark (e.g., 1 x 10^{-5}) and all constituents in the total do not need further evaluation. If the cumulative risk ratio is greater than 1, then the risk management benchmark is exceeded, and those constituents whose ratios cause the cumulative total to exceed 1 may need further evaluation. It should be noted that certain constituents with a site concentration/screening criterion ratio of less than but approaching 1 may still require further evaluation if the cumulative risk total exceeds 1.

The reason for conducting a cumulative risk screen is to account for potential additivity of carcinogenic and noncarcinogenic effects. In other words, it is important to determine whether the total carcinogenic risk could exceed 1 x 10^{-5}, or whether the total Hazard Index could exceed 1, even if no single constituent concentration exceeds its specific criterion. [Note: target organ-specific analyses for cumulative hazard indices above 1 are typically not included in risk screening, but are a refinement for screening hazard indices above 1.] Therefore, separate screens are conducted for constituents with carcinogenic effects and for constituents with noncarcinogenic effects. The use of a cumulative target risk level of 1 x 10^{-5} is consistent with both the MDEQ target risk threshold under the Part 201 Rules and the cumulative cancer risk threshold used in the BASF Holland RFI risk screening.

If a constituent has both potential carcinogenic and noncarcinogenic effects, then that constituent was included in both the cancer and non-cancer cumulative risk screens. The Part 201 generic criteria listed on the MDEQ website (http://www.michigan.gov/deq/0,1607,7-135-3311_4109_9846-20527--,00.html) present only the more conservative of the two sets of values. In order to perform a comprehensive cumulative risk screen, both the cancer and non-cancer criteria are needed for constituents with both types of effects. Therefore, electronic files containing both the cancer and non-cancer risk-based values for each constituent and pathway were obtained from MDEQ and used for this risk screening.

The cumulative risk screening was performed on a pathway-specific basis, and all applicable exposure pathways were considered. If all constituents passed the cumulative risk screen for a pathway at a particular SWMU/AOC for soil or a particular monitoring well for groundwater, then that pathway does not require further evaluation for that SWMU/AOC or monitoring well.

Some of the Part 201 criteria are not purely risk-based. Consistent with USEPA Region 9 guidance (USEPA, 2004), criteria that are not purely risk-based were not evaluated on a cumulative basis. This consists of the following criteria:

- Criteria based on soil saturation limits and solubility limits;
- GSI criteria, which are based on a mix of human health, aquatic and wildlife values;
- Soil GSI criteria, which are based on 20X the groundwater GSI or the soil-water partition model);

- Leaching-based soil criteria (e.g., Groundwater Contact Protection criteria); and
- Statewide Default Background Levels for Soil.

Non-risk based criteria are not based on risk equations that consider carcinogenic or noncarcinogenic effects. Therefore, it is not appropriate to include such criteria in a cumulative screen. This reason is true for the criteria listed above. For the non-risk based criteria listed above, the comparison to site-specific concentrations was performed on a straight exceed/not exceed basis.

1.1.3 Verification of Detection Limits

At the request of USEPA in their February 4, 2005 letter, an evaluation of the detection limits obtained for constituents analyzed in site soil and groundwater was performed. The objective of this evaluation was to determine whether detection limits met the most stringent media-specific Part 201 screening criteria. Therefore, for each analyte not detected in groundwater and soil, the lowest detection limit reported was compared with the most stringent (lowest) Part 201 screening criterion. When Part 201 criteria were not available for an analyte, the USEPA Region 9 PRG table was consulted to obtain a conservative risk-based screening criterion for soil and/or groundwater.

1.2 Site Database

Soil and groundwater data for the BASF Wyandotte site have been compiled in a database using EQuIS that includes information on sample identification, location, depth, date, result, qualifier, etc. The EQuIS database for this project was provided by ENSR to USEPA on December 17, 2004.

Soil data were grouped in the database by SWMU/AOC for purposes of the risk screening. This includes seven AOCs (AOC 1, AOC 2, AOC 4, AOC 6, AOC 7A, AOC 7B, AOC 7C), three SWMUs (SWMU F, SWMU G, and SWMU H), and seven RFI groundwater monitoring well locations with soil data (RFIMW-07, RFIMW-08, RFIMW-24, RFIMW-25, RFIMW-26, RFIMW-27, RFIMW-28), for a total of 17 separate SWMU/AOCs/RFI well areas for the soil risk screening. Figure 2 presents the ten AOC/SWMUs and seven RFI wells evaluated in this risk screening. Two AOCs depicted in Figure 2 (AOC 5 and AOC 8) were not included in the risk screening because the soil data associated with each is a subset of another AOC that was included in the risk screening. Specifically, AOC 5 soil data is associated with SWMU H; and AOC 8 soil data is associated with AOC 1. SWMU E was also not included in the risk screening. SWMU E is a former pond that was cleaned out; post-excavation sediment samples (n=4) were analyzed for waste characterization purposes only (TCLP).

Analytical data are available for a total of 71 groundwater monitoring wells. Some wells have results from multiple sampling rounds, ranging from 1996 to December 2003. As discussed in the Work Plan, more recent groundwater monitoring data are used in the groundwater risk screening, because they are more representative of current site conditions. Figure 2 presents the locations of the 71 monitoring wells included in this risk screening. Seven wells located along the western site boundary (near Biddle

Street) are designated as RFI background wells (RFIMW-24, RFIMW-25, RFIMW-26, RFIMW-27, RFIMW-28, RFIMW-29, and P34N). Two additional background wells are located west of the site (ERB-1 and ENSR BG-MW-1). These wells are included in the groundwater risk screening, although it should be noted that they are considered background wells.

1.3 Summary Statistics

Prior to conducting the risk screening, summary statistics were calculated for detected constituents in soil and groundwater. For soil, summary statistics were calculated for each constituent in each of the 17 soil areas (e.g., AOCs, SWMUs, RFI wells). For groundwater, summary statistics were calculated for each constituent in each of the 71 monitoring wells. In accordance with the Work Plan, the most recent two years of monitoring data comprised the data set for summary statistics and risk screening for groundwater. Table 1-1 presents summary statistics for soil. Table 1-2 presents summary statistics for groundwater.

Summary statistics consist of frequency of detection, minimum and maximum detected concentrations, and arithmetic mean concentration. The following guidance document was used to develop the summary statistics:

- Risk Assessment Guidance for Superfund: Volume I – Human Health Evaluation Manual, Part A (USEPA, 1989).

During prior data validation, data were either accepted without qualification, qualified as estimated, or rejected. A "J" qualifier was appended to those detected and undetected values that were usable, but should be considered as estimated. When calculating summary statistics, results with no qualifier or a "J" qualifier were defined as "detects", and results with a "U" or "UJ" qualifier were considered non-detects.

The steps used to summarize the data by area/constituent are as follows:

Treatment of Duplicates: Data for samples and their duplicates were averaged before summary statistics were calculated, such that a sample and its duplicate were treated as one sample for calculation of summary statistics (including maximum detection and frequency of detection).

Treatment of Non-Detects:

- Summary statistics were not calculated for constituents that were not detected in a particular area/medium.
- Where constituents were detected in some samples and not in others in a particular area/medium, ½ the reported sample quantitation limit (SQL) was used as a proxy concentration for the samples reported as nondetect (USEPA, 1989).

- For all non-detects for which ½ the SQL was calculated, ½ the SQL was compared to the maximum detected concentration for that area and medium. Where ½ the SQL was greater than the maximum detected concentration in a particular area/medium, the SQL value was not used in the calculation of summary statistics for that constituent in that area and medium (USEPA, 1989).

Frequency of Detection: The frequency of detection is reported as a ratio and a percentage, and is based on the number of samples reported as detected for a specific constituent and the number of samples used to calculate statistics. The number of samples used to calculate statistics reflects the treatment of non-detects described above.

Minimum Detected Concentration: This is the minimum detected concentration for each constituent/area/medium combination, after duplicates have been averaged.

Maximum Detected Concentration: This is the maximum detected concentration for each constituent/area/medium combination, after duplicates have been averaged.

Mean (Average) Concentration: This is the arithmetic mean concentration for each constituent/area/medium combination, after duplicates have been averaged and non-detects have been evaluated. For groundwater, results from multiple sampling phases were averaged for each well prior to calculating the mean concentration for each constituent.

For specific detected analytes, namely Aroclors, xylene isomers, and methylphenol isomers, the applicable Part 201 criteria are expressed as a "total" of the isomers (e.g., total PCBs, total xylenes, and total methylphenols). Therefore, for each sample, individual isomers were summed to yield a "total" concentration for inclusion in the summary statistics for that analyte group. For Aroclors, which were detected only in soil, only those Aroclors that were detected at least once on-site were included in the total PCB sums (i.e., Aroclors 1248, 1254, and 1260).

2.0 RISK SCREENING FOR SOIL

This section discusses the risk screening performed on soil data. Section 2.1 presents the approach used to perform the risk screening for soil, and Section 2.2 discusses the screening results. Section 2.3 discusses the evaluation of soil detection limits for the constituents reported as not detected relative to the most stringent Part 201 criteria.

2.1 Screening Approach for Soil

Consistent with the Work Plan, the maximum detected concentration of each constituent in each SWMU/AOC was compared to the screening criterion. Because this is a screening approach, the maximum detect was used regardless of depth. This provides a very conservative (health-protective) means of identifying key constituents and areas of potential concern. Because the maximum detect was used rather than an average or upper-bound concentration such as the 95 percent upper confidence limit (UCL), and because site-specific factors (e.g, lower exposure frequency, surface vs. subsurface soil exposures) are not accounted for, it is important to note that screening results are likely to be overly conservative (i.e., more health-protective than necessary). In other words, it is highly unlikely that constituents or areas of interest requiring further evaluation were "screened out."

The soil risk screening involved comparison to six different sets of Part 201 screening criteria (potential exposure pathways), as well soil saturation limits and Michigan statewide default background levels for inorganics. If multiple sets of criteria are available for a particular pathway, as is the case with the volatilization to ambient air and direct contact pathways, the most conservative of the sets of possible criteria was used. The Part 201 screening criteria included in the soil risk screening are as follows:

- Groundwater Surface Water Interface Protection (GSIP) Criteria
- Groundwater Contact Protection (GCP) Criteria
- Soil Volatilization to Indoor Air Inhalation Criteria (SVIIC)
- Infinite Source Volatile Soil Inhalation Criteria for Ambient Air (VSIC)
- Particulate Soil Inhalation Criteria for Ambient Air (PSIC)
- Industrial and Commercial II Direct Contact Criteria (DCC)
- Soil Saturation Concentration Screening Levels
- Statewide Default Background Levels.

Table 2-1 presents the Part 201 criteria for soil that are risk-based (i.e., have cancer and/or non-cancer screening criteria. As previously discussed, these criteria are used in a cumulative screening

approach. Table 2-2 presents the Part 201 criteria for soil that are not risk-based. These criteria are compared to soil data on a straight exceed/not exceed basis.

At the request of U.S. EPA, the use of on-site groundwater as a potential future industrial drinking water source was included in the risk screening. Thus, the Industrial and Commercial Drinking Water Protection (DWP) Criteria for soil were also included in the risk screening for this site. However, as discussed in the Work Plan, on-site groundwater is not currently used for drinking water, nor will be in the future. Since the submission of the Work Plan, BASF has obtained a copy of the City of Wyandotte's plumbing code (attached in Appendix B). As stated in Article 3, Section P-303.0, "the water distribution and drainage system of any building in which plumbing fixtures are installed shall be connected to a public water main and sewer, respectively." Therefore, use of on-site groundwater for potable purposes is not a complete exposure pathway at the Wyandotte site now or in the future. The results of the drinking water pathway risk screening for soil and groundwater are presented in Appendix C.

Each set of screening criteria were applied to each SWMU/AOC/RFI well. This is a conservative approach as not all pathways apply to every soil area. For example, GSI protection criteria were applied to every soil area, even though very few of the soil areas are located adjacent to the Detroit River. The GSI protection criteria are intended for comparison to soil data in the "GSI averaging area," or at the groundwater-surface interface (MDEQ, 2002b). GSI protection criteria exceedances in soil areas remote from the GSI do not necessarily indicate exceedances at the GSI boundary.

Cumulative risk screens that evaluate both potential cancer and non-cancer effects were performed on all sets of criteria except the Groundwater Surface Water Interface Protection Criteria, Soil Saturation Concentration Screening Levels, Statewide Default Background Levels, and Industrial and Commercial Drinking Water Protection Criteria. As previously described, for these four screening criteria, comparisons were performed on a straight exceed/not exceed basis. It should be noted that some pathway-specific screening criteria are lower than the statewide default background levels. In accordance with the Part 201 Generic Cleanup Criteria guidance (MDEQ, 2002a), cleanup criteria lower than background default to background.

2.1.1 Assignment of Surrogates

For two constituents detected in soil, no Part 201 criteria are available: bis(2-chloroisopropyl)ether and tin. Where possible, a constituent with Part 201 criteria was assigned as a surrogate based on structural similarity. Bis(2-chloroethyl)ether was identified as a suitable surrogate for bis(2-chloroisopropyl)ether, based on its very similar chemical structure (i.e., isopropyl group instead of ethyl group in the chemical structure). Therefore, the Part 201 criteria for bis(2-chloroethyl) ether were used to evaluate bis(2-chloroisopropyl)ether. For tin, the Region 9 PRG for industrial soil was used, due to the lack of Part 201 criteria. Surrogate chemicals with Part 201 screening criteria were preferentially

used over Region 9 PRGs because the Part 201 soil criteria include numerous exposure pathways, whereas there is only one set of Region 9 PRGs for soil (based on direct contact with soil).

2.2 Risk Screening Results for Soil

For each set of Part 201 criteria, a table presenting the risk screening organized by area was generated. For the risk-based criteria, this included a table presenting the cumulative risk screening for potential carcinogens and another table presenting the cumulative risk screening for noncarcinogens. The risk screening tables for each set of Part 201 criteria are provided in Appendix D. Table 2-3 presents a summary of the soil risk screening organized by area. Only constituents that exceed at least one set of screening criteria in each area are presented in Table 2-3. Constituents that exceed specific screening criteria are indicated with a "Yes," while constituents that do not exceed screening criteria are indicated with a "No." Boxes that are blank (contain neither a Yes or No) indicate that no screening criterion was available for that constituent/pathway. All but one of the soil areas have at least one criteria exceedance. One area (RFIMW 08) has no exceedances of any soil criteria.

The screening results can best be evaluated and interpreted by separately considering exceedances for all pathways except GSI protection and background. This is because most of the constituent and area-specific exceedances are associated with the GSI criteria. [Note that exceedance of state background levels alone does not necessarily indicate a risk or need for further evaluation.]

With regard to soil areas with GSI protection exceedances, it should be noted that only two of the areas are located adjacent to or in close proximity to the Detroit River – 1) RFIMW 07 in the center of the site adjacent to the Detroit River, and 2) the easternmost portion of SWMU H, which is located in the center of the site proximate to the river. These two soil areas are indicated in Table 2-3. The other soil areas are located at a distance from the Detroit River and, as previously indicated, GSI protection exceedances in these areas do not necessarily translate to GSI exceedances at the Detroit River for a variety of chemical fate and hydrogeological reasons.

Considering results for all pathways except GSI protection and state background, a limited number of constituents of interest (COI) and areas are identified in Table 2-3 and summarized below by area.

AOC 2

Arsenic exceeds its direct contact criterion (DCC) (cancer) at AOC 2.

AOC 4

The primary COI in AOC 4 are benzene, ethylbenzene, toluene, and xylenes (BTEX) and a number of polynuclear aromatic hydrocarbons (PAH). Several of the risk-based criteria have exceedances for these COI. Benzene, toluene, and xylenes exceed their soil saturation screening levels.

AOC 6

The primary COI in AOC 6 are benzene, xylenes, and several PAH compounds. Benzene and xylenes exceed soil saturation screening levels. Arsenic exceeds its DCC (cancer).

AOC 7A

Arsenic exceeds its DCC (cancer) at AOC 7A.

AOC 7C

Arsenic exceeds its DCC (cancer) at AOC 7C.

RFIMW 24

Chromium exceeds its Particulate Soil Inhalation Criteria (PSIC) (cancer and non-cancer) for ambient air at RFIMW 24. In accordance with Part 201 guidance, chromium detected in site soil is assumed to be in the hexavalent chromium (Cr+6) form for screening purposes. This is likely to be an overly conservative assumption.

SWMU F

1,2-Dichloropropane and bis(2-chloroisopropyl)ether exceed volatilization-based criteria (indoor and ambient air) for 1,2-dichloropropane and ambient air for bis(2-chloroisopropyl)ether) at SWMU F. Arsenic and bis(2-chloroisopropyl)ether also exceed their DCC.

SWMU G

Arsenic exceeds its DCC (cancer) at SWMU G.

SWMU H

1,2-Dichloropropane, arsenic, and bis(2-chloroisopropyl)ether exceed their DCC at SWMU H. 1,2-Dichloropropane and bis(2-chloroisopropyl)ether exceed volatilization-based criteria for indoor and ambient air. 1,1-Dichloropropane also exceeds its soil saturation screening level. Chromium and mercury exceed PSIC and Infinite Source Volatilization Inhalation Criteria (VSIC) for ambient air, respectively.

2.2.1 Risk Screening for Lead

As stated in the Part 201 criteria tables (footnote L), the risk criteria for lead in soil are derived using a biological based model, rather than the Part 201 assumptions and algorithms. Therefore, comparison of lead in soil must be performed on a straight comparison basis. Table 2-4 presents the comparison of the maximum detected concentration of lead in each soil area to the two risk-based criteria for lead (DCC and Particulate Soil Inhalation Criteria (PSIC)). As shown in Table 2-4, there were no exceedances for lead in any of the soil areas.

2.3 Detection Limit Screen for Soil

At the request of USEPA, detection limits for analytes never detected in site soil were compared to the most stringent Part 201 criteria to determine if detection limits were adequately sensitive. A total of 148 analytes were analyzed for in site-wide soil and never detected. Part 201 criteria were used where available for this screen. If no Part 201 criterion was available, the USEPA Region 9 PRG for industrial soil was used. For 17 analytes, no Part 201 criteria or Region 9 PRG criteria are available. Appendix F provides the list of non-detect analytes in soil, the full range of screening criteria identified for each analyte, and indicates the surrogate assigned to analytes lacking Part 201 criteria (Table F-1 provides risk-based criteria and Table F-2 provides non risk-based criteria).

As requested by USEPA in the February 4, 2005 letter, the detection limit screen involved comparing the lowest (most stringent) criterion to the detection limits observed at the site. The lowest detection limit observed was used in this evaluation. Results are summarized in Table 2-5. Of the 131 analytes with screening levels, the detection limit was met for all except 14 analytes. For these 14 analytes, the detection limits approach the lowest screening level for most and in many case, the screening level is quite low (e.g., GSI or drinking water protection criteria). Only a few analytes appear to have what could be considered slightly elevated sample quantitation limits (SQLs). In summary, the detection limit screen for soil indicates that overall, detection limits obtained in site investigations have been adequate for risk assessment purposes.

3.0 RISK SCREENING FOR GROUNDWATER

This section discusses the risk screening performed on groundwater data. Section 3.1 presents the approach used to perform the risk screening for groundwater, and Section 3.2 discusses the screening results. Section 3.3 discusses the evaluation of groundwater detection limits for the constituents reported as not detected relative to the most stringent Part 201 criteria.

3.1 Screening Approach for Groundwater

Consistent with the Work Plan, the maximum detected concentration of each constituent in each monitoring well was compared to the screening criterion. The maximum detected concentration from the most recent two years of monitoring data was used as the screening concentration. This is a conservative approach. It should also be noted that only the most recent sampling events performed by ENSR used low-flow techniques.

The groundwater risk screening involved comparison to four sets of screening criteria:

- Groundwater Surface Water Interface (GSI) Criteria
- Industrial and Commercial II,III, and IV Groundwater Volatilization to Indoor Air Inhalation Criteria (GVIIC)
- Groundwater Contact Criteria (GCC)
- Water Solubility Limits

In addition, as previously noted, at the request of USEPA, the industrial drinking water criteria were also used to screen groundwater, although this is not a complete exposure pathway at the site (see Section 2.1). The results of the industrial and commercial drinking water screen are provided in Appendix C.

Table 3-1 presents the Part 201 screening criteria used for groundwater. Each set of screening criteria were applied to each of the 71 wells with detected results. Cumulative risk screens that evaluate both potential cancer and non-cancer effects were performed on the volatilization to indoor air criteria (GVIIC) and groundwater contact criteria (GCC). For the GSI criteria and the Solubility Limits, comparisons were performed on a straight exceed/not exceed basis.

3.1.1 Assignment of Surrogates

For six constituents detected in groundwater at the BASF Wyandotte site, no Part 201 criteria are available. Where possible, constituents that have Part 201 criteria were assigned as surrogates based

on structural similarity. This includes 2,4-dichlorophenol for 2,6-dichlorophenol, pyridine for picoline, and bis(2-chloroethyl)ether for bis(2-chloroisopropyl)ether. For three constituents, no suitable Part 201 criteria were identified. For these constituents, the USEPA Region 9 PRG for tap water was used as the surrogate for the industrial drinking water pathway (cyclohexane, methylcyclohexane, propylene oxide).

3.2 Risk Screening Results for Groundwater

For each set of Part 201 criteria, a table presenting the risk screening organized by monitoring well was generated. For the risk-based criteria, this included a table presenting the cumulative risk screening for potential carcinogens and another table presenting the cumulative risk screening for noncarcinogens. The risk screening tables for each set of Part 201 criteria are provided in Appendix E. Table 3-2 presents a summary of the risk screening for groundwater organized by well. Only constituents that exceed at least one set of screening criteria in each well are presented in Table 3-2. Constituents that exceed specific screening criteria are indicated with a "Yes," while constituents that do not exceed screening criteria are indicated with a "No." Boxes that are blank (contain neither a Yes or No) indicate that no screening criterion was available for that constituent/pathway combination.

As shown in Table 3-2, aside from the GSI criteria, only bis(2-ethylhexyl)phthalate in one well (WHI2-1S) exceeds Part 201 criteria (GCC and solubility limit). No other constituents exceed the GVIIC, GCC, or water solubility criteria in any wells.

There are numerous GSI exceedances in groundwater. A total of 62 wells have at least one COI that exceeds GSI criteria. It should be noted that for a large number of the wells, the only GSI exceedance is total dissolved solids (TDS). Excluding the wells with TDS GSI exceedance only, a total of 49 wells have GSI exceedances.

As previously noted, GSI criteria are intended for comparison to groundwater data at the groundwater-surface interface (MDEQ, 2002b). Only a subset of the wells with GSI exceedances are located adjacent to the Detroit River. A total of 19 wells with GSI exceedances are located along the northern, eastern and southeastern perimeter of the site adjacent to the river and represent potential groundwater-surface water interface (GSI) exposure points. These wells are indicated in Table 3-2.

3.3 Detection Limit Screen for Groundwater

At the request of USEPA, detection limits for analytes never detected in site groundwater were compared to the most stringent Part 201 criteria to determine if detection limits were adequately sensitive. A total of 161 analytes were analyzed for in site-wide groundwater and never detected. Part 201 criteria were used where available for this screen. If no Part 201 criterion was available, the USEPA Region 9 PRG for tapwater was used. For 18 analytes, no Part 201 criteria or Region 9 PRG criteria are available. Appendix F (Table F-3) provides the list of non-detect analytes for groundwater,

the full range of screening criteria identified for each analyte, and indicates the surrogate assigned to analytes lacking Part 201 criteria.

As requested by USEPA in the February 4, 2005 letter, the detection limit screen involved comparing the lowest (most stringent) criterion to the detection limits observed at the site. The lowest detection limit observed was used in this evaluation. Results are summarized in Table 3-3. Of the 143 analytes with screening levels, the detection limit was met for all except 44 analytes. For these 44 analytes (many of which are unusual semivolatiles with very low screening criteria), the detection limits approach the lowest screening level for most, and in many cases, the screening level is quite low (e.g., GSI or drinking water criteria). Only a few analytes appear to have what could be considered slightly elevated sample quantitation limits (SQLs); for most analytes the detection limit achieved is consistent with the analytical method. In summary, the detection limit screen for groundwater indicates that overall, detection limits obtained in site investigations have been adequate for risk assessment purposes.

4.0 SUMMARY AND CONCLUSIONS

Based on the results of the risk screening performed for the BASF Wyandotte site, exceedances of Part 201 criteria were identified in soil and in groundwater. These are summarized below by medium.

4.1 Summary of Risk Screening Results for Soil

There are a number of soil areas (SWMU/AOCs/RFI wells) with exceedances of Part 201 criteria. Excluding areas with only GSI exceedances, five AOCs, one RFI well, and three SWMUs have at least one COI (constituent that exceeds a criterion). At five of these areas (AOC 2, AOC 7A, AOC 7C, RFIMW 24, and SWMU G), only one constituent exceeds one set of criteria.

The maximum detected concentration of arsenic in soil exceeds its DCC (cancer) criterion in AOC 2, AOC 7A, AOC 7C, and SWMU G. If the mean concentration of arsenic in each of these areas is used as the screening concentration, arsenic does not exceed its DCC (cancer). Use of the mean concentration (including an upper-bound on the mean) is reasonable (n = 8 in AOC 2, n = 14 in AOC 7A, n = 4 in AOC 7C, and n = 10 in SWMU G), and provides a more realistic estimate of a chronic (i.e., long-term) exposure point concentration. Further evaluation of arsenic in AOCs 2, 7A, 7C, and SWMU G is likely limited to consideration of alternate exposure point concentrations and possibly background.

For the exceedance of the hexavalent chromium PSIC criteria at RFIMW 24, further evaluation is warranted to assess the form of chromium in soil (i.e., are criteria for trivalent chromium more appropriate). It is likely that trivalent chromium criteria are more appropriate given that hexavalent chromium is not associated with the site.

For the remaining four areas with Part 201 exceedances (AOC 4, AOC 6, SWMU F, and SWMU H), further evaluation is warranted.

- AOC 4 - Benzene, ethylbenzene, toluene, and xylenes (BTEX) and a number of polynuclear aromatic hydrocarbons (PAH) warrant further evaluation at AOC 4. Several criteria were exceeded, including soil saturation screening levels for benzene, toluene, and xylenes.

- AOC 6 - Screening results for AOC 6 were similar to those for AOC 4, with benzene and xylenes exceeding soil saturation screening levels.

- SWMU F - Exceedances of volatilization-based criteria for 1,2-dichloropropane and bis(2-chloroisopropyl)ether warrant further evaluation (e.g., consideration of finite source models, alternate exposure point concentrations). The maximum detected concentrations of bis(2-chloroisopropyl)ether and arsenic exceed their DCC at SWMU F, however, mean concentrations do not. Further evaluation of these two COI for the DCC pathway at SWMU F

is likely limited to consideration of alternate exposure point concentrations and possibly background for arsenic.

- SWMU H – Exceedances of volatilization-based criteria and DCC for 1,2-dichloropropane and bis(2-chloroisopropyl)ether warrant further evaluation, as well as 1,1-dichloropropane exceeding its soil saturation screening level. Arsenic, chromium, and mercury also warrant further evaluation in this SWMU. [Note: Flux chamber analysis was conducted at SWMU H by Parsons Engineering Science in 1999 to evaluate potential volatilization of VOCs in soil to ambient air. Results were submitted to USEPA in the March 2000 RCRA Corrective Measures Study Field Program Report. 1,2-Dichloropropane accounted for 99% of the carcinogenic risk at SWMU H. The report concluded "the resultant risk values will be less than 10^{-6}. Therefore, there is no unacceptable inhalation risk at SWMU H."]

For 16 of the 17 soil areas, one or more COI were identified based on exceedance of GSI protection criteria. Based on the results of this risk screening, further evaluation of GSI protection exceedances is warranted. It should be noted that only two of the soil areas are adjacent to the river and thus represent potential GSI exposure points (RFIMW 07 and the easternmost portion of SWMU H).

A number of activities and refinements in the GSI evaluation may be considered, ranging in level of complexity, including:

- consideration of low frequency of detection,
- incorporation of site-specific background,
- use of alternate exposure point concentrations (e.g., mean concentration vs. maximum detected concentration in an area),
- examination of spatially related soil and groundwater data to determine whether the pathway from soils to groundwater to the receptor(s) is or is not complete, and
- for soil to groundwater pathways that are complete, use of site-specific leaching calculations that incorporate site-specific data.

In addition, other options may be considered, including additional sampling and refined statistical analysis and/or institutional controls.

4.2 Summary of Risk Screening Results for Groundwater

Based on the results of the groundwater risk screening, with one exception, only exceedances of GSI criteria warrant further evaluation. The single exception is exceedance of GCC and solubility limit criteria for bis(2-ethylhexyl)phthalate in one well (WHI2-1S). No other constituents exceed the GVIIC, GCC, or water solubility criteria in any wells.

There are numerous GSI exceedances in groundwater. As previously noted, GSI criteria are intended for comparison to groundwater data at the groundwater-surface water interface (MDEQ, 2002b). A total of 19 wells with GSI exceedances are located along the northern, eastern and southeastern perimeter of the site adjacent to the river.

It should also be noted that GSI exceedances for several inorganics were observed in the wells located along Biddle Avenue on the western (upgradient) side of the site (RFIMW-24, RFIMW-25, RFIMW-26, RFIMW-27, RFIMW-28, RFIMW-29, and P34N). These wells are upgradient of the site and are intended to serve as indicators of background conditions in groundwater. The presence of historic fill in the vicinity of these wells may explain the presence of inorganics in these wells. Low-flow sampling may be an option for obtaining more representative concentrations of inorganics in these wells.

For wells with GSI exceedances, further evaluation is warranted. This may consist of a range of activities, including the refinements listed above for soil GSI exceedances, further sampling, and possibly site-specific fate and transport analysis for groundwater to surface water COI.

5.0 REFERENCES

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Table 1-1
Summary Statistics
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	Minimum Detected Concentration (c)	Maximum Detected Concentration (d)	Mean Concentration (e)
AOC 1						
BENZENE	71-43-2	ug/kg	1 : 43 : 52	3.80E+02	3 80E+02	6 65E+01
ETHYLBENZENE	100-41-4	ug/kg	1 : 42 . 53	3.00E+02	3.00E+02	5.56E+01
TOLUENE	108-88-3	ug/kg	2 : 15 . 53	3.40E+01	3.40E+01	2.37E+01
XYLENES	1330-20-7	ug/kg	1 : 22 · 53	3.50E+01	3.50E+01	2.34E+01
AOC 2						
2-METHYLNAPHTHALENE	91-57-6	ug/kg	4 · 8 : 8	2.45E+02	3.40E+03	6 97E+02
ACENAPHTHYLENE	208-96-8	ug/kg	3 · 5 : 8	8.20E+01	1 90E+02	1 58E+02
ACETONE	67-64-1	ug/kg	2 : 8 : 8	3.00E+01	1.00E+02	3 91E+01
ACETOPHENONE	98-86-2	ug/kg	2 : 7 : 8	1 80E+02	2.90E+02	2.10E+02
ANTHRACENE	120-12-7	ug/kg	5 : 8 : 8	5.20E+01	5.90E+02	2.07E+02
ARSENIC	7440-38-2	ug/kg	8 : 8 : 8	7.30E+02	4.11E+04	1.81E+04
BARIUM	7440-39-3	ug/kg	8 : 8 : 8	4.50E+03	7.89E+04	4.37E+04
BENZENE	71-43-2	ug/kg	1 : 8 : 8	2.70E+01	2.70E+01	6.04E+00
BENZO(A)ANTHRACENE	56-55-3	ug/kg	6 . 8 : 8	5.80E+01	2 00E+03	4.80E+02
BENZO(A)PYRENE	50-32-8	ug/kg	5 : 8 : 8	8.50E+01	1 70E+03	4.29E+02
BENZO(B)FLUORANTHENE	205-99-2	ug/kg	5 : 8 : 8	9.60E+01	2.20E+03	5.41E+02
BENZO(GHI)PERYLENE	191-24-2	ug/kg	5 : 8 : 8	6 10E+01	6 20E+02	2.43E+02
BENZO(K)FLUORANTHENE	207-08-9	ug/kg	4 . 8 : 8	1 20E+02	9 80E+02	2.94E+02
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/kg	4 . 6 : 8	8 90E+01	2 38E+02	1.57E+02
CADMIUM	7440-43-9	ug/kg	8 . 8 : 8	1 40E+02	3.50E+03	7.44E+02
CHROMIUM	7440-47-3	ug/kg	8 : 8 : 8	5.30E+03	1.01E+05	3.36E+04
CHRYSENE	218-01-9	ug/kg	6 : 8 : 8	5.70E+01	1.70E+03	4.33E+02
COPPER	7440-50-8	ug/kg	8 : 8 · 8	3.20E+03	2.44E+04	1.51E+04
DIBENZ(A,H)ANTHRACENE	53-70-3	ug/kg	2 : 4 : 8	7.20E+01	1 90E+02	1 56E+02
DIBENZOFURAN	132-64-9	ug/kg	4 . 8 : 8	1.40E+02	7 80E+02	2 66E+02
ETHYLBENZENE	100-41-4	ug/kg	1 : 8 : 8	4.90E+00	4.90E+00	3 28E+00
FLUORANTHENE	206-44-0	ug/kg	6 : 8 : 8	9.00E+01	2.70E+03	6.69E+02
INDENO(1,2,3-CD)PYRENE	193-39-5	ug/kg	5 : 8 : 8	7 00E+01	7.00E+02	2.46E+02
LEAD	7439-92-1	ug/kg	8 : 8 . 8	2.40E+03	9.01E+04	2.22E+04
MERCURY	7439-97-6	ug/kg	5 : 8 . 8	1 50E+02	1.71E+04	2 40E+03
METHYLENE CHLORIDE	75-09-2	ug/kg	1 · 8 : 8	2.70E+01	2.70E+01	6.04E+00
NAPHTHALENE	91-20-3	ug/kg	4 : 8 : 8	4.75E+02	2.50E+03	6.69E+02
NICKEL	7440-02-0	ug/kg	8 · 8 · 8	4.80E+03	1.33E+04	9.82E+03
PHENANTHRENE	85-01-8	ug/kg	6 : 8 · 8	9.70E+01	1 20E+03	5.10E+02
PYRENE	129-00-0	ug/kg	6 8 . 8	8.70E+01	2 60E+03	6 34E+02
SELENIUM	7782-49-2	ug/kg	1 : 8 : 8	7.60E+02	7.60E+02	3.81E+02
TOLUENE	108-88-3	ug/kg	2 : 8 : 8	1 15E+01	4 30E+01	9.09E+00
TOTAL CYANIDE	57-12-5	ug/kg	6 : 8 : 8	7.65E+02	4.60E+04	1.04E+04
TOTAL XYLENES	Total Xylenes	ug/kg	1 · 8 : 8	3.11E+01	3.11E+01	9.21E+00
VANADIUM	7440-62-2	ug/kg	7 · 8 : 8	1.02E+04	5.34E+04	1.74E+04
ZINC	7440-66-6	ug/kg	8 : 8 · 8	1.85E+04	9.66E+05	1 80E+05

Table 1-1
Summary Statistics
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	Minimum Detected Concentration (c)	Maximum Detected Concentration (d)	Mean Concentration (e)
AOC 4						
2-METHYLNAPHTHALENE	91-57-6	ug/kg	2 : 2 : 2	9.40E+05	9.00E+06	4.97E+06
ACENAPHTHYLENE	208-96-8	ug/kg	2 : 2 : 2	1.00E+06	9.30E+06	5.15E+06
ANTHRACENE	120-12-7	ug/kg	2 : 2 : 2	8.70E+05	7 10E+06	3.99E+06
ARSENIC	7440-38-2	ug/kg	2 : 2 : 2	1.45E+04	2.05E+04	1.75E+04
BARIUM	7440-39-3	ug/kg	2 · 2 : 2	1.25E+04	3.35E+04	2.30E+04
BENZENE	71-43-2	ug/kg	2 · 2 : 2	2.50E+05	6 80E+05	4.65E+05
BENZO(A)ANTHRACENE	56-55-3	ug/kg	2 : 2 : 2	4.90E+05	4 90E+06	2 70E+06
BENZO(A)PYRENE	50-32-8	ug/kg	2 : 2 : 2	3 30E+05	4 10E+06	2.22E+06
BENZO(B)FLUORANTHENE	205-99-2	ug/kg	2 . 2 : 2	4 10E+05	4.40E+06	2.41E+06
BENZO(GHI)PERYLENE	191-24-2	ug/kg	1 : 2 : 2	1.50E+06	1.50E+06	1.03E+06
BENZO(K)FLUORANTHENE	207-08-9	ug/kg	2 : 2 : 2	1 90E+05	2.50E+06	1.35E+06
CADMIUM	7440-43-9	ug/kg	2 : 2 · 2	1.40E+03	1.40E+03	1.40E+03
CHROMIUM	7440-47-3	ug/kg	2 : 2 : 2	7.30E+02	1 20E+03	9.65E+02
CHRYSENE	218-01-9	ug/kg	2 : 2 : 2	4 70E+05	5.20E+06	2.84E+06
COPPER	7440-50-8	ug/kg	2 : 2 : 2	3.40E+03	3.70E+03	3.55E+03
DIBENZOFURAN	132-64-9	ug/kg	2 : 2 · 2	7.40E+05	5.90E+06	3.32E+06
FLUORANTHENE	206-44-0	ug/kg	2 : 2 · 2	1.60E+06	1 40E+07	7.80E+06
FLUORENE	86-73-7	ug/kg	2 : 2 : 2	1.20E+06	9.50E+06	5.35E+06
INDENO(1,2,3-CD)PYRENE	193-39-5	ug/kg	2 2 . 2	1.20E+05	1 60E+06	8.60E+05
LEAD	7439-92-1	ug/kg	2 · 2 : 2	4.90E+04	8.28E+04	6.59E+04
MERCURY	7439-97-6	ug/kg	2 : 2 · 2	1.30E+02	6.20E+02	3.75E+02
NAPHTHALENE	91-20-3	ug/kg	2 . 2 : 2	6 00E+06	4.80E+07	2.70E+07
PHENANTHRENE	85-01-8	ug/kg	2 : 2 : 2	2.70E+06	2.30E+07	1.29E+07
PHENOL	108-95-2	ug/kg	1 : 2 : 2	2 30E+06	2.30E+06	1.43E+06
PYRENE	129-00-0	ug/kg	2 : 2 : 2	1.10E+06	9 90E+06	5.50E+06
SELENIUM	7782-49-2	ug/kg	2 . 2 . 2	2.60E+03	3.60E+03	3.10E+03
STYRENE	100-42-5	ug/kg	2 : 2 : 2	9.60E+04	2.40E+05	1.68E+05
THALLIUM	7440-28-0	ug/kg	2 : 2 . 2	7 20E+03	1.40E+04	1.06E+04
TOLUENE	108-88-3	ug/kg	2 : 2 · 2	1.90E+05	5 90E+05	3 90E+05
TOTAL CYANIDE	57-12-5	ug/kg	2 · 2 : 2	1.10E+04	1.90E+04	1 50E+04
TOTAL METHYLPHENOL	otal MethylPh	ug/kg	2 : 2 : 2	1.01E+06	9.90E+06	5.46E+06
TOTAL XYLENES	Total Xylenes	ug/kg	2 : 2 : 2	2.55E+05	9.80E+05	6.18E+05
ZINC	7440-66-6	ug/kg	2 : 2 . 2	1 01E+05	1.14E+05	1.08E+05

Table 1-1
Summary Statistics
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	Minimum Detected Concentration (c)	Maximum Detected Concentration (d)	Mean Concentration (e)
AOC 6						
1,2,3-TRICHLOROPROPANE	96-18-4	ug/kg	1 . 6 : 9	9 00E+00	9.00E+00	4.17E+00
1,2-DICHLOROPROPANE	78-87-5	ug/kg	2 · 9 · 12	5.20E+00	2.20E+01	5.51E+00
2,4-DIMETHYLPHENOL	105-67-9	ug/kg	1 : 1 : 12	1.70E+02	1.70E+02	1.70E+02
2-METHYLNAPHTHALENE	91-57-6	ug/kg	8 : 12 : 12	4.90E+01	9.90E+04	1.67E+04
ACENAPHTHENE	83-32-9	ug/kg	3 · 10 : 12	5.50E+01	1.20E+04	2 49E+03
ACENAPHTHYLENE	208-96-8	ug/kg	8 : 11 : 12	5.80E+01	6 00E+04	8.13E+03
ACETOPHENONE	98-86-2	ug/kg	5 : 9 : 12	3.00E+02	5.20E+03	1.24E+03
ANTHRACENE	120-12-7	ug/kg	6 : 11 : 12	1.27E+02	1 20E+05	1.44E+04
ARSENIC	7440-38-2	ug/kg	12 : 12 · 12	3.90E+03	2.00E+05	3.88E+04
BARIUM	7440-39-3	ug/kg	12 : 12 : 12	8.50E+03	1.87E+05	7.72E+04
BENZENE	71-43-2	ug/kg	5 : 12 : 12	3.90E+00	1 40E+06	1.93E+05
BENZO(A)ANTHRACENE	56-55-3	ug/kg	9 . 11 : 12	1 30E+02	1.30E+05	1 73E+04
BENZO(A)PYRENE	50-32-8	ug/kg	9 : 11 : 12	1 20E+02	9.40E+04	1.39E+04
BENZO(B)FLUORANTHENE	205-99-2	ug/kg	9 : 11 . 12	1.50E+02	1.00E+05	1.62E+04
BENZO(GHI)PERYLENE	191-24-2	ug/kg	9 : 11 : 12	8.70E+01	3.10E+04	6.83E+03
BENZO(K)FLUORANTHENE	207-08-9	ug/kg	8 : 11 : 12	5.00E+01	5.60E+04	8.81E+03
BERYLLIUM	7440-41-7	ug/kg	1 · 12 · 12	8.90E+02	8.90E+02	3.95E+02
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/kg	5 · 10 · 12	1.30E+02	5 20E+03	1.91E+03
CADMIUM	7440-43-9	ug/kg	9 : 12 : 12	1.40E+02	2.00E+03	5.23E+02
CHLOROFORM	67-66-3	ug/kg	1 : 9 : 12	1.00E+01	1.00E+01	3.93E+00
CHROMIUM	7440-47-3	ug/kg	12 · 12 : 12	2.50E+03	5 32E+04	1.29E+04
CHRYSENE	218-01-9	ug/kg	9 : 11 : 12	2.10E+02	1.20E+05	1.62E+04
COPPER	7440-50-8	ug/kg	12 : 12 : 12	7.40E+03	4.94E+04	2.55E+04
DIBENZ(A,H)ANTHRACENE	53-70-3	ug/kg	7 · 10 : 12	1.10E+02	1 20E+04	2.60E+03
DIBENZOFURAN	132-64-9	ug/kg	9 : 11 : 12	5 70E+01	9.90E+04	1.03E+04
ETHYLBENZENE	100-41-4	ug/kg	1 · 9 · 9	3.20E+04	3 20E+04	7.08E+03
FLUORANTHENE	206-44-0	ug/kg	9 : 12 : 12	1.20E+02	3 50E+05	5.24E+04
FLUORENE	86-73-7	ug/kg	10 . 12 : 12	5 40E+01	2.10E+05	3 70E+04
INDENO(1,2,3-CD)PYRENE	193-39-5	ug/kg	8 : 11 : 12	7.30E+01	4.30E+04	8.01E+03
LEAD	7439-92-1	ug/kg	12 : 12 : 12	6.00E+03	3.08E+05	5.77E+04
MERCURY	7439-97-6	ug/kg	8 : 12 : 12	1.40E+02	3.30E+03	7.83E+02
METHYLENE CHLORIDE	75-09-2	ug/kg	4 : 9 : 12	7 30E+00	1.00E+01	5.85E+00
NAPHTHALENE	91-20-3	ug/kg	10 · 12 : 12	4.30E+01	2.70E+06	2.53E+05
NICKEL	7440-02-0	ug/kg	8 : 12 : 12	5.30E+03	3 39E+04	1.16E+04
PHENANTHRENE	85-01-8	ug/kg	9 . 12 : 12	5 20E+02	4.90E+05	6 33E+04
PYRENE	129-00-0	ug/kg	9 12 : 12	1.70E+02	2 80E+05	4.52E+04
SELENIUM	7782-49-2	ug/kg	7 · 12 : 12	1.00E+03	2 30E+04	5.09E+03
TOLUENE	108-88-3	ug/kg	1 : 1 : 9	2.40E+00	2 40E+00	2.40E+00
TOTAL CYANIDE	57-12-5	ug/kg	8 : 12 : 12	2.70E+02	2 40E+03	7.76E+02
TOTAL METHYLPHENOL	otal MethylPh	ug/kg	1 . 4 : 11	9 70E+02	9.70E+02	7 30E+02
TOTAL XYLENES	Total Xylenes	ug/kg	1 . 9 : 9	1 76E+05	1.76E+05	2.66E+04
VANADIUM	7440-62-2	ug/kg	9 : 12 . 12	7 30E+03	1.95E+04	1 05E+04
ZINC	7440-66-6	ug/kg	12 : 12 · 12	1.03E+04	2.52E+05	6.55E+04

Table 1-1
Summary Statistics
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	Minimum Detected Concentration (c)	Maximum Detected Concentration (d)	Mean Concentration (e)
AOC 7A						
ARSENIC	7440-38-2	ug/kg	14 : 14 : 14	2.50E+03	6.24E+04	1.77E+04
BARIUM	7440-39-3	ug/kg	14 : 14 : 14	8 30E+03	1.48E+05	6.59E+04
BERYLLIUM	7440-41-7	ug/kg	2 · 14 : 14	7.10E+02	9.30E+02	3 91E+02
CADMIUM	7440-43-9	ug/kg	12 . 14 : 14	1.40E+02	7 50E+02	3.37E+02
CHROMIUM	7440-47-3	ug/kg	14 : 14 . 14	7.30E+03	2 91E+04	1.61E+04
COBALT	7440-48-4	ug/kg	2 . 14 : 14	4.80E+03	9.70E+03	3.77E+03
COPPER	7440-50-8	ug/kg	14 . 14 : 14	2.70E+03	3.70E+04	2.13E+04
LEAD	7439-92-1	ug/kg	14 : 14 : 14	2.80E+03	3.35E+05	7.15E+04
MERCURY	7439-97-6	ug/kg	11 : 14 : 14	1.30E+02	4.80E+03	1.27E+03
NICKEL	7440-02-0	ug/kg	13 : 14 : 14	8.10E+03	3.18E+04	1.44E+04
SELENIUM	7782-49-2	ug/kg	4 : 14 : 14	6.33E+02	1.70E+03	5.83E+02
SILVER	7440-22-4	ug/kg	1 : 14 : 14	1.00E+04	1.00E+04	1.31E+03
TOTAL CYANIDE	57-12-5	ug/kg	15 · 19 : 19	3.20E+02	5.70E+03	1.66E+03
VANADIUM	7440-62-2	ug/kg	14 : 14 : 14	1.10E+04	4.13E+04	2.25E+04
ZINC	7440-66-6	ug/kg	14 . 14 : 14	1.26E+04	1 90E+05	6.66E+04
AOC 7B						
ARSENIC	7440-38-2	ug/kg	4 : 4 : 4	1.70E+03	1 17E+04	7.45E+03
BARIUM	7440-39-3	ug/kg	4 . 4 : 4	1.26E+04	1 08E+05	5 25E+04
BERYLLIUM	7440-41-7	ug/kg	1 4 : 4	7 80E+02	7.80E+02	4.20E+02
CADMIUM	7440-43-9	ug/kg	2 : 4 : 4	4.10E+02	5.10E+02	2.59E+02
CHROMIUM	7440-47-3	ug/kg	4 . 4 : 4	6.40E+03	2 69E+04	1.31E+04
COPPER	7440-50-8	ug/kg	3 : 4 : 4	1.24E+04	1.65E+04	1 16E+04
LEAD	7439-92-1	ug/kg	4 · 4 : 4	3.40E+03	3.06E+04	1 53E+04
MERCURY	7439-97-6	ug/kg	2 : 4 : 4	2.70E+02	5.70E+02	2.39E+02
NICKEL	7440-02-0	ug/kg	4 . 4 : 4	6.40E+03	1 38E+04	1 06E+04
VANADIUM	7440-62-2	ug/kg	4 : 4 : 4	1 01E+04	1.89E+04	1.42E+04
ZINC	7440-66-6	ug/kg	4 : 4 : 4	1.46E+04	1.51E+05	6.45E+04
AOC 7C						
ARSENIC	7440-38-2	ug/kg	4 . 4 : 4	1 92E+04	3 45E+04	2.67E+04
BARIUM	7440-39-3	ug/kg	4 . 4 : 4	2.07E+04	1 47E+05	6.38E+04
BERYLLIUM	7440-41-7	ug/kg	1 · 4 : 4	1 30E+03	1.30E+03	5.76E+02
CADMIUM	7440-43-9	ug/kg	1 . 4 : 4	6.70E+02	6.70E+02	2.19E+02
CHROMIUM	7440-47-3	ug/kg	4 : 4 : 4	6.00E+03	1.72E+04	9.13E+03
COPPER	7440-50-8	ug/kg	4 . 4 : 4	2.00E+04	3.08E+04	2.36E+04
LEAD	7439-92-1	ug/kg	4 · 4 : 4	7.30E+03	1.13E+05	4.14E+04
MERCURY	7439-97-6	ug/kg	2 : 4 : 4	1.60E+02	2.20E+03	6.25E+02
NICKEL	7440-02-0	ug/kg	4 · 4 : 4	1.01E+04	8.99E+04	3.36E+04
SELENIUM	7782-49-2	ug/kg	4 : 4 : 4	2.00E+03	2.40E+03	2.23E+03
VANADIUM	7440-62-2	ug/kg	4 : 4 : 4	1 19E+04	1.95E+04	1.58E+04
ZINC	7440-66-6	ug/kg	4 : 4 : 4	1.83E+04	6.03E+05	1.72E+05

Table 1-1
Summary Statistics
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	Minimum Detected Concentration (c)	Maximum Detected Concentration (d)	Mean Concentration (e)
RFIMW 07						
1,1,1-TRICHLOROETHANE	71-55-6	ug/kg	2 : 6 : 6	3.03E+00	3.70E+01	1.42E+01
1,1-DICHLOROETHANE	75-34-3	ug/kg	1 : 5 : 6	1.20E+01	1.20E+01	6.20E+00
2,4-DIMETHYLPHENOL	105-67-9	ug/kg	1 : 1 : 6	1.70E+02	1.70E+02	1 70E+02
2-METHYLNAPHTHALENE	91-57-6	ug/kg	3 : 6 : 6	6.90E+02	5.50E+03	1.50E+03
ACENAPHTHENE	83-32-9	ug/kg	1 : 4 : 6	3 70E+02	3.70E+02	3.06E+02
ACETONE	67-64-1	ug/kg	5 : 6 . 6	3.60E+01	1.60E+02	7.91E+01
ANTHRACENE	120-12-7	ug/kg	1 . 5 : 6	4.78E+02	4.78E+02	4.14E+02
BENZO(A)ANTHRACENE	56-55-3	ug/kg	1 . 6 : 6	1.70E+03	1.70E+03	6.81E+02
BENZO(A)PYRENE	50-32-8	ug/kg	2 . 6 : 6	2.00E+02	1.10E+03	5.64E+02
BENZO(B)FLUORANTHENE	205-99-2	ug/kg	1 : 6 . 6	1.51E+03	1.51E+03	6 50E+02
BENZO(GHI)PERYLENE	191-24-2	ug/kg	1 : 5 : 6	4.78E+02	4.78E+02	4 14E+02
BENZO(K)FLUORANTHENE	207-08-9	ug/kg	1 : 6 : 6	5.08E+02	5 08E+02	4.83E+02
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/kg	2 : 2 . 6	2.38E+02	3.00E+02	2.69E+02
CHRYSENE	218-01-9	ug/kg	1 : 6 : 6	1.35E+03	1 35E+03	6.23E+02
DIBENZOFURAN	132-64-9	ug/kg	1 : 6 : 6	4.90E+02	4.90E+02	4.80E+02
ETHYLBENZENE	100-41-4	ug/kg	2 : 6 : 6	2.10E+01	2.60E+01	1.10E+01
FLUORANTHENE	206-44-0	ug/kg	1 : 6 : 6	2.40E+03	2.40E+03	7 98E+02
FLUORENE	86-73-7	ug/kg	1 : 3 : 6	2.83E+02	2.83E+02	3 14E+02
INDENO(1,2,3-CD)PYRENE	193-39-5	ug/kg	1 . 6 : 6	5.18E+02	5.18E+02	4.85E+02
METHYL ETHYL KETONE	78-93-3	ug/kg	2 : 3 : 6	2.80E+01	3.40E+01	3.03E+01
METHYLENE CHLORIDE	75-09-2	ug/kg	1 . 3 . 6	4 25E+00	4.25E+00	4.78E+00
NAPHTHALENE	91-20-3	ug/kg	2 : 6 : 6	5.80E+02	9.65E+02	5 93E+02
PHENANTHRENE	85-01-8	ug/kg	2 : 6 : 6	1.10E+03	2.42E+03	9 22E+02
PHENOL	108-95-2	ug/kg	2 : 6 . 6	7 40E+02	1 10E+04	2.23E+03
PYRENE	129-00-0	ug/kg	1 : 6 : 6	2.15E+03	2.15E+03	7.56E+02
TOLUENE	108-88-3	ug/kg	1 : 5 . 6	7 80E+00	7.80E+00	6.38E+00
TOTAL METHYLPHENOL	otal MethylPh	ug/kg	2 : 6 : 6	3.21E+03	4 30E+03	2.06E+03
TOTAL XYLENES	Total Xylenes	ug/kg	3 . 6 . 6	1.04E+01	9 80E+01	3.11E+01

Table 1-1
Summary Statistics
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	Minimum Detected Concentration (c)	Maximum Detected Concentration (d)	Mean Concentration (e)
RFIMW 08						
ACETONE	67-64-1	ug/kg	10 : 10 : 10	1.50E+01	5.20E+01	3.65E+01
ANTHRACENE	120-12-7	ug/kg	2 : 9 : 10	2.90E+02	3.00E+02	2 34E+02
BENZO(A)ANTHRACENE	56-55-3	ug/kg	2 : 10 : 10	5.50E+02	8.30E+02	3 25E+02
BENZO(A)PYRENE	50-32-8	ug/kg	2 : 10 : 10	5.00E+02	5.80E+02	2.95E+02
BENZO(B)FLUORANTHENE	205-99-2	ug/kg	2 . 10 : 10	5.30E+02	8.70E+02	3.27E+02
BENZO(GHI)PERYLENE	191-24-2	ug/kg	1 . 6 : 10	2.30E+02	2.30E+02	2.09E+02
BENZO(K)FLUORANTHENE	207-08-9	ug/kg	1 : 9 · 10	2.90E+02	2.90E+02	2.31E+02
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/kg	3 : 7 : 10	1.30E+02	2.20E+02	1.86E+02
CARBON DISULFIDE	75-15-0	ug/kg	1 : 6 · 10	3.30E+00	3.30E+00	3.06E+00
CHRYSENE	218-01-9	ug/kg	2 : 10 · 10	5.10E+02	6.80E+02	3.06E+02
DI-N-OCTYL PHTHALATE	117-84-0	ug/kg	1 : 8 : 10	2 60E+02	2.60E+02	2.22E+02
FLUORANTHENE	206-44-0	ug/kg	3 : 10 : 10	2.60E+02	1.70E+03	4.22E+02
FLUORENE	86-73-7	ug/kg	1 : 1 : 10	1.50E+02	1.50E+02	1.50E+02
INDENO(1,2,3-CD)PYRENE	193-39-5	ug/kg	1 : 9 . 10	2.80E+02	2.80E+02	2 30E+02
METHYL ETHYL KETONE	78-93-3	ug/kg	5 : 5 : 10	7 70E+00	1 60E+01	1.27E+01
PHENANTHRENE	85-01-8	ug/kg	3 . 10 : 10	6.10E+02	1.30E+03	4 20E+02
PYRENE	129-00-0	ug/kg	3 : 10 : 10	3.30E+02	1.40E+03	4 54E+02
TOLUENE	108-88-3	ug/kg	1 : 2 . 10	2.90E+00	2.90E+00	2.85E+00
RFIMW 24						
2-METHYLNAPHTHALENE	91-57-6	ug/kg	1 : 1 : 2	8.30E+01	8.30E+01	8 30E+01
4,4'-DDE	72-55-9	ug/kg	1 : 2 · 2	2.20E+01	2.20E+01	1.21E+01
ARSENIC	7440-38-2	ug/kg	2 . 2 . 2	1.40E+03	8.00E+03	4 70E+03
BARIUM	7440-39-3	ug/kg	2 : 2 · 2	7.30E+03	9.70E+04	5.22E+04
BENZO(A)ANTHRACENE	56-55-3	ug/kg	1 : 1 . 2	7.10E+01	7.10E+01	7.10E+01
BENZO(A)PYRENE	50-32-8	ug/kg	1 : 1 . 2	4 70E+01	4.70E+01	4 70E+01
BENZO(B)FLUORANTHENE	205-99-2	ug/kg	1 : 1 : 2	2.10E+02	2.10E+02	2.10E+02
BENZO(GHI)PERYLENE	191-24-2	ug/kg	1 : 1 : 2	5.40E+01	5.40E+01	5.40E+01
BENZO(K)FLUORANTHENE	207-08-9	ug/kg	1 : 1 : 2	3.80E+01	3.80E+01	3.80E+01
CADMIUM	7440-43-9	ug/kg	1 : 2 : 2	1.40E+03	1 40E+03	7 33E+02
CHROMIUM	7440-47-3	ug/kg	2 : 2 : 2	8 50E+03	8.41E+05	4.25E+05
CHRYSENE	218-01-9	ug/kg	1 · 1 : 2	6.50E+01	6 50E+01	6.50E+01
COPPER	7440-50-8	ug/kg	2 · 2 · 2	3 30E+03	2 97E+04	1.65E+04
FLUORANTHENE	206-44-0	ug/kg	1 : 1 · 2	1.20E+02	1.20E+02	1.20E+02
INDENO(1,2,3-CD)PYRENE	193-39-5	ug/kg	1 : 1 : 2	3.90E+01	3.90E+01	3.90E+01
LEAD	7439-92-1	ug/kg	2 . 2 : 2	2.70E+03	3.34E+04	1.81E+04
NICKEL	7440-02-0	ug/kg	1 · 2 : 2	1.39E+04	1 39E+04	8.25E+03
PHENANTHRENE	85-01-8	ug/kg	1 : 1 : 2	7.70E+01	7.70E+01	7.70E+01
PYRENE	129-00-0	ug/kg	1 : 1 : 2	1.10E+02	1.10E+02	1.10E+02
TOTAL CYANIDE	57-12-5	ug/kg	2 : 2 : 2	3.90E+02	2.70E+03	1.55E+03
VANADIUM	7440-62-2	ug/kg	2 : 2 : 2	1.32E+04	2.22E+05	1.18E+05
ZINC	7440-66-6	ug/kg	2 : 2 : 2	1.02E+04	1.16E+05	6.31E+04

Table 1-1
Summary Statistics
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	Minimum Detected Concentration (c)	Maximum Detected Concentration (d)	Mean Concentration (e)
RFIMW 25						
ACENAPHTHENE	83-32-9	ug/kg	1 : 1 : 2	1 00E+02	1.00E+02	1.00E+02
ANTHRACENE	120-12-7	ug/kg	1 : 2 · 2	2 00E+02	2.00E+02	1 93E+02
ARSENIC	7440-38-2	ug/kg	2 : 2 · 2	1.80E+03	6.00E+03	3 90E+03
BARIUM	7440-39-3	ug/kg	2 : 2 : 2	1 23E+04	1.01E+05	5.67E+04
BENZO(A)ANTHRACENE	56-55-3	ug/kg	2 : 2 : 2	3.50E+02	3.80E+02	3.65E+02
BENZO(A)PYRENE	50-32-8	ug/kg	2 : 2 : 2	3.10E+02	3.15E+02	3.13E+02
BENZO(B)FLUORANTHENE	205-99-2	ug/kg	2 : 2 : 2	5.35E+02	7.30E+02	6.33E+02
BENZO(GHI)PERYLENE	191-24-2	ug/kg	2 : 2 : 2	2.35E+02	3.60E+02	2.98E+02
BENZO(K)FLUORANTHENE	207-08-9	ug/kg	2 · 2 : 2	2.00E+02	2.45E+02	2.23E+02
CADMIUM	7440-43-9	ug/kg	1 · 2 : 2	2.80E+02	2.80E+02	1.70E+02
CHROMIUM	7440-47-3	ug/kg	2 : 2 : 2	6.50E+03	9.00E+03	7.75E+03
CHRYSENE	218-01-9	ug/kg	2 . 2 : 2	3.10E+02	3.80E+02	3.45E+02
COPPER	7440-50-8	ug/kg	2 . 2 : 2	2.75E+03	8.10E+03	5.43E+03
DIBENZ(A,H)ANTHRACENE	53-70-3	ug/kg	1 : 1 : 2	5.00E+01	5.00E+01	5.00E+01
FLUORANTHENE	206-44-0	ug/kg	2 : 2 : 2	6.40E+02	7.50E+02	6.95E+02
INDENO(1,2,3-CD)PYRENE	193-39-5	ug/kg	2 : 2 : 2	2.60E+02	3.00E+02	2.80E+02
LEAD	7439-92-1	ug/kg	2 : 2 : 2	2.15E+03	1.28E+04	7.48E+03
MERCURY	7439-97-6	ug/kg	1 . 2 : 2	1.60E+02	1.60E+02	1.10E+02
NICKEL	7440-02-0	ug/kg	1 : 2 : 2	6.80E+03	6.80E+03	4 61E+03
PHENANTHRENE	85-01-8	ug/kg	2 : 2 : 2	2.10E+02	5 65E+02	3.88E+02
PYRENE	129-00-0	ug/kg	2 · 2 : 2	6.50E+02	6.50E+02	6.50E+02
TOTAL CYANIDE	57-12-5	ug/kg	2 . 2 : 2	1.50E+03	1.90E+03	1.70E+03
VANADIUM	7440-62-2	ug/kg	2 : 2 : 2	9 05E+03	1.21E+04	1.06E+04
ZINC	7440-66-6	ug/kg	2 · 2 : 2	1.33E+04	4 00E+04	2.67E+04

Table 1-1
Summary Statistics
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	Minimum Detected Concentration (c)	Maximum Detected Concentration (d)	Mean Concentration (e)
RFIMW 26						
2-METHYLNAPHTHALENE	91-57-6	ug/kg	1 : 2 : 2	2.20E+02	2.20E+02	2 08E+02
ANTHRACENE	120-12-7	ug/kg	1 : 1 : 2	6.90E+01	6.90E+01	6.90E+01
ARSENIC	7440-38-2	ug/kg	2 : 2 : 2	5.10E+03	9.50E+03	7 30E+03
BARIUM	7440-39-3	ug/kg	2 : 2 : 2	1.24E+04	3.35E+04	2.30E+04
BENZO(A)ANTHRACENE	56-55-3	ug/kg	2 : 2 : 2	4 00E+01	6.50E+02	3.45E+02
BENZO(A)PYRENE	50-32-8	ug/kg	1 : 2 : 2	5.70E+02	5.70E+02	3.83E+02
BENZO(B)FLUORANTHENE	205-99-2	ug/kg	1 : 2 : 2	8.10E+02	8.10E+02	5.03E+02
BENZO(GHI)PERYLENE	191-24-2	ug/kg	1 : 2 : 2	3.60E+02	3.60E+02	2.78E+02
BENZO(K)FLUORANTHENE	207-08-9	ug/kg	1 : 2 : 2	2.50E+02	2.50E+02	2.23E+02
CADMIUM	7440-43-9	ug/kg	1 : 2 : 2	6.20E+02	6.20E+02	3.40E+02
CHROMIUM	7440-47-3	ug/kg	2 : 2 : 2	4.50E+03	1.56E+04	1 01E+04
CHRYSENE	218-01-9	ug/kg	2 : 2 : 2	4.50E+01	5.10E+02	2.78E+02
COBALT	7440-48-4	ug/kg	1 . 2 : 2	6.10E+03	6.10E+03	4.53E+03
COPPER	7440-50-8	ug/kg	2 : 2 : 2	3.40E+03	2.57E+04	1.46E+04
DIBENZ(A,H)ANTHRACENE	53-70-3	ug/kg	1 : 1 : 2	8 40E+01	8.40E+01	8.40E+01
DIBENZOFURAN	132-64-9	ug/kg	1 : 1 : 2	7.40E+01	7.40E+01	7.40E+01
DIETHYL PHTHALATE	84-66-2	ug/kg	1 : 2 . 2	2.40E+02	2.40E+02	2.18E+02
FLUORANTHENE	206-44-0	ug/kg	2 : 2 . 2	6.80E+01	7 90E+02	4.29E+02
INDENO(1,2,3-CD)PYRENE	193-39-5	ug/kg	1 : 2 : 2	3 60E+02	3 60E+02	2.78E+02
LEAD	7439-92-1	ug/kg	2 : 2 : 2	2.30E+03	3.20E+04	1.72E+04
MERCURY	7439-97-6	ug/kg	1 : 2 : 2	2.70E+02	2.70E+02	1.65E+02
NAPHTHALENE	91-20-3	ug/kg	1 : 1 : 2	1.50E+02	1.50E+02	1.50E+02
NICKEL	7440-02-0	ug/kg	1 : 2 : 2	1.42E+04	1.42E+04	8 30E+03
PHENANTHRENE	85-01-8	ug/kg	1 : 2 : 2	4.00E+02	4.00E+02	2 98E+02
PYRENE	129-00-0	ug/kg	2 : 2 · 2	7.00E+01	7.80E+02	4 25E+02
SELENIUM	7782-49-2	ug/kg	1 · 2 · 2	1.20E+03	1.20E+03	7 48E+02
TOLUENE	108-88-3	ug/kg	1 · 2 : 2	3.00E+00	3.00E+00	2.98E+00
TOTAL CYANIDE	57-12-5	ug/kg	1 : 2 : 2	3.70E+03	3 70E+03	1.93E+03
TOTAL PCBS	Total PCBs	ug/kg	1 : 2 . 2	2.30E+03	2.30E+03	1.44E+03
VANADIUM	7440-62-2	ug/kg	2 : 2 : 2	5.90E+03	1 70E+04	1.15E+04
ZINC	7440-66-6	ug/kg	2 : 2 : 2	9.60E+03	5.81E+04	3.39E+04
RFIMW 27						
ARSENIC	7440-38-2	ug/kg	2 : 2 : 2	2.50E+03	7.40E+03	4 95E+03
BARIUM	7440-39-3	ug/kg	2 · 2 · 2	1.81E+04	8.07E+04	4 94E+04
CADMIUM	7440-43-9	ug/kg	1 · 2 · 2	2.90E+02	2.90E+02	1.78E+02
CHROMIUM	7440-47-3	ug/kg	2 : 2 : 2	9.00E+03	9.70E+03	9 35E+03
COPPER	7440-50-8	ug/kg	2 : 2 : 2	6.20E+03	1 24E+04	9.30E+03
LEAD	7439-92-1	ug/kg	2 : 2 : 2	2.20E+03	3.10E+03	2.65E+03
MERCURY	7439-97-6	ug/kg	1 : 2 : 2	5.20E+02	5.20E+02	2.93E+02
NICKEL	7440-02-0	ug/kg	2 : 2 : 2	6.40E+03	1 28E+04	9.60E+03
TOTAL CYANIDE	57-12-5	ug/kg	1 : 2 : 2	7 80E+02	7 80E+02	4.70E+02
VANADIUM	7440-62-2	ug/kg	2 : 2 : 2	2.02E+04	2 35E+04	2.19E+04
ZINC	7440-66-6	ug/kg	2 : 2 : 2	1.25E+04	1.34E+05	7.33E+04

Table 1-1
Summary Statistics
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	Minimum Detected Concentration (c)	Maximum Detected Concentration (d)	Mean Concentration (e)
RFIMW 28						
ARSENIC	7440-38-2	ug/kg	2 : 2 : 2	1.80E+03	8.90E+03	5 35E+03
BARIUM	7440-39-3	ug/kg	2 : 2 : 2	6.00E+03	1.79E+05	9.25E+04
BERYLLIUM	7440-41-7	ug/kg	1 · 2 : 2	1.10E+03	1.10E+03	7.00E+02
CHROMIUM	7440-47-3	ug/kg	2 : 2 : 2	5.40E+03	1.61E+04	1.08E+04
COPPER	7440-50-8	ug/kg	2 . 2 : 2	6.90E+03	1.20E+04	9 45E+03
LEAD	7439-92-1	ug/kg	2 : 2 . 2	1.10E+03	2.50E+03	1 80E+03
NICKEL	7440-02-0	ug/kg	2 : 2 . 2	5.70E+03	1.48E+04	1 03E+04
VANADIUM	7440-62-2	ug/kg	2 : 2 : 2	1.24E+04	2.79E+04	2 02E+04
ZINC	7440-66-6	ug/kg	2 . 2 : 2	1.54E+04	1.17E+05	6.62E+04

Table 1-1
Summary Statistics
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	Minimum Detected Concentration (c)	Maximum Detected Concentration (d)	Mean Concentration (e)
SWMU F						
1,2-DICHLOROPROPANE	78-87-5	ug/kg	5 : 10 : 10	4.20E+00	7.00E+04	9.60E+03
2,4-DIMETHYLPHENOL	105-67-9	ug/kg	1 : 10 : 10	2.20E+04	2.20E+04	5.14E+03
2-METHYLNAPHTHALENE	91-57-6	ug/kg	3 : 5 : 10	1.30E+02	7.30E+02	3.05E+02
4,4'-DDE	72-55-9	ug/kg	1 : 4 : 8	7.80E+00	7.80E+00	4.17E+00
ACENAPHTHENE	83-32-9	ug/kg	1 : 5 : 10	4.40E+02	4.40E+02	2.94E+02
ACENAPHTHYLENE	208-96-8	ug/kg	1 : 1 : 10	6.80E+01	6.80E+01	6.80E+01
ACETONE	67-64-1	ug/kg	9 : 10 : 10	1.90E+02	1.90E+05	4 53E+04
ANTHRACENE	120-12-7	ug/kg	2 . 6 . 10	1.10E+02	1 30E+03	5.43E+02
ANTIMONY	7440-36-0	ug/kg	3 : 10 . 10	7.10E+02	1.60E+04	2.08E+03
ARSENIC	7440-38-2	ug/kg	10 : 10 . 10	4.40E+03	6.39E+04	2 32E+04
BARIUM	7440-39-3	ug/kg	10 : 10 : 10	1.88E+04	4.91E+05	1 08E+05
BENZENE	71-43-2	ug/kg	1 : 9 : 10	2.00E+03	2.00E+03	7.86E+02
BENZO(A)ANTHRACENE	56-55-3	ug/kg	4 : 6 . 10	1.20E+02	1.70E+03	6.64E+02
BENZO(A)PYRENE	50-32-8	ug/kg	3 . 6 . 10	1.20E+02	1 60E+03	5.16E+02
BENZO(B)FLUORANTHENE	205-99-2	ug/kg	4 : 6 : 10	1 50E+02	1.50E+03	6.06E+02
BENZO(GHI)PERYLENE	191-24-2	ug/kg	3 . 6 . 10	5.90E+01	8.50E+02	4.04E+02
BENZO(K)FLUORANTHENE	207-08-9	ug/kg	4 : 6 . 10	8.20E+01	8.90E+02	3 26E+02
BENZYL ALCOHOL	100-51-6	ug/kg	1 : 10 : 10	2.10E+04	2.10E+04	4.39E+03
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/kg	6 : 10 10	2 90E+02	2.80E+04	5.78E+03
BUTYL BENZYL PHTHALATE	85-68-7	ug/kg	1 : 6 : 10	1 00E+03	1.00E+03	4.80E+02
CADMIUM	7440-43-9	ug/kg	10 : 10 : 10	2.70E+02	7.30E+03	1.20E+03
CHROMIUM	7440-47-3	ug/kg	10 : 10 : 10	6.40E+03	1 30E+05	2 38E+04
CHRYSENE	218-01-9	ug/kg	4 . 6 : 10	1.60E+02	1 70E+03	6.31E+02
COBALT	7440-48-4	ug/kg	1 : 10 : 10	4.05E+04	4.05E+04	8.12E+03
COPPER	7440-50-8	ug/kg	10 : 10 : 10	1.05E+04	7 71E+06	7.93E+05
DIBENZOFURAN	132-64-9	ug/kg	2 : 5 : 10	1 20E+02	3 70E+02	2.58E+02
DI-N-OCTYL PHTHALATE	117-84-0	ug/kg	1 : 10 : 10	1.50E+04	1.50E+04	3.79E+03
FLUORANTHENE	206-44-0	ug/kg	5 : 7 : 10	6.30E+01	4.50E+03	1 42E+03
FLUORENE	86-73-7	ug/kg	2 : 5 : 10	1.70E+02	7.80E+02	3.50E+02
INDENO(1,2,3-CD)PYRENE	193-39-5	ug/kg	1 : 1 : 10	1.00E+02	1.00E+02	1.00E+02
LEAD	7439-92-1	ug/kg	10 . 10 : 10	1.50E+03	8.76E+05	1.09E+05
MERCURY	7439-97-6	ug/kg	6 : 10 : 10	3.30E+02	2.11E+04	2.90E+03
METHYL ETHYL KETONE	78-93-3	ug/kg	1 : 1 : 10	1.70E+01	1.70E+01	1.70E+01
NAPHTHALENE	91-20-3	ug/kg	4 : 6 . 10	9.90E+01	4.50E+02	2 57E+02
NICKEL	7440-02-0	ug/kg	9 : 10 : 10	6.40E+03	1.70E+05	2.82E+04
PENTACHLOROPHENOL	87-86-5	ug/kg	2 : 10 : 20	1.60E+01	6.40E+01	1.16E+01
PH (SOLID)	PH	No Units	10 . 10 : 10	8.40E+00	1.23E+01	1.05E+01
PHENANTHRENE	85-01-8	ug/kg	4 : 7 : 10	2.00E+02	6 00E+03	1.59E+03
PHENOL	108-95-2	ug/kg	2 : 7 : 10	1.90E+03	6 40E+03	1.71E+03
PYRENE	129-00-0	ug/kg	4 : 7 : 10	4 00E+02	3 40E+03	1.44E+03
SELENIUM	7782-49-2	ug/kg	5 : 10 : 10	1.20E+03	6 30E+03	1 62E+03
SILVER	7440-22-4	ug/kg	1 : 10 : 10	1.05E+04	1.05E+04	1.86E+03
TIN	7440-31-5	ug/kg	1 . 10 : 10	4.24E+05	4.24E+05	1.24E+05
TOLUENE	108-88-3	ug/kg	7 : 10 : 10	1.10E+01	1.10E+05	2.42E+04
TOTAL CYANIDE	57-12-5	ug/kg	8 : 10 : 10	1.10E+03	5.10E+03	2 20E+03

Table 1-1
Summary Statistics
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	Minimum Detected Concentration (c)	Maximum Detected Concentration (d)	Mean Concentration (e)
TOTAL METHYLPHENOL	otal MethylPh	ug/kg	4 : 10 : 10	6.85E+02	4.41E+04	1.33E+04
TOTAL PCBS	Total PCBs	ug/kg	1 : 8 : 8	3.34E+03	3.34E+03	1.17E+03
TOTAL XYLENES	Total Xylenes	ug/kg	1 : 2 : 10	1.22E+01	1.22E+01	1.16E+01
VANADIUM	7440-62-2	ug/kg	9 : 10 : 10	9.30E+03	2.33E+04	1 60E+04
ZINC	7440-66-6	ug/kg	9 : 10 : 10	3.47E+04	1.00E+06	1 63E+05
SWMU G						
2,4-DIMETHYLPHENOL	105-67-9	ug/kg	1 . 1 : 10	5.70E+01	5.70E+01	5.70E+01
2-METHYLNAPHTHALENE	91-57-6	ug/kg	9 : 10 : 10	2.50E+02	1.30E+03	5.63E+02
4,4'-DDT	50-29-3	ug/kg	1 : 10 : 10	1.55E+01	1.55E+01	9.75E+00
ACENAPHTHENE	83-32-9	ug/kg	2 : 2 : 10	3.80E+01	4.30E+01	4.05E+01
ACENAPHTHYLENE	208-96-8	ug/kg	9 · 10 : 10	4.40E+01	1.80E+03	3 28E+02
ANTHRACENE	120-12-7	ug/kg	8 · 9 : 10	5.10E+01	7 00E+02	1.92E+02
ANTIMONY	7440-36-0	ug/kg	1 · 10 : 10	2.60E+03	2.60E+03	6.17E+02
ARSENIC	7440-38-2	ug/kg	10 : 10 : 10	4 80E+03	1 01E+05	2.67E+04
BARIUM	7440-39-3	ug/kg	10 : 10 : 10	5 54E+04	1 66E+05	8.97E+04
BENZO(A)ANTHRACENE	56-55-3	ug/kg	9 : 10 . 10	3 90E+02	3.20E+03	7.98E+02
BENZO(A)PYRENE	50-32-8	ug/kg	9 : 10 : 10	3.10E+02	3.70E+03	8.10E+02
BENZO(B)FLUORANTHENE	205-99-2	ug/kg	9 : 10 : 10	6.00E+02	4 50E+03	1 20E+03
BENZO(GHI)PERYLENE	191-24-2	ug/kg	9 : 10 : 10	1.40E+02	2.10E+03	4.73E+02
BENZO(K)FLUORANTHENE	207-08-9	ug/kg	9 : 10 : 10	1.30E+02	1.60E+03	4.29E+02
BERYLLIUM	7440-41-7	ug/kg	1 : 10 : 10	2.00E+03	2.00E+03	4.68E+02
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/kg	1 : 1 . 10	4.10E+01	4.10E+01	4.10E+01
CADMIUM	7440-43-9	ug/kg	10 : 10 : 10	3 00E+02	2.30E+03	7 90E+02
CHROMIUM	7440-47-3	ug/kg	10 · 10 : 10	4 80E+03	3.36E+04	1.55E+04
CHRYSENE	218-01-9	ug/kg	9 : 10 . 10	3.50E+02	3.60E+03	8.40E+02
COBALT	7440-48-4	ug/kg	1 : 10 : 10	1 01E+04	1 01E+04	3.68E+03
COPPER	7440-50-8	ug/kg	10 · 10 · 10	1 53E+04	9 53E+04	3 39E+04
DIBENZ(A,H)ANTHRACENE	53-70-3	ug/kg	4 : 9 : 10	4.10E+01	6.40E+02	2 25E+02
DIBENZOFURAN	132-64-9	ug/kg	8 · 9 : 10	8.60E+01	4 30E+02	1 93E+02
DIETHYL PHTHALATE	84-66-2	ug/kg	1 : 1 : 10	1.00E+02	1.00E+02	1 00E+02
FLUORANTHENE	206-44-0	ug/kg	9 : 10 : 10	1.00E+02	3.80E+03	1.14E+03
FLUORENE	86-73-7	ug/kg	3 : 9 . 10	5.00E+01	2.50E+02	1.77E+02
INDENO(1,2,3-CD)PYRENE	193-39-5	ug/kg	8 . 9 : 10	1.40E+02	1.80E+03	4.00E+02
LEAD	7439-92-1	ug/kg	10 : 10 : 10	1.10E+04	2.38E+05	7.33E+04
MERCURY	7439-97-6	ug/kg	8 · 10 : 10	1.40E+02	5.40E+03	7.69E+02
NAPHTHALENE	91-20-3	ug/kg	8 : 9 : 10	1.70E+02	8 10E+02	3.52E+02
NICKEL	7440-02-0	ug/kg	10 . 10 : 10	7.60E+03	2.56E+04	1.34E+04
PENTACHLOROPHENOL	87-86-5	ug/kg	3 : 10 . 20	3 90E+01	6 20E+02	1.29E+02
PHENANTHRENE	85-01-8	ug/kg	10 . 10 . 10	8.70E+01	1.90E+03	8.07E+02
PYRENE	129-00-0	ug/kg	10 : 10 : 10	8 20E+01	6.10E+03	1.22E+03
SELENIUM	7782-49-2	ug/kg	1 : 10 · 10	4 40E+02	4.40E+02	3.14E+02
TOTAL CYANIDE	57-12-5	ug/kg	1 : 10 : 10	6 60E+02	6.60E+02	1.99E+02
TOTAL METHYLPHENOL	otal MethylPh	ug/kg	1 · 7 : 10	5.88E+02	5.88E+02	5.83E+02
TOTAL PCBS	Total PCBs	ug/kg	5 : 10 : 10	5.12E+02	1.24E+03	5 58E+02
VANADIUM	7440-62-2	ug/kg	10 : 10 : 10	7.20E+03	2.97E+04	1.30E+04
ZINC	7440-66-6	ug/kg	10 : 10 · 10	3.52E+04	3.35E+05	1.09E+05

Table 1-1
Summary Statistics
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	Minimum Detected Concentration (c)	Maximum Detected Concentration (d)	Mean Concentration (e)
SWMU H						
1,2,3-TRICHLOROPROPANE	96-18-4	ug/kg	2 : 10 · 11	3.90E+03	1 70E+04	2.15E+03
1,2-DICHLOROBENZENE	95-50-1	ug/kg	1 : 8 : 11	6.80E+02	6.80E+02	8.93E+01
1,2-DICHLOROPROPANE	78-87-5	ug/kg	9 : 11 : 11	4.00E+00	5.00E+07	4.57E+06
2,4-DIMETHYLPHENOL	105-67-9	ug/kg	1 : 10 : 11	8.30E+03	8.30E+03	1 30E+03
2-METHYLNAPHTHALENE	91-57-6	ug/kg	3 : 10 : 11	1.20E+02	6.40E+03	1.09E+03
ACENAPHTHENE	83-32-9	ug/kg	1 . 10 : 11	6.70E+03	6.70E+03	1.14E+03
ACETONE	67-64-1	ug/kg	7 : 8 : 11	2.00E+01	1 60E+03	3.18E+02
ALPHA-CHLORDANE	5103-71-9	ug/kg	1 : 11 : 11	4.00E+01	4.00E+01	6.55E+00
ANTHRACENE	120-12-7	ug/kg	2 : 10 : 11	7.40E+01	5.30E+03	9.87E+02
ANTIMONY	7440-36-0	ug/kg	4 . 11 . 11	8.20E+02	1.53E+04	1.90E+03
ARSENIC	7440-38-2	ug/kg	11 · 11 : 11	1 90E+03	1.16E+05	2.28E+04
BARIUM	7440-39-3	ug/kg	11 · 11 : 11	8.00E+03	2.23E+05	8.38E+04
BENZENE	71-43-2	ug/kg	1 : 8 · 11	7 80E+02	7 80E+02	1 02E+02
BENZO(A)ANTHRACENE	56-55-3	ug/kg	3 : 10 : 11	1 40E+02	4 50E+03	9.18E+02
BENZO(A)PYRENE	50-32-8	ug/kg	3 . 10 : 11	1.00E+02	3.10E+03	7.70E+02
BENZO(B)FLUORANTHENE	205-99-2	ug/kg	3 · 10 : 11	2.10E+02	4.20E+03	9.08E+02
BENZO(GHI)PERYLENE	191-24-2	ug/kg	2 · 2 · 11	9.00E+01	1 80E+02	1.35E+02
BENZO(K)FLUORANTHENE	207-08-9	ug/kg	2 : 2 : 11	8.80E+01	1.30E+02	1.09E+02
BERYLLIUM	7440-41-7	ug/kg	1 11 : 11	9.10E+02	9 10E+02	4 11E+02
BIS(2-CHLOROETHYL) ETHER	111-44-4	ug/kg	2 : 10 : 11	8.20E+01	1.20E+04	1 66E+03
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/kg	8 · 11 . 11	1.30E+02	1 40E+06	1 42E+05
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/kg	2 · 10 : 11	1.90E+03	1 00E+04	1.64E+03
CADMIUM	7440-43-9	ug/kg	10 : 11 · 11	2.60E+02	4 20E+03	9.02E+02
CHLOROBENZENE	108-90-7	ug/kg	1 : 8 : 11	8 30E+02	8 30E+02	1 08E+02
CHROMIUM	7440-47-3	ug/kg	11 : 11 · 11	6.70E+03	1 95E+05	4 52E+04
CHRYSENE	218-01-9	ug/kg	3 : 10 · 11	1 50E+02	4 80E+03	9 52E+02
COBALT	7440-48-4	ug/kg	6 : 11 · 11	9 60E+03	1.37E+04	7.60E+03
COPPER	7440-50-8	ug/kg	11 . 11 . 11	2.90E+03	2.21E+05	4.09E+04
DIBENZOFURAN	132-64-9	ug/kg	2 : 10 : 11	5.30E+01	4.20E+03	8.78E+02
ETHYLBENZENE	100-41-4	ug/kg	1 . 8 : 11	4.70E+02	4.70E+02	6.30E+01
FLUORANTHENE	206-44-0	ug/kg	3 : 10 : 11	2.20E+02	1.10E+04	1.58E+03
FLUORENE	86-73-7	ug/kg	1 : 10 : 11	5 40E+03	5.40E+03	1.01E+03
INDENO(1,2,3-CD)PYRENE	193-39-5	ug/kg	2 : 2 : 11	8.40E+01	1.50E+02	1.17E+02
LEAD	7439-92-1	ug/kg	11 . 11 : 11	2.70E+03	4.33E+05	5.96E+04
MERCURY	7439-97-6	ug/kg	5 · 11 : 11	1 40E+02	5.29E+04	5.20E+03
METHYL ETHYL KETONE	78-93-3	ug/kg	1 : 2 : 11	3 10E+01	3.10E+01	3.10E+01
NAPHTHALENE	91-20-3	ug/kg	3 : 10 : 11	9.30E+01	1.60E+04	2.05E+03
NICKEL	7440-02-0	ug/kg	11 : 11 : 11	5.70E+03	9.34E+04	3.04E+04
PENTACHLOROPHENOL	87-86-5	ug/kg	4 : 11 : 22	1 00E+01	3.00E+02	5 24E+01
PHENANTHRENE	85-01-8	ug/kg	3 · 10 : 11	2.50E+02	2.00E+04	2.48E+03
PHENOL	108-95-2	ug/kg	2 : 7 · 11	2.70E+02	2.70E+02	2.36E+02
PYRENE	129-00-0	ug/kg	3 : 10 : 11	2.50E+02	8.60E+03	1 35E+03
SELENIUM	7782-49-2	ug/kg	2 : 11 : 11	1.10E+03	1.40E+03	5.14E+02
SILVER	7440-22-4	ug/kg	1 . 11 : 11	2.17E+04	2.17E+04	2.62E+03
TOLUENE	108-88-3	ug/kg	2 : 10 : 11	1.30E+01	5.80E+03	1.06E+03

Table 1-1
Summary Statistics
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	Minimum Detected Concentration (c)	Maximum Detected Concentration (d)	Mean Concentration (e)
TOTAL CYANIDE	57-12-5	ug/kg	4 . 11 . 11	6.00E+02	1.60E+04	2.34E+03
TOTAL METHYLPHENOL	otal MethylPh	ug/kg	2 : 10 : 11	5.05E+02	1.89E+04	3.30E+03
TOTAL PCBS	Total PCBs	ug/kg	1 : 11 : 11	3.10E+03	3.10E+03	6.86E+02
TOTAL XYLENES	Total Xylenes	ug/kg	1 : 8 : 11	2.07E+03	2.07E+03	2.67E+02
VANADIUM	7440-62-2	ug/kg	11 . 11 . 11	8.70E+03	5.09E+04	2.85E+04
ZINC	7440-66-6	ug/kg	11 : 11 : 11	1.32E+04	6.28E+05	1.25E+05

Notes:

CAS - Chemical Abstract Service.
(a) Only chemicals with at least one positively detected result are reported.
(b) Frequency of detection - Number of detected samples: Number of samples used to calculate statistics: Number of total samples.
(c) Minimum detected concentration for each chemical, after duplicates have been averaged.
(d) Maximum detected concentration for each chemical, after duplicates have been averaged.
(e) Arithmetic mean concentration for each chemical, after duplicates have been averaged and any non detected results with one-half the sample quantitation limit greater than the maximum detected concentration have been excluded.

Table 1-2
Summary Statistics
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	Minimum Detected Concentration (c)	Maximum Detected Concentration (d)	Mean Concentration (e)
AOC 6						
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	9 50E+00	9.50E+00	9.50E+00
TETRACHLOROETHENE	127-18-4	ug/l	1 : 1 : 1	4.70E-01	4.70E-01	4.70E-01
TRICHLOROETHENE	79-01-6	ug/l	1 . 1 : 1	4.20E-01	4.20E-01	4.20E-01
CMSMW-1						
ACETONE	67-64-1	ug/l	1 : 1 : 1	9 40E+02	9 40E+02	9.40E+02
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	3.20E+06	3 20E+06	3 20E+06
CMSMW-10						
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	4.60E+06	4.60E+06	4.60E+06
CMSMW-11						
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	1.60E+07	1.60E+07	1.60E+07
CMSMW-12						
CARBON DISULFIDE	75-15-0	ug/l	1 . 1 : 1	1.50E+00	1.50E+00	1 50E+00
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 . 1 . 1	1.10E+07	1.10E+07	1.10E+07
CMSMW-13F						
NAPHTHALENE	91-20-3	ug/l	1 : 1 : 1	1.90E+01	1.90E+01	1.90E+01
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	5.00E+06	5.00E+06	5.00E+06
CMSMW-13S						
2,4-DIMETHYLPHENOL	105-67-9	ug/l	1 : 1 : 1	5.50E+00	5.50E+00	5.50E+00
2-PICOLINE	109-06-8	ug/l	1 : 1 : 1	2.90E+01	2.90E+01	2 90E+01
ACETONE	67-64-1	ug/l	1 . 1 : 1	8.30E+01	8.30E+01	8.30E+01
BENZENE	71-43-2	ug/l	1 : 1 . 1	6.60E+01	6.60E+01	6.60E+01
PYRIDINE	110-86-1	ug/l	1 : 1 : 1	3.60E+00	3.60E+00	3.60E+00
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 . 1 . 1	7.90E+06	7.90E+06	7 90E+06
TOTAL XYLENES	Total Xylenes	ug/L	1 : 1 : 1	3.18E+00	3.18E+00	3.18E+00
CMSMW-14S						
1,2-DICHLOROPROPANE	78-87-5	ug/l	1 . 1 : 1	5.20E-01	5.20E-01	5 20E-01
ACETONE	67-64-1	ug/l	1 : 1 : 1	4 65E+02	4 65E+02	4.65E+02
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/l	1 : 1 : 1	5 90E+00	5.90E+00	5.90E+00
NAPHTHALENE	91-20-3	ug/l	1 : 1 . 1	5.65E+00	5.65E+00	5.65E+00
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	2.95E+06	2.95E+06	2.95E+06
CMSMW-15						
1,4-DIOXANE	123-91-1	ug/l	1 . 1 : 1	4.80E+00	4 80E+00	4.80E+00
ETHYLBENZENE	100-41-4	ug/l	1 : 1 : 1	2.80E+00	2.80E+00	2 80E+00
STYRENE	100-42-5	ug/l	1 . 1 : 1	3.60E+00	3.60E+00	3.60E+00
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 . 1 : 1	7.40E+05	7.40E+05	7.40E+05
CMSMW-16F						
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	5.60E+06	5.60E+06	5 60E+06
CMSMW-18						
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	4.50E+06	4.50E+06	4.50E+06

Table 1-2
Summary Statistics
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	Minimum Detected Concentration (c)	Maximum Detected Concentration (d)	Mean Concentration (e)
CMSMW-2						
1,2-DICHLOROBENZENE	95-50-1	ug/l	1 : 1 : 1	1.10E+00	1.10E+00	1.10E+00
ACETONE	67-64-1	ug/l	1 : 1 : 1	4.80E+01	4.80E+01	4.80E+01
BARIUM	7440-39-3	ug/L	1 : 1 : 1	2.30E+02	2.30E+02	2.30E+02
BENZENE	71-43-2	ug/l	1 : 1 : 1	5.10E+00	5.10E+00	5.10E+00
CHLORIDE	16887-00-6	ug/L	1 . 1 . 1	3.20E+05	3.20E+05	3.20E+05
CHLOROBENZENE	108-90-7	ug/l	1 : 1 : 1	9.40E-01	9.40E-01	9.40E-01
CHLOROMETHANE	74-87-3	ug/l	1 : 1 : 1	5.90E-01	5.90E-01	5.90E-01
MERCURY	7439-97-6	ug/l	1 : 1 : 1	4.34E-01	4.34E-01	4.34E-01
METHANE	74-82-8	ug/l	1 : 1 : 1	1.60E+04	1.60E+04	1.60E+04
NICKEL	7440-02-0	ug/L	1 : 1 : 1	4.20E+00	4.20E+00	4.20E+00
NITRITE	14797-65-0	ug/L	1 : 1 : 1	8.20E+03	8.20E+03	8.20E+03
PHENOL	108-95-2	ug/l	1 : 1 : 1	2.40E+01	2.40E+01	2.40E+01
SULFATE	14808-79-8	ug/L	1 : 1 . 1	9.60E+04	9.60E+04	9.60E+04
TOLUENE	108-88-3	ug/l	1 : 1 : 1	2.90E+01	2.90E+01	2.90E+01
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	2.00E+06	2.00E+06	2.00E+06
VANADIUM	7440-62-2	ug/L	1 : 1 : 1	3.30E+00	3.30E+00	3.30E+00
ZINC	7440-66-6	ug/L	1 . 1 . 1	4.90E+01	4.90E+01	4.90E+01
CMSMW-3						
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	3.10E+06	3.10E+06	3.10E+06
CMSMW-4						
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 . 1 . 1	2.90E+06	2.90E+06	2.90E+06
CMSMW-5						
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	4.40E+06	4.40E+06	4.40E+06
CMSMW-6						
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	2.10E+07	2.10E+07	2.10E+07
CMSMW-7						
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	5.70E+06	5.70E+06	5.70E+06
CMSMW-8						
MERCURY	7439-97-6	ug/l	1 : 1 : 1	3.90E+00	3.90E+00	3.90E+00
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	1.20E+07	1.20E+07	1.20E+07
CMSMW-9						
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 . 1 : 1	5.00E+06	5.00E+06	5.00E+06

Table 1-2
Summary Statistics
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	Minimum Detected Concentration (c)	Maximum Detected Concentration (d)	Mean Concentration (e)
ENSR BG-MW-1						
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	3 50E+00	3.50E+00	3.50E+00
BARIUM	7440-39-3	ug/L	1 : 1 : 1	4.90E+01	4.90E+01	4.90E+01
CHLORIDE	16887-00-6	ug/L	1 . 1 . 1	1.80E+05	1.80E+05	1.80E+05
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	2.10E+00	2.10E+00	2.10E+00
COBALT	7440-48-4	ug/L	1 : 1 : 1	3.10E+00	3.10E+00	3.10E+00
COPPER	7440-50-8	ug/L	1 : 1 : 1	4.10E+00	4.10E+00	4 10E+00
MERCURY	7439-97-6	ug/l	2 : 2 : 2	3.53E-03	1.62E-02	9.86E-03
METHANE	74-82-8	ug/l	1 : 1 : 1	1 30E+01	1.30E+01	1.30E+01
NICKEL	7440-02-0	ug/L	1 : 1 : 1	4.40E+01	4 40E+01	4.40E+01
SULFATE	14808-79-8	ug/L	1 . 1 . 1	1.80E+06	1 80E+06	1.80E+06
THALLIUM	7440-28-0	ug/L	1 . 1 : 1	1.00E+01	1.00E+01	1.00E+01
ZINC	7440-66-6	ug/L	1 : 1 : 1	2.40E+01	2.40E+01	2.40E+01
ERB-1						
BENZENE	71-43-2	ug/l	1 : 1 : 1	2.50E-01	2.50E-01	2.50E-01
BROMODICHLOROMETHANE	75-27-4	ug/l	1 : 1 : 1	1 20E+00	1.20E+00	1.20E+00
CHLOROBENZENE	108-90-7	ug/l	1 : 1 : 1	3.40E-01	3.40E-01	3 40E-01
CHLOROFORM	67-66-3	ug/l	1 : 1 : 1	3 80E+01	3.80E+01	3 80E+01
METHYLENE CHLORIDE	75-09-2	ug/l	1 : 1 : 1	1.30E+01	1 30E+01	1.30E+01
STYRENE	100-42-5	ug/l	1 . 1 : 1	2 80E-01	2.80E-01	2.80E-01
TOLUENE	108-88-3	ug/l	1 : 1 : 1	6 00E-01	6.00E-01	6.00E-01
GTI SB-11						
BENZENE	71-43-2	ug/l	1 : 1 : 1	2.00E+00	2.00E+00	2.00E+00
GTI SB-16						
BENZENE	71-43-2	ug/l	1 : 1 : 1	6 80E+01	6.80E+01	6.80E+01
GTI SB-3						
BENZENE	71-43-2	ug/l	1 : 1 : 1	1 60E+00	1.60E+00	1.60E+00
STYRENE	100-42-5	ug/l	1 : 1 : 1	1.90E+00	1.90E+00	1.90E+00
GTI-TPW-1						
ACETOPHENONE	98-86-2	ug/l	1 : 1 : 1	2.99E+00	2.99E+00	2 99E+00
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	6.00E+00	6 00E+00	6.00E+00
BARIUM	7440-39-3	ug/L	1 : 1 : 1	6.70E+01	6.70E+01	6.70E+01
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	4.00E+00	4.00E+00	4.00E+00
IRON	7439-89-6	ug/L	1 : 1 : 1	1.32E+02	1.32E+02	1.32E+02
MAGNESIUM	7439-95-4	ug/L	1 . 1 : 1	4.30E+03	4.30E+03	4.30E+03
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 . 1 : 1	7.92E+05	7.92E+05	7.92E+05
TOTAL XYLENES	Total Xylenes	ug/L	1 : 1 : 1	3.69E+01	3.69E+01	3.69E+01

Table 1-2
Summary Statistics
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	Minimum Detected Concentration (c)	Maximum Detected Concentration (d)	Mean Concentration (e)
P-15-N						
1,2-DICHLOROPROPANE	78-87-5	ug/l	1 : 1 : 1	6.63E+01	6.63E+01	6.63E+01
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	3 30E+01	3.30E+01	3.30E+01
BARIUM	7440-39-3	ug/L	1 : 1 : 1	9 50E+01	9.50E+01	9.50E+01
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/l	1 : 1 : 1	1 04E+01	1.04E+01	1.04E+01
NAPHTHALENE	91-20-3	ug/l	1 : 1 : 1	3.76E+00	3.76E+00	3 76E+00
NICKEL	7440-02-0	ug/L	1 . 1 : 1	5.00E+00	5.00E+00	5.00E+00
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 . 1 . 1	7.72E+05	7.72E+05	7.72E+05
VANADIUM	7440-62-2	ug/L	1 : 1 : 1	1.30E+01	1.30E+01	1 30E+01
P-34-N						
1,4-DIOXANE	123-91-1	ug/l	3 . 3 : 5	3.00E+00	3.60E+00	3 20E+00
ARSENIC	7440-38-2	ug/L	6 : 6 : 6	1.60E+01	2.70E+02	8.98E+01
ARSENIC, DISSOLVED	7440-38-2	ug/L	4 : 6 : 6	6.40E+00	2 20E+01	9.63E+00
BARIUM, DISSOLVED	7440-39-3	ug/L	6 . 6 : 6	9 10E+01	1.50E+02	1.08E+02
BARIUM	7440-39-3	ug/L	6 . 6 : 6	9.50E+01	2.70E+02	1.84E+02
CADMIUM	7440-43-9	ug/L	3 : 6 : 6	1.30E+00	1.90E+00	1.05E+00
CHROMIUM	7440-47-3	ug/L	5 . 6 : 6	8 00E+00	5.00E+01	2.56E+01
COPPER	7440-50-8	ug/L	4 . 6 . 6	1.80E+01	5.70E+01	2.90E+01
DIETHYL PHTHALATE	84-66-2	ug/l	1 : 1 : 4	1.70E+00	1.70E+00	1.70E+00
LEAD, DISSOLVED	7439-92-1	ug/L	1 : 6 : 6	3.80E+00	3.80E+00	1 88E+00
LEAD	7439-92-1	ug/L	6 : 6 : 6	1.20E+01	6.00E+01	2 93E+01
NICKEL	7440-02-0	ug/L	3 : 6 : 6	4.80E+01	9.40E+01	4 28E+01
NICKEL, DISSOLVED	7440-02-0	ug/L	1 : 6 : 6	4 10E+01	4 10E+01	2.35E+01
TOTAL CYANIDE	57-12-5	ug/L	6 . 6 . 6	5.00E+00	2 20E+01	1.83E+01
VANADIUM	7440-62-2	ug/L	4 : 6 : 6	2.60E+01	8.70E+01	4 35E+01
ZINC	7440-66-6	ug/L	4 : 6 : 6	7.00E+01	3.30E+02	1.46E+02
ZINC, DISSOLVED	7440-66-6	ug/L	2 : 6 : 6	4.20E+01	8.70E+01	2.99E+01
P-36-N						
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	7.70E+01	7.70E+01	7 70E+01
BARIUM	7440-39-3	ug/L	1 . 1 : 1	3.32E+02	3 32E+02	3.32E+02
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	1.02E+02	1.02E+02	1.02E+02
DIETHYL PHTHALATE	84-66-2	ug/l	1 : 1 : 1	2.66E+00	2.66E+00	2.66E+00
IRON	7439-89-6	ug/L	1 . 1 . 1	1.00E+03	1 00E+03	1.00E+03
MAGNESIUM	7439-95-4	ug/L	1 . 1 : 1	1.61E+04	1 61E+04	1.61E+04
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 . 1 : 1	2.59E+06	2.59E+06	2.59E+06

Table 1-2
Summary Statistics
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	Minimum Detected Concentration (c)	Maximum Detected Concentration (d)	Mean Concentration (e)
PM1NA						
2,6-DICHLOROPHENOL	87-65-0	ug/l	3 : 3 . 4	2.40E+00	2.90E+00	2.70E+00
ACETONE	67-64-1	ug/l	1 : 1 : 2	9.00E+00	9.00E+00	9.00E+00
ANTIMONY, DISSOLVED	7440-36-0	ug/L	1 · 4 : 4	1 40E+01	1.40E+01	8.13E+00
ANTIMONY	7440-36-0	ug/L	1 : 4 : 4	2 00E+01	2.00E+01	9.50E+00
ARSENIC, DISSOLVED	7440-38-2	ug/L	4 : 4 : 4	1.20E+01	5.70E+02	4.08E+02
ARSENIC	7440-38-2	ug/L	4 : 4 : 4	3.10E+01	6.60E+02	4.43E+02
BARIUM	7440-39-3	ug/L	4 : 4 : 4	6.90E+01	3.00E+02	1 61E+02
BARIUM, DISSOLVED	7440-39-3	ug/L	4 : 4 · 4	4.10E+01	7.20E+01	5.28E+01
BENZENE	71-43-2	ug/l	1 · 2 · 4	1.90E+00	1.90E+00	1.20E+00
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 2 : 2	1 90E+01	1.90E+01	1.08E+01
CADMIUM	7440-43-9	ug/L	2 : 4 : 4	2 10E+00	2.00E+01	5 78E+00
CARBON DISULFIDE	75-15-0	ug/l	4 . 4 : 4	1.50E+00	3.50E+00	2.40E+00
CHROMIUM	7440-47-3	ug/L	4 : 4 . 4	2.80E+01	1.40E+02	8.20E+01
CHROMIUM, DISSOLVED	7440-47-3	ug/L	3 : 4 : 4	2 00E+01	2 70E+01	1.74E+01
COPPER	7440-50-8	ug/L	3 : 4 : 4	1 80E+01	1.10E+02	5 25E+01
LEAD	7439-92-1	ug/L	4 : 4 : 4	1.00E+01	8.90E+01	5.00E+01
MERCURY	7439-97-6	ug/L	2 · 4 : 4	3.60E-01	1.00E+00	3.90E-01
NICKEL	7440-02-0	ug/L	3 . 4 . 4	5.40E+01	1 50E+02	8.60E+01
NICKEL, DISSOLVED	7440-02-0	ug/L	1 4 : 4	4.10E+01	4.10E+01	2.53E+01
TOTAL CYANIDE	57-12-5	ug/L	4 · 4 : 4	6.80E+01	1.50E+04	7.30E+03
TOTAL METHYLPHENOL	otal Methylph	ug/L	3 · 3 : 4	4.00E+00	8.40E+00	4.43E+00
VANADIUM	7440-62-2	ug/L	4 : 4 : 4	3.50E+01	8.50E+01	6 08E+01
VANADIUM, DISSOLVED	7440-62-2	ug/L	3 : 4 · 4	3.10E+01	4.40E+01	2 98E+01
ZINC	7440-66-6	ug/L	2 : 4 4	6.20E+01	4.50E+02	1 67E+02
ZINC, DISSOLVED	7440-66-6	ug/L	1 · 3 : 4	4 80E+01	4.80E+01	2 37E+01
PM1NB						
CARBON DISULFIDE	75-15-0	ug/l	1 · 1 : 1	3.10E+00	3.10E+00	3.10E+00
PM3NB						
1,4-DIOXANE	123-91-1	ug/l	1 · 1 : 1	3.20E+00	3.20E+00	3.20E+00
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/l	1 · 1 : 1	3.90E+01	3 90E+01	3.90E+01
CARBON DISULFIDE	75-15-0	ug/l	1 : 1 . 1	6.30E-01	6 30E-01	6.30E-01

Table 1-2
Summary Statistics
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	Minimum Detected Concentration (c)	Maximum Detected Concentration (d)	Mean Concentration (e)
PM4NA						
ANTIMONY	7440-36-0	ug/L	1 : 1 : 1	1.30E+01	1 30E+01	1.30E+01
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	3.00E+02	3.00E+02	3.00E+02
BARIUM	7440-39-3	ug/L	1 : 1 : 1	1.00E+02	1.00E+02	1.00E+02
BENZENE	71-43-2	ug/l	1 : 1 . 1	1 10E+00	1.10E+00	1 10E+00
CARBON DISULFIDE	75-15-0	ug/l	1 : 1 . 1	1.40E+00	1.40E+00	1.40E+00
CHLORIDE	16887-00-6	ug/L	1 : 1 : 1	2 20E+07	2.20E+07	2.20E+07
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	4.10E+01	4.10E+01	4.10E+01
COBALT	7440-48-4	ug/L	1 : 1 : 1	3.30E+00	3 30E+00	3.30E+00
COPPER	7440-50-8	ug/L	1 : 1 . 1	4.70E+00	4.70E+00	4.70E+00
MERCURY	7439-97-6	ug/l	1 : 1 : 1	5.26E-02	5.26E-02	5.26E-02
METHANE	74-82-8	ug/l	1 : 1 : 1	6.80E+03	6.80E+03	6 80E+03
NICKEL	7440-02-0	ug/L	1 : 1 : 1	5.30E+01	5.30E+01	5.30E+01
SULFATE	14808-79-8	ug/L	1 : 1 : 1	1 20E+06	1.20E+06	1.20E+06
TOLUENE	108-88-3	ug/l	1 : 1 : 1	1.30E+01	1 30E+01	1.30E+01
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 . 1 : 1	4 30E+07	4.30E+07	4.30E+07
VANADIUM	7440-62-2	ug/L	1 : 1 : 1	6.60E+01	6.60E+01	6.60E+01
ZINC	7440-66-6	ug/L	1 : 1 : 1	3.30E+01	3 30E+01	3.30E+01
RFIMW 01						
1,4-DIOXANE	123-91-1	ug/l	1 : 1 : 1	1.20E+02	1 20E+02	1.20E+02
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	3.50E+00	3 50E+00	3.50E+00
BARIUM	7440-39-3	ug/L	1 : 1 : 1	1.85E+02	1.85E+02	1.85E+02
CADMIUM	7440-43-9	ug/L	1 : 1 : 1	4.30E-01	4.30E-01	4.30E-01
CHLORIDE	16887-00-6	ug/L	1 : 1 . 1	1.85E+07	1.85E+07	1 85E+07
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	1.80E+00	1 80E+00	1.80E+00
COBALT	7440-48-4	ug/L	1 : 1 : 1	1.25E+00	1.25E+00	1.25E+00
MERCURY	7439-97-6	ug/l	1 : 1 : 1	2.83E-02	2.83E-02	2.83E-02
METHANE	74-82-8	ug/l	1 : 1 : 1	7 75E+03	7.75E+03	7.75E+03
NICKEL	7440-02-0	ug/L	1 : 1 : 1	3 90E+00	3.90E+00	3 90E+00
SULFATE	14808-79-8	ug/L	1 : 1 : 1	7 25E+05	7.25E+05	7 25E+05
THALLIUM	7440-28-0	ug/L	1 . 1 . 1	7 65E+00	7.65E+00	7.65E+00
TOLUENE	108-88-3	ug/l	1 : 1 : 1	1 20E+02	1.20E+02	1.20E+02
TOTAL CYANIDE	57-12-5	ug/L	4 : 4 : 4	2.70E+01	5.30E+01	4.15E+01
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	3.00E+07	3.00E+07	3.00E+07
VANADIUM	7440-62-2	ug/L	1 : 1 : 1	5.50E+00	5.50E+00	5.50E+00
ZINC	7440-66-6	ug/L	1 1 : 1	1.70E+01	1.70E+01	1 70E+01

Table 1-2
Summary Statistics
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	Minimum Detected Concentration (c)	Maximum Detected Concentration (d)	Mean Concentration (e)
RFIMW 02						
1,4-DIOXANE	123-91-1	ug/l	1 : 1 : 3	4.00E+00	4.00E+00	4.00E+00
ACETONE	67-64-1	ug/l	1 : 2 : 2	2.70E+01	2.70E+01	1.60E+01
ARSENIC	7440-38-2	ug/L	4 . 4 : 4	7 50E+00	4.40E+01	2.06E+01
ARSENIC, DISSOLVED	7440-38-2	ug/L	1 . 4 : 4	9.20E+00	9 20E+00	4.80E+00
BARIUM, DISSOLVED	7440-39-3	ug/L	4 : 4 · 4	3.60E+02	5.30E+02	4.43E+02
BARIUM	7440-39-3	ug/L	4 : 4 : 4	4 40E+02	7.70E+02	5 55E+02
BENZENE	71-43-2	ug/l	2 : 4 : 4	2.80E-01	7 70E-01	5.12E-01
BIS(2-CHLOROETHYL) ETHER	111-44-4	ug/l	4 : 4 . 4	2.40E+01	4.50E+01	3.30E+01
CADMIUM, DISSOLVED	7440-43-9	ug/L	2 : 4 . 4	1.10E+00	3 10E+00	1.30E+00
CADMIUM	7440-43-9	ug/L	2 : 4 : 4	2.10E+00	6.80E+00	2.60E+00
CARBON DISULFIDE	75-15-0	ug/l	3 : 4 : 4	1.20E-01	5 90E-01	3.38E-01
CHROMIUM	7440-47-3	ug/L	4 . 4 . 4	3 00E+01	1 80E+02	8.00E+01
COPPER, DISSOLVED	7440-50-8	ug/L	1 : 4 . 4	5.80E+01	5 80E+01	2.00E+01
COPPER	7440-50-8	ug/L	3 : 4 . 4	4.20E+01	1 40E+02	6.28E+01
LEAD	7439-92-1	ug/L	2 . 4 : 4	1 00E+01	4.60E+01	1 51E+01
MERCURY	7439-97-6	ug/l	1 · 1 : 1	4.16E-03	4.16E-03	4.16E-03
NICKEL	7440-02-0	ug/L	3 · 4 · 4	4.40E+01	1.70E+02	7.13E+01
PHENOL	108-95-2	ug/l	1 · 3 : 3	5.30E+00	5.30E+00	3.43E+00
TOTAL CYANIDE	57-12-5	ug/L	4 · 4 . 4	9.00E+00	2.20E+01	1.30E+01
TOTAL METHYLPHENOL	otal Methylph	ug/L	3 : 3 : 3	3 85E+01	1.95E+02	1.15E+02
VANADIUM	7440-62-2	ug/L	3 : 4 · 4	2.40E+01	1.30E+02	4 85E+01
ZINC	7440-66-6	ug/L	2 : 4 . 4	7 60E+01	3.10E+02	1.17E+02
ZINC, DISSOLVED	7440-66-6	ug/L	1 : 3 : 4	4.10E+01	4.10E+01	2 22E+01
RFIMW 03						
ACETONE	67-64-1	ug/l	2 : 3 : 3	1.70E+01	2 20E+01	1.58E+01
ACETOPHENONE	98-86-2	ug/l	1 . 1 . 3	1.90E+00	1.90E+00	1 90E+00
ARSENIC, DISSOLVED	7440-38-2	ug/L	2 : 4 : 4	1.10E+01	1.40E+01	7 50E+00
ARSENIC	7440-38-2	ug/L	4 : 4 · 4	1.90E+01	5 00E+01	3.00E+01
BARIUM, DISSOLVED	7440-39-3	ug/L	4 : 4 : 4	1.10E+03	1 80E+03	1.33E+03
BARIUM	7440-39-3	ug/L	4 : 4 . 4	1 20E+03	1.70E+03	1.50E+03
BIS(2-CHLOROETHYL) ETHER	111-44-4	ug/l	4 : 4 : 4	6 40E+00	1.50E+01	1.19E+01
CADMIUM	7440-43-9	ug/L	1 : 4 : 4	3.30E+00	3.30E+00	1.20E+00
CARBON DISULFIDE	75-15-0	ug/l	1 : 1 : 4	1.20E-01	1 20E-01	1.20E-01
CHROMIUM	7440-47-3	ug/L	4 : 4 : 4	3 00E+01	1.50E+02	6 33E+01
COPPER	7440-50-8	ug/L	3 . 4 : 4	3 20E+01	1.20E+02	5.40E+01
LEAD	7439-92-1	ug/L	4 . 4 : 4	1 60E+01	7.10E+01	3 23E+01
METHYL ETHYL KETONE	78-93-3	ug/l	2 . 2 : 2	5 60E+00	6.40E+00	6 00E+00
NICKEL	7440-02-0	ug/L	4 : 4 . 4	4.70E+01	1.80E+02	8.55E+01
PHENOL	108-95-2	ug/l	1 : 1 : 2	1.50E+00	1.50E+00	1.50E+00
TOLUENE	108-88-3	ug/l	2 : 2 : 4	1.60E-01	3.10E-01	2.35E-01
TOTAL CYANIDE	57-12-5	ug/L	1 : 4 · 4	6 00E+00	6.00E+00	3.38E+00
TOTAL METHYLPHENOL	otal Methylph	ug/L	3 : 4 : 4	1 40E+01	7.80E+01	3.12E+01
VANADIUM	7440-62-2	ug/L	4 . 4 : 4	3 50E+01	1.30E+02	6 25E+01
ZINC	7440-66-6	ug/L	3 . 4 : 4	9.10E+01	3.40E+02	1.49E+02
ZINC, DISSOLVED	7440-66-6	ug/L	1 : 3 : 4	2 00E+01	2.00E+01	1.33E+01

Table 1-2
Summary Statistics
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	Minimum Detected Concentration (c)	Maximum Detected Concentration (d)	Mean Concentration (e)
RFIMW 04						
1,4-DIOXANE	123-91-1	ug/l	4 · 4 · 4	1 10E+01	1.90E+01	1 58E+01
ARSENIC, DISSOLVED	7440-38-2	ug/L	4 · 4 : 4	1.70E+02	5.20E+02	3.25E+02
ARSENIC	7440-38-2	ug/L	4 · 4 · 4	1.90E+02	5.70E+02	3 85E+02
BARIUM, DISSOLVED	7440-39-3	ug/L	4 : 4 : 4	3.60E+01	9.20E+01	7.03E+01
BARIUM	7440-39-3	ug/L	4 · 4 · 4	3.60E+01	1.00E+02	7 38E+01
CARBON DISULFIDE	75-15-0	ug/l	2 . 2 : 4	1.00E-01	2.00E-01	1 50E-01
CHROMIUM	7440-47-3	ug/L	3 · 4 : 4	5.80E+00	2 20E+01	1.13E+01
COPPER	7440-50-8	ug/L	1 : 4 : 4	1.80E+01	1.80E+01	9.25E+00
LEAD	7439-92-1	ug/L	2 : 4 . 4	3.90E+00	4 30E+00	2.80E+00
MERCURY	7439-97-6	ug/l	1 : 1 : 1	7.45E-03	7.45E-03	7.45E-03
TOTAL CYANIDE	57-12-5	ug/L	4 . 4 . 4	1.70E+01	1 30E+02	6.70E+01
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	4.10E+06	4.10E+06	4.10E+06
ZINC	7440-66-6	ug/L	2 . 4 . 4	5.00E+01	5.20E+01	3.33E+01
RFIMW 05						
1,2-DICHLOROPROPANE	78-87-5	ug/l	4 . 4 : 4	3.90E-01	1 10E+00	7.32E-01
2-METHYLNAPHTHALENE	91-57-6	ug/l	1 : 1 : 2	1.20E+00	1 20E+00	1.20E+00
ACETONE	67-64-1	ug/l	3 : 4 : 4	6.90E+01	1 40E+02	8.35E+01
BARIUM	7440-39-3	ug/L	4 : 4 : 4	8.60E+02	1.40E+03	1.10E+03
BARIUM, DISSOLVED	7440-39-3	ug/L	4 · 4 · 4	9.70E+02	1 20E+03	1.09E+03
BENZENE	71-43-2	ug/l	3 · 4 : 4	4.50E-01	6.80E-01	5.55E-01
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/l	3 : 3 : 4	1.60E+00	1 80E+00	1.73E+00
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	2 · 3 : 3	1 90E+00	3.00E+00	2.47E+00
CHROMIUM	7440-47-3	ug/L	2 · 4 · 4	6.60E+00	3 00E+01	1.04E+01
COPPER	7440-50-8	ug/L	1 : 4 · 4	2 20E+01	2.20E+01	1 00E+01
METHYL ETHYL KETONE	78-93-3	ug/l	3 : 4 : 4	9 10E+00	9.90E+00	8.45E+00
NAPHTHALENE	91-20-3	ug/l	4 . 4 : 4	2.90E+00	3.90E+00	3 35E+00
PHENOL	108-95-2	ug/l	3 . 4 : 4	1.40E+01	4.10E+01	2 35E+01
SELENIUM	7782-49-2	ug/L	3 : 4 : 4	5.40E+00	9.90E+00	6.76E+00
SELENIUM, DISSOLVED	7782-49-2	ug/L	2 . 4 4	7.90E+00	1 00E+01	5.72E+00
TOLUENE	108-88-3	ug/l	3 : 4 : 4	2.80E-01	6.10E-01	4.22E-01
TOTAL CYANIDE	57-12-5	ug/L	2 . 3 . 3	6.00E+00	7.00E+00	5 17E+00
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 · 1 : 1	1.50E+07	1 50E+07	1.50E+07
TOTAL METHYLPHENOL	otal Methylpl	ug/L	4 · 4 : 4	6.07E+01	9 33E+01	7.43E+01
ZINC	7440-66-6	ug/L	1 · 4 : 4	7.60E+01	7 60E+01	2.75E+01

Table 1-2
Summary Statistics
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	Minimum Detected Concentration (c)	Maximum Detected Concentration (d)	Mean Concentration (e)
RFIMW 06						
1,2-DICHLOROETHANE	107-06-2	ug/l	2 . 4 : 4	4.70E-01	5.80E-01	5.12E-01
1,2-DICHLOROPROPANE	78-87-5	ug/l	4 : 4 : 4	2.20E+01	3 50E+01	2.90E+01
ACETONE	67-64-1	ug/l	2 : 3 : 3	1.40E+01	1 90E+01	1.27E+01
ARSENIC	7440-38-2	ug/L	2 : 4 : 4	5 60E+00	7.50E+00	4.53E+00
BARIUM	7440-39-3	ug/L	4 : 4 . 4	9.20E+01	1.30E+02	1.13E+02
BARIUM, DISSOLVED	7440-39-3	ug/L	4 : 4 . 4	8 80E+01	1.20E+02	1 05E+02
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/l	4 : 4 : 4	1.40E+01	1 80E+01	1 63E+01
CARBON DISULFIDE	75-15-0	ug/l	1 · 1 : 4	3.20E-01	3.20E-01	3 20E-01
CHROMIUM	7440-47-3	ug/L	4 : 4 : 4	1.10E+01	3 30E+01	1.80E+01
COPPER	7440-50-8	ug/L	2 · 4 : 4	1.30E+01	2.20E+01	1.14E+01
LEAD	7439-92-1	ug/L	1 · 4 : 4	7 90E+00	7.90E+00	3.45E+00
MERCURY	7439-97-6	ug/l	1 · 1 : 1	3.24E-01	3 24E-01	3.24E-01
NAPHTHALENE	91-20-3	ug/l	3 · 3 : 3	1.30E+00	1.60E+00	1 47E+00
PHENANTHRENE	85-01-8	ug/l	1 : 1 : 3	1.40E+00	1.40E+00	1.40E+00
PHENOL	108-95-2	ug/l	3 : 4 : 4	1.00E+01	1 40E+01	1.08E+01
SELENIUM	7782-49-2	ug/L	1 : 4 : 4	6.00E+00	6.00E+00	3.38E+00
SELENIUM, DISSOLVED	7782-49-2	ug/L	1 · 4 : 4	6.10E+00	6.10E+00	3.73E+00
TOLUENE	108-88-3	ug/l	2 : 2 · 4	1.60E-01	2.00E-01	1.80E-01
TOTAL CYANIDE	57-12-5	ug/L	4 4 : 4	7.00E+00	3.00E+01	1.53E+01
TOTAL METHYLPHENOL	ɔtal Methylpl	ug/L	4 : 4 : 4	1 35E+01	2.45E+01	1.94E+01
ZINC	7440-66-6	ug/L	1 . 4 . 4	7.70E+01	7.70E+01	3.65E+01
ZINC, DISSOLVED	7440-66-6	ug/L	1 : 4 : 4	6.20E+01	6 20E+01	2.30E+01

Table 1-2
Summary Statistics
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	Minimum Detected Concentration (c)	Maximum Detected Concentration (d)	Mean Concentration (e)
RFIMW 07						
1,1,1-TRICHLOROETHANE	71-55-6	ug/l	1 : 1 : 1	1.30E+01	1 30E+01	1 30E+01
1,1-DICHLOROETHANE	75-34-3	ug/l	1 : 1 : 1	1.20E+01	1 20E+01	1 20E+01
1,1-DICHLOROETHENE	75-35-4	ug/l	1 : 1 : 1	1.70E+00	1 70E+00	1.70E+00
1,4-DIOXANE	123-91-1	ug/l	4 : 4 : 4	2.40E+01	4.40E+01	3.21E+01
2-HEXANONE	591-78-6	ug/l	1 : 1 : 1	1 30E+00	1.30E+00	1 30E+00
2-METHYLNAPHTHALENE	91-57-6	ug/l	4 : 4 : 4	4.20E+01	1 10E+02	8.60E+01
4-METHYL-2-PENTANONE (MIBK)	108-10-1	ug/l	1 : 1 : 1	9.10E-01	9 10E-01	9.10E-01
ACENAPHTHENE	83-32-9	ug/l	2 : 2 . 4	2.70E+00	2.80E+00	2.75E+00
ACETONE	67-64-1	ug/l	1 : 1 . 1	4.40E+01	4.40E+01	4.40E+01
BARIUM	7440-39-3	ug/L	1 . 1 : 1	8 60E+01	8.60E+01	8.60E+01
BENZENE	71-43-2	ug/l	1 : 1 : 1	8 30E-01	8.30E-01	8.30E-01
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 3 . 3	1 30E+01	1.30E+01	7.67E+00
CHLORIDE	16887-00-6	ug/L	1 : 1 : 1	5.20E+06	5.20E+06	5.20E+06
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	1 10E+00	1.10E+00	1 10E+00
CUMENE	98-82-8	ug/l	1 : 1 : 1	4 80E+00	4.80E+00	4.80E+00
CYCLOHEXANE	110-82-7	ug/l	1 : 1 : 1	1.40E+00	1.40E+00	1.40E+00
DIBENZOFURAN	132-64-9	ug/l	2 : 2 : 4	2 80E+00	2.95E+00	2 88E+00
ETHYLBENZENE	100-41-4	ug/l	1 : 1 : 1	1 10E+01	1.10E+01	1 10E+01
MERCURY	7439-97-6	ug/l	1 : 1 : 1	1.21E-01	1.21E-01	1.21E-01
METHANE	74-82-8	ug/l	1 : 1 : 1	4 80E+03	4.80E+03	4.80E+03
METHYLCYCLOHEXANE	108-87-2	ug/l	1 : 1 : 1	2.80E+00	2.80E+00	2 80E+00
NAPHTHALENE	91-20-3	ug/l	4 : 4 : 4	3 40E+01	6.55E+01	5 46E+01
NICKEL	7440-02-0	ug/L	1 . 1 . 1	3.60E+00	3.60E+00	3.60E+00
PHENANTHRENE	85-01-8	ug/l	3 : 3 : 4	2.20E+00	3.05E+00	2.75E+00
PHENOL	108-95-2	ug/l	3 : 4 : 4	4.55E+01	3.10E+02	1 24E+02
SELENIUM	7782-49-2	ug/L	1 : 1 : 1	4.80E+00	4.80E+00	4 80E+00
SULFATE	14808-79-8	ug/L	1 : 1 : 1	3.10E+05	3.10E+05	3.10E+05
TOLUENE	108-88-3	ug/l	1 : 1 : 1	1 70E+01	1.70E+01	1.70E+01
TOTAL CYANIDE	57-12-5	ug/L	4 : 4 : 4	4.10E+01	1.30E+02	6.98E+01
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	1.30E+07	1 30E+07	1.30E+07
TOTAL METHYLPHENOL	otal Methylpl	ug/L	4 : 4 : 4	1.87E+01	1.37E+02	5.61E+01
TOTAL XYLENES	Total Xylenes	ug/l	1 : 1 : 1	2.20E+01	2 20E+01	2.20E+01
VANADIUM	7440-62-2	ug/L	1 : 1 . 1	1.30E+00	1.30E+00	1 30E+00

Table 1-2
Summary Statistics
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	Minimum Detected Concentration (c)	Maximum Detected Concentration (d)	Mean Concentration (e)
RFIMW 08						
BARIUM, DISSOLVED	7440-39-3	ug/L	3 : 3 : 3	9.60E+02	9.90E+02	9.77E+02
BARIUM	7440-39-3	ug/L	3 : 3 : 3	8.70E+02	1.10E+03	9.90E+02
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 · 1 : 4	1.80E+00	1.80E+00	1.80E+00
CADMIUM, DISSOLVED	7440-43-9	ug/L	1 : 4 : 4	1.10E+00	1 10E+00	6.50E-01
CADMIUM	7440-43-9	ug/L	1 : 4 : 4	1.20E+00	1 20E+00	6.75E-01
CARBON DISULFIDE	75-15-0	ug/l	2 . 4 : 4	1 50E-01	1.10E+00	5.63E-01
CHLOROFORM	67-66-3	ug/l	1 : 4 . 4	1.20E+01	1.20E+01	3.38E+00
CHROMIUM, DISSOLVED	7440-47-3	ug/L	1 : 4 : 4	6.30E+00	6.30E+00	3.45E+00
CHROMIUM	7440-47-3	ug/L	1 : 4 : 4	3.20E+01	3.20E+01	9.88E+00
COPPER	7440-50-8	ug/L	1 : 4 . 4	3.30E+01	3.30E+01	1 25E+01
LEAD	7439-92-1	ug/L	1 : 4 : 4	3.60E+00	3.60E+00	2.02E+00
MERCURY	7439-97-6	ug/l	1 · 1 : 1	5.32E-03	5.32E-03	5 32E-03
PHENOL	108-95-2	ug/l	1 : 4 : 4	4.80E+00	4.80E+00	3.08E+00
TOTAL CYANIDE	57-12-5	ug/L	1 : 3 · 3	1 00E+01	1.00E+01	5.00E+00
ZINC, DISSOLVED	7440-66-6	ug/L	2 : 4 : 4	3.30E+01	6.40E+01	2.94E+01
ZINC	7440-66-6	ug/L	1 : 4 : 4	2.40E+02	2.40E+02	7 68E+01
RFIMW 09						
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	2.30E+01	2.30E+01	2.30E+01
BARIUM	7440-39-3	ug/L	1 : 1 1	1.60E+02	1 60E+02	1.60E+02
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 · 1 : 4	2.40E+00	2 40E+00	2.40E+00
CHLORIDE	16887-00-6	ug/L	1 · 1 · 1	3.80E+06	3.80E+06	3.80E+06
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	8.80E+01	8.80E+01	8 80E+01
COBALT	7440-48-4	ug/L	1 . 1 . 1	1 50E+00	1.50E+00	1.50E+00
MERCURY	7439-97-6	ug/l	1 : 1 · 1	1.37E-03	1.37E-03	1.37E-03
METHANE	74-82-8	ug/l	1 · 1 · 1	1.30E+03	1.30E+03	1 30E+03
NICKEL	7440-02-0	ug/L	1 . 1 . 1	4.80E+01	4.80E+01	4.80E+01
PHENOL	108-95-2	ug/l	1 . 4 : 4	5 60E+00	5.60E+00	3.27E+00
SULFATE	14808-79-8	ug/L	1 · 1 : 1	1.40E+04	1.40E+04	1.40E+04
THALLIUM	7440-28-0	ug/L	1 · 1 · 1	9.40E+00	9.40E+00	9 40E+00
TOTAL CYANIDE	57-12-5	ug/L	1 : 3 . 3	1 00E+01	1.00E+01	5.00E+00
ZINC	7440-66-6	ug/L	1 : 1 · 1	1.40E+01	1 40E+01	1.40E+01
RFIMW 10						
ARSENIC, DISSOLVED	7440-38-2	ug/L	4 . 4 : 4	1.30E+01	1.90E+01	1.58E+01
ARSENIC	7440-38-2	ug/L	4 . 4 : 4	1 50E+01	1.90E+01	1.64E+01
BARIUM, DISSOLVED	7440-39-3	ug/L	4 · 4 : 4	6.50E+02	8.60E+02	7.60E+02
BARIUM	7440-39-3	ug/L	4 : 4 : 4	7.50E+02	8.60E+02	8.10E+02
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 . 1 : 3	1 50E+00	1.50E+00	1.50E+00
CHROMIUM	7440-47-3	ug/L	1 · 4 · 4	1.40E+01	1.40E+01	5 38E+00
TOTAL CYANIDE	57-12-5	ug/L	3 . 4 : 4	3.75E+00	1.00E+01	5.31E+00
ZINC, DISSOLVED	7440-66-6	ug/L	1 : 4 : 4	1.80E+01	1.80E+01	1.51E+01

Table 1-2
Summary Statistics
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	Minimum Detected Concentration (c)	Maximum Detected Concentration (d)	Mean Concentration (e)
RFIMW 11						
ANTIMONY	7440-36-0	ug/L	2 : 4 : 4	8.50E+00	1.00E+01	6.34E+00
ARSENIC, DISSOLVED	7440-38-2	ug/L	4 . 4 : 4	6.30E+00	1.40E+01	1.13E+01
ARSENIC	7440-38-2	ug/L	4 . 4 : 4	1.70E+01	1.40E+02	9.68E+01
BARIUM	7440-39-3	ug/L	4 : 4 : 4	1.00E+02	3.40E+02	2.50E+02
BARIUM, DISSOLVED	7440-39-3	ug/L	4 : 4 : 4	9 60E+01	1 20E+02	1.09E+02
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	2 : 2 : 2	2.80E+00	3.50E+00	3.15E+00
CADMIUM	7440-43-9	ug/L	3 : 4 : 4	2.80E+00	4.30E+00	2.90E+00
CHROMIUM	7440-47-3	ug/L	4 : 4 : 4	1.90E+01	1.10E+02	7.90E+01
COPPER	7440-50-8	ug/L	3 : 4 : 4	3.20E+02	4.20E+02	2.83E+02
LEAD	7439-92-1	ug/L	4 : 4 : 4	1 90E+01	2.20E+02	1.62E+02
MERCURY	7439-97-6	ug/l	1 : 1 : 1	1 62E-03	1.62E-03	1.62E-03
NICKEL	7440-02-0	ug/L	3 : 4 : 4	1.00E+02	1.30E+02	9.50E+01
TOTAL CYANIDE	57-12-5	ug/L	4 : 4 : 4	9 00E+00	5.20E+01	2.73E+01
VANADIUM	7440-62-2	ug/L	3 : 4 : 4	7.20E+01	7 90E+01	5.85E+01
ZINC	7440-66-6	ug/L	3 . 4 : 4	6.90E+01	6.00E+02	3 56E+02
ZINC, DISSOLVED	7440-66-6	ug/L	1 . 4 : 4	2.40E+01	2.40E+01	1 60E+01
RFIMW 12						
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	3.80E+01	3 80E+01	3 80E+01
BARIUM	7440-39-3	ug/L	1 : 1 : 1	7.80E+01	7 80E+01	7 80E+01
CADMIUM	7440-43-9	ug/L	1 . 1 : 1	6.40E-01	6.40E-01	6 40E-01
CARBON DISULFIDE	75-15-0	ug/l	1 : 1 . 1	1.30E+00	1.30E+00	1.30E+00
CHLORIDE	16887-00-6	ug/L	1 1 . 1	7.40E+06	7.40E+06	7.40E+06
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	1.90E+01	1.90E+01	1.90E+01
COPPER	7440-50-8	ug/L	1 : 1 : 1	3 30E+00	3.30E+00	3.30E+00
MERCURY	7439-97-6	ug/l	1 : 1 : 1	1.45E-02	1.45E-02	1.45E-02
METHANE	74-82-8	ug/l	1 : 1 : 1	1.70E+04	1.70E+04	1.70E+04
NICKEL	7440-02-0	ug/L	1 . 1 . 1	4.60E+01	4.60E+01	4.60E+01
PHENOL	108-95-2	ug/l	3 . 4 : 4	7.90E+02	1.10E+03	7.94E+02
THALLIUM	7440-28-0	ug/L	1 : 1 : 1	5.90E+00	5.90E+00	5.90E+00
TOLUENE	108-88-3	ug/l	1 . 1 . 1	1.60E+01	1 60E+01	1.60E+01
TOTAL CYANIDE	57-12-5	ug/L	4 : 4 : 4	6.00E+00	1 80E+03	9.24E+02
TOTAL METHYLPHENOL	otal Methylpl	ug/L	4 . 4 : 4	1.93E+02	4 70E+02	2.83E+02
VANADIUM	7440-62-2	ug/L	1 : 1 : 1	4.20E+01	4 20E+01	4.20E+01

Table 1-2
Summary Statistics
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	Minimum Detected Concentration (c)	Maximum Detected Concentration (d)	Mean Concentration (e)
RFIMW 13						
1,2-DICHLOROETHANE	107-06-2	ug/l	1 : 1 : 1	2 20E+01	2 20E+01	2.20E+01
1,4-DIOXANE	123-91-1	ug/l	1 : 1 : 1	2.40E+02	2.40E+02	2.40E+02
ARSENIC	7440-38-2	ug/L	1 . 1 . 1	4.80E+00	4.80E+00	4.80E+00
BARIUM	7440-39-3	ug/L	1 : 1 : 1	1.30E+02	1.30E+02	1.30E+02
CHLORIDE	16887-00-6	ug/L	1 : 1 : 1	1.90E+07	1.90E+07	1.90E+07
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	5 40E+01	5.40E+01	5.40E+01
COPPER	7440-50-8	ug/L	1 : 1 : 1	5.70E+00	5 70E+00	5.70E+00
LEAD	7439-92-1	ug/L	1 : 1 : 1	3.20E+00	3 20E+00	3.20E+00
MERCURY	7439-97-6	ug/l	1 : 1 : 1	5.54E-02	5.54E-02	5.54E-02
METHANE	74-82-8	ug/l	1 : 1 : 1	9 80E+03	9.80E+03	9.80E+03
NICKEL	7440-02-0	ug/L	1 : 1 : 1	8 40E+00	8 40E+00	8.40E+00
SULFATE	14808-79-8	ug/L	1 : 1 . 1	6.80E+05	6.80E+05	6.80E+05
THALLIUM	7440-28-0	ug/L	1 . 1 : 1	7.80E+00	7.80E+00	7.80E+00
TOLUENE	108-88-3	ug/l	1 : 1 : 1	7.60E+01	7.60E+01	7.60E+01
TOTAL CYANIDE	57-12-5	ug/L	1 : 1 : 1	4 60E+01	4.60E+01	4.60E+01
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	3.10E+07	3.10E+07	3 10E+07
VANADIUM	7440-62-2	ug/L	1 : 1 : 1	7.20E+00	7.20E+00	7.20E+00
ZINC	7440-66-6	ug/L	1 . 1 : 1	3.50E+01	3.50E+01	3 50E+01
RFIMW 14						
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	7.65E+07	7.65E+07	7 65E+07
RFIMW 15						
BARIUM	7440-39-3	ug/L	1 . 1 . 1	1.40E+02	1.40E+02	1 40E+02
CHLORIDE	16887-00-6	ug/L	1 : 1 : 1	1.10E+07	1.10E+07	1 10E+07
CHROMIUM	7440-47-3	ug/L	1 : 1 . 1	2.50E+02	2.50E+02	2.50E+02
COBALT	7440-48-4	ug/L	1 : 1 : 1	1.80E+01	1.80E+01	1 80E+01
COPPER	7440-50-8	ug/L	1 . 1 . 1	1 90E+01	1.90E+01	1.90E+01
MERCURY	7439-97-6	ug/l	1 : 1 : 1	3.06E-03	3.06E-03	3 06E-03
METHANE	74-82-8	ug/l	1 . 1 : 1	1.50E+01	1.50E+01	1.50E+01
NICKEL	7440-02-0	ug/L	1 : 1 : 1	1.50E+03	1 50E+03	1.50E+03
SULFATE	14808-79-8	ug/L	1 : 1 : 1	9.30E+05	9 30E+05	9.30E+05
THALLIUM	7440-28-0	ug/L	1 : 1 : 1	9.60E+00	9.60E+00	9.60E+00
TOLUENE	108-88-3	ug/l	1 : 1 : 1	1.80E+01	1.80E+01	1 80E+01
TOTAL CYANIDE	57-12-5	ug/L	1 : 1 . 1	6.90E+01	6.90E+01	6.90E+01

Table 1-2
Summary Statistics
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	Minimum Detected Concentration (c)	Maximum Detected Concentration (d)	Mean Concentration (e)
RFIMW 16						
1,4-DIOXANE	123-91-1	ug/l	1 : 1 : 1	3.90E+01	3.90E+01	3.90E+01
ACETONE	67-64-1	ug/l	1 : 1 : 1	5.40E+02	5.40E+02	5.40E+02
ARSENIC, DISSOLVED	7440-38-2	ug/L	1 : 1 : 1	4.50E+01	4.50E+01	4.50E+01
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	3.90E+01	3.90E+01	3.90E+01
BARIUM, DISSOLVED	7440-39-3	ug/L	1 . 1 : 1	2.40E+02	2.40E+02	2.40E+02
BARIUM	7440-39-3	ug/L	1 : 1 : 1	2.40E+02	2.40E+02	2.40E+02
CARBON DISULFIDE	75-15-0	ug/l	1 : 1 : 1	3.40E+00	3.40E+00	3.40E+00
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	4.00E+01	4.00E+01	4.00E+01
CHROMIUM, DISSOLVED	7440-47-3	ug/L	1 : 1 : 1	7.60E+00	7.60E+00	7 60E+00
COPPER	7440-50-8	ug/L	1 . 1 : 1	1.80E+01	1.80E+01	1 80E+01
LEAD	7439-92-1	ug/L	1 . 1 : 1	3.00E+00	3.00E+00	3.00E+00
METHYL ETHYL KETONE	78-93-3	ug/l	1 : 1 : 1	4.30E+01	4.30E+01	4.30E+01
NICKEL	7440-02-0	ug/L	1 : 1 : 1	4.40E+01	4.40E+01	4.40E+01
PHENOL	108-95-2	ug/l	1 : 1 : 1	3 50E+02	3.50E+02	3.50E+02
SELENIUM, DISSOLVED	7782-49-2	ug/L	1 : 1 . 1	7.60E+00	7 60E+00	7.60E+00
SELENIUM	7782-49-2	ug/L	1 : 1 : 1	6.50E+00	6 50E+00	6.50E+00
TOLUENE	108-88-3	ug/l	1 : 1 . 1	2.00E+00	2.00E+00	2.00E+00
TOTAL CYANIDE	57-12-5	ug/L	1 : 1 : 1	3.90E+02	3.90E+02	3.90E+02
VANADIUM, DISSOLVED	7440-62-2	ug/L	1 . 1 : 1	1.80E+02	1 80E+02	1.80E+02
VANADIUM	7440-62-2	ug/L	1 : 1 : 1	2 00E+02	2.00E+02	2.00E+02
RFIMW 18						
1,4-DIOXANE	123-91-1	ug/l	1 . 1 : 1	3.80E+00	3.80E+00	3 80E+00
RFIMW 21						
ACETONE	67-64-1	ug/l	1 : 1 : 1	2.10E+03	2.10E+03	2 10E+03
PHENOL	108-95-2	ug/l	1 . 1 : 1	1.80E+01	1 80E+01	1 80E+01

Table 1-2
Summary Statistics
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	Minimum Detected Concentration (c)	Maximum Detected Concentration (d)	Mean Concentration (e)
RFIMW 22						
1,4-DIOXANE	123-91-1	ug/l	1 : 1 : 1	8.70E+01	8.70E+01	8.70E+01
2,4,5-TP (SILVEX)	93-72-1	ug/l	1 : 1 : 4	8.60E-01	8.60E-01	8.60E-01
ACETONE	67-64-1	ug/l	1 : 1 : 1	5.20E+03	5.20E+03	5.20E+03
ARSENIC	7440-38-2	ug/L	1 . 1 : 1	1.90E+02	1.90E+02	1.90E+02
BARIUM	7440-39-3	ug/L	1 : 1 : 1	1.10E+02	1.10E+02	1.10E+02
BENZENE	71-43-2	ug/l	1 : 1 : 1	2.30E+03	2 30E+03	2.30E+03
BERYLLIUM	7440-41-7	ug/L	1 : 1 : 1	1 20E+00	1.20E+00	1.20E+00
CHLORIDE	16887-00-6	ug/L	1 : 1 : 1	8.90E+06	8.90E+06	8.90E+06
CHLOROBENZENE	108-90-7	ug/l	1 : 1 : 1	6.40E+02	6.40E+02	6.40E+02
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	6.10E+01	6.10E+01	6.10E+01
COBALT	7440-48-4	ug/L	1 : 1 : 1	3.80E+00	3.80E+00	3.80E+00
COPPER	7440-50-8	ug/L	1 : 1 : 1	1.70E+01	1.70E+01	1.70E+01
ETHYLBENZENE	100-41-4	ug/l	1 : 1 : 1	5.30E+01	5 30E+01	5.30E+01
LEAD	7439-92-1	ug/L	1 : 1 : 1	2.80E+00	2.80E+00	2.80E+00
MERCURY	7439-97-6	ug/l	1 : 1 : 1	3.33E-02	3.33E-02	3.33E-02
METHANE	74-82-8	ug/l	1 : 1 : 1	1.40E+04	1.40E+04	1.40E+04
METHYL ETHYL KETONE	78-93-3	ug/l	1 . 1 : 1	8.00E+01	8.00E+01	8 00E+01
NICKEL	7440-02-0	ug/L	1 : 1 : 1	4.20E+01	4 20E+01	4.20E+01
PHENOL	108-95-2	ug/l	1 : 1 : 1	2.20E+02	2.20E+02	2.20E+02
TOTAL CYANIDE	57-12-5	ug/L	4 : 4 : 4	3.90E+04	4 60E+04	4.13E+04
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	1 50E+07	1 50E+07	1.50E+07
VANADIUM	7440-62-2	ug/L	1 : 1 : 1	5.00E+02	5 00E+02	5 00E+02
VINYL CHLORIDE	75-01-4	ug/l	1 : 1 : 1	2.80E+02	2.80E+02	2.80E+02
ZINC	7440-66-6	ug/L	1 . 1 . 1	2.20E+01	2.20E+01	2 20E+01
RFIMW 23						
ARSENIC, DISSOLVED	7440-38-2	ug/L	4 : 4 : 4	6 20E+00	1.30E+01	8.88E+00
ARSENIC	7440-38-2	ug/L	4 : 4 : 4	6.30E+00	1 20E+01	9.57E+00
BARIUM, DISSOLVED	7440-39-3	ug/L	4 : 4 : 4	9.40E+01	1.30E+02	1.12E+02
BARIUM	7440-39-3	ug/L	4 : 4 : 4	9.90E+01	1.30E+02	1.12E+02
BENZO(A)ANTHRACENE	56-55-3	ug/l	1 . 1 : 1	3.30E+00	3.30E+00	3.30E+00
CHROMIUM	7440-47-3	ug/L	3 : 4 : 4	7.20E+00	3 50E+01	1.42E+01
COPPER	7440-50-8	ug/L	1 . 4 : 4	2.30E+01	2.30E+01	1.01E+01
FLUORANTHENE	206-44-0	ug/l	1 : 1 : 1	4.50E+00	4.50E+00	4.50E+00
LEAD	7439-92-1	ug/L	1 : 4 : 4	6.10E+00	6.10E+00	2.65E+00
PYRENE	129-00-0	ug/l	1 : 1 : 1	9.60E+00	9.60E+00	9.60E+00
TOTAL CYANIDE	57-12-5	ug/L	4 : 4 : 4	1.10E+03	1.40E+03	1.25E+03
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	3.20E+06	3.20E+06	3.20E+06
ZINC	7440-66-6	ug/L	1 . 4 : 4	1.20E+02	1.20E+02	5 90E+01

Table 1-2
Summary Statistics
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	Minimum Detected Concentration (c)	Maximum Detected Concentration (d)	Mean Concentration (e)
RFIMW 24						
ARSENIC, DISSOLVED	7440-38-2	ug/L	1 : 6 : 6	5.20E+00	5.20E+00	2.95E+00
ARSENIC	7440-38-2	ug/L	1 . 6 : 6	1.10E+01	1.10E+01	4 66E+00
BARIUM, DISSOLVED	7440-39-3	ug/L	6 : 6 : 6	3.90E+01	1.00E+02	6 37E+01
BARIUM	7440-39-3	ug/L	6 : 6 : 6	5.40E+01	1.20E+02	8 33E+01
BENZENE	71-43-2	ug/l	1 : 1 . 6	1.10E-01	1.10E-01	1 10E-01
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	3 · 5 : 5	2.00E+00	4.10E+00	2.84E+00
CHROMIUM, DISSOLVED	7440-47-3	ug/L	1 : 6 : 6	1.70E+01	1 70E+01	4.92E+00
CHROMIUM	7440-47-3	ug/L	6 . 6 : 6	1 70E+01	6.20E+02	2.72E+02
COPPER	7440-50-8	ug/L	3 . 6 : 6	1.80E+01	2.10E+01	1.44E+01
LEAD	7439-92-1	ug/L	5 · 6 : 6	4.30E+00	7.10E+00	4.91E+00
METHYLENE CHLORIDE	75-09-2	ug/l	1 · 1 · 6	4.50E-01	4.50E-01	4.50E-01
NICKEL, DISSOLVED	7440-02-0	ug/L	1 : 5 : 5	1 00E+02	1 00E+02	3.60E+01
NICKEL	7440-02-0	ug/L	3 : 5 . 5	4.20E+01	1.60E+02	6.20E+01
SELENIUM, DISSOLVED	7782-49-2	ug/L	1 · 6 · 6	7.60E+00	7.60E+00	3 57E+00
SELENIUM	7782-49-2	ug/L	1 . 6 : 6	6 90E+00	6.90E+00	3.82E+00
TOTAL CYANIDE	57-12-5	ug/L	6 : 6 . 6	5.20E+01	6 30E+02	4.27E+02
VANADIUM	7440-62-2	ug/L	1 . 6 . 6	2 30E+01	2.30E+01	1.22E+01
ZINC	7440-66-6	ug/L	2 · 6 : 6	4.60E+01	5.10E+01	3.46E+01
RFIMW 25						
ARSENIC	7440-38-2	ug/L	4 : 6 : 6	7 80E+00	2.60E+01	1.30E+01
BARIUM	7440-39-3	ug/L	6 : 6 : 6	1.35E+02	2.70E+02	2.13E+02
BARIUM, DISSOLVED	7440-39-3	ug/L	6 · 6 : 6	1.10E+02	2.60E+02	1.70E+02
CADMIUM, DISSOLVED	7440-43-9	ug/L	1 · 6 : 6	1.60E+00	1.60E+00	6.83E-01
CADMIUM	7440-43-9	ug/L	2 · 6 · 6	1.10E+00	1.60E+00	7.83E-01
CHROMIUM	7440-47-3	ug/L	6 : 6 : 6	1 90E+02	1 40E+03	6 78E+02
COPPER	7440-50-8	ug/L	5 · 6 : 6	1.45E+01	6.10E+01	3.27E+01
COPPER, DISSOLVED	7440-50-8	ug/L	2 : 6 . 6	1 00E+01	1 10E+01	6.83E+00
LEAD	7439-92-1	ug/L	5 · 6 : 6	3.60E+00	1.70E+01	8.40E+00
NICKEL, DISSOLVED	7440-02-0	ug/L	3 · 6 : 6	1.20E+02	1.40E+02	7.50E+01
NICKEL	7440-02-0	ug/L	6 · 6 . 6	5.70E+01	2.90E+02	1.52E+02
TOTAL CYANIDE	57-12-5	ug/L	6 · 6 : 6	2.80E+01	5.40E+02	3.52E+02
VANADIUM	7440-62-2	ug/L	3 · 6 · 6	5.70E+01	9.10E+01	3 98E+01
ZINC	7440-66-6	ug/L	4 . 6 : 6	5.70E+01	1.90E+02	1.04E+02
ZINC, DISSOLVED	7440-66-6	ug/L	2 : 6 : 6	2.80E+01	1.10E+02	3.33E+01

Table 1-2
Summary Statistics
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	Minimum Detected Concentration (c)	Maximum Detected Concentration (d)	Mean Concentration (e)
RFIMW 26						
ARSENIC	7440-38-2	ug/L	2 : 2 : 2	4.30E+00	7 00E+00	5 65E+00
BARIUM	7440-39-3	ug/L	2 : 2 : 2	5.65E+01	2 74E+02	1.65E+02
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	1.80E+01	1 80E+01	1.80E+01
CHLORIDE	16887-00-6	ug/L	1 : 1 : 1	1 20E+06	1 20E+06	1 20E+06
CHROMIUM	7440-47-3	ug/L	2 : 2 : 2	9.15E+01	5.17E+03	2 63E+03
COBALT	7440-48-4	ug/L	1 : 1 : 1	1.50E+00	1.50E+00	1.50E+00
COPPER	7440-50-8	ug/L	2 : 2 : 2	8.15E+00	1.40E+02	7.41E+01
DIETHYL PHTHALATE	84-66-2	ug/l	1 : 1 : 1	2.29E+01	2 29E+01	2.29E+01
IRON	7439-89-6	ug/L	1 : 1 : 1	2.34E+04	2.34E+04	2.34E+04
LEAD	7439-92-1	ug/L	1 : 2 : 2	8.00E+00	8.00E+00	4 75E+00
MAGNESIUM	7439-95-4	ug/L	1 : 1 : 1	2.02E+04	2.02E+04	2.02E+04
MERCURY	7439-97-6	ug/l	1 : 1 : 2	1.97E-02	1.97E-02	1 97E-02
METHANE	74-82-8	ug/l	1 : 1 : 1	4.40E+00	4.40E+00	4.40E+00
NICKEL	7440-02-0	ug/L	2 : 2 : 2	4.85E+01	2.46E+03	1.25E+03
NITRATE	14797-55-8	ug/L	1 : 1 . 1	8 90E+03	8.90E+03	8 90E+03
SELENIUM	7782-49-2	ug/L	1 : 2 : 2	3.52E+00	3.52E+00	2.76E+00
SULFATE	14808-79-8	ug/L	1 : 1 . 1	7.35E+04	7.35E+04	7.35E+04
THALLIUM	7440-28-0	ug/L	1 : 2 : 2	1.01E+01	1.01E+01	7.55E+00
TOLUENE	108-88-3	ug/l	1 : 2 : 2	2.70E+01	2 70E+01	1 38E+01
TOTAL CYANIDE	57-12-5	ug/L	4 : 6 : 6	7.00E+00	3.20E+02	9.18E+01
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 . 1	1 24E+07	1.24E+07	1.24E+07
VANADIUM	7440-62-2	ug/L	2 : 2 : 2	2 90E+00	2.00E+01	1 14E+01
ZINC	7440-66-6	ug/L	1 : 2 : 2	2 20E+02	2.20E+02	1.13E+02
RFIMW 27						
ARSENIC	7440-38-2	ug/L	1 : 6 : 6	5.90E+00	5.90E+00	4.40E+00
BARIUM, DISSOLVED	7440-39-3	ug/L	6 : 6 . 6	1 80E+02	2.40E+02	2 13E+02
BARIUM	7440-39-3	ug/L	6 : 6 : 6	1.80E+02	2.60E+02	2.20E+02
BENZENE	71-43-2	ug/l	1 : 1 . 6	1 10E-01	1.10E-01	1.10E-01
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 4 : 4	4.10E+00	4.10E+00	2.90E+00
CADMIUM, DISSOLVED	7440-43-9	ug/L	2 : 6 : 6	1.10E+00	1.20E+00	8.83E-01
CADMIUM	7440-43-9	ug/L	1 : 6 . 6	1.10E+00	1.10E+00	7.67E-01
CHROMIUM, DISSOLVED	7440-47-3	ug/L	1 : 6 . 6	1.00E+01	1 00E+01	4.48E+00
CHROMIUM	7440-47-3	ug/L	6 . 6 : 6	6 50E+00	3.50E+01	1.88E+01
COPPER	7440-50-8	ug/L	3 : 6 : 6	1.50E+01	5.20E+01	1.83E+01
LEAD	7439-92-1	ug/L	1 : 6 : 6	7 30E+00	7.30E+00	2.72E+00
SILVER	7440-22-4	ug/L	1 : 6 : 6	1.50E+01	1.50E+01	6.67E+00
TOTAL CYANIDE	57-12-5	ug/L	5 : 6 : 6	6.00E+00	4.80E+01	2.28E+01
VANADIUM	7440-62-2	ug/L	1 : 6 : 6	2.30E+01	2.30E+01	1.22E+01
ZINC	7440-66-6	ug/L	2 : 6 : 6	5.90E+01	3.40E+02	7.91E+01
ZINC, DISSOLVED	7440-66-6	ug/L	1 : 5 : 6	4.10E+01	4.10E+01	1.84E+01

Table 1-2
Summary Statistics
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	Minimum Detected Concentration (c)	Maximum Detected Concentration (d)	Mean Concentration (e)
RFIMW 28						
2,4-DIMETHYLPHENOL	105-67-9	ug/l	6 : 6 . 6	6.70E+00	3.50E+01	2.05E+01
ACETONE	67-64-1	ug/l	1 : 2 : 1	1.40E+01	1.40E+01	1.05E+01
ARSENIC, DISSOLVED	7440-38-2	ug/L	6 . 6 . 6	3.10E+01	6.20E+01	4.10E+01
ARSENIC	7440-38-2	ug/L	6 : 6 : 6	4.00E+01	6.90E+01	5.07E+01
BARIUM, DISSOLVED	7440-39-3	ug/L	6 : 6 : 6	3.75E+01	6.30E+01	4.91E+01
BARIUM	7440-39-3	ug/L	6 : 6 · 6	5 20E+01	1.35E+02	8.17E+01
BENZENE	71-43-2	ug/l	5 · 5 · 6	1.20E+00	2 30E+00	1.70E+00
CADMIUM, DISSOLVED	7440-43-9	ug/L	5 : 6 : 6	1.20E+00	3.00E+00	1.63E+00
CADMIUM	7440-43-9	ug/L	5 : 6 : 6	1.00E+00	2.80E+00	1.57E+00
CARBON DISULFIDE	75-15-0	ug/l	1 · 1 : 6	2.70E-01	2.70E-01	2.70E-01
CHROMIUM	7440-47-3	ug/L	6 · 6 : 6	5 20E+00	5.00E+01	1.92E+01
COPPER	7440-50-8	ug/L	4 : 6 : 6	2.40E+01	6.35E+01	2.90E+01
LEAD	7439-92-1	ug/L	5 : 6 · 6	3 10E+00	1.51E+01	5.97E+00
MERCURY	7439-97-6	ug/l	2 : 2 : 2	3.13E-03	4.31E-03	3.72E-03
NICKEL	7440-02-0	ug/L	2 : 6 : 6	4.10E+01	4.30E+01	2 73E+01
PYRIDINE	110-86-1	ug/l	3 : 3 : 6	2.70E+00	4.10E+00	3.63E+00
TOTAL CYANIDE	57-12-5	ug/L	5 : 6 : 6	1.00E+01	1.90E+01	1.38E+01
TOTAL METHYLPHENOL	otal Methylpl	ug/L	5 : 6 : 6	2 93E+01	4.53E+01	3.38E+01
VANADIUM	7440-62-2	ug/L	5 : 6 : 6	2.30E+01	8.05E+01	3.41E+01
ZINC	7440-66-6	ug/L	4 : 6 : 6	5 00E+01	1.45E+02	7.49E+01
ZINC, DISSOLVED	7440-66-6	ug/L	3 : 6 : 6	2.20E+01	1.60E+02	4.35E+01
RFIMW 29						
ANTIMONY, DISSOLVED	7440-36-0	ug/L	2 : 6 : 6	6.75E+00	8.30E+00	4.68E+00
ANTIMONY	7440-36-0	ug/L	2 : 6 . 6	7.00E+00	7.95E+00	5.33E+00
ARSENIC	7440-38-2	ug/L	4 : 6 : 6	8.50E+00	3.05E+01	1.33E+01
BARIUM	7440-39-3	ug/L	6 : 6 : 6	6.60E+01	2.30E+02	1.56E+02
BARIUM, DISSOLVED	7440-39-3	ug/L	6 : 6 : 6	5.70E+01	1.90E+02	1.33E+02
CADMIUM	7440-43-9	ug/L	2 : 6 · 6	1.10E+00	1.40E+00	7.50E-01
CHROMIUM	7440-47-3	ug/L	6 · 6 : 6	5 50E+01	2.75E+02	1.32E+02
COPPER	7440-50-8	ug/L	4 : 6 : 6	1.50E+01	5.00E+01	2.80E+01
LEAD	7439-92-1	ug/L	5 : 6 : 6	6.50E+00	1.90E+01	9.23E+00
NICKEL	7440-02-0	ug/L	5 : 6 : 6	5.00E+01	1 10E+03	3.16E+02
NICKEL, DISSOLVED	7440-02-0	ug/L	3 : 6 : 6	8 60E+01	7 20E+02	1.99E+02
TOTAL CYANIDE	57-12-5	ug/L	5 · 6 · 6	8 00E+00	3 30E+01	1.63E+01
VANADIUM	7440-62-2	ug/L	5 6 6	2.00E+01	5 85E+01	3.01E+01
ZINC	7440-66-6	ug/L	3 . 6 : 6	4.65E+01	1 25E+02	5 81E+01
TMW-2						
PROPYLENE OXIDE	75-56-9	ug/L	1 : 1 : 1	2.00E+03	2.00E+03	2.00E+03
TMW-2D						
PROPYLENE OXIDE	75-56-9	ug/L	1 : 1 : 1	1.90E+03	1 90E+03	1.90E+03

Table 1-2
Summary Statistics
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	Minimum Detected Concentration (c)	Maximum Detected Concentration (d)	Mean Concentration (e)
WHI1-3S						
ACETONE	67-64-1	ug/l	1 . 1 . 1	1.70E+03	1.70E+03	1.70E+03
ACETOPHENONE	98-86-2	ug/l	1 : 1 : 1	1.93E+00	1.93E+00	1.93E+00
ARSENIC	7440-38-2	ug/L	1 : 1 . 1	8.80E+01	8.80E+01	8.80E+01
BARIUM	7440-39-3	ug/L	1 : 1 : 1	1.28E+02	1.28E+02	1.28E+02
BENZENE	71-43-2	ug/l	1 : 1 : 1	6.81E+02	6 81E+02	6.81E+02
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	1.22E+02	1.22E+02	1.22E+02
COPPER	7440-50-8	ug/L	1 : 1 : 1	3.80E+01	3 80E+01	3 80E+01
DIETHYL PHTHALATE	84-66-2	ug/l	1 : 1 : 1	1 09E+00	1.09E+00	1 09E+00
IRON	7439-89-6	ug/L	1 : 1 : 1	2.32E+04	2.32E+04	2.32E+04
LEAD	7439-92-1	ug/L	1 : 1 : 1	1.30E+01	1.30E+01	1.30E+01
MAGNESIUM	7439-95-4	ug/L	1 . 1 . 1	9.10E+03	9.10E+03	9.10E+03
NICKEL	7440-02-0	ug/L	1 : 1 : 1	4.70E+01	4.70E+01	4.70E+01
PHENOL	108-95-2	ug/l	1 : 1 : 1	1.99E+01	1.99E+01	1.99E+01
SELENIUM	7782-49-2	ug/L	1 : 1 : 1	7.00E+00	7.00E+00	7.00E+00
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	5.63E+06	5.63E+06	5.63E+06
VANADIUM	7440-62-2	ug/L	1 : 1 . 1	4.77E+02	4.77E+02	4.77E+02
ZINC	7440-66-6	ug/L	1 : 1 . 1	6.10E+01	6.10E+01	6.10E+01
WHI2-1S						
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	3.80E+01	3.80E+01	3.80E+01
BARIUM	7440-39-3	ug/L	1 : 1 . 1	1.09E+02	1 09E+02	1.09E+02
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	8.10E+02	8.10E+02	8.10E+02
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	4.50E+01	4.50E+01	4.50E+01
COPPER	7440-50-8	ug/L	1 : 1 : 1	2.20E+01	2.20E+01	2.20E+01
IRON	7439-89-6	ug/L	1 : 1 : 1	2.01E+04	2.01E+04	2.01E+04
LEAD	7439-92-1	ug/L	1 : 1 : 1	1.10E+01	1.10E+01	1.10E+01
MAGNESIUM	7439-95-4	ug/L	1 : 1 : 1	4.19E+04	4 19E+04	4.19E+04
MERCURY	7439-97-6	ug/l	1 : 1 : 2	3.71E-03	3.71E-03	3.71E-03
NICKEL	7440-02-0	ug/L	1 : 1 : 1	2.00E+01	2.00E+01	2.00E+01
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 . 1 : 1	6.97E+05	6.97E+05	6.97E+05
VANADIUM	7440-62-2	ug/L	1 : 1 : 1	2.60E+01	2.60E+01	2.60E+01
ZINC	7440-66-6	ug/L	1 : 1 : 1	4.90E+01	4.90E+01	4.90E+01

Table 1-2
Summary Statistics
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	Minimum Detected Concentration (c)	Maximum Detected Concentration (d)	Mean Concentration (e)
WHI2-2S						
ACETOPHENONE	98-86-2	ug/l	1 : 1 : 1	1.13E+00	1.13E+00	1.13E+00
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	3.80E+01	3.80E+01	3 80E+01
BARIUM	7440-39-3	ug/L	1 : 1 : 1	4.32E+02	4.32E+02	4.32E+02
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	8.40E+00	8 40E+00	8.40E+00
CADMIUM	7440-43-9	ug/L	1 : 1 : 1	8 00E+00	8.00E+00	8.00E+00
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	6.20E+01	6.20E+01	6 20E+01
COPPER	7440-50-8	ug/L	1 . 1 . 1	1.18E+02	1 18E+02	1.18E+02
DIETHYL PHTHALATE	84-66-2	ug/l	1 : 1 : 1	4.35E+00	4 35E+00	4.35E+00
IRON	7439-89-6	ug/L	1 : 1 : 1	1.44E+05	1.44E+05	1.44E+05
LEAD	7439-92-1	ug/L	1 : 1 : 1	2.39E+02	2.39E+02	2.39E+02
MAGNESIUM	7439-95-4	ug/L	1 : 1 : 1	2.07E+05	2.07E+05	2 07E+05
MERCURY	7439-97-6	ug/L	1 : 1 : 1	3.34E+01	3.34E+01	3.34E+01
NICKEL	7440-02-0	ug/L	1 : 1 : 1	4.00E+01	4.00E+01	4.00E+01
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	1 18E+07	1 18E+07	1.18E+07
VANADIUM	7440-62-2	ug/L	1 : 1 : 1	7.70E+01	7.70E+01	7 70E+01
ZINC	7440-66-6	ug/L	1 : 1 : 1	6.66E+02	6.66E+02	6.66E+02
WHI2-3S						
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	4.20E+01	4.20E+01	4.20E+01
BARIUM	7440-39-3	ug/L	1 : 1 : 1	1.43E+02	1.43E+02	1.43E+02
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	1 21E+02	1 21E+02	1.21E+02
CHROMIUM	7440-47-3	ug/L	1 : 1 . 1	6.00E+00	6.00E+00	6.00E+00
COPPER	7440-50-8	ug/L	1 : 1 : 1	8.00E+00	8 00E+00	8.00E+00
DIETHYL PHTHALATE	84-66-2	ug/l	1 : 1 : 1	2.20E+00	2.20E+00	2.20E+00
IRON	7439-89-6	ug/L	1 . 1 : 1	2.68E+03	2.68E+03	2 68E+03
MAGNESIUM	7439-95-4	ug/L	1 : 1 : 1	2.11E+04	2.11E+04	2 11E+04
NICKEL	7440-02-0	ug/L	1 : 1 : 1	9.00E+00	9.00E+00	9.00E+00
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	1 04E+06	1.04E+06	1.04E+06
VANADIUM	7440-62-2	ug/L	1 : 1 : 1	6 00E+00	6.00E+00	6.00E+00
ZINC	7440-66-6	ug/L	1 : 1 : 1	4 30E+01	4.30E+01	4 30E+01

Table 1-2
Summary Statistics
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	Minimum Detected Concentration (c)	Maximum Detected Concentration (d)	Mean Concentration (e)
WHI3-1S						
ACETOPHENONE	98-86-2	ug/l	1 : 1 : 1	1.01E+00	1.01E+00	1.01E+00
ARSENIC	7440-38-2	ug/L	2 : 2 : 2	1.60E+01	1.42E+02	7.90E+01
BARIUM	7440-39-3	ug/L	2 : 2 : 2	1.10E+02	2 91E+02	2.01E+02
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	8.23E+01	8.23E+01	8.23E+01
CADMIUM	7440-43-9	ug/L	2 : 2 : 2	4.10E-01	1.00E+00	7.05E-01
CHLORIDE	16887-00-6	ug/L	1 : 1 : 1	1.20E+05	1.20E+05	1.20E+05
CHROMIUM	7440-47-3	ug/L	2 : 2 : 2	1.00E+01	1.31E+02	7.05E+01
COPPER	7440-50-8	ug/L	2 : 2 : 2	1.10E+01	1.48E+02	7 95E+01
DIETHYL PHTHALATE	84-66-2	ug/l	1 : 1 : 1	2.41E+00	2.41E+00	2 41E+00
IRON	7439-89-6	ug/L	1 : 1 : 1	1.63E+05	1.63E+05	1 63E+05
LEAD	7439-92-1	ug/L	2 : 2 : 2	2.30E+01	2.16E+02	1.20E+02
MAGNESIUM	7439-95-4	ug/L	1 : 1 : 1	2.30E+04	2.30E+04	2.30E+04
MERCURY	7439-97-6	ug/L	2 : 2 : 2	1.05E-02	6.00E-01	3.05E-01
METHANE	74-82-8	ug/l	1 : 1 : 1	5.60E+00	5 60E+00	5.60E+00
NICKEL	7440-02-0	ug/L	2 : 2 : 2	9.20E+00	1.08E+02	5.86E+01
NITRATE	14797-55-8	ug/L	1 : 1 : 1	2.20E+04	2.20E+04	2.20E+04
NITRITE	14797-65-0	ug/L	1 : 1 : 1	2.80E+03	2.80E+03	2.80E+03
SULFATE	14808-79-8	ug/L	1 : 1 : 1	1.40E+05	1.40E+05	1.40E+05
TOLUENE	108-88-3	ug/l	1 : 2 : 2	3.50E+01	3.50E+01	1.78E+01
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	7.53E+05	7.53E+05	7.53E+05
VANADIUM	7440-62-2	ug/L	2 : 2 : 2	1.70E+01	2.40E+02	1.29E+02
ZINC	7440-66-6	ug/L	2 : 2 : 2	4.60E+01	4 65E+02	2.56E+02
WHI3-2S						
ARSENIC	7440-38-2	ug/L	1 . 1 . 1	4.40E+01	4.40E+01	4.40E+01
BARIUM	7440-39-3	ug/L	1 . 1 : 1	1 91E+02	1.91E+02	1.91E+02
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 . 1	1 60E+01	1.60E+01	1 60E+01
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	4.20E+01	4.20E+01	4.20E+01
COPPER	7440-50-8	ug/L	1 : 1 : 1	2.60E+01	2 60E+01	2.60E+01
DINOSEB	88-85-7	ug/l	1 : 1 : 1	3.44E+00	3.44E+00	3.44E+00
IRON	7439-89-6	ug/L	1 . 1 . 1	1 94E+04	1.94E+04	1.94E+04
LEAD	7439-92-1	ug/L	1 : 1 : 1	2.30E+01	2.30E+01	2.30E+01
MAGNESIUM	7439-95-4	ug/L	1 : 1 : 1	1 04E+04	1.04E+04	1.04E+04
MERCURY	7439-97-6	ug/L	2 : 2 : 2	6.44E-02	2.00E-01	1.32E-01
NICKEL	7440-02-0	ug/L	1 : 1 : 1	2.10E+01	2.10E+01	2 10E+01
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	3.23E+06	3.23E+06	3.23E+06
VANADIUM	7440-62-2	ug/L	1 : 1 : 1	4.20E+01	4 20E+01	4 20E+01
ZINC	7440-66-6	ug/L	1 : 1 : 1	1.79E+02	1 79E+02	1.79E+02

Table 1-2
Summary Statistics
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	Minimum Detected Concentration (c)	Maximum Detected Concentration (d)	Mean Concentration (e)
WHI3-3S						
ARSENIC	7440-38-2	ug/L	1 · 1 : 1	4.00E+00	4.00E+00	4.00E+00
BARIUM	7440-39-3	ug/L	1 . 1 : 1	1.98E+02	1.98E+02	1.98E+02
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	6.38E+01	6.38E+01	6.38E+01
BUTYL BENZYL PHTHALATE	85-68-7	ug/l	1 . 1 : 1	1.56E+00	1.56E+00	1.56E+00
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	6 00E+00	6.00E+00	6.00E+00
COPPER	7440-50-8	ug/L	1 : 1 : 1	8.00E+00	8 00E+00	8.00E+00
DIETHYL PHTHALATE	84-66-2	ug/l	1 : 1 : 1	1.91E+00	1 91E+00	1 91E+00
IRON	7439-89-6	ug/L	1 : 1 : 1	3.39E+03	3.39E+03	3 39E+03
MAGNESIUM	7439-95-4	ug/L	1 : 1 . 1	5.24E+04	5 24E+04	5.24E+04
NICKEL	7440-02-0	ug/L	1 : 1 : 1	7 00E+00	7 00E+00	7.00E+00
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	2.88E+06	2.88E+06	2.88E+06
VANADIUM	7440-62-2	ug/L	1 : 1 · 1	6.00E+00	6.00E+00	6.00E+00
ZINC	7440-66-6	ug/L	1 : 1 : 1	2 00E+01	2.00E+01	2.00E+01
WHI4-1S						
ANTIMONY	7440-36-0	ug/L	1 : 2 . 2	5.54E+02	5.54E+02	2.78E+02
ARSENIC	7440-38-2	ug/L	1 : 2 : 2	1.03E+02	1.03E+02	5.40E+01
BARIUM	7440-39-3	ug/L	2 : 2 : 2	2.60E+01	7.08E+02	3.67E+02
CHLORIDE	16887-00-6	ug/L	1 : 1 . 1	1.40E+05	1 40E+05	1.40E+05
CHROMIUM	7440-47-3	ug/L	1 : 2 : 2	1.46E+02	1.46E+02	7 33E+01
COPPER	7440-50-8	ug/L	2 : 2 : 2	1.90E+01	8.69E+03	4.35E+03
IRON	7439-89-6	ug/L	1 : 1 · 1	3 54E+05	3.54E+05	3.54E+05
LEAD	7439-92-1	ug/L	2 : 2 : 2	8.50E+00	5.58E+03	2.79E+03
MAGNESIUM	7439-95-4	ug/L	1 : 1 : 1	1.13E+04	1.13E+04	1.13E+04
MERCURY	7439-97-6	ug/L	2 · 2 : 2	6.73E-02	1.02E+01	5.13E+00
METHANE	74-82-8	ug/l	1 : 1 : 1	1.90E+01	1 90E+01	1.90E+01
NICKEL	7440-02-0	ug/L	1 : 2 2	8 10E+01	8.10E+01	4.11E+01
SULFATE	14808-79-8	ug/L	1 : 1 . 1	6.70E+04	6 70E+04	6.70E+04
TOLUENE	108-88-3	ug/l	1 : 2 : 2	1.40E+01	1.40E+01	7.25E+00
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 . 1	2.02E+06	2.02E+06	2.02E+06
VANADIUM	7440-62-2	ug/L	1 : 2 : 2	1.71E+02	1.71E+02	8 57E+01
ZINC	7440-66-6	ug/L	1 : 2 · 2	8.11E+02	8.11E+02	4.09E+02

Table 1-2
Summary Statistics
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	Minimum Detected Concentration (c)	Maximum Detected Concentration (d)	Mean Concentration (e)
WHI4-2S						
ACETOPHENONE	98-86-2	ug/l	1 : 1 : 1	1.29E+00	1.29E+00	1 29E+00
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	3.00E+01	3.00E+01	3.00E+01
BARIUM	7440-39-3	ug/L	1 : 1 : 1	2.94E+02	2 94E+02	2.94E+02
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	2.68E+01	2.68E+01	2.68E+01
BUTYL BENZYL PHTHALATE	85-68-7	ug/l	1 : 1 : 1	1.01E+00	1.01E+00	1.01E+00
CADMIUM	7440-43-9	ug/L	1 : 1 : 1	2.00E+00	2 00E+00	2.00E+00
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	3 00E+01	3.00E+01	3.00E+01
COPPER	7440-50-8	ug/L	1 : 1 . 1	5.40E+01	5.40E+01	5.40E+01
DIETHYL PHTHALATE	84-66-2	ug/l	1 : 1 : 1	2 05E+00	2.05E+00	2.05E+00
IRON	7439-89-6	ug/L	1 : 1 : 1	2.04E+04	2.04E+04	2.04E+04
LEAD	7439-92-1	ug/L	1 : 1 . 1	3.16E+02	3.16E+02	3.16E+02
MAGNESIUM	7439-95-4	ug/L	1 : 1 : 1	5.66E+04	5.66E+04	5 66E+04
MERCURY	7439-97-6	ug/L	2 : 2 : 2	7.67E-01	8.00E-01	7 84E-01
NICKEL	7440-02-0	ug/L	1 : 1 : 1	2.20E+01	2.20E+01	2.20E+01
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	2.41E+06	2 41E+06	2.41E+06
VANADIUM	7440-62-2	ug/L	1 : 1 . 1	4.20E+01	4.20E+01	4.20E+01
ZINC	7440-66-6	ug/L	1 : 1 : 1	2.24E+02	2.24E+02	2.24E+02
WHI9-2F						
1,2-DICHLOROPROPANE	78-87-5	ug/l	1 1 : 2	1.74E+00	1.74E+00	1.74E+00
2-METHYLNAPHTHALENE	91-57-6	ug/l	1 : 1 : 1	2.63E+00	2.63E+00	2.63E+00
ACETOPHENONE	98-86-2	ug/l	1 : 1 : 1	1.86E+00	1.86E+00	1.86E+00
ANTIMONY	7440-36-0	ug/L	1 : 1 . 2	3 60E+00	3.60E+00	3.60E+00
ARSENIC	7440-38-2	ug/L	2 : 2 : 2	3 30E+01	4.10E+01	3.70E+01
BARIUM	7440-39-3	ug/L	2 : 2 : 2	1.10E+01	7 50E+01	4 30E+01
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/l	1 : 1 . 1	3.29E+00	3.29E+00	3 29E+00
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 . 1 : 1	2.38E+01	2.38E+01	2.38E+01
CADMIUM	7440-43-9	ug/L	2 . 2 : 2	1 00E+00	2.90E+00	1.95E+00
CHLORIDE	16887-00-6	ug/L	1 : 1 : 1	2.00E+05	2 00E+05	2.00E+05
CHROMIUM	7440-47-3	ug/L	2 : 2 : 2	6.20E+00	2.70E+01	1.66E+01
COPPER	7440-50-8	ug/L	2 : 2 : 2	8.30E+01	4 09E+02	2.46E+02
DIETHYL PHTHALATE	84-66-2	ug/l	1 : 1 : 1	1.40E+00	1.40E+00	1.40E+00
IRON	7439-89-6	ug/L	1 : 1 : 1	1.68E+04	1.68E+04	1 68E+04
LEAD	7439-92-1	ug/L	2 : 2 : 2	1.40E+02	1.10E+03	6 20E+02
MAGNESIUM	7439-95-4	ug/L	1 : 1 : 1	7 80E+03	7.80E+03	7.80E+03
MERCURY	7439-97-6	ug/L	2 : 2 : 2	7.57E-01	2.00E+00	1.38E+00
METHANE	74-82-8	ug/l	1 : 1 : 1	1.10E+04	1.10E+04	1.10E+04
NAPHTHALENE	91-20-3	ug/l	1 : 1 : 1	1.79E+01	1.79E+01	1.79E+01
NICKEL	7440-02-0	ug/L	2 : 2 : 2	1.10E+01	3.30E+01	2.20E+01
PHENANTHRENE	85-01-8	ug/l	1 : 1 . 1	1 23E+00	1.23E+00	1.23E+00
SELENIUM	7782-49-2	ug/L	1 . 2 : 2	4.00E+00	4.00E+00	2.98E+00
SULFATE	14808-79-8	ug/L	1 : 1 . 1	3.30E+05	3.30E+05	3.30E+05
TOLUENE	108-88-3	ug/l	1 : 2 : 2	3.00E+01	3.00E+01	1 53E+01
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	1.54E+06	1.54E+06	1.54E+06
VANADIUM	7440-62-2	ug/L	2 . 2 : 2	5.20E+01	8.30E+01	6.75E+01
ZINC	7440-66-6	ug/L	2 . 2 : 2	1.00E+02	5.25E+02	3.13E+02

Table 1-2
Summary Statistics
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	Minimum Detected Concentration (c)	Maximum Detected Concentration (d)	Mean Concentration (e)
WHI9-2S						
BARIUM	7440-39-3	ug/L	1 . 1 : 1	5.64E+02	5.64E+02	5.64E+02
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 . 1 · 1	1.13E+00	1.13E+00	1.13E+00
DIETHYL PHTHALATE	84-66-2	ug/l	1 . 1 : 1	2.05E+00	2.05E+00	2.05E+00
IRON	7439-89-6	ug/L	1 : 1 : 1	1 88E+04	1.88E+04	1.88E+04
MAGNESIUM	7439-95-4	ug/L	1 : 1 · 1	2.03E+05	2.03E+05	2 03E+05
MERCURY	7439-97-6	ug/l	1 : 1 · 2	4.11E-02	4 11E-02	4.11E-02
NICKEL	7440-02-0	ug/L	1 · 1 : 1	5.00E+00	5.00E+00	5.00E+00
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 · 1 : 1	8.07E+06	8.07E+06	8 07E+06
ZINC	7440-66-6	ug/L	1 · 1 : 1	6.80E+01	6.80E+01	6.80E+01

Notes:

CAS - Chemical Abstract Service.
(a) Only chemicals with at least one positively detected result are reported.
(b) Frequency of detection - Number of detected samples: Number of samples used to calculate statistics: Number of total samples.
(c) Minimum detected concentration for each chemical, after duplicates have been averaged.
(d) Maximum detected concentration for each chemical, after duplicates have been averaged.
(e) Arithmetic mean concentration for each chemical, after duplicates have been averaged and any non detected results with one-half the sample quantitation limit greater than the maximum detected concentration have been excluded.

Table 2-1
Michigan DEQ Part 201 Soil - Industrial and Commercial II, III and IV (a)
Risk Based Criteria
BASF Wyandotte, MI Facility

Chemical		CAS	Cancer SVIIC	NonCancer SVIIC	Cancer Infinite VSIC	NonCancer Infinite VSIC	Cancer PSIC	NonCancer PSIC	Cancer DCC	NonCancer DCC
1,1,1-TRICHLOROETHANE		71-55-6		4.64E+05		4.48E+06		2.94E+10		1.60E+09
1,1-DICHLOROETHANE		75-34-3		4.30E+05		2.46E+06		1.47E+10		8.75E+07
1,2,3-TRICHLOROPROPANE		96-18-4								4.15E+06
1,2-DICHLOROBENZENE		95-50-1		2.03E+07		4.64E+07		4.41E+10		6.27E+07
1,2-DICHLOROPROPANE		78-87-5		7.39E+03		2.98E+04		1.18E+08	6.57E+05	3.21E+08
2,4-DIMETHYLPHENOL		105-67-9		3.69E+08		3.57E+07		2.06E+09		3.64E+07
2-METHYLNAPHTHALENE		91-57-6								2.62E+07
4,4'-DDE		72-55-9	3.10E+08		8 59E+06		4 04E+07		1.87E+05	7.84E+05
4,4'-DDT		50-29-3	5.28E+08		1.08E+07		4.04E+07		2 76E+05	8.29E+05
ACENAPHTHENE		83-32-9		3 47E+08		9.70E+07		6.18E+09		1.31E+08
ACENAPHTHYLENE		208-96-8		2.98E+06		2.65E+06		1.03E+09		5.17E+06
ACETONE		67-64-1		5.35E+08		1.55E+08		1.74E+11		7.29E+07
ACETOPHENONE		98-86-2		2.14E+08		5.23E+07		1.44E+10		1.53E+08
ALPHA-CHLORDANE	(e)	5103-71-9	5.88E+07	6.18E+07	4 19E+06	4.40E+06	3.92E+07	2.06E+07	1.48E+05	2.33E+06
ANTHRACENE		120-12-7		1.61E+10		1.60E+09		2.94E+10		7.29E+08
ANTIMONY		7440-36-0						5.88E+06		6.72E+05
ARSENIC		7440-38-2					9.12E+05		3.68E+04	4.47E+05
BARIUM		7440-39-3						1.47E+08		1.34E+08
BENZENE		71-43-2	8.35E+03		4.50E+04		4.73E+08		8.38E+05	
BENZO(A)ANTHRACENE		56-55-3							8.00E+04	
BENZO(A)PYRENE		50-32-8	8.73E+08		1.39E+06		1.87E+06		8.00E+03	
BENZO(B)FLUORANTHENE		205-99-2							8.00E+04	
BENZO(GHI)PERYLENE		191-24-2		3.27E+12		1.43E+09		3.53E+08		6 98E+06
BENZO(K)FLUORANTHENE		207-08-9							8.00E+05	
BENZYL ALCOHOL		100-51-6		2 84E+10				1.47E+11		1.02E+09
BERYLLIUM		7440-41-7					1.63E+06	5.88E+05		1.56E+06
BIS(2-CHLOROETHYL) ETHER		111-44-4	4.35E+04		1.31E+04		1.19E+07		5.78E+04	
BIS(2-CHLOROISOPROPYL) ETHE	(f)	108-60-1	4.35E+04		1.31E+04		1.19E+07		5.78E+04	
BIS(2-ETHYLHEXYL) PHTHALATE		117-81-7	2.93E+13		5.07E+09		8.86E+08		1.17E+07	2.13E+07
BUTYL BENZYL PHTHALATE		85-68-7		1.10E+12		1.03E+10		2.06E+10		1.17E+08
CADMIUM		7440-43-9					2.18E+06			2.07E+06
CARBON DISULFIDE		75-15-0		1.41E+05		1.58E+06		2.06E+10		8.02E+07

Table 2-1
Michigan DEQ Part 201 Soil - Industrial and Commercial II, III and IV (a)
Risk Based Criteria
BASF Wyandotte, MI Facility

Chemical		CAS	Cancer SVIIC	NonCancer SVIIC	Cancer Infinite VSIC	NonCancer Infinite VSIC	Cancer PSIC	NonCancer PSIC		Cancer DCC	NonCancer DCC	
CHLOROBENZENE		108-90-7		2.17E+05		9.21E+05		2.06E+09			1.38E+07	
CHLOROFORM		67-66-3	3.82E+04		1.50E+05		1.63E+09			5 52E+06	9.47E+06	
CHROMIUM	(g)	7440-47-3					3.27E+05	2.35E+05			9.22E+06	
CHRYSENE		218-01-9								8.00E+06		
COBALT		7440-48-4						5.88E+06			9.60E+06	
COPPER		7440-50-8						5.88E+07			7.30E+07	
DIBENZ(A,H)ANTHRACENE		53-70-3								8.00E+03		
DIBENZOFURAN		132-64-9										
DIETHYL PHTHALATE		84-66-2		1.05E+09		5.44E+07		1.47E+09			5.47E+08	
DI-N-OCTYL PHTHALATE		117-84-0									2.02E+07	
ETHYLBENZENE		100-41-4	4.59E+05	2.13E+06	2.44E+06	1.13E+07	1.27E+10	2.94E+10			7.07E+07	
FLUORANTHENE		206-44-0		3.29E+10		8.88E+08		4 12E+09			1 34E+08	
FLUORENE		86-73-7		1.08E+09		1.50E+08		4.12E+09			8.75E+07	
INDENO(1,2,3-CD)PYRENE		193-39-5								8.00E+04		
LEAD		7439-92-1						4.41E+07	(c)		9.00E+05	(c)
MERCURY		7439-97-6		8.90E+04		6.20E+04		8.80E+06			5.80E+05	
METHYL ETHYL KETONE		78-93-3		9.92E+07				2.94E+10			1.31E+09	
METHYLENE CHLORIDE		75-09-2	2.38E+05		6.99E+05		8 35E+09			5.78E+06	4.23E+07	
NAPHTHALENE		91-20-3	3.34E+06	4.65E+05	2.54E+06	3.54E+05	1.27E+09	8.83E+07			5.17E+07	
NICKEL		7440-02-0					1 63E+07				1.46E+08	
PENTACHLOROPHENOL		87-86-5	1.46E+08	6.56E+09	3 90E+06	1.76E+08	1.31E+08	2.94E+09		3.24E+05	1.98E+07	
PHENANTHRENE		85-01-8		5.08E+06		1.86E+05		2.94E+06			5.17E+06	
PHENOL		108-95-2		3.26E+09		1.66E+08		1.77E+10			4.37E+08	
PYRENE		129-00-0		3.37E+10				2.94E+09			8.40E+07	
SELENIUM		7782-49-2						5.88E+07			9.60E+06	
SILVER		7440-22-4						2.94E+06			9.02E+06	
STYRENE		100-42-5	1 33E+06	1 13E+07	3 30E+06	2.82E+07	6 88E+09	2.94E+10		1.87E+06	1.46E+08	
THALLIUM		7440-28-0									1.29E+05	
TIN	(h)	7440-31-5									6 10E+08	
TOLUENE		108-88-3		6.09E+05		3.30E+06		1.18E+10			1.60E+08	
TOTAL CYANIDE		57-12-5						1.47E+09			2.50E+05	
Total METHYLPHENOL	(b)	otal MethylPh		3.04E+08		2.67E+07		2.94E+09			3.64E+07	

Table 2-1
Michigan DEQ Part 201 Soil - Industrial and Commercial II, III and IV (a)
Risk Based Criteria
BASF Wyandotte, MI Facility

Chemical	CAS	Cancer SVIIC	NonCancer SVIIC	Cancer Infinite VSIC	NonCancer Infinite VSIC	Cancer PSIC	NonCancer PSIC	Cancer DCC	NonCancer DCC
Total PCBs	(b,d) Total PCBs	2.86E+06		1.48E+05		6.54E+06		1.58E+04	1.89E+04
Total XYLENES	(b) Total Xylenes		2.72E+06		5.40E+07		1.29E+11		1.31E+09
VANADIUM	7440-62-2								9.60E+06
ZINC	7440-66-6								6.34E+08

Notes:

All expressed in units of ug/kg
CAS - Chemical Abstract Service.
SVIIC - Soil Volatilization to Indoor Air Inhalation Criteria
VSIC - Infinite Source Volatilization Inhalation Criteria (Ambient Air)
PSIC - Particulate Soil Inhalation Criteria (Ambient Air)
DCC - Direct Contact Criteria
(a) MDEQ. Part 201Generic Cleanup Criteria. Dec. 2002
(b) Sum of isomers for comparison with criteria.
(c) Criteria for lead are derived using biological based model, and are not calculated using the Part 201 assumptions and algorithms. Compare on a straight exceed/not exceed basis.
(d) Sum of Aroclors detected at least once on-site for comparison with Total PCBs criteria.
(e) Chlordane criteria used for alpha-chlordane (only isomer detected).
(f) Bis(2-chloroethyl)ether selected as surrogate.
(g) Chromium VI criteria used for total chromium.
(h) EPA Region 9 Industrial Soil PRG (Oct. 2004) used due to lack of Part 201 criteria.

Table 2-2
Michigan DEQ Part 201 Soil (a)
Non-Risk Based Criteria
BASF Wyandotte, MI Facility

Chemical		CAS	Soil Saturation Screening Level	State Default Background	GSI Protection		Groundwater Contact Protection	Industrial/Commercial Drinking Water Protection
1,1,1-TRICHLOROETHANE		71-55-6	4.60E+05		4.00E+03		4.60E+05	4.00E+03
1,1-DICHLOROETHANE		75-34-3	8.90E+05		1.50E+04		8 90E+05	5.00E+04
1,2,3-TRICHLOROPROPANE		96-18-4	8.30E+05				8.30E+05	2.40E+03
1,2-DICHLOROBENZENE		95-50-1	2.10E+05		3.60E+02		2.10E+05	1.40E+04
1,2-DICHLOROPROPANE		78-87-5	5.50E+05		1.80E+02	(e)	3.20E+05	1.00E+02
2,4-DIMETHYLPHENOL		105-67-9			7.60E+03		1.00E+07	2.00E+04
2-METHYLNAPHTHALENE		91-57-6					5.50E+06	1.70E+05
4,4'-DDE		72-55-9						
4,4'-DDT		50-29-3						
ACENAPHTHENE		83-32-9			4.40E+03		9.70E+05	8.80E+05
ACENAPHTHYLENE		208-96-8					4.40E+05	1.70E+04
ACETONE		67-64-1	1.10E+08		3.40E+04		1.10E+08	4.20E+04
ACETOPHENONE		98-86-2	1.10E+06				1.10E+06	8.80E+04
ALPHA-CHLORDANE	(g)	5103-71-9						
ANTHRACENE		120-12-7					4.10E+04	4.10E+04
ANTIMONY		7440-36-0			1.40E+03	(e)	4.90E+07	4.30E+03
ARSENIC		7440-38-2		5.80E+03	2.30E+04	(e)	2.00E+06	2.30E+04
BARIUM		7440-39-3		7.50E+04	2.90E+05	(f)	1.00E+09	1.30E+06
BENZENE		71-43-2	4.00E+05		2.40E+02	(e)	2.20E+05	1.00E+02
BENZO(A)ANTHRACENE		56-55-3						
BENZO(A)PYRENE		50-32-8						
BENZO(B)FLUORANTHENE		205-99-2						
BENZO(GHI)PERYLENE		191-24-2						
BENZO(K)FLUORANTHENE		207-08-9						
BENZYL ALCOHOL		100-51-6	5.80E+06				5.80E+06	5.80E+05
BERYLLIUM		7440-41-7			3.00E+04	(f)	1.00E+09	5.10E+04
BIS(2-CHLOROETHYL) ETHER		111-44-4	2 20E+06		3.00E+02		1.10E+05	1.70E+02
BIS(2-CHLOROISOPROPYL) ETHER	(h)	108-60-1	2.20E+06		3 00E+02		1.10E+05	1.70E+02
BIS(2-ETHYLHEXYL) PHTHALATE		117-81-7	1.00E+07					
BUTYL BENZYL PHTHALATE		85-68-7	3.10E+05		1.30E+04	(e)	3.10E+05	3.10E+05
CADMIUM		7440-43-9		1.20E+03	2.70E+03	(f)	2.30E+08	6.00E+03
CARBON DISULFIDE		75-15-0	2 80E+05				2.80E+05	4.60E+04
CHLOROBENZENE		108-90-7	2.60E+05		9.40E+02		2.60E+05	2.00E+03

Table 2-2
Michigan DEQ Part 201 Soil (a)
Non-Risk Based Criteria
BASF Wyandotte, MI Facility

Chemical		CAS	Soil Saturation Screening Level	State Default Background	GSI Protection		Groundwater Contact Protection	Industrial/Commercial Drinking Water Protection
CHLOROFORM		67-66-3	1.50E+06		1.50E+03	(e)	1.50E+06	1.60E+03
CHROMIUM	(i)	7440-47-3			3.30E+03		1.40E+08	3.00E+04
CHRYSENE		218-01-9						
COBALT		7440-48-4		6.80E+03	2.00E+03		4.80E+07	2.00E+03
COPPER		7440-50-8		3.20E+04	5.20E+04	(f)	1.00E+09	5.80E+06
DIBENZ(A,H)ANTHRACENE		53-70-3						
DIBENZOFURAN		132-64-9			1.70E+03			
DIETHYL PHTHALATE		84-66-2	7.40E+05		2.20E+03		7.40E+05	3.20E+05
DI-N-OCTYL PHTHALATE		117-84-0	1.40E+08				1.40E+08	1.40E+08
ETHYLBENZENE		100-41-4	1.40E+05		3.60E+02		1.40E+05	1.50E+03
FLUORANTHENE		206-44-0			5.50E+03		7.30E+05	7.30E+05
FLUORENE		86-73-7			5.30E+03		8.90E+05	8.90E+05
INDENO(1,2,3-CD)PYRENE		193-39-5						
LEAD		7439-92-1		2.10E+04	1.80E+06	(f)		7.00E+05
MERCURY		7439-97-6		1.30E+02	1.00E+02		4.70E+04	1.70E+03
METHYL ETHYL KETONE		78-93-3	2.70E+07		4.40E+04		2.70E+07	7.60E+05
METHYLENE CHLORIDE		75-09-2	2.30E+06		9.40E+02	(e)	2.30E+06	1.00E+02
NAPHTHALENE		91-20-3			8.70E+02		2.10E+06	1.00E+05
NICKEL		7440-02-0		2.00E+04	5.40E+04	(f)	1.00E+09	1.00E+05
PENTACHLOROPHENOL		87-86-5			1.70E+04	(f)	4.30E+03	2.20E+01
PHENANTHRENE		85-01-8			5.30E+03		1.10E+06	1.60E+05
PHENOL		108-95-2	1.20E+07		4.20E+03		1.20E+07	2.60E+05
PYRENE		129-00-0					4.80E+05	4.80E+05
SELENIUM		7782-49-2		4.10E+02	4.00E+02		7.80E+07	4.00E+03
SILVER		7440-22-4		1.00E+03	5.00E+02		2.00E+08	1.30E+04
STYRENE		100-42-5	5.20E+05		2.20E+03		2.70E+05	2.70E+03
THALLIUM		7440-28-0			1.40E+03	(e)	1.50E+07	2.30E+03
TIN	(c)	7440-31-5						
TOLUENE		108-88-3	2.50E+05		2.80E+03		2.50E+05	1.60E+04
TOTAL CYANIDE		57-12-5		3.90E+02	2.00E+02		2.50E+05	4.00E+03
Total METHYLPHENOL	(b)	otal MethylPl			1.40E+03		1.60E+07	2.00E+04
Total PCBs	(b,d)	Total PCBs						
Total XYLENES	(b)	Total Xylenes	1.50E+05		7.00E+02		1.50E+05	5.60E+03

Table 2-2
Michigan DEQ Part 201 Soil (a)
Non-Risk Based Criteria
BASF Wyandotte, MI Facility

Chemical	CAS	Soil Saturation Screening Level	State Default Background	GSI Protection		Groundwater Contact Protection	Industrial/Commercial Drinking Water Protection
VANADIUM	7440-62-2			1.90E+05		1.00E+09	9.90E+05
ZINC	7440-66-6		4.70E+04	1.20E+05	(f)	1.00E+09	5.00E+06

Notes:

All expressed in units of ug/kg.
CAS - Chemical Abstract Service.
GSI - Groundwater Surface Water Interface.
(a) MDEQ. Part 201 Generic Cleanup Criteria, Dec. 2002.
(b) Sum of isomers for comparison with criteria.
(c) EPA Region 9 Industrial Soil PRG (Oct. 2004) used due to lack of Part 201 criteria.
(d) Sum of Aroclors detected at least once on-site for compansons with Total PCBs criteria.
(e) Soil GSI Protection Criteria for Human Drinking Water Value (HDV) for groundwater that discharges to surface water used as drinking water.
(f) Soil GSI Protection Criteria -calculated using site-specific hardness of 100 mg CaCO3/L and MDEQ algorithm (footnote G of generic cleanup criteria tables).
(g) Chlordane criteria used for alpha-chlordane (only isomer detected).
(h) Bis (2-chloroethyl) ether selected as surrogate.
(i) Chromium VI criteria used for total chromium

Table 2-3
Summary of Risk Screening Results
Using Part 201 Criteria
Exceedance List for Soil
BASF Wyandotte, MI Facility

Chemical (a)	Area	FOD (b)	Maximum Detected Conc (c)	DCC Cancer	DCC NonCancer	PSIC Cancer	PSIC NonCancer	SVIIC Cancer	SVIIC NonCancer	Infinite VSIC Cancer	Infinite VSIC NonCancer	Soil Saturation Screening Level	State Bkg	GW Contact Protection	GSI Protection	GSI Protection Area? (e)
BENZENE	AOC 1	1 : 43 : 52	3.80E+02	No		No		No		No		No		No	Yes	No
ARSENIC	AOC 2	8 : 8 : 8	4.11E+04	Yes	No	No							Yes	No	Yes	No
BARIUM	AOC 2	8 : 8 : 8	7.89E+04		No		No						Yes	No	No	No
CADMIUM	AOC 2	8 : 8 : 8	3.50E+03		No	No							Yes	No	Yes	No
CHROMIUM	AOC 2	8 : 8 : 8	1.01E+05		No	No	No							No	Yes	No
LEAD	AOC 2	8 : 8 : 8	9.01E+04		(d)		(d)						Yes		No	No
MERCURY	AOC 2	5 : 8 : 8	1.71E+04		No		No		No		No		Yes	No	Yes	No
NAPHTHALENE	AOC 2	4 : 8 : 8	2.50E+03		No	No	No	No	No	No	No			No	Yes	No
SELENIUM	AOC 2	1 : 8 : 8	7.60E+02		No		No						Yes	No	Yes	No
TOTAL CYANIDE	AOC 2	6 : 8 : 8	4.60E+04		No		No						Yes	No	Yes	No
ZINC	AOC 2	8 : 8 : 8	9.66E+05		No								Yes	No	Yes	No
2-METHYLNAPHTHALENE	AOC 4	2 : 2 : 2	9.00E+06		Yes									Yes		No
ACENAPHTHYLENE	AOC 4	2 : 2 : 2	9.30E+06		Yes		No		Yes		Yes			Yes		No
ANTHRACENE	AOC 4	2 : 2 : 2	7.10E+06		No		No		No		No			Yes		No
ARSENIC	AOC 4	2 : 2 : 2	2.05E+04	No	No	No							Yes	No	No	No
BENZENE	AOC 4	2 : 2 : 2	6.80E+05	Yes		No		Yes		Yes		Yes		Yes	Yes	No
BENZO(A)ANTHRACENE	AOC 4	2 : 2 : 2	4.90E+06	Yes												No
BENZO(A)PYRENE	AOC 4	2 : 2 : 2	4.10E+06	Yes		Yes		No		Yes						No
BENZO(B)FLUORANTHENE	AOC 4	2 : 2 : 2	4.40E+06	Yes												No
BENZO(K)FLUORANTHENE	AOC 4	2 : 2 : 2	2.50E+06	Yes												No
CADMIUM	AOC 4	2 : 2 : 2	1.40E+03		No	No							Yes	No	No	No
CHRYSENE	AOC 4	2 : 2 : 2	5.20E+06	Yes												No
DIBENZOFURAN	AOC 4	2 : 2 : 2	5.90E+06												Yes	No
FLUORANTHENE	AOC 4	2 : 2 : 2	1.40E+07		No		No		No		No			Yes	Yes	No
FLUORENE	AOC 4	2 : 2 : 2	9.50E+06		No		No		No		No			Yes	Yes	No
INDENO(1,2,3-CD)PYRENE	AOC 4	2 : 2 : 2	1.60E+06	Yes												No
LEAD	AOC 4	2 : 2 : 2	8.28E+04		(d)		(d)						Yes		No	No
MERCURY	AOC 4	2 : 2 : 2	6.20E+02		No		No		No		No		Yes	No	Yes	No
NAPHTHALENE	AOC 4	2 : 2 : 2	4.80E+07		Yes	No	No	Yes	Yes	Yes	Yes			Yes	Yes	No
PHENANTHRENE	AOC 4	2 : 2 : 2	2.30E+07		Yes		Yes		Yes		Yes			Yes	Yes	No
PHENOL	AOC 4	1 : 2 : 2	2.30E+06		No		No		No		No	No		No	Yes	No
PYRENE	AOC 4	2 : 2 : 2	9.90E+06		No		No		No					Yes		No
SELENIUM	AOC 4	2 : 2 : 2	3.60E+03		No		No						Yes	No	Yes	No

Table 2-3
Summary of Risk Screening Results
Using Part 201 Criteria
Exceedance List for Soil
BASF Wyandotte, MI Facility

Chemical (a)	Area	FOD (b)	Maximum Detected Conc (c)	DCC Cancer	DCC NonCancer	PSIC Cancer	PSIC NonCancer	SVIIC Cancer	SVIIC NonCancer	Infinite VSIC Cancer	Infinite VSIC NonCancer	Soil Saturation Screening Level	State Bkg	GW Contact Protection	GSI Protection	GSI Protection Area? (e)
STYRENE	AOC 4	2 : 2 : 2	2.40E+05	No	No	No	No	No	No	No	No	No		No	Yes	No
THALLIUM	AOC 4	2 : 2 : 2	1.40E+04		No									No	Yes	No
TOLUENE	AOC 4	2 : 2 : 2	5.90E+05		No		No		Yes		No	Yes		Yes	Yes	No
TOTAL CYANIDE	AOC 4	2 : 2 : 2	1.90E+04		No		No						Yes	No	Yes	No
Total METHYLPHENOL	AOC 4	2 : 2 : 2	9.90E+06		Yes		No		No		No			No	Yes	No
Total XYLENES	AOC 4	2 : 2 : 2	9.80E+05		No		No		No		No	Yes		Yes	Yes	No
ZINC	AOC 4	2 : 2 : 2	1.14E+05		No								Yes	No	No	No
ACENAPHTHENE	AOC 6	3 : 10 : 12	1.20E+04		No		No		No		No			No	Yes	No
ANTHRACENE	AOC 6	6 : 11 : 12	1.20E+05		No		No		No		No			Yes		No
ARSENIC	AOC 6	12 : 12 : 12	2.00E+05	Yes	No	No							Yes	No	Yes	No
BARIUM	AOC 6	12 : 12 : 12	1.87E+05		No		No						Yes	No	No	No
BENZENE	AOC 6	5 : 12 : 12	1.40E+06	Yes		No		Yes		Yes		Yes		Yes	Yes	No
BENZO(A)ANTHRACENE	AOC 6	9 : 11 : 12	1.30E+05	Yes												No
BENZO(A)PYRENE	AOC 6	9 : 11 : 12	9.40E+04	Yes		No		No		No						No
BENZO(B)FLUORANTHENE	AOC 6	9 : 11 : 12	1.00E+05	Yes												No
BIS(2-CHLOROISOPROPYL) ETHER	AOC 6	5 : 10 : 12	5.20E+03	No		No		No		No		No		No	Yes	No
CADMIUM	AOC 6	9 : 12 : 12	2.00E+03		No	No							Yes	No	No	No
CHROMIUM	AOC 6	12 : 12 : 12	5.32E+04		No	No	No							No	Yes	No
COPPER	AOC 6	12 : 12 : 12	4.94E+04		No		No						Yes	No	No	No
DIBENZ(A,H)ANTHRACENE	AOC 6	7 : 10 : 12	1.20E+04	Yes												No
DIBENZOFURAN	AOC 6	9 : 11 : 12	9.90E+04												Yes	No
ETHYLBENZENE	AOC 6	1 : 9 : 9	3.20E+04		No	No	No	No	No	No	No	No		No	Yes	No
FLUORANTHENE	AOC 6	9 : 12 : 12	3.50E+05		No		No		No		No			No	Yes	No
FLUORENE	AOC 6	10 : 12 : 12	2.10E+05		No		No		No		No			No	Yes	No
LEAD	AOC 6	12 : 12 : 12	3.08E+05		(d)		(d)						Yes		No	No
MERCURY	AOC 6	8 : 12 : 12	3.30E+03		No		No		No		No		Yes	No	Yes	No
NAPHTHALENE	AOC 6	10 : 12 : 12	2.70E+06		No	No	No	No	Yes	Yes	Yes			Yes	Yes	No
NICKEL	AOC 6	8 : 12 : 12	3.39E+04		No	No							Yes	No	No	No
PHENANTHRENE	AOC 6	9 : 12 : 12	4.90E+05		No		No		No		Yes			No	Yes	No
SELENIUM	AOC 6	7 : 12 : 12	2.30E+04		No		No						Yes	No	Yes	No
TOTAL CYANIDE	AOC 6	8 : 12 : 12	2.40E+03		No		No						Yes	No	Yes	No
Total XYLENES	AOC 6	1 : 9 : 9	1.76E+05		No		No		No		No	Yes		Yes	Yes	No
ZINC	AOC 6	12 : 12 : 12	2.52E+05		No								Yes	No	Yes	No

Table 2-3
Summary of Risk Screening Results
Using Part 201 Criteria
Exceedance List for Soil
BASF Wyandotte, MI Facility

Chemical (a)	Area	FOD (b)	Maximum Detected Conc (c)	DCC Cancer	DCC NonCancer	PSIC Cancer	PSIC NonCancer	SVIIC Cancer	SVIIC NonCancer	Infinite VSIC Cancer	Infinite VSIC NonCancer	Soil Saturation Screening Level	State Bkg	GW Contact Protection	GSI Protection	GSI Protection Area? (e)
ARSENIC	AOC 7A	14 : 14 : 14	6.24E+04	Yes	No	No							Yes	No	Yes	No
BARIUM	AOC 7A	14 : 14 : 14	1.48E+05		No		No						Yes	No	No	No
CHROMIUM	AOC 7A	14 : 14 : 14	2.91E+04		No	No	No							No	Yes	No
COBALT	AOC 7A	2 : 14 : 14	9.70E+03		No		No						Yes	No	Yes	No
COPPER	AOC 7A	14 : 14 : 14	3.70E+04		No		No						Yes	No	No	No
LEAD	AOC 7A	14 : 14 : 14	3.35E+05		(d)		(d)						Yes		No	No
MERCURY	AOC 7A	11 : 14 : 14	4.80E+03		No		No		No		No		Yes	No	Yes	No
NICKEL	AOC 7A	13 : 14 : 14	3.18E+04		No	No							Yes	No	No	No
SELENIUM	AOC 7A	4 : 14 : 14	1.70E+03		No		No						Yes	No	Yes	No
SILVER	AOC 7A	1 : 14 : 14	1.00E+04		No		No						Yes	No	Yes	No
TOTAL CYANIDE	AOC 7A	15 : 19 : 19	5.70E+03		No		No						Yes	No	Yes	No
ZINC	AOC 7A	14 : 14 : 14	1.90E+05		No								Yes	No	Yes	No
ARSENIC	AOC 7B	4 : 4 : 4	1.17E+04	No	No	No							Yes	No	No	No
BARIUM	AOC 7B	4 : 4 : 4	1.08E+05		No		No						Yes	No	No	No
CHROMIUM	AOC 7B	4 : 4 : 4	2.69E+04		No	No	No							No	Yes	No
LEAD	AOC 7B	4 : 4 : 4	3.06E+04		(d)		(d)						Yes		No	No
MERCURY	AOC 7B	2 : 4 : 4	5.70E+02		No		No		No		No		Yes	No	Yes	No
ZINC	AOC 7B	4 : 4 : 4	1.51E+05		No								Yes	No	Yes	No
ARSENIC	AOC 7C	4 : 4 : 4	3.45E+04	Yes	No	No							Yes	No	Yes	No
BARIUM	AOC 7C	4 : 4 : 4	1.47E+05		No		No						Yes	No	No	No
CHROMIUM	AOC 7C	4 : 4 : 4	1.72E+04		No	No	No							No	Yes	No
LEAD	AOC 7C	4 : 4 : 4	1.13E+05		(d)		(d)						Yes		No	No
MERCURY	AOC 7C	2 : 4 : 4	2.20E+03		No		No		No		No		Yes	No	Yes	No
NICKEL	AOC 7C	4 : 4 : 4	8.99E+04		No	No							Yes	No	Yes	No
SELENIUM	AOC 7C	4 : 4 : 4	2.40E+03		No		No						Yes	No	Yes	No
ZINC	AOC 7C	4 : 4 : 4	6.03E+05		No								Yes	No	Yes	No
NAPHTHALENE	RFIMW 07	2 : 6 : 6	9.65E+02		No	No	No	No	No	No	No			No	Yes	Yes
PHENOL	RFIMW 07	2 : 6 : 6	1.10E+04		No		No		No		No	No		No	Yes	Yes
Total METHYLPHENOL	RFIMW 07	2 : 6 : 6	4.30E+03		No		No		No		No			No	Yes	Yes
ARSENIC	RFIMW 24	2 : 2 : 2	8.00E+03	No	No	No							Yes	No	No	No
BARIUM	RFIMW 24	2 : 2 : 2	9.70E+04		No		No						Yes	No	No	No
CADMIUM	RFIMW 24	1 : 2 : 2	1.40E+03		No	No							Yes	No	No	No
CHROMIUM	RFIMW 24	2 : 2 : 2	8.41E+05		No	Yes	Yes							No	Yes	No

Table 2-3
Summary of Risk Screening Results
Using Part 201 Criteria
Exceedance List for Soil
BASF Wyandotte, MI Facility

Chemical (a)	Area	FOD (b)	Maximum Detected Conc (c)	DCC Cancer	DCC NonCancer	PSIC Cancer	PSIC NonCancer	SVIIC Cancer	SVIIC NonCancer	Infinite VSIC Cancer	Infinite VSIC NonCancer	Soil Saturation Screening Level	State Bkg	GW Contact Protection	GSI Protection	GSI Protection Area? (e)
LEAD	RFIMW 24	2 : 2 : 2	3.34E+04		(d)		(d)						Yes		No	No
TOTAL CYANIDE	RFIMW 24	2 : 2 : 2	2.70E+03		No		No						Yes	No	Yes	No
VANADIUM	RFIMW 24	2 : 2 : 2	2.22E+05		No									No	Yes	No
ZINC	RFIMW 24	2 : 2 : 2	1.16E+05		No								Yes	No	No	No
ARSENIC	RFIMW 25	2 : 2 : 2	6.00E+03	No	No	No							Yes	No	No	No
BARIUM	RFIMW 25	2 : 2 : 2	1.01E+05		No		No						Yes	No	No	No
CHROMIUM	RFIMW 25	2 : 2 : 2	9.00E+03		No	No	No							No	Yes	No
MERCURY	RFIMW 25	1 : 2 : 2	1.60E+02		No		No		No		No		Yes	No	Yes	No
TOTAL CYANIDE	RFIMW 25	2 : 2 : 2	1.90E+03		No		No						Yes	No	Yes	No
ARSENIC	RFIMW 26	2 : 2 : 2	9.50E+03	No	No	No							Yes	No	No	No
CHROMIUM	RFIMW 26	2 : 2 : 2	1.56E+04		No	No	No							No	Yes	No
COBALT	RFIMW 26	1 : 2 : 2	6.10E+03		No		No						No	No	Yes	No
LEAD	RFIMW 26	2 : 2 : 2	3.20E+04		(d)		(d)						Yes		No	No
MERCURY	RFIMW 26	1 : 2 : 2	2.70E+02		No		No		No		No		Yes	No	Yes	No
SELENIUM	RFIMW 26	1 : 2 : 2	1.20E+03		No		No						Yes	No	Yes	No
TOTAL CYANIDE	RFIMW 26	1 : 2 : 2	3.70E+03		No		No						Yes	No	Yes	No
ZINC	RFIMW 26	2 : 2 : 2	5.81E+04		No								Yes	No	No	No
ARSENIC	RFIMW 27	2 : 2 : 2	7.40E+03	No	No	No							Yes	No	No	No
BARIUM	RFIMW 27	2 : 2 : 2	8.07E+04		No		No						Yes	No	No	No
CHROMIUM	RFIMW 27	2 : 2 : 2	9.70E+03		No	No	No							No	Yes	No
MERCURY	RFIMW 27	1 : 2 : 2	5.20E+02		No		No		No		No		Yes	No	Yes	No
TOTAL CYANIDE	RFIMW 27	1 : 2 : 2	7.80E+02		No		No						Yes	No	Yes	No
ZINC	RFIMW 27	2 : 2 : 2	1.34E+05		No								Yes	No	Yes	No
ARSENIC	RFIMW 28	2 : 2 : 2	8.90E+03	No	No	No							Yes	No	No	No
BARIUM	RFIMW 28	2 : 2 : 2	1.79E+05		No		No						Yes	No	No	No
CHROMIUM	RFIMW 28	2 : 2 : 2	1.61E+04		No	No	No							No	Yes	No
ZINC	RFIMW 28	2 : 2 : 2	1.17E+05		No								Yes	No	No	No
1,2-DICHLOROPROPANE	SWMU F	5 : 10 : 10	7.00E+04	No	No		No		Yes		Yes	No		No	Yes	No
2,4-DIMETHYLPHENOL	SWMU F	1 : 10 : 10	2.20E+04		No		No		No		No			No	Yes	No
ACETONE	SWMU F	9 : 10 : 10	1.90E+05		No		No		No		No	No		No	Yes	No
ANTIMONY	SWMU F	3 : 10 : 10	1.60E+04		No		No							No	Yes	No
ARSENIC	SWMU F	10 : 10 : 10	6.39E+04	Yes	No	No							Yes	No	Yes	No
BARIUM	SWMU F	10 : 10 : 10	4.91E+05		No		No						Yes	No	Yes	No

Table 2-3
Summary of Risk Screening Results
Using Part 201 Criteria
Exceedance List for Soil
BASF Wyandotte, MI Facility

Chemical (a)	Area	FOD (b)	Maximum Detected Conc (c)	DCC Cancer	DCC NonCancer	PSIC Cancer	PSIC NonCancer	SVIIC Cancer	SVIIC NonCancer	Infinite VSIC Cancer	Infinite VSIC NonCancer	Soil Saturation Screening Level	State Bkg	GW Contact Protection	GSI Protection	GSI Protection Area? (e)
BENZENE	SWMU F	1 : 9 : 10	2.00E+03	No		No		No		No		No		No	Yes	No
BIS(2-CHLOROISOPROPYL) ETHER	SWMU F	6 : 10 : 10	2.80E+04	Yes		No		No		Yes		No		No	Yes	No
CADMIUM	SWMU F	10 : 10 : 10	7.30E+03		No	No							Yes	No	Yes	No
CHROMIUM	SWMU F	10 : 10 : 10	1.30E+05		No	No	No							No	Yes	No
COBALT	SWMU F	1 : 10 : 10	4.05E+04		No		No						Yes	No	Yes	No
COPPER	SWMU F	10 : 10 : 10	7.71E+06		No		No						Yes	No	Yes	No
LEAD	SWMU F	10 : 10 : 10	8.76E+05		(d)		(d)						Yes		No	No
MERCURY	SWMU F	6 : 10 : 10	2.11E+04		No		No		No		No		Yes	No	Yes	No
NICKEL	SWMU F	9 : 10 : 10	1.70E+05		No	No							Yes	No	Yes	No
PHENANTHRENE	SWMU F	4 : 7 : 10	6.00E+03		No		No		No		No			No	Yes	No
PHENOL	SWMU F	2 : 7 : 10	6.40E+03		No		No		No		No	No		No	Yes	No
SELENIUM	SWMU F	5 : 10 : 10	6.30E+03		No		No						Yes	No	Yes	No
SILVER	SWMU F	1 : 10 : 10	1.05E+04		No		No						Yes	No	Yes	No
TOLUENE	SWMU F	7 : 10 : 10	1.10E+05		No		No		No		No	No		No	Yes	No
TOTAL CYANIDE	SWMU F	8 : 10 : 10	5.10E+03		No		No						Yes	No	Yes	No
Total METHYLPHENOL	SWMU F	4 : 10 : 10	4.41E+04		No		No		No		No			No	Yes	No
ZINC	SWMU F	9 : 10 : 10	1.00E+06		No								Yes	No	Yes	No
ANTIMONY	SWMU G	1 : 10 : 10	2.60E+03		No		No							No	Yes	No
ARSENIC	SWMU G	10 : 10 : 10	1.01E+05	Yes	No	No							Yes	No	Yes	No
BARIUM	SWMU G	10 : 10 : 10	1.66E+05		No		No						Yes	No	No	No
CADMIUM	SWMU G	10 : 10 : 10	2.30E+03		No	No							Yes	No	No	No
CHROMIUM	SWMU G	10 : 10 : 10	3.36E+04		No	No	No							No	Yes	No
COBALT	SWMU G	1 : 10 : 10	1.01E+04		No		No						Yes	No	Yes	No
COPPER	SWMU G	10 : 10 : 10	9.53E+04		No		No						Yes	No	Yes	No
LEAD	SWMU G	10 : 10 : 10	2.38E+05		(d)		(d)						Yes		No	No
MERCURY	SWMU G	8 : 10 : 10	5.40E+03		No		No		No		No		Yes	No	Yes	No
NICKEL	SWMU G	10 : 10 : 10	2.56E+04		No	No							Yes	No	No	No
SELENIUM	SWMU G	1 : 10 : 10	4.40E+02		No		No						Yes	No	Yes	No
TOTAL CYANIDE	SWMU G	1 : 10 : 10	6.60E+02		No		No						Yes	No	Yes	No
ZINC	SWMU G	10 : 10 : 10	3.35E+05		No								Yes	No	Yes	No
1,2-DICHLOROBENZENE	SWMU H	1 : 8 : 11	6.80E+02		No		No		No		No	No		No	Yes	Yes (f)
1,2-DICHLOROPROPANE	SWMU H	9 : 11 : 11	5.00E+07	Yes	No		No		Yes		Yes	Yes		Yes	Yes	Yes (f)
2,4-DIMETHYLPHENOL	SWMU H	1 : 10 : 11	8.30E+03		No		No		No		No			No	Yes	Yes (f)

Table 2-3
Summary of Risk Screening Results
Using Part 201 Criteria
Exceedance List for Soil
BASF Wyandotte, MI Facility

Chemical (a)	Area	FOD (b)	Maximum Detected Conc (c)	DCC Cancer	DCC NonCancer	PSIC Cancer	PSIC NonCancer	SVIIC Cancer	SVIIC NonCancer	Infinite VSIC Cancer	Infinite VSIC NonCancer	Soil Saturation Screening Level	State Bkg	GW Contact Protection	GSI Protection	GSI Protection Area? (e)	
ACENAPHTHENE	SWMU H	1 : 10 : 11	6.70E+03		No		No		No		No			No	Yes	Yes	(f)
ANTIMONY	SWMU H	4 : 11 : 11	1.53E+04		No		No							No	Yes	Yes	(f)
ARSENIC	SWMU H	11 : 11 : 11	1.16E+05	Yes	No	No							Yes	No	Yes	Yes	(f)
BARIUM	SWMU H	11 : 11 : 11	2.23E+05		No		No						Yes	No	No	Yes	(f)
BENZENE	SWMU H	1 : 8 : 11	7.80E+02	No		No		No		No		No		No	Yes	Yes	(f)
BIS(2-CHLOROETHYL) ETHER	SWMU H	2 : 10 : 11	1.20E+04	No		No		No		No		No		No	Yes	Yes	(f)
BIS(2-CHLOROISOPROPYL) ETHER	SWMU H	8 : 11 : 11	1.40E+06	Yes		No		Yes		Yes		No		Yes	Yes	Yes	(f)
CADMIUM	SWMU H	10 : 11 : 11	4.20E+03		No	No							Yes	No	Yes	Yes	(f)
CHROMIUM	SWMU H	11 : 11 : 11	1.95E+05		No	No	Yes							No	Yes	Yes	(f)
COBALT	SWMU H	6 : 11 : 11	1.37E+04		No		No						Yes	No	Yes	Yes	(f)
COPPER	SWMU H	11 : 11 : 11	2.21E+05		No		No						Yes	No	Yes	Yes	(f)
DIBENZOFURAN	SWMU H	2 : 10 : 11	4.20E+03												Yes	Yes	(f)
ETHYLBENZENE	SWMU H	1 : 8 : 11	4.70E+02		No	No	No	No	No	No	No	No		No	Yes	Yes	(f)
FLUORANTHENE	SWMU H	3 : 10 : 11	1.10E+04		No		No		No		No			No	Yes	Yes	(f)
FLUORENE	SWMU H	1 : 10 : 11	5.40E+03		No		No		No		No			No	Yes	Yes	(f)
LEAD	SWMU H	11 : 11 : 11	4.33E+05		(d)		(d)						Yes		No	Yes	(f)
MERCURY	SWMU H	5 : 11 : 11	5.29E+04		No		No		No		Yes		Yes	Yes	Yes	Yes	(f)
NAPHTHALENE	SWMU H	3 : 10 : 11	1.60E+04		No	No	No	No	No	No	No			No	Yes	Yes	(f)
NICKEL	SWMU H	11 : 11 : 11	9.34E+04		No	No							Yes	No	Yes	Yes	(f)
PHENANTHRENE	SWMU H	3 : 10 : 11	2.00E+04		No		No		No		No			No	Yes	Yes	(f)
SELENIUM	SWMU H	2 : 11 : 11	1.40E+03		No		No						Yes	No	Yes	Yes	(f)
SILVER	SWMU H	1 : 11 : 11	2.17E+04		No		No						Yes	No	Yes	Yes	(f)
TOLUENE	SWMU H	2 : 10 : 11	5.80E+03		No		No		No		No	No		No	Yes	Yes	(f)
TOTAL CYANIDE	SWMU H	4 : 11 : 11	1.60E+04		No		No						Yes	No	Yes	Yes	(f)
Total METHYLPHENOL	SWMU H	2 : 10 : 11	1.89E+04		No		No		No		No			No	Yes	Yes	(f)
Total XYLENES	SWMU H	1 : 8 : 11	2.07E+03		No		No		No		No	No		No	Yes	Yes	(f)
ZINC	SWMU H	11 : 11 : 11	6.28E+05		No								Yes	No	Yes	Yes	(f)

Table 2-3
Summary of Risk Screening Results
Using Part 201 Criteria
Exceedance List for Soil
BASF Wyandotte, MI Facility

Chemical (a)	Area	FOD (b)	Maximum Detected Conc (c)	DCC Cancer	DCC NonCancer	PSIC Cancer	PSIC NonCancer	SVIIC Cancer	SVIIC NonCancer	Infinite VSIC Cancer	Infinite VSIC NonCancer	Soil Saturation Screening Level	State Bkg	GW Contact Protection	GSI Protection	GSI Protection Area? (e)

Notes:

CAS - Chemical Abstract Service.
DCC - Direct Contact Criteria.
GSI - Groundwater Surface Water Interface Protection Criteria.
GW - Groundwater Contact Protection Criteria.
PSIC - Particulate Soil Inhalation Criteria (Ambient Air).
SVIIC - Soil Volatilization to Indoor Air Inhalation Criteria.
VSIC - Infinite Source Volatilization Inhalation Criteria (Ambient Air).
(a) Only chemicals with at least one positively detected result are reported.
(b) Frequency of detection - Number of detected samples: Number of samples used to calculate statistics: Number of total samples.
(c) Maximum detected concentration for each chemical, after duplicates have been averaged.
(d) Criteria for lead are derived using biological based model, and are not calculated using the Part 201 assumptions and algorithms. Comparison performed in a seperate table on a straight exceed/not exceed basis.
(e) Soil area located at the groundwater-surface water interface (i.e., along the Detroit River).
(f) Easternmost portion of SWMU H only.

Table 2-4
Risk Screening for Lead
Using Part 201 Criteria (a)
Soil
BASF Wyandotte, MI Facility

Area	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Part 201 Screening Criteria (g)	Exceeds? (h)
DCC								
AOC 7B	ug/kg	4 : 4 . 4	100	3.40E+03	3.06E+04	1.53E+04	9.00E+05	No
SWMU H	ug/kg	11 : 11 . 11	100	2.70E+03	4.33E+05	5.96E+04	9.00E+05	No
AOC 4	ug/kg	2 : 2 : 2	100	4.90E+04	8.28E+04	6 59E+04	9.00E+05	No
AOC 7A	ug/kg	14 : 14 : 14	100	2.80E+03	3.35E+05	7.15E+04	9.00E+05	No
AOC 2	ug/kg	8 : 8 : 8	100	2.40E+03	9.01E+04	2.22E+04	9.00E+05	No
AOC 7C	ug/kg	4 : 4 : 4	100	7.30E+03	1.13E+05	4.14E+04	9.00E+05	No
RFIMW 24	ug/kg	2 : 2 : 2	100	2.70E+03	3.34E+04	1.81E+04	9.00E+05	No
RFIMW 25	ug/kg	2 : 2 : 2	100	2.15E+03	1.28E+04	7.48E+03	9.00E+05	No
RFIMW 26	ug/kg	2 : 2 . 2	100	2.30E+03	3.20E+04	1.72E+04	9.00E+05	No
RFIMW 27	ug/kg	2 : 2 : 2	100	2.20E+03	3.10E+03	2.65E+03	9.00E+05	No
RFIMW 28	ug/kg	2 . 2 . 2	100	1.10E+03	2.50E+03	1.80E+03	9.00E+05	No
SWMU F	ug/kg	10 . 10 : 10	100	1.50E+03	8.76E+05	1.09E+05	9.00E+05	No
SWMU G	ug/kg	10 : 10 : 10	100	1.10E+04	2.38E+05	7 33E+04	9.00E+05	No
AOC 6	ug/kg	12 : 12 . 12	100	6.00E+03	3.08E+05	5.77E+04	9 00E+05	No
PSIC								
RFIMW 24	ug/kg	2 : 2 : 2	100	2.70E+03	3.34E+04	1.81E+04	4.41E+07	No
AOC 4	ug/kg	2 . 2 . 2	100	4.90E+04	8.28E+04	6.59E+04	4.41E+07	No
AOC 6	ug/kg	12 : 12 : 12	100	6.00E+03	3.08E+05	5.77E+04	4.41E+07	No
AOC 7A	ug/kg	14 : 14 : 14	100	2.80E+03	3.35E+05	7.15E+04	4.41E+07	No
AOC 7B	ug/kg	4 : 4 : 4	100	3.40E+03	3.06E+04	1.53E+04	4.41E+07	No
AOC 7C	ug/kg	4 : 4 : 4	100	7.30E+03	1.13E+05	4.14E+04	4.41E+07	No
RFIMW 25	ug/kg	2 : 2 : 2	100	2.15E+03	1.28E+04	7.48E+03	4.41E+07	No
RFIMW 26	ug/kg	2 : 2 : 2	100	2.30E+03	3.20E+04	1 72E+04	4.41E+07	No
RFIMW 27	ug/kg	2 : 2 : 2	100	2.20E+03	3.10E+03	2.65E+03	4.41E+07	No
RFIMW 28	ug/kg	2 : 2 : 2	100	1.10E+03	2.50E+03	1.80E+03	4.41E+07	No
SWMU F	ug/kg	10 : 10 : 10	100	1.50E+03	8.76E+05	1.09E+05	4.41E+07	No
AOC 2	ug/kg	8 : 8 : 8	100	2.40E+03	9.01E+04	2.22E+04	4.41E+07	No
SWMU H	ug/kg	11 : 11 : 11	100	2.70E+03	4.33E+05	5.96E+04	4.41E+07	No
SWMU G	ug/kg	10 : 10 . 10	100	1.10E+04	2.38E+05	7.33E+04	4.41E+07	No

Table 2-4
Risk Screening for Lead
Using Part 201 Criteria (a)
Soil
BASF Wyandotte, MI Facility

Area	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Part 201 Screening Criteria (g)	Exceeds? (h)

Notes:

CAS - Chemical Abstract Service.
DCC - Direct Contact Criteira.
PSIC - Particulate Soil Inhalation Criteria (Ambient Air).
(a) MDEQ. Part 201 Generic Cleanup Criteria. Dec. 2002
(b) Frequency of detection - Number of detected samples: Number of samples used to calculate statistics: Number of total samples.
(c) Percent of samples with detects out of samples used to calculate statistics.
(d) Minimum detected concentration for each chemical, after duplicates have been averaged.
(e) Maximum detected concentration for each chemical, after duplicates have been averaged.
(f) Arithmetic mean concentration for each chemical, after duplicates have been averaged and any non detected results with one-half the sample quantitation limit greater than the maximum detected concentration have been excluded.
(g) Part 201 Criteria (MDEQ, Dec. 2002).
(h) Chemicals where maximum detected concentration exceeds criterion.

Table 2-5
Detection Limit Screen - Analytes Never Detected
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	Minimum Detection Limit (b)	Minimum Part 201 Criteria (c)	Part 201 Criteria (d)	Exceeds? (e)
1,1,1,2-TETRACHLOROETHANE	630-20-6	ug/kg	5.20E+00	6.40E+03	DW Protection	No
1,1,2,2-TETRACHLOROETHANE	79-34-5	ug/kg	5 20E+00	7.00E+02	DW Protection	No
1,1,2-TRICHLOROETHANE	79-00-5	ug/kg	5.20E+00	1.00E+02	DW Protection	No
1,1-DICHLOROETHENE	75-35-4	ug/kg	5.20E+00	1.40E+02	DW Protection	No
1,2,4,5-TETRACHLOROBENZENE	95-94-3	ug/kg	3.40E+02	3.40E+03	GSI	No
1,2,4-TRICHLOROBENZENE	120-82-1	ug/kg	3.40E+02	1.80E+03	GSI	No
1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	ug/kg	1.00E+01	1.00E+01	DW Protection	No
1,2-DIBROMOETHANE (EDB)	106-93-4	ug/kg	5.20E+00	2.00E+01	DW Protection	No
1,2-DIBROMOETHANE (EDB)	106-93-4	ug/kg	5.20E+00	2.00E+01	GSI	No
1,2-DICHLOROETHANE	107-06-2	ug/kg	5.20E+00	1 00E+02	DW Protection	No
1,2-DICHLOROETHENE (TOTAL)	540-59-0	ug/kg	5.20E+00	1.40E+03	DW Protection	No
1,3-DICHLOROBENZENE	541-73-1	ug/kg	5.20E+00	4 80E+02	DW Protection	No
1,3-DINITROBENZENE	99-65-0	ug/kg	3.40E+02	4.80E+02	DW Protection	No
1,4-DICHLOROBENZENE	106-46-7	ug/kg	5.20E+00	2.90E+02	GSI	No
1,4-DIOXANE	123-91-1	ug/kg	1.70E+03	7.00E+03	DW Protection	No
2,3,4,6-TETRACHLOROPHENOL	58-90-2	ug/kg	1.70E+03	1 80E+07	DCC NonCancer	No
2,4,5-TP (SILVEX)	93-72-1	ug/kg	2 70E+01	2.20E+03	GSI	No
2,4,5-TRICHLOROPHENOL	95-95-4	ug/kg	3 40E+02	1.10E+05	DW Protection	No
2,4,6-TRICHLOROPHENOL	88-06-2	ug/kg	3.40E+02	9.40E+03	DW Protection	No
2,4-D	94-75-7	ug/kg	1.10E+02	1.40E+03	DW Protection	No
2,4-DICHLOROPHENOL	120-83-2	ug/kg	3.40E+02	3 80E+02	GSI	No
2,4-DINITROPHENOL	51-28-5	ug/kg	1.70E+03	3.80E+02	GSI	Yes
2,4-DINITROTOLUENE	121-14-2	ug/kg	3.40E+02	6.40E+02	DW Protection	No
2,6-DICHLOROPHENOL	87-65-0	ug/kg	3.40E+02	3.80E+02	GSI	No
2,6-DINITROTOLUENE	606-20-2	ug/kg	3 40E+02	6.40E+02	DW Protection	No
2-CHLORO-1,3-BUTADIENE	126-99-8	ug/kg	5 20E+00	1.20E+04	DCC NonCancer	No
2-CHLORONAPHTHALENE	91-58-7	ug/kg	3.40E+02	1 80E+06	DW Protection	No
2-CHLOROPHENOL	95-57-8	ug/kg	3.40E+02	4.40E+02	GSI	No
2-HEXANONE	591-78-6	ug/kg	5.20E+01	5.80E+04	DW Protection	No
2-NITROANILINE	88-74-4	ug/kg	1 70E+03	1.80E+06	DCC NonCancer	No
2-NITROPHENOL	88-75-5	ug/kg	3 40E+02	1.20E+03	DW Protection	No
2-PICOLINE	109-06-8	ug/kg	6.80E+02	4.20E+02	DW Protection	Yes
3,3'-DICHLOROBENZIDINE	91-94-1	ug/kg	6.80E+02	2.00E+03	DW Protection	No
3,3'-DICHLOROBENZIDINE	91-94-1	ug/kg	6.80E+02	2.00E+03	GSI	No
3,3'-DIMETHYLBENZIDINE	119-93-7	ug/kg	1.70E+03	7.50E+03	DCC Cancer	No
3-CHLOROPROPENE	107-05-1	ug/kg	5 20E+01	7.00E+02	DW Protection	No
3-NITROANILINE	99-09-2	ug/kg	1.70E+03	8.20E+04	DCC NonCancer	No
4,4'-DDD	72-54-8	ug/kg	3.90E+00	3.97E+05	DCC Cancer	No
4,6-DINITRO-2-METHYLPHENOL	534-52-1	ug/kg	1.70E+03	8.30E+02	DW Protection	Yes
4-BROMOPHENYL PHENYL ETHER	101-55-3	ug/kg	3 40E+02	1.40E+05	DW Protection	No
4-BROMOPHENYL PHENYL ETHER	101-55-3	ug/kg	3.40E+02	1.40E+05	GW Contact	No
4-CHLORO-3-METHYLPHENOL	59-50-7	ug/kg	3 40E+02	2.80E+02	GSI	Yes
4-CHLOROANILINE	106-47-8	ug/kg	3.40E+02	2.50E+06	DCC NonCancer	No
4-CHLOROPHENYL PHENYL ETHER	7005-72-3	ug/kg	3.40E+02	1 40E+05	GW Contact	No
4-CHLOROPHENYL PHENYL ETHER	7005-72-3	ug/kg	3.40E+02	1.40E+05	DW Protection	No
4-METHYL-2-PENTANONE (MIBK)	108-10-1	ug/kg	5 20E+01	1.00E+05	DW Protection	No

Table 2-5
Detection Limit Screen - Analytes Never Detected
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	Minimum Detection Limit (b)	Minimum Part 201 Criteria (c)	Part 201 Criteria (d)	Exceeds? (e)
4-NITROANILINE	100-01-6	ug/kg	1.70E+03	8 20E+04	DCC NonCancer	No
4-NITROPHENOL	100-02-7	ug/kg	1.70E+03	1.20E+03	DW Protection	Yes
5-NITRO-O-TOLUIDINE	99-55-8	ug/kg	3.40E+02	1.20E+03	DW Protection	No
7,12-DIMETHYLBENZ(A)ANTHRACENE	57-97-6	ug/kg	3.40E+03	8.00E+04	DCC Cancer	No
A,A-DIMETHYLPHENETHYLAMINE	122-09-8	ug/kg	1.70E+03	6.20E+05	DCC NonCancer	No
ACETONITRILE	75-05-8	ug/kg	5.40E+01	8.00E+03	DW Protection	No
ACROLEIN	107-02-8	ug/kg	1.70E+06	3.67E+02	VSIC NonCancer	Yes
ACRYLONITRILE	107-13-1	ug/kg	5.20E+01	1 00E+02	GSI	No
ALDRIN	309-00-2	ug/kg	2.00E+00	4.29E+03	DCC Cancer	No
ALPHA-BHC	319-84-6	ug/kg	2.00E+00	7.10E+01	DW Protection	No
ANILINE	62-53-3	ug/kg	3.40E+02	3.30E+02	GSI	Yes
AROCLOR 1016	12674-11-2	ug/kg	4.30E+01	1 58E+04	DCC Cancer	No
AROCLOR 1221	11104-28-2	ug/kg	4.30E+01	1 58E+04	DCC Cancer	No
AROCLOR 1232	11141-16-5	ug/kg	4.30E+01	1.58E+04	DCC Cancer	No
AROCLOR 1242	53469-21-9	ug/kg	4.30E+01	1.58E+04	DCC Cancer	No
BETA-BHC	319-85-7	ug/kg	2.00E+00	1.50E+02	DW Protection	No
BROMODICHLOROMETHANE	75-27-4	ug/kg	5.20E+00	1.60E+03	DW Protection	No
BROMOFORM	75-25-2	ug/kg	5.20E+00	1.60E+03	DW Protection	No
BROMOMETHANE	74-83-9	ug/kg	1.00E+01	5.80E+02	DW Protection	No
CARBON TETRACHLORIDE	56-23-5	ug/kg	5.20E+00	1 00E+02	DW Protection	No
CHLORDANE	57-74-9	ug/kg	1.00E+01	1.48E+05	DCC Cancer	No
CHLOROBENZILATE	510-15-6	ug/kg	3.40E+02	6.40E+04	DCC Cancer	No
CHLORODIBROMOMETHANE	124-48-1	ug/kg	5.20E+00	1.60E+03	DW Protection	No
CHLOROETHANE	75-00-3	ug/kg	1.00E+01	3.40E+04	DW Protection	No
CHLOROMETHANE	74-87-3	ug/kg	1.00E+01	1.03E+04	SVIIC NonCancer	No
CIS-1,2-DICHLOROETHENE	156-59-2	ug/kg	5.20E+00	1.40E+03	DW Protection	No
CIS-1,3-DICHLOROPROPENE	10061-01-5	ug/kg	5 20E+00	7.00E+02	DW Protection	No
DELTA-BHC	319-86-8	ug/kg	2 00E+00	7.10E+01	DW Protection	No
DIALLATE	2303-16-4	ug/kg	3.40E+02	2.80E+05	DCC Cancer	No
DIBROMOMETHANE	74-95-3	ug/kg	5.20E+00	4 60E+03	DW Protection	No
DICHLORODIFLUOROMETHANE	75-71-8	ug/kg	1.00E+01	2.70E+05	DW Protection	No
DIELDRIN	60-57-1	ug/kg	3.90E+00	4.67E+03	DCC Cancer	No
DIMETHOATE	60-51-5	ug/kg	8.50E+02	1 20E+05	DCC NonCancer	No
DIMETHYL PHTHALATE	131-11-3	ug/kg	3.40E+02	7.90E+05	DW Protection	No
DIMETHYL PHTHALATE	131-11-3	ug/kg	3.40E+02	7.90E+05	Soil Saturation	No
DIMETHYL PHTHALATE	131-11-3	ug/kg	3 40E+02	7.90E+05	GW Contact	No
DI-N-BUTYL PHTHALATE	84-74-2	ug/kg	3.40E+02	1.10E+04	GSI	No
DINOSEB	88-85-7	ug/kg	3.40E+02	2.00E+02	GSI	Yes
DIPHENYLAMINE	122-39-4	ug/kg	3.40E+02	1.50E+07	DCC NonCancer	No
ENDOSULFAN I	959-98-8	ug/kg	2.00E+00	4.37E+06	DCC NonCancer	No
ENDOSULFAN II	33213-65-9	ug/kg	3.90E+00	4.37E+06	DCC NonCancer	No
ENDOSULFAN SULFATE	1031-07-8	ug/kg	3.90E+00	4.37E+06	DCC NonCancer	No
ENDRIN	72-20-8	ug/kg	3.90E+00	1.90E+05	DCC NonCancer	No
ENDRIN ALDEHYDE	7421-93-4	ug/kg	3.90E+00	1.90E+05	DCC NonCancer	No
ETHYL METHACRYLATE	97-63-2	ug/kg	5.20E+00	7.00E+05	DCC NonCancer	No
GAMMA-BHC (LINDANE)	58-89-9	ug/kg	2.00E+00	2.00E+01	DW Protection	No

Table 2-5
Detection Limit Screen - Analytes Never Detected
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	Minimum Detection Limit (b)	Minimum Part 201 Criteria (c)	Part 201 Criteria (d)	Exceeds? (e)
GAMMA-BHC (LINDANE)	58-89-9	ug/kg	2.00E+00	2.00E+01	GSI	No
GAMMA-CHLORDANE	5103-74-2	ug/kg	2 00E+00	1.48E+05	DCC Cancer	No
HEPTACHLOR	76-44-8	ug/kg	2.00E+00	2.33E+04	DCC Cancer	No
HEPTACHLOR EPOXIDE	1024-57-3	ug/kg	2.00E+00	9 52E+03	DCC NonCancer	No
HEXACHLOROBENZENE	118-74-1	ug/kg	3.40E+02	3.50E+02	GSI	No
HEXACHLOROBUTADIENE	87-68-3	ug/kg	3.40E+02	9.10E+01	GSI	Yes
HEXACHLOROCYCLOPENTADIENE	77-47-4	ug/kg	3.40E+02	5.57E+04	SVIIC NonCancer	No
HEXACHLOROETHANE	67-72-1	ug/kg	3 40E+02	1.20E+03	DW Protection	No
HEXACHLOROPROPENE	1888-71-7	ug/kg	3.40E+03	7.00E+02	DW Protection	Yes
ISODRIN	465-73-6	ug/kg	8.50E+01	4.29E+03	DCC Cancer	No
ISOPHORONE	78-59-1	ug/kg	3.40E+02	1.10E+04	GSI	No
KEPONE	143-50-0	ug/kg	3.50E+02	2.20E+03	DCC Cancer	No
METHOXYCHLOR	72-43-5	ug/kg	5.90E+01	1 60E+04	DW Protection	No
METHYL METHACRYLATE	80-62-6	ug/kg	5.20E+00	7 30E+06	DCC NonCancer	No
NITROBENZENE	98-95-3	ug/kg	3 40E+02	3 30E+02	DW Protection	Yes
N-NITROSODIETHYLAMINE	55-18-5	ug/kg	3.40E+02	1.10E+02	DCC Cancer	Yes
N-NITROSODIMETHYLAMINE	62-75-9	ug/kg	3.40E+02	3.40E+02	DCC Cancer	No
N-NITROSODI-N-BUTYLAMINE	924-16-3	ug/kg	3.40E+02	5 80E+02	DCC Cancer	No
N-NITROSODI-N-PROPYLAMINE	621-64-7	ug/kg	3 40E+02	3.30E+02	DW Protection	Yes
N-NITROSODIPHENYLAMINE	86-30-6	ug/kg	3.40E+02	2.20E+04	DW Protection	No
N-NITROSOMETHYLETHYLAMINE	10595-95-6	ug/kg	3.40E+02	7.80E+02	DCC Cancer	No
N-NITROSOPIPERIDINE	100-75-4	ug/kg	3.40E+02	1 80E+02	DW Protection	Yes
N-NITROSOPYRROLIDINE	930-55-2	ug/kg	3.40E+02	8 20E+03	DCC Cancer	No
O-TOLUIDINE	95-53-4	ug/kg	3.40E+02	1 20E+03	DW Protection	No
P-DIMETHYLAMINOAZOBENZENE	60-11-7	ug/kg	6.80E+02	1 70E+04	DW Protection	No
PENTACHLOROBENZENE	608-93-5	ug/kg	3.40E+02	9 50E+03	GSI	No
PENTACHLORONITROBENZENE	82-68-8	ug/kg	1 80E+03	3.70E+04	DW Protection	No
PENTACHLORONITROBENZENE	82-68-8	ug/kg	1 80E+03	3.70E+04	GW Contact	No
PRONAMIDE	23950-58-5	ug/kg	6.80E+02	4.60E+07	DCC NonCancer	No
PROPIONITRILE	107-12-0	ug/kg	2.10E+01	2.00E+02	GSI	No
PYRIDINE	110-86-1	ug/kg	3.40E+02	4.20E+02	DW Protection	No
TETRACHLOROETHENE	127-18-4	ug/kg	5.20E+00	1.00E+02	DW Protection	No
TOXAPHENE	8001-35-2	ug/kg	2.00E+02	8.60E+02	GSI	No
TRANS-1,3-DICHLOROPROPENE	10061-02-6	ug/kg	5 20E+00	7.00E+02	DW Protection	No
TRANS-1,4-DICHLORO-2-BUTENE	110-57-6	ug/kg	5.20E+00	1.80E+02	DCC Cancer	No
TRICHLOROETHENE	79-01-6	ug/kg	5.20E+00	1.00E+02	DW Protection	No
TRICHLOROFLUOROMETHANE	75-69-4	ug/kg	5 20E+00	1.50E+05	DW Protection	No
VINYL ACETATE	108-05-4	ug/kg	5.20E+01	3.60E+04	DW Protection	No
VINYL CHLORIDE	75-01-4	ug/kg	1.00E+01	4.00E+01	DW Protection	No

Table 2-5
Detection Limit Screen - Analytes Never Detected
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	Minimum Detection Limit (b)	Minimum Part 201 Criteria (c)	Part 201 Criteria (d)	Exceeds? (e)

Notes:

CAS - Chemical Abstract Service.
(a) Only chemicals that were never detected at the site are reported.
(b) Minimum detection limit at the site.
(c) Minimum (most stringent) of Part 201 Criteria
(d) Part 201 Criteria used.
(e) Chemicals where minimum detection limits exceed the Part 201 criteria.

Table 3-1
Michigan DEQ Part 201 Groundwater Criteria (a)
BASF Wyandotte, MI Facility

Chemical		CAS	Industrial Cancer GVIIC	Industrial NonCancer GVIIC	Cancer GCC	NonCancer GCC	Industrial Cancer DWC	Industrial NonCancer DWC	Water Solubility	GSI	
1,1,1-TRICHLOROETHANE		71-55-6		1.49E+06		2.09E+07		4.59E+04	1 33E+06	2.00E+02	
1,1-DICHLOROETHANE		75-34-3		2.28E+06		2.44E+06		2.50E+03	5.06E+06	7.40E+02	
1,1-DICHLOROETHENE		75-35-4	1.26E+03			1.07E+04		1.88E+01	2.25E+06	2.40E+01	(c)
1,2-DICHLOROBENZENE		95-50-1		2.02E+07		2.11E+05		1.79E+03	1 56E+05	1.60E+01	
1,2-DICHLOROETHANE		107-06-2	5 90E+04		1.90E+04		5.99E+01		8.52E+06	6.00E+00	(c)
1,2-DICHLOROPROPANE		78-87-5		3 57E+04	1.58E+04	7.70E+06	9.40E+01	9.18E+03	2.80E+06	9.10E+00	(c)
1,4-DIOXANE		123-91-1	4.37E+07		1.74E+06		3.48E+02		9.00E+08	3.40E+01	(c)
2,4,5-TP (SILVEX)		93-72-1				4.33E+04		1.56E+02	1.40E+05	3.00E+01	
2,4-DIMETHYLPHENOL		105-67-9		6.02E+08		5.21E+05		1.04E+03	7.87E+06	3.80E+02	
2,6-DICHLOROPHENOL	(f)	87-65-0		4.29E+08		4.76E+04		2.09E+02	4.50E+06	1.90E+01	
2-HEXANONE		591-78-6		8 65E+06		5.22E+06		2.92E+03	1.60E+07		
2-METHYLNAPHTHALENE		91-57-6				4.15E+04		7.51E+02	2.46E+04		
2-PICOLINE	(g)	109-06-8		1.22E+04		9.36E+04		2.09E+01	3.00E+05		
4-METHYL-2-PENTANONE (MIBK)		108-10-1		3.63E+08		1.31E+07		5.21E+03	2.00E+07		
ACENAPHTHENE		83-32-9		3.15E+07		2.15E+05		3.75E+03	4.24E+03	1.90E+01	
ACETONE		67-64-1		2 85E+09		3.06E+07		2.09E+03	1.00E+09	1.70E+03	
ACETOPHENONE		98-86-2		8.07E+08		6.88E+06		4.38E+03	6.10E+06		
ANTIMONY		7440-36-0				6.77E+04		7.30E+00		2.00E+00	(c)
ARSENIC		7440-38-2			4 30E+03	5.23E+04	2.32E+00	5.63E+00		5.00E+01	(c)
BARIUM		7440-39-3				1.35E+07		7.30E+03		4.40E+02	(d)
BENZENE		71-43-2	3.54E+04		1.15E+04		1.20E+02		1.75E+06	1.20E+01	(c)
BENZO(A)ANTHRACENE		56-55-3			1.04E+01		8.48E+00		9.40E+00		
BERYLLIUM		7440-41-7				2.90E+05		3.13E+01		2.40E+00	(d)
BIS(2-CHLOROETHYL) ETHER		111-44-4	2.08E+05		5.70E+03		8.28E+00		1.72E+07	1.50E+01	
BIS(2-CHLOROISOPROPYL) ETHE	(h)	108-60-1	2.08E+05		5.70E+03		8.28E+00		1.72E+07	1.50E+01	
BIS(2-ETHYLHEXYL) PHTHALATE		117-81-7	9.79E+08		3.20E+02	5.84E+02	1.09E+03	3.96E+02	3.40E+02	3.20E+01	
BROMODICHLOROMETHANE		75-27-4	3.67E+04		1.45E+04	3.91E+05	6.95E+01	3.75E+02	6.74E+06		
BUTYL BENZYL PHTHALATE		85-68-7		9.65E+09		1.32E+05		3.34E+03	2.69E+03	6.90E+00	(c)
CADMIUM		7440-43-9				1.94E+05		2.09E+01		2.20E+00	(d)
CARBON DISULFIDE		75-15-0		5.46E+05		1.31E+06		2.29E+03	1.19E+06		
CHLORIDE		16887-00-6								1.25E+05	
CHLOROBENZENE		108-90-7		4.85E+05		8.62E+04		3.96E+02	4.72E+05	4.70E+01	

Table 3-1
Michigan DEQ Part 201 Groundwater Criteria (a)
BASF Wyandotte, MI Facility

Chemical	CAS	Industrial Cancer GVIIC	Industrial NonCancer GVIIC	Cancer GCC	NonCancer GCC	Industrial Cancer DWC	Industrial NonCancer DWC	Water Solubility	GSI
CHLOROFORM	67-66-3	1.76E+05		1.51E+05	2.59E+05	7.90E+02	2.71E+02	7.92E+06	7.70E+01 (c)
CHLOROMETHANE	74-87-3	5.18E+04	4.47E+04	4.86E+05		1.05E+03		6.34E+06	
CHROMIUM (i)	7440-47-3				4.65E+05		3.50E+02		1.10E+01
COBALT	7440-48-4				2.42E+06		1.04E+02		1.00E+02
COPPER	7440-50-8				7.36E+06		3.96E+03		9.00E+00 (d)
CUMENE	98-82-8		1 44E+05		1.78E+05		2.29E+03	5.60E+04	
CYCLOHEXANE	110-82-7						1.00E+04 (e)		
DIBENZOFURAN	132-64-9							1.00E+04	4.00E+00
DIETHYL PHTHALATE	84-66-2		1.37E+09		1 28E+07		1.56E+04	1.08E+06	1.10E+02
DINOSEB	88-85-7				7 03E+03		2.09E+01	5.20E+04	1.00E+00
ETHYLBENZENE	100-41-4	7.04E+05	3.28E+06		2.77E+05		2.02E+03	1.69E+05	1.80E+01
FLUORANTHENE	206-44-0		1.63E+08		3.16E+04		2.50E+03	2 06E+02	1.60E+00
IRON	7439-89-6				5.81E+07		6.26E+03		
LEAD	7439-92-1						4.00E+00 (j)		1.00E+01 (d)
MAGNESIUM	7439-95-4				2.13E+09		1.15E+06		
MERCURY	7439-97-6				5.81E+04		1.10E+02	5.60E+01	1.30E-03
METHANE	74-82-8								
METHYL ETHYL KETONE	78-93-3		5.27E+08		2.86E+08		3.75E+04	2.40E+08	2.20E+03
METHYLCYCLOHEXANE	108-87-2						5.20E+03 (e)		
METHYLENE CHLORIDE	75-09-2	1.37E+06		2.24E+05	1.64E+06	8.28E+02	1.21E+03	1 70E+07	4.70E+01 (c)
NAPHTHALENE	91-20-3	1.10E+06	1.54E+05		1.71E+05		1.48E+03	3.10E+04	1.30E+01
NICKEL	7440-02-0				7 36E+07		1.59E+03		5.20E+01 (d)
NITRATE	14797-55-8				3.10E+08		1.67E+05		
NITRITE	14797-65-0				1.94E+07		1.04E+04		
PHENANTHRENE	85-01-8		8.14E+04		3.57E+03		1.48E+02	1.00E+03	2.40E+00
PHENOL	108-95-2		1.39E+10		2.93E+07		1.25E+04	8.28E+07	2.10E+02
PROPYLENE OXIDE	75-56-9					2.20E+00 (e)			
PYRENE	129-00-0		1.66E+08		2.01E+04		1.56E+03	1.35E+02	
PYRIDINE	110-86-1		1.22E+04		9.36E+04		2.09E+01	3.00E+05	
SELENIUM	7782-49-2				9.68E+05		1.04E+02		5.00E+00
SILVER	7440-22-4				1.52E+06		9.80E+01		2.00E-01
STYRENE	100-42-5	1.09E+06	9.35E+06	9.66E+03	7.53E+05	2.67E+02	4.17E+03	3.10E+05	8.00E+01

Table 3-1
Michigan DEQ Part 201 Groundwater Criteria (a)
BASF Wyandotte, MI Facility

Chemical	CAS	Industrial Cancer GVIIC	Industrial NonCancer GVIIC	Cancer GCC	NonCancer GCC	Industrial Cancer DWC	Industrial NonCancer DWC	Water Solubility	GSI
SULFATE	14808-79-8								
TETRACHLOROETHENE	127-18-4	1.65E+05		1.17E+04	9.13E+04	1.34E+02	2.09E+02	2.00E+05	1 10E+01 (c)
THALLIUM	7440-28-0				1.30E+04		1.40E+00		1.20E+00 (c)
TOLUENE	108-88-3		1.48E+06		9.92E+05		4.59E+03	5.26E+05	1.40E+02
TOTAL CYANIDE	57-12-5								5.20E+00
TOTAL DISSOLVED SOLIDS	TDS								5.00E+05
TOTAL METHYLPHENOL	(b) otal Methylpl		1.05E+09		8 13E+05		1.04E+03	2.80E+07	7.10E+01
TOTAL XYLENES	(b) Total Xylenes		1.79E+07		5.36E+06		3.75E+04	1.86E+05	3.50E+01
TRICHLOROETHENE	79-01-6	9.68E+04		2.20E+04		3.48E+02		1.10E+06	2.90E+01 (c)
VANADIUM	7440-62-2				9.68E+05		1.04E+02		1.20E+01
VINYL CHLORIDE	75-01-4	1.30E+04	8 71E+04	1 00E+03	6.65E+04	2.50E+00	6 26E+01	2.76E+06	1.50E+01
ZINC	7440-66-6				1.06E+08		6.88E+03		1.20E+02 (d)

Notes:

All expressed in units of ug/L.
CAS - Chemical Abstract Service.
GVIIC - Groundwater Volatilization to Indoor Air Inhalation Criteria.
GCC - Groundwater Contact Criteria.
DWC - Drinking Water Criteria.
GSI - Groundwater Surface Water Interface.
(a) MDEQ. Part 201 Generic Cleanup Criteria, Dec. 2002.
(b) Sum of isomers for comparison with criteria.
(c) GSI Criteria for Surface Water Human Drinking Water Value (HDV) for groundwater that discharges to surface water used as drinking water (Footnote X of generic cleanup criteria tables).
(d) GSI Criteria - calculated using site-specific hardness of 100 mg CaCO3/L and MDEQ algorithm (footnote G of generic cleanup criteria tables)
(e) EPA Region 9 Industrial Tap Water PRG (Oct. 2004) used due to lack of Part 201 criteria. PRGs for carcinogens multiplied by 10 to equal 1X10(-5) risk level.
(f) 2,4-Dichlorophenol selected as surrogate.
(g) Pyridine selected as surrogate.
(h) Bis(2-Chloroethyl)ether selected as surrogate.
(i) Chromium VI criteria used for total chromium.
(j) Criteria for lead are derived using biological based model, and are not calculated using the Part 201 assumptions and algorithms. Compare on a straight exceed/not exceed basis.

Table 3-2
Summary of Risk Screening Results
Using Part 201 Criteria
Exceedance List for Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	Area	FOD (b)	Maximum Detected Conc (c)	GVIIC Cancer	GVIIC NonCancer	GCC Cancer	GCC NonCancer	Water Solubility	GSI	GSI Well? (d)
TOTAL DISSOLVED SOLIDS	CMSMW-1	1 : 1 . 1	3 20E+06						Yes	No
TOTAL DISSOLVED SOLIDS	CMSMW-10	1 : 1 : 1	4.60E+06						Yes	Yes
TOTAL DISSOLVED SOLIDS	CMSMW-11	1 . 1 : 1	1 60E+07						Yes	Yes
TOTAL DISSOLVED SOLIDS	CMSMW-12	1 : 1 : 1	1 10E+07						Yes	No
NAPHTHALENE	CMSMW-13F	1 : 1 : 1	1.90E+01	No	No		No	No	Yes	No
TOTAL DISSOLVED SOLIDS	CMSMW-13F	1 : 1 : 1	5.00E+06						Yes	No
BENZENE	CMSMW-13S	1 : 1 : 1	6.60E+01	No		No		No	Yes	No
TOTAL DISSOLVED SOLIDS	CMSMW-13S	1 : 1 : 1	7.90E+06						Yes	No
TOTAL DISSOLVED SOLIDS	CMSMW-14S	1 : 1 : 1	2.95E+06						Yes	No
TOTAL DISSOLVED SOLIDS	CMSMW-15	1 : 1 : 1	7.40E+05						Yes	Yes
TOTAL DISSOLVED SOLIDS	CMSMW-16F	1 : 1 : 1	5 60E+06						Yes	No
TOTAL DISSOLVED SOLIDS	CMSMW-18	1 : 1 : 1	4.50E+06						Yes	No
CHLORIDE	CMSMW-2	1 : 1 : 1	3.20E+05						Yes	Yes
MERCURY	CMSMW-2	1 : 1 : 1	4.34E-01				No	No	Yes	Yes
TOTAL DISSOLVED SOLIDS	CMSMW-2	1 : 1 : 1	2.00E+06						Yes	Yes
TOTAL DISSOLVED SOLIDS	CMSMW-3	1 : 1 : 1	3 10E+06						Yes	No
TOTAL DISSOLVED SOLIDS	CMSMW-4	1 : 1 : 1	2.90E+06						Yes	No
TOTAL DISSOLVED SOLIDS	CMSMW-5	1 : 1 : 1	4.40E+06						Yes	Yes
TOTAL DISSOLVED SOLIDS	CMSMW-6	1 : 1 : 1	2.10E+07						Yes	Yes
TOTAL DISSOLVED SOLIDS	CMSMW-7	1 : 1 : 1	5.70E+06						Yes	No
MERCURY	CMSMW-8	1 : 1 : 1	3.90E+00				No	No	Yes	No
TOTAL DISSOLVED SOLIDS	CMSMW-8	1 . 1 : 1	1.20E+07						Yes	No
TOTAL DISSOLVED SOLIDS	CMSMW-9	1 : 1 : 1	5.00E+06						Yes	No
CHLORIDE	ENSR BG-M	1 : 1 : 1	1.80E+05						Yes	No
MERCURY	ENSR BG-M	2 : 2 : 2	1.62E-02				No	No	Yes	No
THALLIUM	ENSR BG-M	1 . 1 : 1	1.00E+01				No		Yes	No
BENZENE	GTI SB-16	1 . 1 : 1	6.80E+01	No		No		No	Yes	No
TOTAL DISSOLVED SOLIDS	GTI-TPW-1	1 : 1 : 1	7.92E+05						Yes	No
TOTAL XYLENES	GTI-TPW-1	1 : 1 : 1	3.69E+01		No		No	No	Yes	No
1,2-DICHLOROPROPANE	P-15-N	1 : 1 : 1	6.63E+01		No	No	No	No	Yes	No
TOTAL DISSOLVED SOLIDS	P-15-N	1 : 1 . 1	7.72E+05						Yes	No
VANADIUM	P-15-N	1 : 1 : 1	1.30E+01				No		Yes	No
ARSENIC	P-34-N	6 : 6 : 6	2.70E+02			No	No		Yes	No

Table 3-2
Summary of Risk Screening Results
Using Part 201 Criteria
Exceedance List for Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	Area	FOD (b)	Maximum Detected Conc (c)	GVIIC Cancer	GVIIC NonCancer	GCC Cancer	GCC NonCancer	Water Solubility	GSI	GSI Well? (d)
CHROMIUM	P-34-N	5 : 6 : 6	5 00E+01				No		Yes	No
COPPER	P-34-N	4 : 6 : 6	5.70E+01				No		Yes	No
LEAD	P-34-N	6 : 6 : 6	6.00E+01						Yes	No
NICKEL	P-34-N	3 . 6 : 6	9.40E+01				No		Yes	No
TOTAL CYANIDE	P-34-N	6 : 6 . 6	2.20E+01						Yes	No
VANADIUM	P-34-N	4 : 6 : 6	8 70E+01				No		Yes	No
ZINC	P-34-N	4 . 6 . 6	3.30E+02				No		Yes	No
ARSENIC	P-36-N	1 : 1 : 1	7.70E+01			No	No		Yes	No
BIS(2-ETHYLHEXYL) PHTHALATE	P-36-N	1 : 1 : 1	1.02E+02	No		No	No	No	Yes	No
TOTAL DISSOLVED SOLIDS	P-36-N	1 : 1 : 1	2.59E+06						Yes	No
ANTIMONY	PM1NA	1 : 4 : 4	2.00E+01				No		Yes	No
ARSENIC	PM1NA	4 : 4 : 4	6.60E+02			No	No		Yes	No
CADMIUM	PM1NA	2 : 4 : 4	2.00E+01				No		Yes	No
CHROMIUM	PM1NA	4 : 4 : 4	1.40E+02				No		Yes	No
COPPER	PM1NA	3 : 4 : 4	1.10E+02				No		Yes	No
LEAD	PM1NA	4 : 4 : 4	8.90E+01						Yes	No
MERCURY	PM1NA	2 . 4 : 4	1 00E+00				No	No	Yes	No
NICKEL	PM1NA	3 . 4 : 4	1.50E+02				No		Yes	No
TOTAL CYANIDE	PM1NA	4 : 4 : 4	1.50E+04						Yes	No
VANADIUM	PM1NA	4 : 4 : 4	8.50E+01				No		Yes	No
ZINC	PM1NA	2 : 4 : 4	4.50E+02				No		Yes	No
BIS(2-CHLOROISOPROPYL) ETHER	PM3NB	1 : 1 : 1	3.90E+01	No		No		No	Yes	No
ANTIMONY	PM4NA	1 : 1 : 1	1.30E+01				No		Yes	No
ARSENIC	PM4NA	1 : 1 : 1	3.00E+02			No	No		Yes	No
CHLORIDE	PM4NA	1 : 1 : 1	2.20E+07						Yes	No
CHROMIUM	PM4NA	1 : 1 : 1	4.10E+01				No		Yes	No
MERCURY	PM4NA	1 . 1 . 1	5.26E-02				No	No	Yes	No
NICKEL	PM4NA	1 : 1 : 1	5.30E+01				No		Yes	No
TOTAL DISSOLVED SOLIDS	PM4NA	1 . 1 : 1	4.30E+07						Yes	No
VANADIUM	PM4NA	1 . 1 . 1	6.60E+01				No		Yes	No
1,4-DIOXANE	RFIMW 01	1 : 1 : 1	1 20E+02	No		No		No	Yes	Yes
CHLORIDE	RFIMW 01	1 : 1 . 1	1.85E+07						Yes	Yes
MERCURY	RFIMW 01	1 : 1 . 1	2.83E-02				No	No	Yes	Yes

Table 3-2
Summary of Risk Screening Results
Using Part 201 Criteria
Exceedance List for Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	Area	FOD (b)	Maximum Detected Conc (c)	GVIIC Cancer	GVIIC NonCancer	GCC Cancer	GCC NonCancer	Water Solubility	GSI	GSI Well? (d)
THALLIUM	RFIMW 01	1 : 1 : 1	7 65E+00				No		Yes	Yes
TOTAL CYANIDE	RFIMW 01	4 . 4 : 4	5.30E+01						Yes	Yes
TOTAL DISSOLVED SOLIDS	RFIMW 01	1 · 1 : 1	3.00E+07						Yes	Yes
BARIUM	RFIMW 02	4 · 4 : 4	7.70E+02				No		Yes	Yes
BIS(2-CHLOROETHYL) ETHER	RFIMW 02	4 : 4 : 4	4.50E+01	No		No		No	Yes	Yes
CADMIUM	RFIMW 02	2 · 4 : 4	6.80E+00				No		Yes	Yes
CHROMIUM	RFIMW 02	4 : 4 : 4	1.80E+02				No		Yes	Yes
COPPER	RFIMW 02	3 : 4 : 4	1.40E+02				No		Yes	Yes
LEAD	RFIMW 02	2 : 4 : 4	4.60E+01						Yes	Yes
MERCURY	RFIMW 02	1 : 1 . 1	4.16E-03				No	No	Yes	Yes
NICKEL	RFIMW 02	3 . 4 : 4	1.70E+02				No		Yes	Yes
TOTAL CYANIDE	RFIMW 02	4 : 4 : 4	2.20E+01						Yes	Yes
TOTAL METHYLPHENOL	RFIMW 02	3 : 3 : 3	1.95E+02		No		No	No	Yes	Yes
VANADIUM	RFIMW 02	3 : 4 · 4	1.30E+02				No		Yes	Yes
ZINC	RFIMW 02	2 . 4 : 4	3.10E+02				No		Yes	Yes
BARIUM	RFIMW 03	4 : 4 . 4	1.70E+03				No		Yes	Yes
CADMIUM	RFIMW 03	1 : 4 : 4	3.30E+00				No		Yes	Yes
CHROMIUM	RFIMW 03	4 : 4 : 4	1.50E+02				No		Yes	Yes
COPPER	RFIMW 03	3 · 4 : 4	1.20E+02				No		Yes	Yes
LEAD	RFIMW 03	4 : 4 : 4	7.10E+01						Yes	Yes
NICKEL	RFIMW 03	4 : 4 : 4	1.80E+02				No		Yes	Yes
TOTAL CYANIDE	RFIMW 03	1 : 4 : 4	6.00E+00						Yes	Yes
TOTAL METHYLPHENOL	RFIMW 03	3 . 4 : 4	7.80E+01		No		No	No	Yes	Yes
VANADIUM	RFIMW 03	4 : 4 : 4	1.30E+02				No		Yes	Yes
ZINC	RFIMW 03	3 · 4 · 4	3.40E+02				No		Yes	Yes
ARSENIC	RFIMW 04	4 : 4 . 4	5.70E+02			No	No		Yes	Yes
CHROMIUM	RFIMW 04	3 : 4 : 4	2.20E+01				No		Yes	Yes
COPPER	RFIMW 04	1 · 4 : 4	1.80E+01				No		Yes	Yes
MERCURY	RFIMW 04	1 : 1 : 1	7.45E-03				No	No	Yes	Yes
TOTAL CYANIDE	RFIMW 04	4 . 4 . 4	1.30E+02						Yes	Yes
TOTAL DISSOLVED SOLIDS	RFIMW 04	1 : 1 : 1	4.10E+06						Yes	Yes
BARIUM	RFIMW 05	4 : 4 : 4	1.40E+03				No		Yes	Yes
CHROMIUM	RFIMW 05	2 : 4 : 4	3.00E+01				No		Yes	Yes

Table 3-2
Summary of Risk Screening Results
Using Part 201 Criteria
Exceedance List for Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	Area	FOD (b)	Maximum Detected Conc (c)	GVIIC Cancer	GVIIC NonCancer	GCC Cancer	GCC NonCancer	Water Solubility	GSI	GSI Well? (d)
COPPER	RFIMW 05	1 : 4 : 4	2.20E+01				No		Yes	Yes
SELENIUM	RFIMW 05	3 : 4 : 4	9.90E+00				No		Yes	Yes
TOTAL CYANIDE	RFIMW 05	2 : 3 : 3	7.00E+00						Yes	Yes
TOTAL DISSOLVED SOLIDS	RFIMW 05	1 . 1 . 1	1.50E+07						Yes	Yes
TOTAL METHYLPHENOL	RFIMW 05	4 : 4 : 4	9.33E+01		No		No	No	Yes	Yes
1,2-DICHLOROPROPANE	RFIMW 06	4 : 4 : 4	3.50E+01		No	No	No	No	Yes	Yes
BIS(2-CHLOROISOPROPYL) ETHER	RFIMW 06	4 : 4 : 4	1.80E+01	No		No		No	Yes	Yes
CHROMIUM	RFIMW 06	4 : 4 : 4	3.30E+01				No		Yes	Yes
COPPER	RFIMW 06	2 : 4 : 4	2.20E+01				No		Yes	Yes
MERCURY	RFIMW 06	1 . 1 : 1	3.24E-01				No	No	Yes	Yes
SELENIUM	RFIMW 06	1 : 4 : 4	6.00E+00				No		Yes	Yes
TOTAL CYANIDE	RFIMW 06	4 : 4 : 4	3.00E+01						Yes	Yes
1,4-DIOXANE	RFIMW 07	4 : 4 : 4	4.40E+01	No		No		No	Yes	Yes
CHLORIDE	RFIMW 07	1 : 1 : 1	5.20E+06						Yes	Yes
MERCURY	RFIMW 07	1 : 1 : 1	1.21E-01				No	No	Yes	Yes
NAPHTHALENE	RFIMW 07	4 : 4 : 4	6.55E+01	No	No		No	No	Yes	Yes
PHENANTHRENE	RFIMW 07	3 : 3 . 4	3.05E+00		No		No	No	Yes	Yes
PHENOL	RFIMW 07	3 : 4 : 4	3.10E+02		No		No	No	Yes	Yes
TOTAL CYANIDE	RFIMW 07	4 : 4 : 4	1.30E+02						Yes	Yes
TOTAL DISSOLVED SOLIDS	RFIMW 07	1 : 1 : 1	1.30E+07						Yes	Yes
TOTAL METHYLPHENOL	RFIMW 07	4 : 4 : 4	1 37E+02		No		No	No	Yes	Yes
BARIUM	RFIMW 08	3 : 3 : 3	1.10E+03				No		Yes	Yes
CHROMIUM	RFIMW 08	1 : 4 : 4	3.20E+01				No		Yes	Yes
COPPER	RFIMW 08	1 : 4 : 4	3.30E+01				No		Yes	Yes
MERCURY	RFIMW 08	1 : 1 : 1	5.32E-03				No	No	Yes	Yes
TOTAL CYANIDE	RFIMW 08	1 : 3 . 3	1.00E+01						Yes	Yes
ZINC	RFIMW 08	1 : 4 : 4	2.40E+02				No		Yes	Yes
CHLORIDE	RFIMW 09	1 : 1 : 1	3.80E+06						Yes	Yes
CHROMIUM	RFIMW 09	1 : 1 : 1	8.80E+01				No		Yes	Yes
MERCURY	RFIMW 09	1 . 1 . 1	1.37E-03				No	No	Yes	Yes
THALLIUM	RFIMW 09	1 : 1 : 1	9.40E+00				No		Yes	Yes
TOTAL CYANIDE	RFIMW 09	1 : 3 : 3	1.00E+01						Yes	Yes
BARIUM	RFIMW 10	4 . 4 : 4	8.60E+02				No		Yes	Yes

Table 3-2
Summary of Risk Screening Results
Using Part 201 Criteria
Exceedance List for Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	Area	FOD (b)	Maximum Detected Conc (c)	GVIIC Cancer	GVIIC NonCancer	GCC Cancer	GCC NonCancer	Water Solubility	GSI	GSI Well? (d)
CHROMIUM	RFIMW 10	1 : 4 : 4	1.40E+01				No		Yes	Yes
TOTAL CYANIDE	RFIMW 10	3 : 4 : 4	1.00E+01						Yes	Yes
ANTIMONY	RFIMW 11	2 : 4 : 4	1.00E+01				No		Yes	Yes
ARSENIC	RFIMW 11	4 : 4 : 4	1.40E+02			No	No		Yes	Yes
CADMIUM	RFIMW 11	3 : 4 : 4	4.30E+00				No		Yes	Yes
CHROMIUM	RFIMW 11	4 : 4 : 4	1.10E+02				No		Yes	Yes
COPPER	RFIMW 11	3 : 4 . 4	4.20E+02				No		Yes	Yes
LEAD	RFIMW 11	4 : 4 : 4	2.20E+02						Yes	Yes
MERCURY	RFIMW 11	1 : 1 : 1	1.62E-03				No	No	Yes	Yes
NICKEL	RFIMW 11	3 . 4 : 4	1.30E+02				No		Yes	Yes
TOTAL CYANIDE	RFIMW 11	4 : 4 : 4	5.20E+01						Yes	Yes
VANADIUM	RFIMW 11	3 : 4 : 4	7.90E+01				No		Yes	Yes
ZINC	RFIMW 11	3 . 4 : 4	6.00E+02				No		Yes	Yes
CHLORIDE	RFIMW 12	1 : 1 . 1	7.40E+06						Yes	Yes
CHROMIUM	RFIMW 12	1 : 1 : 1	1.90E+01				No		Yes	Yes
MERCURY	RFIMW 12	1 : 1 : 1	1.45E-02				No	No	Yes	Yes
PHENOL	RFIMW 12	3 : 4 : 4	1.10E+03		No		No	No	Yes	Yes
THALLIUM	RFIMW 12	1 : 1 : 1	5.90E+00				No		Yes	Yes
TOTAL CYANIDE	RFIMW 12	4 : 4 : 4	1.80E+03						Yes	Yes
TOTAL METHYLPHENOL	RFIMW 12	4 . 4 : 4	4.70E+02		No		No	No	Yes	Yes
VANADIUM	RFIMW 12	1 : 1 : 1	4.20E+01				No		Yes	Yes
1,2-DICHLOROETHANE	RFIMW 13	1 : 1 : 1	2.20E+01	No		No		No	Yes	No
1,4-DIOXANE	RFIMW 13	1 : 1 : 1	2.40E+02	No		No		No	Yes	No
CHLORIDE	RFIMW 13	1 : 1 : 1	1.90E+07						Yes	No
CHROMIUM	RFIMW 13	1 : 1 : 1	5.40E+01				No		Yes	No
MERCURY	RFIMW 13	1 . 1 : 1	5.54E-02				No	No	Yes	No
THALLIUM	RFIMW 13	1 : 1 : 1	7.80E+00				No		Yes	No
TOTAL CYANIDE	RFIMW 13	1 : 1 : 1	4.60E+01						Yes	No
TOTAL DISSOLVED SOLIDS	RFIMW 13	1 : 1 : 1	3.10E+07						Yes	No
TOTAL DISSOLVED SOLIDS	RFIMW 14	1 : 1 . 1	7.65E+07						Yes	No
CHLORIDE	RFIMW 15	1 : 1 : 1	1.10E+07						Yes	No
CHROMIUM	RFIMW 15	1 : 1 . 1	2.50E+02				No		Yes	No
COPPER	RFIMW 15	1 : 1 : 1	1.90E+01				No		Yes	No

Table 3-2
Summary of Risk Screening Results
Using Part 201 Criteria
Exceedance List for Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	Area	FOD (b)	Maximum Detected Conc (c)	GVIIC Cancer	GVIIC NonCancer	GCC Cancer	GCC NonCancer	Water Solubility	GSI	GSI Well? (d)
MERCURY	RFIMW 15	1 : 1 : 1	3.06E-03				No	No	Yes	No
NICKEL	RFIMW 15	1 : 1 : 1	1.50E+03				No		Yes	No
THALLIUM	RFIMW 15	1 : 1 : 1	9.60E+00				No		Yes	No
TOTAL CYANIDE	RFIMW 15	1 . 1 : 1	6.90E+01						Yes	No
1,4-DIOXANE	RFIMW 16	1 : 1 : 1	3.90E+01	No		No		No	Yes	No
CHROMIUM	RFIMW 16	1 . 1 . 1	4.00E+01				No		Yes	No
COPPER	RFIMW 16	1 : 1 : 1	1.80E+01				No		Yes	No
PHENOL	RFIMW 16	1 : 1 : 1	3.50E+02		No		No	No	Yes	No
SELENIUM	RFIMW 16	1 . 1 : 1	6.50E+00				No		Yes	No
TOTAL CYANIDE	RFIMW 16	1 : 1 : 1	3.90E+02						Yes	No
VANADIUM	RFIMW 16	1 : 1 : 1	2.00E+02				No		Yes	No
ACETONE	RFIMW 21	1 . 1 1	2.10E+03		No		No	No	Yes	No
1,4-DIOXANE	RFIMW 22	1 : 1 : 1	8.70E+01	No		No		No	Yes	Yes
ACETONE	RFIMW 22	1 : 1 : 1	5.20E+03		No		No	No	Yes	Yes
ARSENIC	RFIMW 22	1 : 1 : 1	1.90E+02			No	No		Yes	Yes
BENZENE	RFIMW 22	1 : 1 : 1	2.30E+03	No		No		No	Yes	Yes
CHLORIDE	RFIMW 22	1 : 1 : 1	8.90E+06						Yes	Yes
CHLOROBENZENE	RFIMW 22	1 : 1 : 1	6.40E+02		No		No	No	Yes	Yes
CHROMIUM	RFIMW 22	1 : 1 : 1	6.10E+01				No		Yes	Yes
COPPER	RFIMW 22	1 . 1 . 1	1.70E+01				No		Yes	Yes
ETHYLBENZENE	RFIMW 22	1 : 1 : 1	5.30E+01	No	No		No	No	Yes	Yes
MERCURY	RFIMW 22	1 . 1 . 1	3.33E-02				No	No	Yes	Yes
PHENOL	RFIMW 22	1 : 1 : 1	2.20E+02		No		No	No	Yes	Yes
TOTAL CYANIDE	RFIMW 22	4 . 4 : 4	4.60E+04						Yes	Yes
TOTAL DISSOLVED SOLIDS	RFIMW 22	1 : 1 : 1	1.50E+07						Yes	Yes
VANADIUM	RFIMW 22	1 : 1 : 1	5.00E+02				No		Yes	Yes
VINYL CHLORIDE	RFIMW 22	1 : 1 : 1	2.80E+02	No	No	No	No	No	Yes	Yes
CHROMIUM	RFIMW 23	3 : 4 : 4	3.50E+01				No		Yes	No
COPPER	RFIMW 23	1 : 4 : 4	2.30E+01				No		Yes	No
FLUORANTHENE	RFIMW 23	1 : 1 : 1	4.50E+00		No		No	No	Yes	No
TOTAL CYANIDE	RFIMW 23	4 : 4 : 4	1.40E+03						Yes	No
TOTAL DISSOLVED SOLIDS	RFIMW 23	1 . 1 . 1	3.20E+06						Yes	No
CHROMIUM	RFIMW 24	6 : 6 : 6	6.20E+02				No		Yes	No

Table 3-2
Summary of Risk Screening Results
Using Part 201 Criteria
Exceedance List for Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	Area	FOD (b)	Maximum Detected Conc (c)	GVIIC Cancer	GVIIC NonCancer	GCC Cancer	GCC NonCancer	Water Solubility	GSI	GSI Well? (d)
COPPER	RFIMW 24	3 : 6 : 6	2.10E+01				No		Yes	No
NICKEL	RFIMW 24	3 : 5 : 5	1.60E+02				No		Yes	No
SELENIUM	RFIMW 24	1 : 6 : 6	6.90E+00				No		Yes	No
TOTAL CYANIDE	RFIMW 24	6 . 6 : 6	6.30E+02						Yes	No
VANADIUM	RFIMW 24	1 : 6 : 6	2.30E+01				No		Yes	No
CHROMIUM	RFIMW 25	6 : 6 : 6	1.40E+03				No		Yes	No
COPPER	RFIMW 25	5 : 6 : 6	6.10E+01				No		Yes	No
LEAD	RFIMW 25	5 : 6 : 6	1.70E+01						Yes	No
NICKEL	RFIMW 25	6 . 6 : 6	2.90E+02				No		Yes	No
TOTAL CYANIDE	RFIMW 25	6 : 6 : 6	5.40E+02						Yes	No
VANADIUM	RFIMW 25	3 . 6 : 6	9.10E+01				No		Yes	No
ZINC	RFIMW 25	4 : 6 : 6	1.90E+02				No		Yes	No
CHLORIDE	RFIMW 26	1 : 1 : 1	1.20E+06						Yes	No
CHROMIUM	RFIMW 26	2 : 2 . 2	5.17E+03				No		Yes	No
COPPER	RFIMW 26	2 : 2 : 2	1.40E+02				No		Yes	No
MERCURY	RFIMW 26	1 . 1 : 2	1.97E-02				No	No	Yes	No
NICKEL	RFIMW 26	2 : 2 : 2	2.46E+03				No		Yes	No
THALLIUM	RFIMW 26	1 : 2 : 2	1 01E+01				No		Yes	No
TOTAL CYANIDE	RFIMW 26	4 . 6 : 6	3 20E+02						Yes	No
TOTAL DISSOLVED SOLIDS	RFIMW 26	1 : 1 : 1	1.24E+07						Yes	No
VANADIUM	RFIMW 26	2 : 2 : 2	2.00E+01				No		Yes	No
ZINC	RFIMW 26	1 : 2 : 2	2.20E+02				No		Yes	No
CHROMIUM	RFIMW 27	6 : 6 : 6	3.50E+01				No		Yes	No
COPPER	RFIMW 27	3 : 6 : 6	5.20E+01				No		Yes	No
SILVER	RFIMW 27	1 : 6 : 6	1.50E+01				No		Yes	No
TOTAL CYANIDE	RFIMW 27	5 : 6 : 6	4.80E+01						Yes	No
VANADIUM	RFIMW 27	1 : 6 : 6	2.30E+01				No		Yes	No
ZINC	RFIMW 27	2 : 6 : 6	3.40E+02				No		Yes	No
ARSENIC	RFIMW 28	6 : 6 : 6	6.90E+01			No	No		Yes	No
CADMIUM	RFIMW 28	5 : 6 : 6	2.80E+00				No		Yes	No
CHROMIUM	RFIMW 28	6 : 6 : 6	5.00E+01				No		Yes	No
COPPER	RFIMW 28	4 : 6 : 6	6.35E+01				No		Yes	No
LEAD	RFIMW 28	5 : 6 : 6	1 51E+01						Yes	No

Table 3-2
Summary of Risk Screening Results
Using Part 201 Criteria
Exceedance List for Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	Area	FOD (b)	Maximum Detected Conc (c)	GVIIC Cancer	GVIIC NonCancer	GCC Cancer	GCC NonCancer	Water Solubility	GSI	GSI Well? (d)
MERCURY	RFIMW 28	2 : 2 . 2	4.31E-03				No	No	Yes	No
TOTAL CYANIDE	RFIMW 28	5 : 6 : 6	1.90E+01						Yes	No
VANADIUM	RFIMW 28	5 . 6 : 6	8.05E+01				No		Yes	No
ZINC	RFIMW 28	4 : 6 : 6	1.45E+02				No		Yes	No
ANTIMONY	RFIMW 29	2 : 6 : 6	7.95E+00				No		Yes	No
CHROMIUM	RFIMW 29	6 : 6 : 6	2.75E+02				No		Yes	No
COPPER	RFIMW 29	4 : 6 . 6	5.00E+01				No		Yes	No
LEAD	RFIMW 29	5 : 6 : 6	1.90E+01						Yes	No
NICKEL	RFIMW 29	5 : 6 : 6	1.10E+03				No		Yes	No
TOTAL CYANIDE	RFIMW 29	5 : 6 . 6	3.30E+01						Yes	No
VANADIUM	RFIMW 29	5 : 6 : 6	5.85E+01				No		Yes	No
ZINC	RFIMW 29	3 : 6 : 6	1.25E+02				No		Yes	No
ARSENIC	WHI1-3S	1 : 1 : 1	8.80E+01			No	No		Yes	No
BENZENE	WHI1-3S	1 : 1 : 1	6 81E+02	No		No		No	Yes	No
CHROMIUM	WHI1-3S	1 : 1 : 1	1 22E+02				No		Yes	No
COPPER	WHI1-3S	1 . 1 : 1	3.80E+01				No		Yes	No
LEAD	WHI1-3S	1 : 1 . 1	1.30E+01						Yes	No
SELENIUM	WHI1-3S	1 . 1 . 1	7.00E+00				No		Yes	No
TOTAL DISSOLVED SOLIDS	WHI1-3S	1 : 1 : 1	5.63E+06						Yes	No
VANADIUM	WHI1-3S	1 : 1 : 1	4.77E+02				No		Yes	No
BIS(2-ETHYLHEXYL) PHTHALATE	WHI2-1S	1 : 1 : 1	8.10E+02	No		Yes	Yes	Yes	Yes	No
CHROMIUM	WHI2-1S	1 . 1 : 1	4.50E+01				No		Yes	No
COPPER	WHI2-1S	1 . 1 . 1	2.20E+01				No		Yes	No
LEAD	WHI2-1S	1 : 1 : 1	1.10E+01						Yes	No
MERCURY	WHI2-1S	1 . 1 : 2	3.71E-03				No	No	Yes	No
TOTAL DISSOLVED SOLIDS	WHI2-1S	1 : 1 : 1	6.97E+05						Yes	No
VANADIUM	WHI2-1S	1 : 1 : 1	2.60E+01				No		Yes	No
CADMIUM	WHI2-2S	1 : 1 : 1	8.00E+00				No		Yes	No
CHROMIUM	WHI2-2S	1 . 1 . 1	6.20E+01				No		Yes	No
COPPER	WHI2-2S	1 : 1 : 1	1.18E+02				No		Yes	No
LEAD	WHI2-2S	1 : 1 : 1	2.39E+02						Yes	No
MERCURY	WHI2-2S	1 : 1 : 1	3.34E+01				No	No	Yes	No
TOTAL DISSOLVED SOLIDS	WHI2-2S	1 : 1 : 1	1.18E+07						Yes	No

Table 3-2
Summary of Risk Screening Results
Using Part 201 Criteria
Exceedance List for Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	Area	FOD (b)	Maximum Detected Conc (c)	GVIIC Cancer	GVIIC NonCancer	GCC Cancer	GCC NonCancer	Water Solubility	GSI	GSI Well? (d)
VANADIUM	WHI2-2S	1 : 1 : 1	7 70E+01				No		Yes	No
ZINC	WHI2-2S	1 : 1 . 1	6.66E+02				No		Yes	No
BIS(2-ETHYLHEXYL) PHTHALATE	WHI2-3S	1 : 1 : 1	1.21E+02	No		No	No	No	Yes	No
TOTAL DISSOLVED SOLIDS	WHI2-3S	1 : 1 : 1	1.04E+06						Yes	No
ARSENIC	WHI3-1S	2 : 2 : 2	1.42E+02			No	No		Yes	No
BIS(2-ETHYLHEXYL) PHTHALATE	WHI3-1S	1 : 1 : 1	8.23E+01	No		No	No	No	Yes	No
CHROMIUM	WHI3-1S	2 : 2 : 2	1.31E+02				No		Yes	No
COPPER	WHI3-1S	2 : 2 : 2	1.48E+02				No		Yes	No
LEAD	WHI3-1S	2 : 2 : 2	2.16E+02						Yes	No
MERCURY	WHI3-1S	2 : 2 : 2	6 00E-01				No	No	Yes	No
NICKEL	WHI3-1S	2 . 2 : 2	1.08E+02				No		Yes	No
TOTAL DISSOLVED SOLIDS	WHI3-1S	1 : 1 : 1	7.53E+05						Yes	No
VANADIUM	WHI3-1S	2 . 2 : 2	2.40E+02				No		Yes	No
ZINC	WHI3-1S	2 : 2 : 2	4.65E+02				No		Yes	No
CHROMIUM	WHI3-2S	1 : 1 : 1	4.20E+01				No		Yes	No
COPPER	WHI3-2S	1 . 1 . 1	2.60E+01				No		Yes	No
DINOSEB	WHI3-2S	1 : 1 : 1	3.44E+00				No	No	Yes	No
LEAD	WHI3-2S	1 . 1 : 1	2.30E+01						Yes	No
MERCURY	WHI3-2S	2 : 2 : 2	2.00E-01				No	No	Yes	No
TOTAL DISSOLVED SOLIDS	WHI3-2S	1 : 1 : 1	3.23E+06						Yes	No
VANADIUM	WHI3-2S	1 : 1 : 1	4.20E+01				No		Yes	No
ZINC	WHI3-2S	1 : 1 : 1	1.79E+02				No		Yes	No
BIS(2-ETHYLHEXYL) PHTHALATE	WHI3-3S	1 : 1 : 1	6 38E+01	No		No	No	No	Yes	No
TOTAL DISSOLVED SOLIDS	WHI3-3S	1 : 1 : 1	2.88E+06						Yes	No
ANTIMONY	WHI4-1S	1 : 2 : 2	5.54E+02				No		Yes	No
ARSENIC	WHI4-1S	1 : 2 : 2	1.03E+02			No	No		Yes	No
BARIUM	WHI4-1S	2 : 2 : 2	7.08E+02				No		Yes	No
CHLORIDE	WHI4-1S	1 : 1 : 1	1 40E+05						Yes	No
CHROMIUM	WHI4-1S	1 : 2 : 2	1.46E+02				No		Yes	No
COPPER	WHI4-1S	2 : 2 . 2	8.69E+03				No		Yes	No
LEAD	WHI4-1S	2 : 2 : 2	5.58E+03						Yes	No
MERCURY	WHI4-1S	2 : 2 : 2	1.02E+01				No	No	Yes	No
NICKEL	WHI4-1S	1 : 2 : 2	8 10E+01				No		Yes	No

Table 3-2
Summary of Risk Screening Results
Using Part 201 Criteria
Exceedance List for Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	Area	FOD (b)	Maximum Detected Conc (c)	GVIIC Cancer	GVIIC NonCancer	GCC Cancer	GCC NonCancer	Water Solubility	GSI	GSI Well? (d)
TOTAL DISSOLVED SOLIDS	WHI4-1S	1 : 1 : 1	2.02E+06						Yes	No
VANADIUM	WHI4-1S	1 : 2 : 2	1.71E+02				No		Yes	No
ZINC	WHI4-1S	1 : 2 : 2	8.11E+02				No		Yes	No
CHROMIUM	WHI4-2S	1 : 1 : 1	3.00E+01				No		Yes	No
COPPER	WHI4-2S	1 : 1 : 1	5.40E+01				No		Yes	No
LEAD	WHI4-2S	1 : 1 : 1	3.16E+02						Yes	No
MERCURY	WHI4-2S	2 : 2 : 2	8.00E-01				No	No	Yes	No
TOTAL DISSOLVED SOLIDS	WHI4-2S	1 : 1 : 1	2.41E+06						Yes	No
VANADIUM	WHI4-2S	1 : 1 : 1	4.20E+01				No		Yes	No
ZINC	WHI4-2S	1 : 1 : 1	2.24E+02				No		Yes	No
ANTIMONY	WHI9-2F	1 : 1 : 2	3.60E+00				No		Yes	No
CADMIUM	WHI9-2F	2 : 2 : 2	2.90E+00				No		Yes	No
CHLORIDE	WHI9-2F	1 : 1 : 1	2.00E+05						Yes	No
CHROMIUM	WHI9-2F	2 : 2 : 2	2.70E+01				No		Yes	No
COPPER	WHI9-2F	2 : 2 : 2	4.09E+02				No		Yes	No
LEAD	WHI9-2F	2 : 2 : 2	1.10E+03						Yes	No
MERCURY	WHI9-2F	2 : 2 : 2	2.00E+00				No	No	Yes	No
NAPHTHALENE	WHI9-2F	1 : 1 : 1	1.79E+01	No	No		No	No	Yes	No
TOTAL DISSOLVED SOLIDS	WHI9-2F	1 : 1 : 1	1.54E+06						Yes	No
VANADIUM	WHI9-2F	2 : 2 : 2	8.30E+01				No		Yes	No
ZINC	WHI9-2F	2 : 2 : 2	5.25E+02				No		Yes	No
BARIUM	WHI9-2S	1 : 1 : 1	5.64E+02				No		Yes	No
MERCURY	WHI9-2S	1 : 1 : 2	4.11E-02				No	No	Yes	No
TOTAL DISSOLVED SOLIDS	WHI9-2S	1 : 1 : 1	8.07E+06						Yes	No

Table 3-2
Summary of Risk Screening Results
Using Part 201 Criteria
Exceedance List for Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	Area	FOD (b)	Maximum Detected Conc (c)	GVIIC Cancer	GVIIC NonCancer	GCC Cancer	GCC NonCancer	Water Solubility	GSI	GSI Well? (d)

Notes:

CAS - Chemical Abstract Service.
GVIIC - Groundwater Volatilization to Indoor Air Inhalation Criteria.
GCC - Groundwater Contact Criteria.
GSI - Groundwter Surface Water Interface.
(a) Only chemicals with at least one positively detected result are reported.
(b) Frequency of detection - Number of detected samples: Number of samples used to calculate statistics: Number of total samples.
(c) Maximum detected concentration for each chemical, after duplicates have been averaged.
(d) Well located at the groundwater-surface water interface (i.e , along the Detroit River).

Table 3-3
Detection Limit Screen - Analytes Never Detected
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	Minimum Detection Limit (b)	Minimum Part 201 Criteria (c)	Part 201 Criteria (d)	Exceeds? (e)
1,1,1,2-TETRACHLOROETHANE	630-20-6	ug/l	1 00E+00	3 16E+02	DWC Cancer	No
1,1,2,2-TETRACHLOROETHANE	79-34-5	ug/l	1.00E+00	3.48E+01	DWC Cancer	No
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	ug/l	1.00E+00	3.20E+01	GSI	No
1,1,2-TRICHLOROETHANE	79-00-5	ug/l	1.00E+00	8.13E+01	DWC NonCancer	No
1,2,3-TRICHLOROPROPANE	96-18-4	ug/l	1.00E+00	1.19E+02	DWC NonCancer	No
1,2,4,5-TETRACHLOROBENZENE	95-94-3	ug/l	3.00E+00	2.90E+00	GSI	Yes
1,2,4-TRICHLOROBENZENE	120-82-1	ug/l	1.00E+00	3.00E+01	GSI	No
1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	ug/l	2.00E+00	2.90E+00	DWC Cancer	No
1,2-DIBROMOETHANE (EDB)	106-93-4	ug/l	1.00E+00	6.10E-02	DWC Cancer	Yes
1,2-DIPHENYLHYDRAZINE	122-66-7	ug/l	1.00E+00	8.40E-01	DWC Cancer	Yes
1,3,5-TRINITROBENZENE	99-35-4	ug/l	3.00E+00	3.00E+01	GSI	No
1,3-DICHLOROBENZENE	541-73-1	ug/l	1 00E+00	1.88E+01	DWC NonCancer	No
1,3-DINITROBENZENE	99-65-0	ug/l	3 00E+00	1 88E+01	DWC NonCancer	No
1,4-DICHLOROBENZENE	106-46-7	ug/l	1 00E+00	1 30E+01	GSI	No
2,3,4,6-TETRACHLOROPHENOL	58-90-2	ug/l	3 00E+00	1 10E+03	DWC NonCancer	No
2,4,5-T	93-76-5	ug/l	2.00E-01	3 00E+01	GSI	No
2,4,5-TRICHLOROPHENOL	95-95-4	ug/l	1 00E+00	2 09E+03	DWC NonCancer	No
2,4,6-TRICHLOROPHENOL	88-06-2	ug/l	1 00E+00	4 40E+00	GSI	No
2,4-D	94-75-7	ug/l	5 00E-01	2 09E+02	DWC NonCancer	No
2,4-DICHLOROPHENOL	120-83-2	ug/l	1 00E+00	1.90E+01	GSI	No
2,4-DINITROPHENOL	51-28-5	ug/l	7.00E+00	1.90E+01	GSI	No
2,4-DINITROTOLUENE	121-14-2	ug/l	1.00E+00	3.16E+01	DWC Cancer	No
2,6-DINITROTOLUENE	606-20-2	ug/l	1.00E+00	3.16E+01	DWC Cancer	No
2-CHLORO-1,3-BUTADIENE	126-99-8	ug/l	1.00E+00	1.40E+01	DWC NonCancer	No
2-CHLORONAPHTHALENE	91-58-7	ug/l	1.00E+00	5.21E+03	DWC NonCancer	No
2-CHLOROPHENOL	95-57-8	ug/l	1.00E+00	2.20E+01	GSI	No
2-NITROANILINE	88-74-4	ug/l	3 00E+00	1 10E+02	DWC NonCancer	No
2-NITROPHENOL	88-75-5	ug/l	1.00E+00	5.84E+01	DWC NonCancer	No
3,3'-DICHLOROBENZIDINE	91-94-1	ug/l	1.00E+00	3 00E-01	GSI	Yes
3,3'-DIMETHYLBENZIDINE	119-93-7	ug/l	3.00E+00	2.90E-01	DWC Cancer	Yes
3-CHLOROPROPENE	107-05-1	ug/l	2.00E+00	3.48E+01	DWC Cancer	No
3-NITROANILINE	99-09-2	ug/l	3 00E+00	3 20E+01	DWC Cancer	No
4,4'-DDD	72-54-8	ug/l	1.00E-01	3 70E+01	DWC Cancer	No
4,4'-DDE	72-55-9	ug/l	1 00E-01	1.46E+01	DWC NonCancer	No
4,4'-DDT	50-29-3	ug/l	1.00E-01	2.00E-02	GSI	Yes
4,6-DINITRO-2-METHYLPHENOL	534-52-1	ug/l	7.00E+00	7.30E+00	DWC NonCancer	No
4-BROMOPHENYL PHENYL ETHER	101-55-3	ug/l	1.00E+00	3.00E+01	Water Solubility	No
4-CHLORO-3-METHYLPHENOL	59-50-7	ug/l	1.00E+00	7.40E+00	GSI	No
4-CHLOROANILINE	106-47-8	ug/l	1.00E+00	1.50E+02	DWC NonCancer	No
4-CHLOROPHENYL PHENYL ETHER	7005-72-3	ug/l	1 00E+00	3.00E+01	Water Solubility	No
4-NITROANILINE	100-01-6	ug/l	5.00E+01	3.20E+01	DWC Cancer	Yes
4-NITROPHENOL	100-02-7	ug/l	7.00E+00	5.84E+01	DWC NonCancer	No
5-NITRO-O-TOLUIDINE	99-55-8	ug/l	3.00E+00	6.21E+01	DWC Cancer	No
7,12-DIMETHYLBENZ(A)ANTHRACENE	57-97-6	ug/l	3.00E+00	8 48E+00	DWC Cancer	No
A,A-DIMETHYLPHENETHYLAMINE	122-09-8	ug/l	3 00E+00	3.60E+01	DWC NonCancer	No
ACENAPHTHYLENE	208-96-8	ug/l	1.00E+00	1 48E+02	DWC NonCancer	No

Table 3-3
Detection Limit Screen - Analytes Never Detected
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	Minimum Detection Limit (b)	Minimum Part 201 Criteria (c)	Part 201 Criteria (d)	Exceeds? (e)
ACETONITRILE	75-05-8	ug/l	2 00E+00	3.96E+02	DWC NonCancer	No
ACROLEIN	107-02-8	ug/l	1.00E+01	3.34E+02	DWC NonCancer	No
ACRYLONITRILE	107-13-1	ug/l	9.00E+00	4 90E+00	GSI	Yes
ALDRIN	309-00-2	ug/l	5.00E-02	1 00E-02	GSI	Yes
ALPHA-BHC	319-84-6	ug/l	5.00E-02	1.74E+00	DWC Cancer	No
ALPHA-CHLORDANE	5103-71-9	ug/l	5.00E-02	9.93E+00	DWC Cancer	No
ANILINE	62-53-3	ug/l	3 00E+00	4.00E+00	GSI	No
ANTHRACENE	120-12-7	ug/l	1 00E+00	4.34E+01	Water Solubility	No
AROCLOR 1016	12674-11-2	ug/l	5.00E-01	2 00E-01	GSI	Yes
AROCLOR 1221	11104-28-2	ug/l	5.00E-01	2 00E-01	GSI	Yes
AROCLOR 1232	11141-16-5	ug/l	5.00E-01	2.00E-01	GSI	Yes
AROCLOR 1242	53469-21-9	ug/l	5.00E-01	2.00E-01	GSI	Yes
AROCLOR 1248	12672-29-6	ug/l	5.00E-01	2.00E-01	GSI	Yes
AROCLOR 1254	11097-69-1	ug/l	1.00E+00	2.00E-01	GSI	Yes
AROCLOR 1260	11096-82-5	ug/l	1.00E+00	2.00E-01	GSI	Yes
BENZO(A)PYRENE	50-32-8	ug/l	1.00E+00	6 42E-01	GCC Cancer	Yes
BENZO(B & K)FLUORANTHENES	BENZOBK	ug/l	4.00E+00	1 50E+00	Water Solubility	Yes
BENZO(B)FLUORANTHENE	205-99-2	ug/l	3.00E+00	1 50E+00	Water Solubility	Yes
BENZO(GHI)PERYLENE	191-24-2	ug/l	1.00E+00	2 60E-01	Water Solubility	Yes
BENZO(K)FLUORANTHENE	207-08-9	ug/l	5.00E+00	8.00E-01	Water Solubility	Yes
BENZOIC ACID	65-85-0	ug/l	1.00E+00	9 18E+04	DWC NonCancer	No
BENZYL ALCOHOL	100-51-6	ug/l	1 00E+00	2.92E+04	DWC NonCancer	No
BETA-BHC	319-85-7	ug/l	5.00E-02	3 58E+00	DWC Cancer	No
BROMOFORM	75-25-2	ug/l	1.00E+00	3.75E+02	DWC NonCancer	No
BROMOMETHANE	74-83-9	ug/l	1.00E+00	2.92E+01	DWC NonCancer	No
CARBAZOLE	86-74-8	ug/l	1 00E+00	1.00E+01	GSI	No
CARBON TETRACHLORIDE	56-23-5	ug/l	1.00E+00	1.48E+01	DWC NonCancer	No
CHLORDANE	57-74-9	ug/l	5.00E-01	9.93E+00	DWC Cancer	No
CHLOROBENZILATE	510-15-6	ug/l	1.00E+01	2 50E+00	DWC Cancer	Yes
CHLORODIBROMOMETHANE	124-48-1	ug/l	1 00E+00	7.09E+01	DWC Cancer	No
CHLOROETHANE	75-00-3	ug/l	1.00E+00	1.74E+03	DWC Cancer	No
CHRYSENE	218-01-9	ug/l	1 00E+00	1.60E+00	Water Solubility	No
CIS-1,2-DICHLOROETHENE	156-59-2	ug/l	1.00E+00	2.29E+02	DWC NonCancer	No
CIS-1,3-DICHLOROPROPENE	10061-01-5	ug/l	1 00E+00	3.48E+01	DWC Cancer	No
DELTA-BHC	319-86-8	ug/l	5.00E-02	1.74E+00	DWC Cancer	No
DIALLATE	2303-16-4	ug/l	1 00E+01	1.10E+01	DWC Cancer	No
DIBENZ(A,H)ANTHRACENE	53-70-3	ug/l	1.00E+00	3.11E-01	GCC Cancer	Yes
DIBROMOMETHANE	74-95-3	ug/l	1.00E+00	2.29E+02	DWC NonCancer	No
DICHLORODIFLUOROMETHANE	75-71-8	ug/l	1.00E+00	4 80E+03	DWC NonCancer	No
DIELDRIN	60-57-1	ug/l	1.00E-01	2.00E-02	GSI	Yes
DIMETHOATE	60-51-5	ug/l	2.00E+02	7.30E+00	DWC NonCancer	Yes
DIMETHYL PHTHALATE	131-11-3	ug/l	3.00E+00	2.09E+05	DWC NonCancer	No
DI-N-BUTYL PHTHALATE	84-74-2	ug/l	1.00E+00	9.70E+00	GSI	No
DI-N-OCTYL PHTHALATE	117-84-0	ug/l	3.00E+00	3 75E+02	DWC NonCancer	No
DIPHENYLAMINE	122-39-4	ug/l	3.00E+00	9.10E+02	DWC NonCancer	No
ENDOSULFAN I	959-98-8	ug/l	5 00E-02	3.00E-02	GSI	Yes

Table 3-3
Detection Limit Screen - Analytes Never Detected
Groundwater
BASF Wyandotte, MI Facility

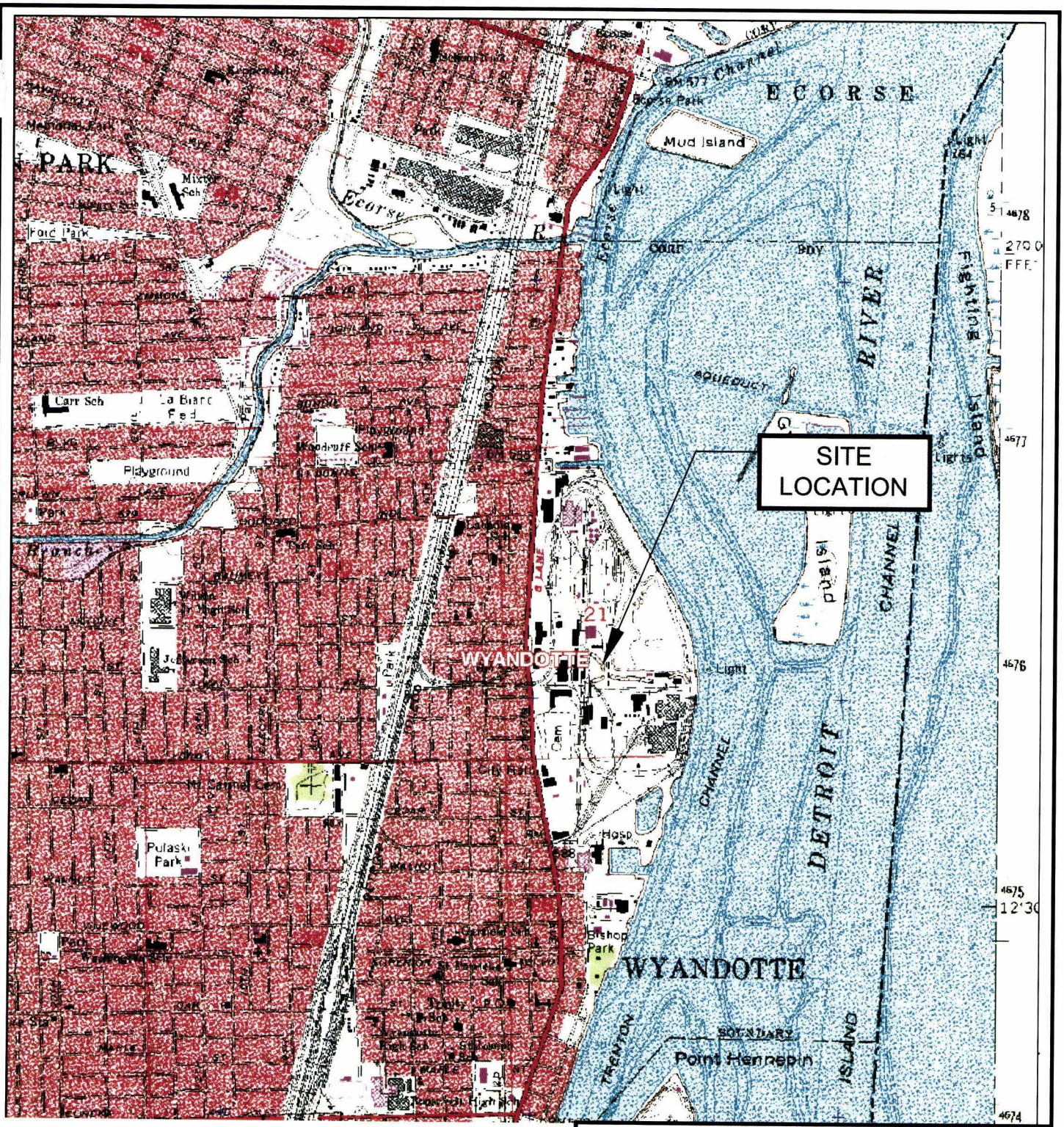
Chemical (a)	CAS	Units	Minimum Detection Limit (b)	Minimum Part 201 Criteria (c)	Part 201 Criteria (d)	Exceeds? (e)
ENDOSULFAN II	33213-65-9	ug/l	1.00E-01	3.00E-02	GSI	Yes
ENDOSULFAN SULFATE	1031-07-8	ug/l	1.00E-01	3 00E-02	GSI	Yes
ENDRIN	72-20-8	ug/l	1 00E-01	3.55E+00	DWC NonCancer	No
ENDRIN ALDEHYDE	7421-93-4	ug/l	1 00E-01	3.55E+00	DWC NonCancer	No
ETHYL METHACRYLATE	97-63-2	ug/l	1.00E+00	5.50E+02	DWC NonCancer	No
FLUORENE	86-73-7	ug/l	1.00E+00	1.20E+01	GSI	No
GAMMA-BHC (LINDANE)	58-89-9	ug/l	5 00E-02	3.00E-02	GSI	Yes
GAMMA-CHLORDANE	5103-74-2	ug/l	5.00E-02	9.93E+00	DWC Cancer	No
HEPTACHLOR	76-44-8	ug/l	5.00E-02	1.00E-02	GSI	Yes
HEPTACHLOR EPOXIDE	1024-57-3	ug/l	5.00E-02	1.77E-01	DWC NonCancer	No
HEXACHLOROBENZENE	118-74-1	ug/l	1.00E+00	2.00E-01	GSI	Yes
HEXACHLOROBUTADIENE	87-68-3	ug/l	1.00E+00	5.00E-02	GSI	Yes
HEXACHLOROCYCLOPENTADIENE	77-47-4	ug/l	1.00E+00	1.25E+02	DWC NonCancer	No
HEXACHLOROETHANE	67-72-1	ug/l	1 00E+00	6.70E+00	GSI	No
HEXACHLOROPROPENE	1888-71-7	ug/l	3 00E+00	3.48E+01	DWC Cancer	No
INDENO(1,2,3-CD)PYRENE	193-39-5	ug/l	1 00E+00	2.20E-02	Water Solubility	Yes
ISODRIN	465-73-6	ug/l	5 00E-02	1.00E-02	GSI	Yes
ISOPHORONE	78-59-1	ug/l	1.00E+00	5.70E+02	GSI	No
KEPONE	143-50-0	ug/l	1 00E+00	8 40E-02	DWC Cancer	Yes
M & P CRESOLS	MPCRESOL	ug/l	1.00E+00	7.10E+01	GSI	No
METHOXYCHLOR	72-43-5	ug/l	5.00E-01	4.50E+01	Water Solubility	No
METHYL ACETATE	79-20-9	ug/l	1.00E+01	6.10E+03	DWC NonCancer	No
METHYL METHACRYLATE	80-62-6	ug/l	1.00E+00	1.40E+03	DWC NonCancer	No
METHYL TERT-BUTYL ETHER	1634-04-4	ug/l	5.00E+00	6.88E+02	DWC NonCancer	No
NITROBENZENE	98-95-3	ug/l	3 00E+00	9.59E+00	DWC NonCancer	No
N-NITROSODIETHYLAMINE	55-18-5	ug/l	3.00E+00	4.50E-03	DWC Cancer	Yes
N-NITROSODIMETHYLAMINE	62-75-9	ug/l	1 00E+00	1.30E-02	DWC Cancer	Yes
N-NITROSODI-N-BUTYLAMINE	924-16-3	ug/l	3.00E+00	2.00E-02	DWC Cancer	Yes
N-NITROSODI-N-PROPYLAMINE	621-64-7	ug/l	1.00E+00	7.72E-01	DWC Cancer	Yes
N-NITROSODIPHENYLAMINE	86-30-6	ug/l	1 00E+00	1.12E+03	DWC Cancer	No
N-NITROSOMETHYLETHYLAMINE	10595-95-6	ug/l	3.00E+00	3.10E-02	DWC Cancer	Yes
N-NITROSOPIPERIDINE	100-75-4	ug/l	3.00E+00	9.18E+00	DWC NonCancer	No
N-NITROSOPYRROLIDINE	930-55-2	ug/l	3.00E+00	3 20E-01	DWC Cancer	Yes
O-TOLUIDINE	95-53-4	ug/l	3.00E+00	6 21E+01	DWC Cancer	No
PARATHION	56-38-2	ug/l	7.00E+00	5 21E+00	DWC NonCancer	Yes
P-DIMETHYLAMINOAZOBENZENE	60-11-7	ug/l	3.00E+00	9.40E+01	DWC Cancer	No
PENTACHLOROBENZENE	608-93-5	ug/l	3.00E+00	5.00E+00	GSI	No
PENTACHLORONITROBENZENE	82-68-8	ug/l	3.00E+00	3 20E+01	Water Solubility	No
PENTACHLOROPHENOL	87-86-5	ug/l	1.00E+00	1.80E+00	GSI	No
P-PHENYLENEDIAMINE	106-50-3	ug/l	3.00E+00	6.90E+03	DWC NonCancer	No
PRONAMIDE	23950-58-5	ug/l	3.00E+00	2.70E+03	DWC NonCancer	No
PROPIONITRILE	107-12-0	ug/l	2.00E+00	5.20E+00	GSI	No
PROPYLENE GLYCOL	57-55-6	ug/L	1.00E+04	2.90E+05	GSI	No
TIN	7440-31-5	ug/L	5.00E+00	2.20E+04	DWC NonCancer	No
TOXAPHENE	8001-35-2	ug/l	1.20E+00	1.00E+00	GSI	Yes
TRANS-1,2-DICHLOROETHENE	156-60-5	ug/l	1.00E+00	3.55E+02	DWC NonCancer	No

Table 3-3
Detection Limit Screen - Analytes Never Detected
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	Minimum Detection Limit (b)	Minimum Part 201 Criteria (c)	Part 201 Criteria (d)	Exceeds? (e)
TRANS-1,3-DICHLOROPROPENE	10061-02-6	ug/l	1.00E+00	3.48E+01	DWC Cancer	No
TRANS-1,4-DICHLORO-2-BUTENE	110-57-6	ug/l	1.00E+00	1.20E-02	DWC Cancer	Yes
TRICHLOROFLUOROMETHANE	75-69-4	ug/l	1.00E+00	7.30E+03	DWC NonCancer	No
VINYL ACETATE	108-05-4	ug/l	2.00E+00	1.84E+03	DWC NonCancer	No

Notes:

CAS - Chemical Abstract Service.
(a) Only chemicals that were never detected at the site are reported.
(b) Minimum detection limit at the site.
(c) Minimum (most stringent) of Part 201 Criteria
(d) Part 201 Criteria used.
(e) Chemicals where minimum detection limits exceed the Part 201 criteria.



Source: USGS 7½ Minute Topographic Quadrangle, Wyandotte, Michigan. Dated 1981.

N

0 2000 4000

SCALE IN FEET

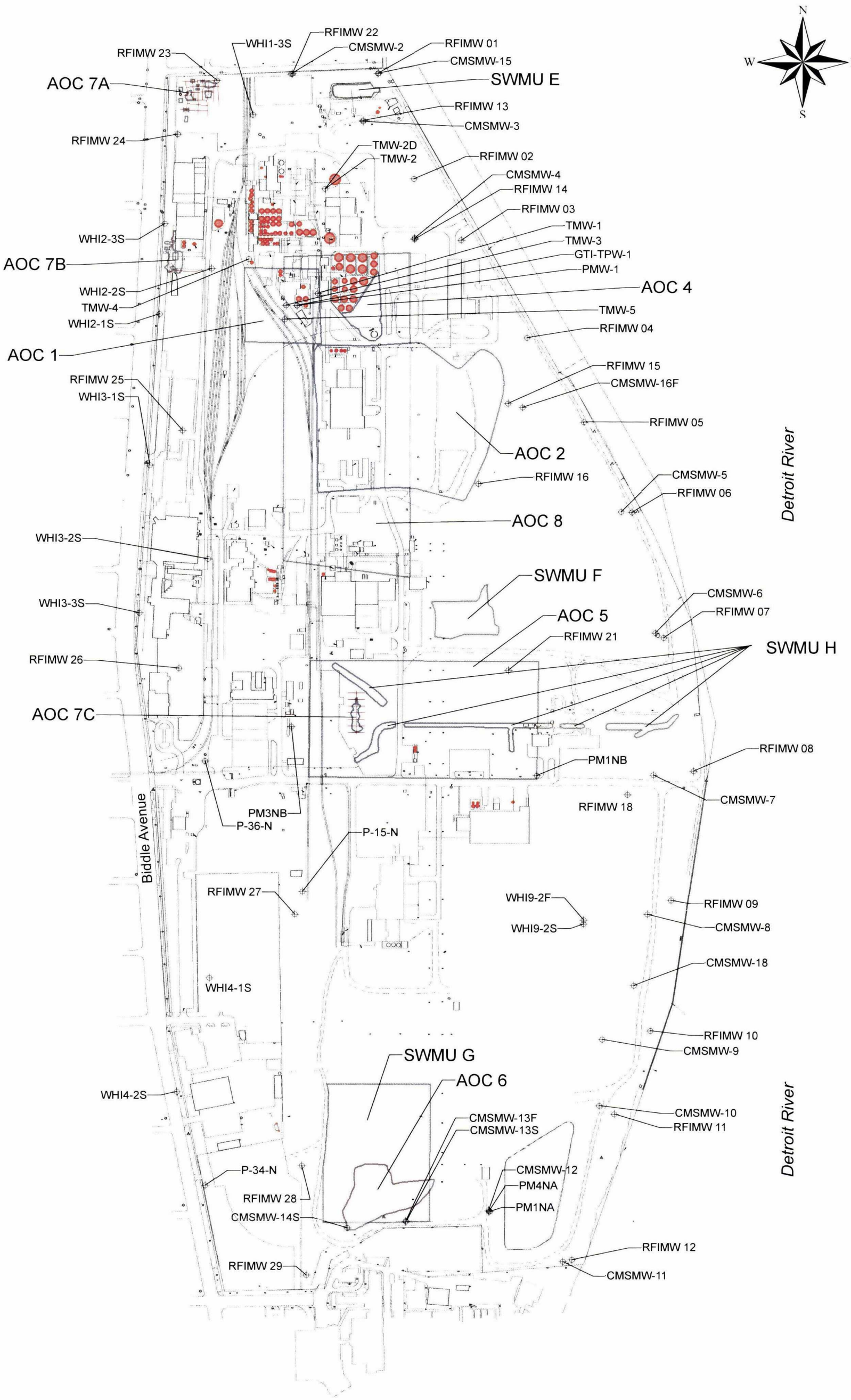
FIGURE 1

ENSR® INTERNATIONAL

CONSULTING • ENGINEERING • REMEDIATION

SITE LOCATION MAP
BASF- NORTHWORKS FACILITY
1609 BIDDLE AVENUE
WYANDOTTE, MI 48192

DRAWN BY: JG	DATE: 06/01/04	PROJECT No.:	
APPROVED BY: PE	REVISED:		



Legend

- Site Outline
- Fenceline
- Building/Structure
- Storage Tank
- Perimeter Assessment Trench
- Monitoring Well Location
- Solid Waste Management Unit (SWMU)
- Area of Concern (AOC)

DRAWN BY: MJC	DATE: 04/05
MODIFIED BY:	DATE:
CHECKED BY: BR	DATE: 04/05
COST/SCHED.-AREA	
SCALE: 1:5,400	

LOCATIONS OF SWMU/AOC AND MONITORING WELLS

BASF-WYANDOTTE FACILITY
WYANDOTTE, MICHIGAN

CONTRACT NO.	OWNER NO.
APPROVED BY: BR	DATE: 04/05
APPROVED BY:	DATE:
FIGURE NO.: 2	REV.

J:\Indl_Service\Project Files\BASF-0760\Wyandotte\GIS\Project\Basemap.mxd

APPENDIX A

USEPA COMMENT LETTERS

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

RECEIVED
FEB 08 2005
QUALITY &
ECOLOGY SERVICES DEPT

REPLY TO THE ATTENTION OF: DE-9J

February 4, 2005

Mr. Bruce Roberts
BASF Corporation
1609 Biddle Avenue
Wyandotte, Michigan 48192

Dear Mr. Roberts:

The USEPA has reviewed the BASF Corporation, Wyandotte, Michigan, "Risk Screening Work Plan" for the Wyandotte, Michigan Site dated December 2004. The work undertaken in accordance with the workplan will be completed by your consultants, ENSR International. The USEPA believes that the work plan adequately addresses the concerns raised in its correspondence to you dated May 2004 that centered on USEPA's review of the BASF's Corporation Baseline or Preliminary Human Health Risk Assessment completed as part of the Final Phase I RFI Report. As indicated in the work plan and consistent with the concerns raised by USEPA, BASF's proposed approach to address the deficiencies of the Preliminary Human Health Risk Assessment by following the State of Michigan's Part 201 Generic Criteria is acceptable. Since the data to be used in this analysis has already been collected as part of the Phase I RFI and will be screened against the Michigan Part 201 criteria, the Quality Assurance Project Plan should be updated to reflect these changes. BASF and/or its Consultant, ENSR International, should also verify that the detection limits of all analyzed constituents in soil and groundwater are below the most stringent media specific Part 201 screening criteria.

Additionally, because the RCRA Corrective Action Program at Region 5 has identified that the toxicity values for some of the chemicals in the Part 201 Soil Screening and Clean Up Criteria have not been updated, more specifically, arsenic, PCB, benzopyrene, benzo(b)fluoranthene, benzo(K)fluoranthene, dibenzanthracene and indeno(1,2,3-cd)pyrene, it is requested that BASF use the 1E-05 based Region 9 PRG screening criteria for these chemicals. Further, in accordance with the Part 201 Generic Cleanup Criteria Guidance (MDEQ, 2002), site specific background concentrations should not be subtracted from the Individual SWMU/AOCs during the initial site screening evaluation. USEPA is suggesting this modification be made in lieu of the last paragraph taken from page 1-2, "Screening Criteria", of Section 1.1.1. The cumulative risk screening approach for the above mentioned chemicals should also use Region 9 PRG's instead of Part 201 screening criteria to generate a constituent-specific ratio, as specified in Section 1.1.2 of the "Risk Screening Work Plan". The USEPA is hopeful that the proposed risk screening methodology as outlined in the "Risk Screening Work Plan" will provide the tool needed to conduct an Environmental Indicator 725 analysis, i.e., Current Human Exposures Under Control (EI 725) for the BASF Corporation, Wyandotte Facility as required under the

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Government Performance and Results Act of 1993 (GPRA). The USEPA will continue to evaluate all of the existing data pertaining to the BASF Corporation, Wyandotte, Michigan Facility, with the objective of identifying potential data needs necessary in meeting the requirements of both the GPRA EI 725 and EI 750 (Migration of Groundwater Under Control) as well as completing the Corrective Measures Study Report in order to identify and evaluate remedial alternatives for the corrective action at the BASF Corporation Site.

Consistent with Section IX. of the 3008 (h) Administrative Order on Consent, dated February 1994, the BASF Corporation shall implement and complete the task as outlined in the December 2004, "Risk Screening Work Plan" and submit to USEPA a summary report by March 15, 2005.

If you have any questions or comments, please don't hesitate to contact me at (312) 886-6010.

Sincerely,

Juan Thomas, MPH
Environmental Scientist

cc:

Bhooma Sundar, USEPA
Reginald Pallesen, USEPA, ORC
Beth Vens, MDEQ
Jon Russell, MDEQ
Timothy Adams, ENSR International

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF
DE-9J

MAR 1 0 2005

Mr. Bruce Roberts
BASF Corporation
1609 Biddle Avenue
Wyandotte, Michigan 48192

Re: Risk Screening Work Plan
Conference Call Meeting of March 4, 2005

Dear Mr. Roberts:

The United States Environmental Protection Agency (USEPA) has considered your request to apply the Michigan Part 201 Soil Screening and Cleanup Criteria for the seven constituents previously identified in our February 4, 2005 letter correspondence to you, more specifically, arsenic, PCB, benzopyrene, benzo(b)fluoranthene, benzo(K)fluoranthene, dibenzanthracene and indeno(1,2,3-cd)pyrene. After further discussions of this issue amongst our Regional Toxicologist and BASF Corporation's Consultant Toxicologist, your approach as outlined in the work plan to compute a constituent-specific ratio and subsequent cumulative risk appear to satisfy our concerns of an appropriate risk screening methodology. However, USEPA reserves its discretion to apply the USEPA Region 9 Preliminary Remediation Goals (PRG's) as appropriate screening tools for data analysis relative to an evaluation of an Environmental Indicator 725, i.e., Current Human Exposures Under Control (EI 725) as required under the Government Performance and Results Act of 1993 (GPRA) as well as part of the selection criteria for a final remedy for the BASF Corporation, Wyandotte, Michigan Facility. Additionally, the USEPA is continuing to evaluate all of the existing data with the objective of identifying potential data needs necessary in meeting the requirements of an EI 750 Determination, (Migration of Groundwater Under Control) as well as completing the Corrective Measures Study Report. A letter correspondence addressing these issues if any will be forthcoming.

As agreed, and consistent with Section IX of the 3008 (h) Administrative Order on Consent, dated February 1994, the BASF Corporation will implement and complete the task as outlined in the December 2004, "Risk Screening Work Plan" and submit to USEPA a summary report by April 4, 2005. Lastly, upon completion and submittal of the "Risk Screening Work Plan Summary Report," the USEPA is requesting a meeting (date and time TBA) to be held here at Region V, whereby the BASF Corporation will present their findings and conclusions from the Risk Screening Work Plan Summary Report, RFI, and provide some perspective on current conditions and possible remedial alternatives.

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If you have any questions or comments, please don't hesitate to contact me at (312) 886-6010.

Sincerely,

Juan Thomas, MPH
Environmental Scientist

cc: Bhooma Sundar, DE-9J
Reginald Pallesen, C-14J
Beth Vens, MDEQ
Betsy Ruffle, ENSR International
Timothy Adams, ENSR International

APPENDIX B

CITY OF WYANDOTTE PLUMBING CODE

Chapter 29

PLUMBING AND GAS*

Art. I. In General, §§ 29-1—29-20
Art. II. Plumbing Code, §§ 29-21—29-30
Art. III. Gas, §§ 29-31—29-40
Art. IV. Sewers, §§ 29-41—29-48

ARTICLE I. IN GENERAL

Secs. 26-1—26-20. Reserved.

ARTICLE II. PLUMBING CODE†

Sec. 29-21. Short title.

This article shall be known as and may be cited as the Plumbing Code of the City of Wyandotte.
(Ord. No. 887, § 1, 7-23-90)

Sec. 29-22. Adopted.

A certain document, one (1) copy of which is on file in the office of the city clerk of the City of Wyandotte, Michigan, being marked and designated as The BOCA National Plumbing Code/1990 (Eighth) Edition, is hereby referred to, adopted and made a part hereof, as if fully set out in this article, with the additions, insertions, deletions, and changes, if any, prescribed in section 29-33 of this article.
(Ord. No. 887, § 1, 7-23-90)

State law reference—Adoption of technical codes by reference, MCL § 117.3(K), MSA § 5.2073(K).

***Charter reference**—Power to city to provide for building regulations, § 4.

Cross references—Authority of certain inspectors to issue appearance tickets, § 2-3; building code, Ch. 7; swimming pools, Ch. 33; water and sewers, Ch. 38.1.

State law reference—State construction code act, MCL § 125.1501 et seq., MSA § 5.2949(1) et seq.

†**Editor's note**—Nonamendatory Ord. No. 887, §§ 1—3, adopted July 23, 1990, has been included herein as superseding former Art. II, §§ 29-21—29-25, at the discretion of the editor. Former Art. II pertained to similar subject matter and derived from Ord. No. 812, §§ 1—3, adopted March 23, 1987; Ord. No. 836, § 1, adopted March 21, 1988; and Ord. No. 915, § 1, adopted Aug. 19, 1991.

Sec. 29-23. Amendments.

The following sections of the BOCA Basic National Plumbing Code/1990 (Eighth) Edition are hereby revised to read as follows:

Article 1. Administration and Enforcement:

Section P.100.1. Title: These regulations shall be known as the Plumbing Code of the City of Wyandotte hereinafter referred to as "this code."

Section P-104.1. Delete and substitute the following:

Section P-104.1. Continuation. The legal use and occupancy of any structure existing on the effective date of enforcement, or for which it has been heretofore approved, may be continued without change, except as may be specifically covered in this code or deemed necessary by the code official for the general safety and welfare of the occupants and the public.

Section P-109.1. Delete and substitute the following:

Section P-109.1. General. The executive official in charge of plumbing inspection shall be designated the code official for the purpose of this code.

Section P-110.2. Delete and substitute the following:

Section P-110.2. Applications and permits. No person shall make any connection, alteration or extension to the water mains, service pipe, water system, or with the sewers or sewer system in the City of Wyandotte without first obtaining a permit from the city engineer, as hereinafter provided, and complying in all other respects with the provisions of this code.

Section P-111.3. Delete and substitute the following:

Section P-111.3. By whom application is made. Application shall be made by a licensed plumbing contractor.

Exception. A homeowner who meets the following requirements: A bona fide owner of a single family residence which is, or will be on completion, his or her place of residence, for two (2) years and no part of which is used for rental or commercial purposes, nor is now contemplated for such purpose, may do his or her own work, providing he or she applies for and secures a permit, pays the fee, does the work himself or herself in accordance with the provisions hereof, applies for inspections and receives approval of the work by the code official. An owner of existing rental property may install garbage disposals and laundry trays, or perform minor repairs for which no permit is required. Providing all other requirements of this section and code are complied with. Failure to comply with these requirements will subject the owner's permit to cancellation.

Section P-112.4.1. is added to read as follows:

Section P-112.4.1. Prior approvals. Plans submitted for approval for hospitals, nursing homes, and homes for the aged shall be approved by the department of public health or the

licensing or certifying agency having jurisdiction, or both, prior to submission to the administrative authority.

Section P-114.1.1. is added to read as follows:

Section P-114.1.1. Approved use. The code official shall not issue a permit for any alterations or additions to the plumbing installation on any property or structure until a certificate of occupancy or use as required by the zoning ordinance has been issued or until an application for an existing use or proposed change showing conformance to the zoning ordinance has been made for the same.

Section P-114.2. Fee schedule. The permit fees for all plumbing work shall be as indicated in the following schedule:

Minimum fee	$ 20.00
Stack, soil, waste vent, (each)	5.00
Inside conductor, (each)	5.00
Conductor, (each)	4.00
Storm and seepage drains	5.00
Water closet	4.00
Bath	4.00
Lavatory	4.00
Shower	4.00
Sink, all descriptions	4.00
Sump, all descriptions	5.00
Urinal	4.00
Fountain, all descriptions	4.00
Floor drain tap	4.00
Garbage grinder	4.00
Hot water heater, tank, new and replaced	4.00
Pump or interceptor	5.00
Laundry tray	4.00
Dishwasher	4.00
Bar waste, soda fountain or refrigerator (each outlet)	4.00
Auto laundry machine	5.00
Water service inspection	15.00
Sewer connection permits	30.00
Extra inspection or reinspection, (each)	20.00
Manhole and catch basin	15.00
Backflow preventers	5.00
Grease trap	5.00
Replacement of sewer crock to iron	15.00
Sewer pipe new or replacement	30.00
Water distribution—Based on the size of distribution at meter in inches	
3/4 and 1	15.00

1¼ and 1½	20.00
2	25.00
2½	30.00
3	35.00
4	40.00
Exceeding 4	45.00
Registration of master plumber's license	1.00
Registration of journeyman plumber's license	.50
Registration of master plumber's business	15.00

Late Fee. If a permit is not obtained before the work is started, a late fee of one hundred dollars ($100.00) will be charged in addition to the regular permit.

Section P-117.4. Penalties. Insert Misdemeanor, five hundred dollars ($500.00), and ninety (90) days.

Section P-118.1. is amended to read as follows:

Section P-118.1. Notice. Upon notice from the code official that any plumbing work on any building or structure, or plumbing systems therein, or adjacent thereto is being prosecuted contrary to the provisions of this code or in an unsafe and dangerous manner, such work shall be stopped. The stop work order shall be in writing and shall be given to the owner of the property involved, or to the owner's agent, or to the person doing the work.

Section P-118.2. Unlawful continuance. Insert one hundred dollars ($100.00) and five hundred dollars ($500.00).

Section P-122.2.1. Delete and substitute the following:

Section P-122.2.1. Qualifications. The five (5) members may consist of the city engineer, registered building official, resident plumbing contractor, resident licensed professional engineer or architect. No more than two (2) members shall be from the same profession or occupation.

Article 3. General Regulations.

Section P-303.0. Delete entire section and substitute the following:

Section P-303.0. Connection to public water and sewer system required.

Section P-303.1. General. The water distribution and drainage system of any building in which plumbing fixtures are installed shall be connected to a public water main and sewer, respectively.

Exception. Rainwater shall be disposed of in a manner approved by the code official.

Section P-308.3. is amended to read as follows:

Section P-308.3. Freezing. Water service piping shall be installed below grade as follows:

1. Four and one-half (4½) feet below pavement
2. Four (4) feet below final grade
3. Six (6) feet below unpaved streets and six (6) feet below surface of earth where final grades have not been established.

Section P-308.4. Sewer depth. Delete and substitute the following:

Section P-308.4. Sewer depth. Building sewers shall be installed below recorded frost penetration.

Section P-313.0. is added to read as follows:

Section P-313.0. Sewer pipe/tap.

Section P-313.1. Requirements. A contractor will be permitted to replace or repair only existing sewer pipe from five (5) foot outside of foundation walls to the main sewer including the replacement of the tap on the main sewer.

A homeowner who meets the requirements of section P-111.3. of this code will be permitted to work on his/her own sewer pipe including the tap on the main sewer.

Section P-313.2. Permit and inspection. Work shall not commence until a permit for such work has been issued. Inspection is required before any work is covered.

Section P-313.3. Specifications. A homeowner and contractor will be required to perform all work in accordance with the specifications and applicable requirements as outlined by the city engineer. Said specifications and requirements are available at the office of the city engineer.

Section P-313.4. Bond requirements. Before any contractor (excluding homeowner and Master Plumbers) performs any work in the City of Wyandotte on sewers he/she must provide the City of Wyandotte with a bond in the amount of five thousand dollars ($5,000.00) which shall be known as a sewer bond and approved by the department of legal affairs.

Section P-313.5. Street/Alley Excavation. Before any homeowner, contractor, master plumber, or any individual opens any paved street, alley or sidewalk within the City of Wyandotte they are required to file a cash bond set by the city engineer for the replacement of said pavement. Said bond to cover replacement of pavement, in the event the permit holder fails to do so. Said pavement shall be replaced in accordance with the specifications as set forth by the city engineer.

Article 5. Joints and Connections.

Section P-500.7. is added to read as follows:

Section P-500.7. Underground copper water service. In all cases on underground copper water services, approved flared or compression fittings must be used. In no case shall the use of a sweat or soldered fitting be permitted.

Section P-518.1. is amended to read as follows:

Section P-518.1. General. The following types of joints and connections shall be prohibited:

(a) Cement or concrete joints.

(b) Mastic or hot-pour bituminous joints.

(c) The use of fittings not approved for the specific installation.

(d) Solvent cement joints between different types of plastic pipe.

(e) Saddle fittings and connections.

(f) Running threads, bands, drilling, tapping, welded connections.

Article 6. Sanitary Drainage Systems.

Section P-601.4. is added to read as follows:

Section P-601.4. Offsets in building drains. Offsets in building drains of piping or fittings exceeding a distance of thirty-six (36) inches, which makes an angle of forty-five (45) degrees or less with the vertical, shall change the status of the building drain to that of a stack.

Section P-601.5. is added to read as follows:

Section P-601.5. Water closet discharge. Water closets shall discharge into not less than three-inch piping.

Section P-602.3. is amended to read as follows:

Section P-602.3. Connections to offsets and bases of stacks. Horizontal branches connecting within a horizontal stack offset or below the base of a soil or waste stack in the horizontal piping within ten-pipe-diameters are prohibited. The ten-pipe-diameters measurement is based upon the diameter of the stack.

Exception. Horizontal branches may be connected in the restricted area of a horizontal offset or below the base of a soil or waste stack if not more than three (3) drainage fixture units discharge into the stack above the branch.

Section P-603.3. is added to read as follows:

Section P-603.3. Short sweep 1/4 bends. Short sweep 1/4 bends shall not be used at the base of stacks.

APPENDIX C

DRINKING WATER SCREENING TABLES

Table C-1
Risk Screening
Using Part 201 Criteria Industrial Drinking Water Protection Criteria
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial Drinking Water Protection (g)	Exceeds? (h)
AOC 1									
BENZENE	71-43-2	ug/kg	1 : 43 : 52	2	3.80E+02	3.80E+02	6.65E+01	1.00E+02	Yes
ETHYLBENZENE	100-41-4	ug/kg	1 : 42 : 53	2	3.00E+02	3.00E+02	5.56E+01	1.50E+03	No
TOLUENE	108-88-3	ug/kg	2 : 15 : 53	13	3.40E+01	3.40E+01	2.37E+01	1.60E+04	No
XYLENES	1330-20-7	ug/kg	1 : 22 : 53	5	3.50E+01	3.50E+01	2.34E+01	5.60E+03	No
AOC 2									
2-METHYLNAPHTHALENE	91-57-6	ug/kg	4 : 8 : 8	50	2.45E+02	3.40E+03	6.97E+02	1.70E+05	No
ACENAPHTHYLENE	208-96-8	ug/kg	3 : 5 : 8	60	8.20E+01	1.90E+02	1.58E+02	1.70E+04	No
ACETONE	67-64-1	ug/kg	2 : 8 : 8	25	3.00E+01	1.00E+02	3.91E+01	4.20E+04	No
ACETOPHENONE	98-86-2	ug/kg	2 : 7 : 8	29	1.80E+02	2.90E+02	2.10E+02	8.80E+04	No
ANTHRACENE	120-12-7	ug/kg	5 : 8 : 8	63	5.20E+01	5.90E+02	2.07E+02	4.10E+04	No
ARSENIC	7440-38-2	ug/kg	8 : 8 : 8	100	7.30E+02	4.11E+04	1.81E+04	2.30E+04	Yes
BARIUM	7440-39-3	ug/kg	8 : 8 : 8	100	4.50E+03	7.89E+04	4.37E+04	1.30E+06	No
BENZENE	71-43-2	ug/kg	1 : 8 : 8	13	2.70E+01	2.70E+01	6.04E+00	1.00E+02	No
CADMIUM	7440-43-9	ug/kg	8 : 8 : 8	100	1.40E+02	3.50E+03	7.44E+02	6.00E+03	No
CHROMIUM	7440-47-3	ug/kg	8 : 8 : 8	100	5.30E+03	1.01E+05	3.36E+04	3.00E+04	Yes
COPPER	7440-50-8	ug/kg	8 : 8 : 8	100	3.20E+03	2.44E+04	1.51E+04	5.80E+06	No
ETHYLBENZENE	100-41-4	ug/kg	1 : 8 : 8	13	4.90E+00	4.90E+00	3.28E+00	1.50E+03	No
FLUORANTHENE	206-44-0	ug/kg	6 : 8 : 8	75	9.00E+01	2.70E+03	6.69E+02	7.30E+05	No
LEAD	7439-92-1	ug/kg	8 : 8 : 8	100	2.40E+03	9.01E+04	2.22E+04	7.00E+05	No
MERCURY	7439-97-6	ug/kg	5 : 8 : 8	63	1.50E+02	1.71E+04	2.40E+03	1.70E+03	Yes
METHYLENE CHLORIDE	75-09-2	ug/kg	1 : 8 : 8	13	2.70E+01	2.70E+01	6.04E+00	1.00E+02	No
NAPHTHALENE	91-20-3	ug/kg	4 : 8 : 8	50	4.75E+02	2.50E+03	6.69E+02	1.00E+05	No
NICKEL	7440-02-0	ug/kg	8 : 8 : 8	100	4.80E+03	1.33E+04	9.82E+03	1.00E+05	No
PHENANTHRENE	85-01-8	ug/kg	6 : 8 : 8	75	9.70E+01	1.20E+03	5.10E+02	1.60E+05	No
PYRENE	129-00-0	ug/kg	6 : 8 : 8	75	8.70E+01	2.60E+03	6.34E+02	4.80E+05	No
SELENIUM	7782-49-2	ug/kg	1 : 8 : 8	13	7.60E+02	7.60E+02	3.81E+02	4.00E+03	No
TOLUENE	108-88-3	ug/kg	2 : 8 : 8	25	1.15E+01	4.30E+01	9.09E+00	1.60E+04	No
TOTAL CYANIDE	57-12-5	ug/kg	6 : 8 : 8	75	7.65E+02	4.60E+04	1.04E+04	4.00E+03	Yes
Total XYLENES	Total Xylenes	ug/kg	1 : 8 : 8	13	3.11E+01	3.11E+01	9.21E+00	5.60E+03	No
VANADIUM	7440-62-2	ug/kg	7 : 8 : 8	88	1.02E+04	5.34E+04	1.74E+04	9.90E+05	No
ZINC	7440-66-6	ug/kg	8 : 8 : 8	100	1.85E+04	9.66E+05	1.80E+05	5.00E+06	No

Table C-1
Risk Screening
Using Part 201 Criteria Industrial Drinking Water Protection Criteria
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial Drinking Water Protection (g)	Exceeds? (h)
AOC 4									
2-METHYLNAPHTHALENE	91-57-6	ug/kg	2 : 2 : 2	100	9.40E+05	9.00E+06	4.97E+06	1.70E+05	Yes
ACENAPHTHYLENE	208-96-8	ug/kg	2 : 2 : 2	100	1.00E+06	9.30E+06	5.15E+06	1.70E+04	Yes
ANTHRACENE	120-12-7	ug/kg	2 : 2 : 2	100	8.70E+05	7.10E+06	3.99E+06	4.10E+04	Yes
ARSENIC	7440-38-2	ug/kg	2 : 2 : 2	100	1.45E+04	2.05E+04	1.75E+04	2.30E+04	No
BARIUM	7440-39-3	ug/kg	2 : 2 : 2	100	1.25E+04	3.35E+04	2.30E+04	1.30E+06	No
BENZENE	71-43-2	ug/kg	2 : 2 : 2	100	2.50E+05	6.80E+05	4.65E+05	1.00E+02	Yes
CADMIUM	7440-43-9	ug/kg	2 : 2 : 2	100	1.40E+03	1.40E+03	1.40E+03	6.00E+03	No
CHROMIUM	7440-47-3	ug/kg	2 : 2 : 2	100	7.30E+02	1.20E+03	9.65E+02	3.00E+04	No
COPPER	7440-50-8	ug/kg	2 : 2 : 2	100	3.40E+03	3.70E+03	3.55E+03	5.80E+06	No
FLUORANTHENE	206-44-0	ug/kg	2 : 2 : 2	100	1.60E+06	1.40E+07	7.80E+06	7.30E+05	Yes
FLUORENE	86-73-7	ug/kg	2 : 2 : 2	100	1.20E+06	9.50E+06	5.35E+06	8.90E+05	Yes
LEAD	7439-92-1	ug/kg	2 : 2 : 2	100	4.90E+04	8.28E+04	6.59E+04	7.00E+05	No
MERCURY	7439-97-6	ug/kg	2 : 2 : 2	100	1.30E+02	6.20E+02	3.75E+02	1.70E+03	No
NAPHTHALENE	91-20-3	ug/kg	2 : 2 : 2	100	6.00E+06	4.80E+07	2.70E+07	1.00E+05	Yes
PHENANTHRENE	85-01-8	ug/kg	2 : 2 : 2	100	2.70E+06	2.30E+07	1.29E+07	1.60E+05	Yes
PHENOL	108-95-2	ug/kg	1 : 2 : 2	50	2.30E+06	2.30E+06	1.43E+06	2.60E+05	Yes
PYRENE	129-00-0	ug/kg	2 : 2 : 2	100	1.10E+06	9.90E+06	5.50E+06	4.80E+05	Yes
SELENIUM	7782-49-2	ug/kg	2 : 2 : 2	100	2.60E+03	3.60E+03	3.10E+03	4.00E+03	No
STYRENE	100-42-5	ug/kg	2 : 2 : 2	100	9.60E+04	2.40E+05	1.68E+05	2.70E+03	Yes
THALLIUM	7440-28-0	ug/kg	2 : 2 : 2	100	7.20E+03	1.40E+04	1.06E+04	2.30E+03	Yes
TOLUENE	108-88-3	ug/kg	2 : 2 : 2	100	1.90E+05	5.90E+05	3.90E+05	1.60E+04	Yes
TOTAL CYANIDE	57-12-5	ug/kg	2 : 2 : 2	100	1.10E+04	1.90E+04	1.50E+04	4.00E+03	Yes
Total METHYLPHENOL	otal MethylPl	ug/kg	2 : 2 : 2	100	1.01E+06	9.90E+06	5.46E+06	2.00E+04	Yes
Total XYLENES	Total Xylenes	ug/kg	2 : 2 : 2	100	2.55E+05	9.80E+05	6.18E+05	5.60E+03	Yes
ZINC	7440-66-6	ug/kg	2 : 2 : 2	100	1.01E+05	1.14E+05	1.08E+05	5.00E+06	No
AOC 6									
1,2,3-TRICHLOROPROPANE	96-18-4	ug/kg	1 : 6 : 9	17	9.00E+00	9.00E+00	4.17E+00	2.40E+03	No
1,2-DICHLOROPROPANE	78-87-5	ug/kg	2 : 9 : 12	22	5.20E+00	2.20E+01	5.51E+00	1.00E+02	No
2,4-DIMETHYLPHENOL	105-67-9	ug/kg	1 : 1 : 12	100	1.70E+02	1.70E+02	1.70E+02	2.00E+04	No
2-METHYLNAPHTHALENE	91-57-6	ug/kg	8 : 12 : 12	67	4.90E+01	9.90E+04	1.67E+04	1.70E+05	No
ACENAPHTHENE	83-32-9	ug/kg	3 : 10 : 12	30	5.50E+01	1.20E+04	2.49E+03	8.80E+05	No

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Risk Screening
Using Part 201 Criteria Industrial Drinking Water Protection Criteria
Soil
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Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial Drinking Water Protection (g)	Exceeds? (h)
ACENAPHTHYLENE	208-96-8	ug/kg	8 : 11 : 12	73	5.80E+01	6.00E+04	8.13E+03	1.70E+04	Yes
ACETOPHENONE	98-86-2	ug/kg	5 : 9 : 12	56	3.00E+02	5.20E+03	1.24E+03	8.80E+04	No
ANTHRACENE	120-12-7	ug/kg	6 : 11 : 12	55	1.27E+02	1.20E+05	1.44E+04	4.10E+04	Yes
ARSENIC	7440-38-2	ug/kg	12 : 12 : 12	100	3.90E+03	2.00E+05	3.88E+04	2.30E+04	Yes
BARIUM	7440-39-3	ug/kg	12 : 12 : 12	100	8.50E+03	1.67E+05	7.72E+04	1.30E+06	No
BENZENE	71-43-2	ug/kg	5 : 12 : 12	42	3.90E+00	1.40E+06	1.93E+05	1.00E+02	Yes
BERYLLIUM	7440-41-7	ug/kg	1 : 12 : 12	8	8.90E+02	8.90E+02	3.95E+02	5.10E+04	No
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/kg	5 : 10 : 12	50	1.30E+02	5.20E+03	1.91E+03	1.70E+02	Yes
CADMIUM	7440-43-9	ug/kg	9 : 12 : 12	75	1.40E+02	2.00E+03	5.23E+02	6.00E+03	No
CHLOROFORM	67-66-3	ug/kg	1 : 9 : 12	11	1.00E+01	1.00E+01	3.93E+00	1.60E+03	No
CHROMIUM	7440-47-3	ug/kg	12 : 12 : 12	100	2.50E+03	5.32E+04	1.29E+04	3.00E+04	Yes
COPPER	7440-50-8	ug/kg	12 : 12 : 12	100	7.40E+03	4.94E+04	2.55E+04	5.80E+06	No
ETHYLBENZENE	100-41-4	ug/kg	1 : 9 : 9	11	3.20E+04	3.20E+04	7.08E+03	1.50E+03	Yes
FLUORANTHENE	206-44-0	ug/kg	9 : 12 : 12	75	1.20E+02	3.50E+05	5.24E+04	7.30E+05	No
FLUORENE	86-73-7	ug/kg	10 : 12 : 12	83	5.40E+01	2.10E+05	3.70E+04	8.90E+05	No
LEAD	7439-92-1	ug/kg	12 : 12 : 12	100	6.00E+03	3.08E+05	5.77E+04	7.00E+05	No
MERCURY	7439-97-6	ug/kg	8 : 12 : 12	67	1.40E+02	3.30E+03	7.83E+02	1.70E+03	Yes
METHYLENE CHLORIDE	75-09-2	ug/kg	4 : 9 : 12	44	7.30E+00	1.00E+01	5.85E+00	1.00E+02	No
NAPHTHALENE	91-20-3	ug/kg	10 : 12 : 12	83	4.30E+01	2.70E+06	2.53E+05	1.00E+05	Yes
NICKEL	7440-02-0	ug/kg	8 : 12 : 12	67	5.30E+03	3.39E+04	1.16E+04	1.00E+05	No
PHENANTHRENE	85-01-8	ug/kg	9 : 12 : 12	75	5.20E+02	4.90E+05	6.33E+04	1.60E+05	Yes
PYRENE	129-00-0	ug/kg	9 : 12 : 12	75	1.70E+02	2.80E+05	4.52E+04	4.80E+05	No
SELENIUM	7782-49-2	ug/kg	7 : 12 : 12	58	1.00E+03	2.30E+04	5.09E+03	4.00E+03	Yes
TOLUENE	108-88-3	ug/kg	1 : 1 : 9	100	2.40E+00	2.40E+00	2.40E+00	1.60E+04	No
TOTAL CYANIDE	57-12-5	ug/kg	8 : 12 : 12	67	2.70E+02	2.40E+03	7.76E+02	4.00E+03	No
Total METHYLPHENOL	otal MethylPh	ug/kg	1 : 4 : 11	25	9.70E+02	9.70E+02	7.30E+02	2.00E+04	No
Total XYLENES	Total Xylenes	ug/kg	1 : 9 : 9	11	1.76E+05	1.76E+05	2.66E+04	5.60E+03	Yes
VANADIUM	7440-62-2	ug/kg	9 : 12 : 12	75	7.30E+03	1.95E+04	1.05E+04	9.90E+05	No
ZINC	7440-66-6	ug/kg	12 : 12 : 12	100	1.03E+04	2.52E+05	6.55E+04	5.00E+06	No
AOC 7A									
ARSENIC	7440-38-2	ug/kg	14 : 14 : 14	100	2.50E+03	6.24E+04	1.77E+04	2.30E+04	Yes
BARIUM	7440-39-3	ug/kg	14 : 14 : 14	100	8.30E+03	1.48E+05	6.59E+04	1.30E+06	No

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Risk Screening
Using Part 201 Criteria Industrial Drinking Water Protection Criteria
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial Drinking Water Protection (g)	Exceeds? (h)
BERYLLIUM	7440-41-7	ug/kg	2 : 14 : 14	14	7.10E+02	9.30E+02	3.91E+02	5.10E+04	No
CADMIUM	7440-43-9	ug/kg	12 : 14 : 14	86	1.40E+02	7.50E+02	3.37E+02	6.00E+03	No
CHROMIUM	7440-47-3	ug/kg	14 : 14 : 14	100	7.30E+03	2.91E+04	1.61E+04	3.00E+04	No
COBALT	7440-48-4	ug/kg	2 : 14 : 14	14	4.80E+03	9.70E+03	3.77E+03	2.00E+03	Yes
COPPER	7440-50-8	ug/kg	14 : 14 : 14	100	2.70E+03	3.70E+04	2.13E+04	5.80E+06	No
LEAD	7439-92-1	ug/kg	14 : 14 : 14	100	2.80E+03	3.35E+05	7.15E+04	7.00E+05	No
MERCURY	7439-97-6	ug/kg	11 : 14 : 14	79	1.30E+02	4.80E+03	1.27E+03	1.70E+03	Yes
NICKEL	7440-02-0	ug/kg	13 : 14 : 14	93	8.10E+03	3.18E+04	1.44E+04	1.00E+05	No
SELENIUM	7782-49-2	ug/kg	4 : 14 : 14	29	6.33E+02	1.70E+03	5.83E+02	4.00E+03	No
SILVER	7440-22-4	ug/kg	1 : 14 : 14	7	1.00E+04	1.00E+04	1.31E+03	1.30E+04	No
TOTAL CYANIDE	57-12-5	ug/kg	15 : 19 : 19	79	3.20E+02	5.70E+03	1.66E+03	4.00E+03	Yes
VANADIUM	7440-62-2	ug/kg	14 : 14 : 14	100	1.10E+04	4.13E+04	2.25E+04	9.90E+05	No
ZINC	7440-66-6	ug/kg	14 : 14 : 14	100	1.26E+04	1.90E+05	6.66E+04	5.00E+06	No
AOC 7B									
ARSENIC	7440-38-2	ug/kg	4 : 4 : 4	100	1.70E+03	1.17E+04	7.45E+03	2.30E+04	No
BARIUM	7440-39-3	ug/kg	4 : 4 : 4	100	1.26E+04	1.08E+05	5.25E+04	1.30E+06	No
BERYLLIUM	7440-41-7	ug/kg	1 : 4 : 4	25	7.80E+02	7.80E+02	4.20E+02	5.10E+04	No
CADMIUM	7440-43-9	ug/kg	2 : 4 : 4	50	4.10E+02	5.10E+02	2.59E+02	6.00E+03	No
CHROMIUM	7440-47-3	ug/kg	4 : 4 : 4	100	6.40E+03	2.69E+04	1.31E+04	3.00E+04	No
COPPER	7440-50-8	ug/kg	3 : 4 : 4	75	1.24E+04	1.65E+04	1.16E+04	5.80E+06	No
LEAD	7439-92-1	ug/kg	4 : 4 : 4	100	3.40E+03	3.06E+04	1.53E+04	7.00E+05	No
MERCURY	7439-97-6	ug/kg	2 : 4 : 4	50	2.70E+02	5.70E+02	2.39E+02	1.70E+03	No
NICKEL	7440-02-0	ug/kg	4 : 4 : 4	100	6.40E+03	1.38E+04	1.06E+04	1.00E+05	No
VANADIUM	7440-62-2	ug/kg	4 : 4 : 4	100	1.01E+04	1.89E+04	1.42E+04	9.90E+05	No
ZINC	7440-66-6	ug/kg	4 : 4 : 4	100	1.46E+04	1.51E+05	6.45E+04	5.00E+06	No
AOC 7C									
ARSENIC	7440-38-2	ug/kg	4 : 4 : 4	100	1.92E+04	3.45E+04	2.67E+04	2.30E+04	Yes
BARIUM	7440-39-3	ug/kg	4 : 4 : 4	100	2.07E+04	1.47E+05	6.38E+04	1.30E+06	No
BERYLLIUM	7440-41-7	ug/kg	1 : 4 : 4	25	1.30E+03	1.30E+03	5.76E+02	5.10E+04	No
CADMIUM	7440-43-9	ug/kg	1 : 4 : 4	25	6.70E+02	6.70E+02	2.19E+02	6.00E+03	No
CHROMIUM	7440-47-3	ug/kg	4 : 4 : 4	100	6.00E+03	1.72E+04	9.13E+03	3.00E+04	No
COPPER	7440-50-8	ug/kg	4 : 4 : 4	100	2.00E+04	3.08E+04	2.36E+04	5.80E+06	No

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Soil
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Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial Drinking Water Protection (g)	Exceeds? (h)
LEAD	7439-92-1	ug/kg	4 : 4 : 4	100	7.30E+03	1.13E+05	4.14E+04	7.00E+05	No
MERCURY	7439-97-6	ug/kg	2 : 4 : 4	50	1.60E+02	2.20E+03	6.25E+02	1.70E+03	Yes
NICKEL	7440-02-0	ug/kg	4 : 4 : 4	100	1.01E+04	8.99E+04	3.36E+04	1.00E+05	No
SELENIUM	7782-49-2	ug/kg	4 : 4 : 4	100	2.00E+03	2.40E+03	2.23E+03	4.00E+03	No
VANADIUM	7440-62-2	ug/kg	4 : 4 : 4	100	1.19E+04	1.95E+04	1.58E+04	9.90E+05	No
ZINC	7440-66-6	ug/kg	4 : 4 : 4	100	1.83E+04	6.03E+05	1.72E+05	5.00E+06	No
RFIMW 07									
1,1,1-TRICHLOROETHANE	71-55-6	ug/kg	2 : 6 : 6	33	3.03E+00	3.70E+01	1.42E+01	4.00E+03	No
1,1-DICHLOROETHANE	75-34-3	ug/kg	1 : 5 : 6	20	1.20E+01	1.20E+01	6.20E+00	5.00E+04	No
2,4-DIMETHYLPHENOL	105-67-9	ug/kg	1 : 1 : 6	100	1.70E+02	1.70E+02	1.70E+02	2.00E+04	No
2-METHYLNAPHTHALENE	91-57-6	ug/kg	3 : 6 : 6	50	6.90E+02	5.50E+03	1.50E+03	1.70E+05	No
ACENAPHTHENE	83-32-9	ug/kg	1 : 4 : 6	25	3.70E+02	3.70E+02	3.06E+02	8.80E+05	No
ACETONE	67-64-1	ug/kg	5 : 6 : 6	83	3.60E+01	1.60E+02	7.91E+01	4.20E+04	No
ANTHRACENE	120-12-7	ug/kg	1 : 5 : 6	20	4.78E+02	4.78E+02	4.14E+02	4.10E+04	No
ETHYLBENZENE	100-41-4	ug/kg	2 : 6 : 6	33	2.10E+01	2.60E+01	1.10E+01	1.50E+03	No
FLUORANTHENE	206-44-0	ug/kg	1 : 6 : 6	17	2.40E+03	2.40E+03	7.98E+02	7.30E+05	No
FLUORENE	86-73-7	ug/kg	1 : 3 : 6	33	2.83E+02	2.83E+02	3.14E+02	8.90E+05	No
METHYL ETHYL KETONE	78-93-3	ug/kg	2 : 3 : 6	67	2.80E+01	3.40E+01	3.03E+01	7.60E+05	No
METHYLENE CHLORIDE	75-09-2	ug/kg	1 : 3 : 6	33	4.25E+00	4.25E+00	4.78E+00	1.00E+02	No
NAPHTHALENE	91-20-3	ug/kg	2 : 6 : 6	33	5.80E+02	9.65E+02	5.93E+02	1.00E+05	No
PHENANTHRENE	85-01-8	ug/kg	2 : 6 : 6	33	1.10E+03	2.42E+03	9.22E+02	1.60E+05	No
PHENOL	108-95-2	ug/kg	2 : 6 : 6	33	7.40E+02	1.10E+04	2.23E+03	2.60E+05	No
PYRENE	129-00-0	ug/kg	1 : 6 : 6	17	2.15E+03	2.15E+03	7.56E+02	4.80E+05	No
TOLUENE	108-88-3	ug/kg	1 : 5 : 6	20	7.80E+00	7.80E+00	6.38E+00	1.60E+04	No
Total METHYLPHENOL	xal MethylPh	ug/kg	2 : 6 : 6	33	3.21E+03	4.30E+03	2.06E+03	2.00E+04	No
Total XYLENES	Total Xylenes	ug/kg	3 : 6 : 6	50	1.04E+01	9.80E+01	3.11E+01	5.60E+03	No
RFIMW 08									
ACETONE	67-64-1	ug/kg	10 : 10 : 10	100	1.50E+01	5.20E+01	3.65E+01	4.20E+04	No
ANTHRACENE	120-12-7	ug/kg	2 : 9 : 10	22	2.90E+02	3.00E+02	2.34E+02	4.10E+04	No
CARBON DISULFIDE	75-15-0	ug/kg	1 : 6 : 10	17	3.30E+00	3.30E+00	3.06E+00	4.60E+04	No
DI-N-OCTYL PHTHALATE	117-84-0	ug/kg	1 : 8 : 10	13	2.60E+02	2.60E+02	2.22E+02	1.40E+08	No
FLUORANTHENE	206-44-0	ug/kg	3 : 10 : 10	30	2.60E+02	1.70E+03	4.22E+02	7.30E+05	No

Table C-1
Risk Screening
Using Part 201 Criteria Industrial Drinking Water Protection Criteria
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial Drinking Water Protection (g)	Exceeds? (h)
FLUORENE	86-73-7	ug/kg	1 : 1 : 10	100	1.50E+02	1.50E+02	1.50E+02	8.90E+05	No
METHYL ETHYL KETONE	78-93-3	ug/kg	5 : 5 : 10	100	7.70E+00	1.60E+01	1.27E+01	7.60E+05	No
PHENANTHRENE	85-01-8	ug/kg	3 : 10 : 10	30	6.10E+02	1.30E+03	4.20E+02	1.60E+05	No
PYRENE	129-00-0	ug/kg	3 : 10 : 10	30	3.30E+02	1.40E+03	4.54E+02	4.80E+05	No
TOLUENE	108-88-3	ug/kg	1 : 2 : 10	50	2.90E+00	2.90E+00	2.85E+00	1.60E+04	No
RFIMW 24									
2-METHYLNAPHTHALENE	91-57-6	ug/kg	1 : 1 : 2	100	8.30E+01	8.30E+01	8.30E+01	1.70E+05	No
ARSENIC	7440-38-2	ug/kg	2 : 2 : 2	100	1.40E+03	8.00E+03	4.70E+03	2.30E+04	No
BARIUM	7440-39-3	ug/kg	2 : 2 : 2	100	7.30E+03	9.70E+04	5.22E+04	1.30E+06	No
CADMIUM	7440-43-9	ug/kg	1 : 2 : 2	50	1.40E+03	1.40E+03	7.33E+02	6.00E+03	No
CHROMIUM	7440-47-3	ug/kg	2 : 2 : 2	100	8.50E+03	8.41E+05	4.25E+05	3.00E+04	Yes
COPPER	7440-50-8	ug/kg	2 : 2 : 2	100	3.30E+03	2.97E+04	1.65E+04	5.80E+06	No
FLUORANTHENE	206-44-0	ug/kg	1 : 1 : 2	100	1.20E+02	1.20E+02	1.20E+02	7.30E+05	No
LEAD	7439-92-1	ug/kg	2 : 2 : 2	100	2.70E+03	3.34E+04	1.81E+04	7.00E+05	No
NICKEL	7440-02-0	ug/kg	1 : 2 : 2	50	1.39E+04	1.39E+04	8.25E+03	1.00E+05	No
PHENANTHRENE	85-01-8	ug/kg	1 : 1 : 2	100	7.70E+01	7.70E+01	7.70E+01	1.60E+05	No
PYRENE	129-00-0	ug/kg	1 : 1 : 2	100	1.10E+02	1.10E+02	1.10E+02	4.80E+05	No
TOTAL CYANIDE	57-12-5	ug/kg	2 : 2 : 2	100	3.90E+02	2.70E+03	1.55E+03	4.00E+03	No
VANADIUM	7440-62-2	ug/kg	2 : 2 : 2	100	1.32E+04	2.22E+05	1.18E+05	9.90E+05	No
ZINC	7440-66-6	ug/kg	2 : 2 : 2	100	1.02E+04	1.16E+05	6.31E+04	5.00E+06	No
RFIMW 25									
ACENAPHTHENE	83-32-9	ug/kg	1 : 1 : 2	100	1.00E+02	1.00E+02	1.00E+02	8.80E+05	No
ANTHRACENE	120-12-7	ug/kg	1 : 2 : 2	50	2.00E+02	2.00E+02	1.93E+02	4.10E+04	No
ARSENIC	7440-38-2	ug/kg	2 : 2 : 2	100	1.80E+03	6.00E+03	3.90E+03	2.30E+04	No
BARIUM	7440-39-3	ug/kg	2 : 2 : 2	100	1.23E+04	1.01E+05	5.67E+04	1.30E+06	No
CADMIUM	7440-43-9	ug/kg	1 : 2 : 2	50	2.80E+02	2.80E+02	1.70E+02	6.00E+03	No
CHROMIUM	7440-47-3	ug/kg	2 : 2 : 2	100	6.50E+03	9.00E+03	7.75E+03	3.00E+04	No
COPPER	7440-50-8	ug/kg	2 : 2 : 2	100	2.75E+03	8.10E+03	5.43E+03	5.80E+06	No
FLUORANTHENE	206-44-0	ug/kg	2 : 2 : 2	100	6.40E+02	7.50E+02	6.95E+02	7.30E+05	No
LEAD	7439-92-1	ug/kg	2 : 2 : 2	100	2.15E+03	1.28E+04	7.48E+03	7.00E+05	No
MERCURY	7439-97-6	ug/kg	1 : 2 : 2	50	1.60E+02	1.60E+02	1.10E+02	1.70E+03	No
NICKEL	7440-02-0	ug/kg	1 : 2 : 2	50	6.80E+03	6.80E+03	4.61E+03	1.00E+05	No

Table C-1
Risk Screening
Using Part 201 Criteria Industrial Drinking Water Protection Criteria
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial Drinking Water Protection (g)	Exceeds? (h)
PHENANTHRENE	85-01-8	ug/kg	2:2:2	100	2.10E+02	5.65E+02	3.88E+02	1.60E+05	No
PYRENE	129-00-0	ug/kg	2:2:2	100	6.50E+02	6.50E+02	6.50E+02	4.80E+05	No
TOTAL CYANIDE	57-12-5	ug/kg	2:2:2	100	1.50E+03	1.90E+03	1.70E+03	4.00E+03	No
VANADIUM	7440-62-2	ug/kg	2:2:2	100	9.05E+03	1.21E+04	1.06E+04	9.90E+05	No
ZINC	7440-66-6	ug/kg	2:2:2	100	1.33E+04	4.00E+04	2.67E+04	5.00E+06	No
RFIMW 26									
2-METHYLNAPHTHALENE	91-57-6	ug/kg	1:2:2	50	2.20E+02	2.20E+02	2.08E+02	1.70E+05	No
ANTHRACENE	120-12-7	ug/kg	1:1:2	100	6.90E+01	6.90E+01	6.90E+01	4.10E+04	No
ARSENIC	7440-38-2	ug/kg	2:2:2	100	5.10E+03	9.50E+03	7.30E+03	2.30E+04	No
BARIUM	7440-39-3	ug/kg	2:2:2	100	1.24E+04	3.35E+04	2.30E+04	1.30E+06	No
CADMIUM	7440-43-9	ug/kg	1:2:2	50	6.20E+02	6.20E+02	3.40E+02	6.00E+03	No
CHROMIUM	7440-47-3	ug/kg	2:2:2	100	4.50E+03	1.56E+04	1.01E+04	3.00E+04	No
COBALT	7440-48-4	ug/kg	1:2:2	50	6.10E+03	6.10E+03	4.53E+03	2.00E+03	Yes
COPPER	7440-50-8	ug/kg	2:2:2	100	3.40E+03	2.57E+04	1.46E+04	5.80E+06	No
DIETHYL PHTHALATE	84-66-2	ug/kg	1:2:2	50	2.40E+02	2.40E+02	2.18E+02	3.20E+05	No
FLUORANTHENE	206-44-0	ug/kg	2:2:2	100	6.80E+01	7.90E+02	4.29E+02	7.30E+05	No
LEAD	7439-92-1	ug/kg	2:2:2	100	2.30E+03	3.20E+04	1.72E+04	7.00E+05	No
MERCURY	7439-97-6	ug/kg	1:2:2	50	2.70E+02	2.70E+02	1.65E+02	1.70E+03	No
NAPHTHALENE	91-20-3	ug/kg	1:1:2	100	1.50E+02	1.50E+02	1.50E+02	1.00E+05	No
NICKEL	7440-02-0	ug/kg	1:2:2	50	1.42E+04	1.42E+04	8.30E+03	1.00E+05	No
PHENANTHRENE	85-01-8	ug/kg	1:2:2	50	4.00E+02	4.00E+02	2.98E+02	1.60E+05	No
PYRENE	129-00-0	ug/kg	2:2:2	100	7.00E+01	7.80E+02	4.25E+02	4.80E+05	No
SELENIUM	7782-49-2	ug/kg	1:2:2	50	1.20E+03	1.20E+03	7.48E+02	4.00E+03	No
TOLUENE	108-88-3	ug/kg	1:2:2	50	3.00E+00	3.00E+00	2.98E+00	1.60E+04	No
TOTAL CYANIDE	57-12-5	ug/kg	1:2:2	50	3.70E+03	3.70E+03	1.93E+03	4.00E+03	No
VANADIUM	7440-62-2	ug/kg	2:2:2	100	5.90E+03	1.70E+04	1.15E+04	9.90E+05	No
ZINC	7440-66-6	ug/kg	2:2:2	100	9.60E+03	5.81E+04	3.39E+04	5.00E+06	No
RFIMW 27									
ARSENIC	7440-38-2	ug/kg	2:2:2	100	2.50E+03	7.40E+03	4.95E+03	2.30E+04	No
BARIUM	7440-39-3	ug/kg	2:2:2	100	1.81E+04	8.07E+04	4.94E+04	1.30E+06	No
CADMIUM	7440-43-9	ug/kg	1:2:2	50	2.90E+02	2.90E+02	1.78E+02	6.00E+03	No
CHROMIUM	7440-47-3	ug/kg	2:2:2	100	9.00E+03	9.70E+03	9.35E+03	3.00E+04	No

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Using Part 201 Criteria Industrial Drinking Water Protection Criteria
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial Drinking Water Protection (g)	Exceeds? (h)
COPPER	7440-50-8	ug/kg	2 : 2 : 2	100	6.20E+03	1.24E+04	9.30E+03	5.80E+06	No
LEAD	7439-92-1	ug/kg	2 : 2 : 2	100	2.20E+03	3.10E+03	2.65E+03	7.00E+05	No
MERCURY	7439-97-6	ug/kg	1 : 2 : 2	50	5.20E+02	5.20E+02	2.93E+02	1.70E+03	No
NICKEL	7440-02-0	ug/kg	2 : 2 : 2	100	6.40E+03	1.28E+04	9.60E+03	1.00E+05	No
TOTAL CYANIDE	57-12-5	ug/kg	1 : 2 : 2	50	7.80E+02	7.80E+02	4.70E+02	4.00E+03	No
VANADIUM	7440-62-2	ug/kg	2 : 2 : 2	100	2.02E+04	2.35E+04	2.19E+04	9.90E+05	No
ZINC	7440-66-6	ug/kg	2 : 2 : 2	100	1.25E+04	1.34E+05	7.33E+04	5.00E+06	No
RFIMW 28									
ARSENIC	7440-38-2	ug/kg	2 : 2 : 2	100	1.80E+03	8.90E+03	5.35E+03	2.30E+04	No
BARIUM	7440-39-3	ug/kg	2 : 2 : 2	100	6.00E+03	1.79E+05	9.25E+04	1.30E+06	No
BERYLLIUM	7440-41-7	ug/kg	1 : 2 : 2	50	1.10E+03	1.10E+03	7.00E+02	5.10E+04	No
CHROMIUM	7440-47-3	ug/kg	2 : 2 : 2	100	5.40E+03	1.61E+04	1.08E+04	3.00E+04	No
COPPER	7440-50-8	ug/kg	2 : 2 : 2	100	6.90E+03	1.20E+04	9.45E+03	5.80E+06	No
LEAD	7439-92-1	ug/kg	2 : 2 : 2	100	1.10E+03	2.50E+03	1.80E+03	7.00E+05	No
NICKEL	7440-02-0	ug/kg	2 : 2 : 2	100	5.70E+03	1.48E+04	1.03E+04	1.00E+05	No
VANADIUM	7440-62-2	ug/kg	2 : 2 : 2	100	1.24E+04	2.79E+04	2.02E+04	9.90E+05	No
ZINC	7440-66-6	ug/kg	2 : 2 : 2	100	1.54E+04	1.17E+05	6.62E+04	5.00E+06	No
SWMU F									
1,2-DICHLOROPROPANE	78-87-5	ug/kg	5 : 10 : 10	50	4.20E+00	7.00E+04	9.60E+03	1.00E+02	Yes
2,4-DIMETHYLPHENOL	105-67-9	ug/kg	1 : 10 : 10	10	2.20E+04	2.20E+04	5.14E+03	2.00E+04	Yes
2-METHYLNAPHTHALENE	91-57-6	ug/kg	3 : 5 : 10	60	1.30E+02	7.30E+02	3.05E+02	1.70E+05	No
ACENAPHTHENE	83-32-9	ug/kg	1 : 5 : 10	20	4.40E+02	4.40E+02	2.94E+02	8.80E+05	No
ACENAPHTHYLENE	208-96-8	ug/kg	1 : 1 : 10	100	6.80E+01	6.80E+01	6.80E+01	1.70E+04	No
ACETONE	67-64-1	ug/kg	9 : 10 : 10	90	1.90E+02	1.90E+05	4.53E+04	4.20E+04	Yes
ANTHRACENE	120-12-7	ug/kg	2 : 6 : 10	33	1.10E+02	1.30E+03	5.43E+02	4.10E+04	No
ANTIMONY	7440-36-0	ug/kg	3 : 10 : 10	30	7.10E+02	1.60E+04	2.08E+03	4.30E+03	Yes
ARSENIC	7440-38-2	ug/kg	10 : 10 : 10	100	4.40E+03	6.39E+04	2.32E+04	2.30E+04	Yes
BARIUM	7440-39-3	ug/kg	10 : 10 : 10	100	1.88E+04	4.91E+05	1.08E+05	1.30E+06	No
BENZENE	71-43-2	ug/kg	1 : 9 : 10	11	2.00E+03	2.00E+03	7.86E+02	1.00E+02	Yes
BENZYL ALCOHOL	100-51-6	ug/kg	1 : 10 : 10	10	2.10E+04	2.10E+04	4.39E+03	5.80E+05	No
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/kg	6 : 10 : 10	60	2.90E+02	2.80E+04	5.78E+03	1.70E+02	Yes
BUTYL BENZYL PHTHALATE	85-68-7	ug/kg	1 : 6 : 10	17	1.00E+03	1.00E+03	4.80E+02	3.10E+05	No

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Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial Drinking Water Protection (g)	Exceeds? (h)
CADMIUM	7440-43-9	ug/kg	10 : 10 : 10	100	2.70E+02	7.30E+03	1.20E+03	6.00E+03	Yes
CHROMIUM	7440-47-3	ug/kg	10 : 10 : 10	100	6.40E+03	1.30E+05	2.38E+04	3.00E+04	Yes
COBALT	7440-48-4	ug/kg	1 : 10 : 10	10	4.05E+04	4.05E+04	8.12E+03	2.00E+03	Yes
COPPER	7440-50-8	ug/kg	10 : 10 : 10	100	1.05E+04	7.71E+06	7.93E+05	5.80E+06	Yes
DI-N-OCTYL PHTHALATE	117-84-0	ug/kg	1 : 10 : 10	10	1.50E+04	1.50E+04	3.79E+03	1.40E+08	No
FLUORANTHENE	206-44-0	ug/kg	5 : 7 : 10	71	6.30E+01	4.50E+03	1.42E+03	7.30E+05	No
FLUORENE	86-73-7	ug/kg	2 : 5 : 10	40	1.70E+02	7.80E+02	3.50E+02	8.90E+05	No
LEAD	7439-92-1	ug/kg	10 : 10 : 10	100	1.50E+03	8.76E+05	1.09E+05	7.00E+05	Yes
MERCURY	7439-97-6	ug/kg	6 : 10 : 10	60	3.30E+02	2.11E+04	2.90E+03	1.70E+03	Yes
METHYL ETHYL KETONE	78-93-3	ug/kg	1 : 1 : 10	100	1.70E+01	1.70E+01	1.70E+01	7.60E+05	No
NAPHTHALENE	91-20-3	ug/kg	4 : 6 : 10	67	9.90E+01	4.50E+02	2.57E+02	1.00E+05	No
NICKEL	7440-02-0	ug/kg	9 : 10 : 10	90	6.40E+03	1.70E+05	2.82E+04	1.00E+05	Yes
PENTACHLOROPHENOL	87-86-5	ug/kg	2 : 10 : 20	20	1.60E+01	6.40E+01	1.16E+01	2.20E+01	Yes
PHENANTHRENE	85-01-8	ug/kg	4 : 7 : 10	57	2.00E+02	6.00E+03	1.59E+03	1.60E+05	No
PHENOL	108-95-2	ug/kg	2 : 7 : 10	29	1.90E+03	6.40E+03	1.71E+03	2.60E+05	No
PYRENE	129-00-0	ug/kg	4 : 7 : 10	57	4.00E+02	3.40E+03	1.44E+03	4.80E+05	No
SELENIUM	7782-49-2	ug/kg	5 : 10 : 10	50	1.20E+03	6.30E+03	1.62E+03	4.00E+03	Yes
SILVER	7440-22-4	ug/kg	1 : 10 : 10	10	1.05E+04	1.05E+04	1.86E+03	1.30E+04	No
TOLUENE	108-88-3	ug/kg	7 : 10 : 10	70	1.10E+01	1.10E+05	2.42E+04	1.60E+04	Yes
TOTAL CYANIDE	57-12-5	ug/kg	8 : 10 : 10	80	1.10E+03	5.10E+03	2.20E+03	4.00E+03	Yes
Total METHYLPHENOL	otal MethylPh	ug/kg	4 : 10 : 10	40	6.85E+02	4.41E+04	1.33E+04	2.00E+04	Yes
Total XYLENES	Total Xylenes	ug/kg	1 : 2 : 10	50	1.22E+01	1.22E+01	1.16E+01	5.60E+03	No
VANADIUM	7440-62-2	ug/kg	9 : 10 : 10	90	9.30E+03	2.33E+04	1.60E+04	9.90E+05	No
ZINC	7440-66-6	ug/kg	9 : 10 : 10	90	3.47E+04	1.00E+06	1.63E+05	5.00E+06	No
SWMU G									
2,4-DIMETHYLPHENOL	105-67-9	ug/kg	1 : 1 : 10	100	5.70E+01	5.70E+01	5.70E+01	2.00E+04	No
2-METHYLNAPHTHALENE	91-57-6	ug/kg	9 : 10 : 10	90	2.50E+02	1.30E+03	5.63E+02	1.70E+05	No
ACENAPHTHENE	83-32-9	ug/kg	2 : 2 : 10	100	3.80E+01	4.30E+01	4.05E+01	8.80E+05	No
ACENAPHTHYLENE	208-96-8	ug/kg	9 : 10 : 10	90	4.40E+01	1.80E+03	3.28E+02	1.70E+04	No
ANTHRACENE	120-12-7	ug/kg	8 : 9 : 10	89	5.10E+01	7.00E+02	1.92E+02	4.10E+04	No
ANTIMONY	7440-36-0	ug/kg	1 : 10 : 10	10	2.60E+03	2.60E+03	6.17E+02	4.30E+03	No
ARSENIC	7440-38-2	ug/kg	10 : 10 : 10	100	4.80E+03	1.01E+05	2.67E+04	2.30E+04	Yes

Table C-1
Risk Screening
Using Part 201 Criteria Industrial Drinking Water Protection Criteria
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial Drinking Water Protection (g)	Exceeds? (h)
BARIUM	7440-39-3	ug/kg	10 : 10 : 10	100	5.54E+04	1.66E+05	8.97E+04	1.30E+06	No
BERYLLIUM	7440-41-7	ug/kg	1 : 10 : 10	10	2.00E+03	2.00E+03	4.68E+02	5.10E+04	No
CADMIUM	7440-43-9	ug/kg	10 : 10 : 10	100	3.00E+02	2.30E+03	7.90E+02	6.00E+03	No
CHROMIUM	7440-47-3	ug/kg	10 : 10 : 10	100	4.80E+03	3.36E+04	1.55E+04	3.00E+04	Yes
COBALT	7440-48-4	ug/kg	1 : 10 : 10	10	1.01E+04	1.01E+04	3.68E+03	2.00E+03	Yes
COPPER	7440-50-8	ug/kg	10 : 10 : 10	100	1.53E+04	9.53E+04	3.39E+04	5.80E+06	No
DIETHYL PHTHALATE	84-66-2	ug/kg	1 : 1 : 10	100	1.00E+02	1.00E+02	1.00E+02	3.20E+05	No
FLUORANTHENE	206-44-0	ug/kg	9 : 10 : 10	90	1.00E+02	3.80E+03	1.14E+03	7.30E+05	No
FLUORENE	86-73-7	ug/kg	3 : 9 : 10	33	5.00E+01	2.50E+02	1.77E+02	8.90E+05	No
LEAD	7439-92-1	ug/kg	10 : 10 : 10	100	1.10E+04	2.38E+05	7.33E+04	7.00E+05	No
MERCURY	7439-97-6	ug/kg	8 : 10 : 10	80	1.40E+02	5.40E+03	7.69E+02	1.70E+03	Yes
NAPHTHALENE	91-20-3	ug/kg	8 : 9 : 10	89	1.70E+02	8.10E+02	3.52E+02	1.00E+05	No
NICKEL	7440-02-0	ug/kg	10 : 10 : 10	100	7.60E+03	2.56E+04	1.34E+04	1.00E+05	No
PENTACHLOROPHENOL	87-86-5	ug/kg	3 : 10 : 20	30	3.90E+01	6.20E+02	1.29E+02	2.20E+01	Yes
PHENANTHRENE	85-01-8	ug/kg	10 : 10 : 10	100	8.70E+01	1.90E+03	8.07E+02	1.60E+05	No
PYRENE	129-00-0	ug/kg	10 : 10 : 10	100	8.20E+01	6.10E+03	1.22E+03	4.80E+05	No
SELENIUM	7782-49-2	ug/kg	1 : 10 : 10	10	4.40E+02	4.40E+02	3.14E+02	4.00E+03	No
TOTAL CYANIDE	57-12-5	ug/kg	1 : 10 : 10	10	6.60E+02	6.60E+02	1.99E+02	4.00E+03	No
Total METHYLPHENOL	xtal MethylPh	ug/kg	1 : 7 : 10	14	5.88E+02	5.88E+02	5.83E+02	2.00E+04	No
VANADIUM	7440-62-2	ug/kg	10 : 10 : 10	100	7.20E+03	2.97E+04	1.30E+04	9.90E+05	No
ZINC	7440-66-6	ug/kg	10 : 10 : 10	100	3.52E+04	3.35E+05	1.09E+05	5.00E+06	No
SWMU H									
1,2,3-TRICHLOROPROPANE	96-18-4	ug/kg	2 : 10 : 11	20	3.90E+03	1.70E+04	2.15E+03	2.40E+03	Yes
1,2-DICHLOROBENZENE	95-50-1	ug/kg	1 : 8 : 11	13	6.80E+02	6.80E+02	8.93E+01	1.40E+04	No
1,2-DICHLOROPROPANE	78-87-5	ug/kg	9 : 11 : 11	82	4.00E+00	5.00E+07	4.57E+06	1.00E+02	Yes
2,4-DIMETHYLPHENOL	105-67-9	ug/kg	1 : 10 : 11	10	8.30E+03	8.30E+03	1.30E+03	2.00E+04	No
2-METHYLNAPHTHALENE	91-57-6	ug/kg	3 : 10 : 11	30	1.20E+02	6.40E+03	1.09E+03	1.70E+05	No
ACENAPHTHENE	83-32-9	ug/kg	1 : 10 : 11	10	6.70E+03	6.70E+03	1.14E+03	8.80E+05	No
ACETONE	67-64-1	ug/kg	7 : 8 : 11	88	2.00E+01	1.60E+03	3.18E+02	4.20E+04	No
ANTHRACENE	120-12-7	ug/kg	2 : 10 : 11	20	7.40E+01	5.30E+03	9.87E+02	4.10E+04	No
ANTIMONY	7440-36-0	ug/kg	4 : 11 : 11	36	8.20E+02	1.53E+04	1.90E+03	4.30E+03	Yes
ARSENIC	7440-38-2	ug/kg	11 : 11 : 11	100	1.90E+03	1.16E+05	2.28E+04	2.30E+04	Yes

Table C-1
Risk Screening
Using Part 201 Criteria Industrial Drinking Water Protection Criteria
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial Drinking Water Protection (g)	Exceeds? (h)
BARIUM	7440-39-3	ug/kg	11 : 11 : 11	100	8.00E+03	2.23E+05	8.38E+04	1.30E+06	No
BENZENE	71-43-2	ug/kg	1 : 8 : 11	13	7.80E+02	7.80E+02	1.02E+02	1.00E+02	Yes
BERYLLIUM	7440-41-7	ug/kg	1 : 11 : 11	9	9.10E+02	9.10E+02	4.11E+02	5.10E+04	No
BIS(2-CHLOROETHYL) ETHER	111-44-4	ug/kg	2 : 10 : 11	20	8.20E+01	1.20E+04	1.66E+03	1.70E+02	Yes
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/kg	8 : 11 : 11	73	1.30E+02	1.40E+06	1.42E+05	1.70E+02	Yes
CADMIUM	7440-43-9	ug/kg	10 : 11 : 11	91	2.60E+02	4.20E+03	9.02E+02	6.00E+03	No
CHLOROBENZENE	108-90-7	ug/kg	1 : 8 : 11	13	8.30E+02	8.30E+02	1.08E+02	2.00E+03	No
CHROMIUM	7440-47-3	ug/kg	11 : 11 : 11	100	6.70E+03	1.95E+05	4.52E+04	3.00E+04	Yes
COBALT	7440-48-4	ug/kg	6 : 11 : 11	55	9.60E+03	1.37E+04	7.60E+03	2.00E+03	Yes
COPPER	7440-50-8	ug/kg	11 : 11 : 11	100	2.90E+03	2.21E+05	4.09E+04	5.80E+06	No
ETHYLBENZENE	100-41-4	ug/kg	1 : 8 : 11	13	4.70E+02	4.70E+02	6.30E+01	1.50E+03	No
FLUORANTHENE	206-44-0	ug/kg	3 : 10 : 11	30	2.20E+02	1.10E+04	1.58E+03	7.30E+05	No
FLUORENE	86-73-7	ug/kg	1 : 10 : 11	10	5.40E+03	5.40E+03	1.01E+03	8.90E+05	No
LEAD	7439-92-1	ug/kg	11 : 11 : 11	100	2.70E+03	4.33E+05	5.96E+04	7.00E+05	No
MERCURY	7439-97-6	ug/kg	5 : 11 : 11	45	1.40E+02	5.29E+04	5.20E+03	1.70E+03	Yes
METHYL ETHYL KETONE	78-93-3	ug/kg	1 : 2 : 11	50	3.10E+01	3.10E+01	3.10E+01	7.60E+05	No
NAPHTHALENE	91-20-3	ug/kg	3 : 10 : 11	30	9.30E+01	1.60E+04	2.05E+03	1.00E+05	No
NICKEL	7440-02-0	ug/kg	11 : 11 : 11	100	5.70E+03	9.34E+04	3.04E+04	1.00E+05	No
PENTACHLOROPHENOL	87-86-5	ug/kg	4 : 11 : 22	36	1.00E+01	3.00E+02	5.24E+01	2.20E+01	Yes
PHENANTHRENE	85-01-8	ug/kg	3 : 10 : 11	30	2.50E+02	2.00E+04	2.48E+03	1.60E+05	No
PHENOL	108-95-2	ug/kg	2 : 7 : 11	29	2.70E+02	2.70E+02	2.36E+02	2.60E+05	No
PYRENE	129-00-0	ug/kg	3 : 10 : 11	30	2.50E+02	8.60E+03	1.35E+03	4.80E+05	No
SELENIUM	7782-49-2	ug/kg	2 : 11 : 11	18	1.10E+03	1.40E+03	5.14E+02	4.00E+03	No
SILVER	7440-22-4	ug/kg	1 : 11 : 11	9	2.17E+04	2.17E+04	2.62E+03	1.30E+04	Yes
TOLUENE	108-88-3	ug/kg	2 : 10 : 11	20	1.30E+01	5.80E+03	1.06E+03	1.60E+04	No
TOTAL CYANIDE	57-12-5	ug/kg	4 : 11 : 11	36	6.00E+02	1.60E+04	2.34E+03	4.00E+03	Yes
Total METHYLPHENOL	otal MethylPh	ug/kg	2 : 10 : 11	20	5.05E+02	1.89E+04	3.30E+03	2.00E+04	No
Total XYLENES	Total Xylenes	ug/kg	1 : 8 : 11	13	2.07E+03	2.07E+03	2.67E+02	5.60E+03	No
VANADIUM	7440-62-2	ug/kg	11 : 11 : 11	100	8.70E+03	5.09E+04	2.85E+04	9.90E+05	No
ZINC	7440-66-6	ug/kg	11 : 11 : 11	100	1.32E+04	6.28E+05	1.25E+05	5.00E+06	No

Table C-1
Risk Screening
Using Part 201 Criteria Industrial Drinking Water Protection Criteria
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial Drinking Water Protection (g)	Exceeds? (h)

Notes:

CAS - Chemical Abstract Service.
(a) Only chemicals with at least one positively detected result are reported.
(b) Frequency of detection - Number of detected samples: Number of samples used to calculate statistics: Number of total samples.
(c) Percent of samples with detects out of samples used to calculate statistics.
(d) Minimum detected concentration for each chemical, after duplicates have been averaged.
(e) Maximum detected concentration for each chemical, after duplicates have been averaged.
(f) Arithmetic mean concentration for each chemical, after duplicates have been averaged and any non detected results with one-half the sample quantitation limit greater than the maximum detected concentration have been excluded.
(g) Industrial Drinking Water Protection Criteria (MDEQ, Dec. 2002). Only chemicals with Part 201 Industrial Drinking Water Protection Criteria reported.
(h) Chemicals where maximum detected concentration exceeds criterion.

Table C-2
Cumulative Risk Screening
Using Part 201 Criteria Industrial Drinking Water Criteria (DWC)- Cancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial Cancer DWC (g)	Ratio (h)	Constituent of Interest?
AOC 6										
TETRACHLOROETHENE	127-18-4	ug/l	1 : 1 : 1	100	4.70E-01	4.70E-01	4.70E-01	1.34E+02	3.52E-03	No
TRICHLOROETHENE	79-01-6	ug/l	1 : 1 : 1	100	4.20E-01	4.20E-01	4.20E-01	3.48E+02	1.21E-03	No
							Cumulative Risk:		**4.72E-03**	
CMSMW-13S										
BENZENE	71-43-2	ug/l	1 : 1 : 1	100	6.60E+01	6.60E+01	6.60E+01	1.20E+02	5.51E-01	No
							Cumulative Risk:		**5.51E-01**	
CMSMW-14S										
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/l	1 : 1 : 1	100	5.90E+00	5.90E+00	5.90E+00	8.28E+00	7.13E-01	No
1,2-DICHLOROPROPANE	78-87-5	ug/l	1 : 1 : 1	100	5.20E-01	5.20E-01	5.20E-01	9.40E+01	5.53E-03	No
							Cumulative Risk:		**7.18E-01**	
CMSMW-15										
1,4-DIOXANE	123-91-1	ug/l	1 : 1 : 1	100	4.80E+00	4.80E+00	4.80E+00	3.48E+02	1.38E-02	No
STYRENE	100-42-5	ug/l	1 : 1 : 1	100	3.60E+00	3.60E+00	3.60E+00	2.67E+02	1.35E-02	No
							Cumulative Risk:		**2.73E-02**	
CMSMW-2										
BENZENE	71-43-2	ug/l	1 : 1 : 1	100	5.10E+00	5.10E+00	5.10E+00	1.20E+02	4.25E-02	No
CHLOROMETHANE	74-87-3	ug/l	1 : 1 : 1	100	5.90E-01	5.90E-01	5.90E-01	1.05E+03	5.60E-04	No
							Cumulative Risk:		**4.31E-02**	
ENSR BG-MW-1										
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	3.50E+00	3.50E+00	3.50E+00	2.32E+00	1.51E+00	Yes
							Cumulative Risk:		**0.00E+00**	

Table C-2
Cumulative Risk Screening
Using Part 201 Criteria Industrial Drinking Water Criteria (DWC)- Cancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial Cancer DWC (g)	Ratio (h)	Constituent of Interest?
ERB-1										
CHLOROFORM	67-66-3	ug/l	1 : 1 : 1	100	3.80E+01	3.80E+01	3.80E+01	7.90E+02	4.81E-02	No
BROMODICHLOROMETHANE	75-27-4	ug/l	1 : 1 : 1	100	1.20E+00	1.20E+00	1.20E+00	6.95E+01	1.73E-02	No
METHYLENE CHLORIDE	75-09-2	ug/l	1 : 1 : 1	100	1.30E+01	1.30E+01	1.30E+01	8.28E+02	1.57E-02	No
BENZENE	71-43-2	ug/l	1 : 1 : 1	100	2.50E-01	2.50E-01	2.50E-01	1.20E+02	2.09E-03	No
STYRENE	100-42-5	ug/l	1 : 1 : 1	100	2.80E-01	2.80E-01	2.80E-01	2.67E+02	1.05E-03	No
							Cumulative Risk:		**8.42E-02**	
GTI SB-11										
BENZENE	71-43-2	ug/l	1 : 1 : 1	100	2.00E+00	2.00E+00	2.00E+00	1.20E+02	1.67E-02	No
							Cumulative Risk:		**1.67E-02**	
GTI SB-16										
BENZENE	71-43-2	ug/l	1 : 1 : 1	100	6.80E+01	6.80E+01	6.80E+01	1.20E+02	5.67E-01	No
							Cumulative Risk:		**5.67E-01**	
GTI SB-3										
BENZENE	71-43-2	ug/l	1 : 1 : 1	100	1.60E+00	1.60E+00	1.60E+00	1.20E+02	1.33E-02	No
STYRENE	100-42-5	ug/l	1 : 1 : 1	100	1.90E+00	1.90E+00	1.90E+00	2.67E+02	7.11E-03	No
							Cumulative Risk:		**2.05E-02**	
GTI-TPW-1										
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	6.00E+00	6.00E+00	6.00E+00	2.32E+00	2.59E+00	Yes
							Cumulative Risk:		**0.00E+00**	
P-15-N										
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	3.30E+01	3.30E+01	3.30E+01	2.32E+00	1.42E+01	Yes
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/l	1 : 1 : 1	100	1.04E+01	1.04E+01	1.04E+01	8.28E+00	1.26E+00	Yes
1,2-DICHLOROPROPANE	78-87-5	ug/l	1 : 1 : 1	100	6.63E+01	6.63E+01	6.63E+01	9.40E+01	7.06E-01	No
							Cumulative Risk:		**7.06E-01**	

Table C-2
Cumulative Risk Screening
Using Part 201 Criteria Industrial Drinking Water Criteria (DWC)- Cancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial Cancer DWC (g)	Ratio (h)	Constituent of Interest?
P-34-N										
ARSENIC	7440-38-2	ug/L	6 : 6 : 6	100	1.60E+01	2.70E+02	8.98E+01	2.32E+00	1.17E+02	Yes
1,4-DIOXANE	123-91-1	ug/l	3 : 3 : 5	100	3.00E+00	3.60E+00	3.20E+00	3.48E+02	1.04E-02	No
							Cumulative Risk:		**1.04E-02**	
P-36-N										
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	7.70E+01	7.70E+01	7.70E+01	2.32E+00	3.32E+01	Yes
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	100	1.02E+02	1.02E+02	1.02E+02	1.09E+03	9.39E-02	No
							Cumulative Risk:		**9.39E-02**	
PM1NA										
ARSENIC	7440-38-2	ug/L	4 : 4 : 4	100	3.10E+01	6.60E+02	4.43E+02	2.32E+00	2.85E+02	Yes
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 2 : 2	50	1.90E+01	1.90E+01	1.08E+01	1.09E+03	1.75E-02	No
BENZENE	71-43-2	ug/l	1 : 2 : 4	50	1.90E+00	1.90E+00	1.20E+00	1.20E+02	1.59E-02	No
							Cumulative Risk:		**3.33E-02**	
PM3NB										
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/l	1 : 1 : 1	100	3.90E+01	3.90E+01	3.90E+01	8.28E+00	4.71E+00	Yes
1,4-DIOXANE	123-91-1	ug/l	1 : 1 : 1	100	3.20E+00	3.20E+00	3.20E+00	3.48E+02	9.21E-03	No
							Cumulative Risk:		**9.21E-03**	
PM4NA										
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	3.00E+02	3.00E+02	3.00E+02	2.32E+00	1.29E+02	Yes
BENZENE	71-43-2	ug/l	1 : 1 : 1	100	1.10E+00	1.10E+00	1.10E+00	1.20E+02	9.18E-03	No
							Cumulative Risk:		**9.18E-03**	
RFIMW 01										
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	3.50E+00	3.50E+00	3.50E+00	2.32E+00	1.51E+00	Yes
1,4-DIOXANE	123-91-1	ug/l	1 : 1 : 1	100	1.20E+02	1.20E+02	1.20E+02	3.48E+02	3.45E-01	No
							Cumulative Risk:		**3.45E-01**	

Table C-2
Cumulative Risk Screening
Using Part 201 Criteria Industrial Drinking Water Criteria (DWC)- Cancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial Cancer DWC (g)	Ratio (h)	Constituent of Interest?
RFIMW 02										
ARSENIC	7440-38-2	ug/L	4 : 4 : 4	100	7.50E+00	4.40E+01	2.06E+01	2.32E+00	1.90E+01	Yes
BIS(2-CHLOROETHYL) ETHER	111-44-4	ug/l	4 : 4 : 4	100	2.40E+01	4.50E+01	3.30E+01	8.28E+00	5.44E+00	Yes
1,4-DIOXANE	123-91-1	ug/l	1 : 1 : 3	100	4.00E+00	4.00E+00	4.00E+00	3.48E+02	1.15E-02	No
BENZENE	71-43-2	ug/l	2 : 4 : 4	50	2.80E-01	7.70E-01	5.12E-01	1.20E+02	6.42E-03	No
							Cumulative Risk:		**1.79E-02**	
RFIMW 03										
ARSENIC	7440-38-2	ug/L	4 : 4 : 4	100	1.90E+01	5.00E+01	3.00E+01	2.32E+00	2.16E+01	Yes
BIS(2-CHLOROETHYL) ETHER	111-44-4	ug/l	4 : 4 : 4	100	6.40E+00	1.50E+01	1.19E+01	8.28E+00	1.81E+00	Yes
							Cumulative Risk:		**0.00E+00**	
RFIMW 04										
ARSENIC	7440-38-2	ug/L	4 : 4 : 4	100	1.90E+02	5.70E+02	3.85E+02	2.32E+00	2.46E+02	Yes
1,4-DIOXANE	123-91-1	ug/l	4 : 4 : 4	100	1.10E+01	1.90E+01	1.58E+01	3.48E+02	5.47E-02	No
							Cumulative Risk:		**5.47E-02**	
RFIMW 05										
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/l	3 : 3 : 4	100	1.60E+00	1.80E+00	1.73E+00	8.28E+00	2.17E-01	No
1,2-DICHLOROPROPANE	78-87-5	ug/l	4 : 4 : 4	100	3.90E-01	1.10E+00	7.32E-01	9.40E+01	1.17E-02	No
BENZENE	71-43-2	ug/l	3 : 4 : 4	75	4.50E-01	6.80E-01	5.55E-01	1.20E+02	5.67E-03	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	2 : 3 : 3	67	1.90E+00	3.00E+00	2.47E+00	1.09E+03	2.76E-03	No
							Cumulative Risk:		**2.38E-01**	
RFIMW 06										
ARSENIC	7440-38-2	ug/L	2 : 4 : 4	50	5.60E+00	7.50E+00	4.53E+00	2.32E+00	3.24E+00	Yes
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/l	4 : 4 : 4	100	1.40E+01	1.80E+01	1.63E+01	8.28E+00	2.17E+00	Yes
1,2-DICHLOROPROPANE	78-87-5	ug/l	4 : 4 : 4	100	2.20E+01	3.50E+01	2.90E+01	9.40E+01	3.73E-01	No
1,2-DICHLOROETHANE	107-06-2	ug/l	2 : 4 : 4	50	4.70E-01	5.80E-01	5.12E-01	5.99E+01	9.68E-03	No
							Cumulative Risk:		**3.82E-01**	

Table C-2
Cumulative Risk Screening
Using Part 201 Criteria Industrial Drinking Water Criteria (DWC)- Cancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial Cancer DWC (g)	Ratio (h)	Constituent of Interest?
RFIMW 07										
1,4-DIOXANE	123-91-1	ug/l	4 : 4 : 4	100	2.40E+01	4.40E+01	3.21E+01	3.48E+02	1.27E-01	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 3 : 3	33	1.30E+01	1.30E+01	7.67E+00	1.09E+03	1.20E-02	No
BENZENE	71-43-2	ug/l	1 : 1 : 1	100	8.30E-01	8.30E-01	8.30E-01	1.20E+02	6.92E-03	No
							Cumulative Risk:		**1.45E-01**	
RFIMW 08										
CHLOROFORM	67-66-3	ug/l	1 : 4 : 4	25	1.20E+01	1.20E+01	3.38E+00	7.90E+02	1.52E-02	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 4	100	1.80E+00	1.80E+00	1.80E+00	1.09E+03	1.66E-03	No
							Cumulative Risk:		**1.68E-02**	
RFIMW 09										
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	2.30E+01	2.30E+01	2.30E+01	2.32E+00	9.92E+00	Yes
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 4	100	2.40E+00	2.40E+00	2.40E+00	1.09E+03	2.21E-03	No
							Cumulative Risk:		**2.21E-03**	
RFIMW 10										
ARSENIC	7440-38-2	ug/L	4 : 4 : 4	100	1.50E+01	1.90E+01	1.64E+01	2.32E+00	8.20E+00	Yes
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 3	100	1.50E+00	1.50E+00	1.50E+00	1.09E+03	1.38E-03	No
							Cumulative Risk:		**1.38E-03**	
RFIMW 11										
ARSENIC	7440-38-2	ug/L	4 : 4 : 4	100	1.70E+01	1.40E+02	9.68E+01	2.32E+00	6.04E+01	Yes
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	2 : 2 : 2	100	2.80E+00	3.50E+00	3.15E+00	1.09E+03	3.22E-03	No
							Cumulative Risk:		**3.22E-03**	
RFIMW 12										
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	3.80E+01	3.80E+01	3.80E+01	2.32E+00	1.64E+01	Yes
							Cumulative Risk:		**0.00E+00**	

Table C-2
Cumulative Risk Screening
Using Part 201 Criteria Industrial Drinking Water Criteria (DWC)- Cancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial Cancer DWC (g)	Ratio (h)	Constituent of Interest?
RFIMW 13										
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	4.80E+00	4.80E+00	4.80E+00	2.32E+00	2.07E+00	Yes
1,4-DIOXANE	123-91-1	ug/l	1 : 1 : 1	100	2.40E+02	2.40E+02	2.40E+02	3.48E+02	6.90E-01	Yes
1,2-DICHLOROETHANE	107-06-2	ug/l	1 : 1 : 1	100	2.20E+01	2.20E+01	2.20E+01	5.99E+01	3.67E-01	No
							Cumulative Risk:		**3.67E-01**	
RFIMW 16										
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	3.90E+01	3.90E+01	3.90E+01	2.32E+00	1.68E+01	Yes
1,4-DIOXANE	123-91-1	ug/l	1 : 1 : 1	100	3.90E+01	3.90E+01	3.90E+01	3.48E+02	1.12E-01	No
							Cumulative Risk:		**1.12E-01**	
RFIMW 18										
1,4-DIOXANE	123-91-1	ug/l	1 : 1 : 1	100	3.80E+00	3.80E+00	3.80E+00	3.48E+02	1.09E-02	No
							Cumulative Risk:		**1.09E-02**	
RFIMW 22										
VINYL CHLORIDE	75-01-4	ug/l	1 : 1 : 1	100	2.80E+02	2.80E+02	2.80E+02	2.50E+00	1.12E+02	Yes
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	1.90E+02	1.90E+02	1.90E+02	2.32E+00	8.20E+01	Yes
BENZENE	71-43-2	ug/l	1 : 1 : 1	100	2.30E+03	2.30E+03	2.30E+03	1.20E+02	1.92E+01	Yes
1,4-DIOXANE	123-91-1	ug/l	1 : 1 : 1	100	8.70E+01	8.70E+01	8.70E+01	3.48E+02	2.50E-01	No
							Cumulative Risk:		**2.50E-01**	
RFIMW 23										
ARSENIC	7440-38-2	ug/L	4 : 4 : 4	100	6.30E+00	1.20E+01	9.57E+00	2.32E+00	5.18E+00	Yes
BENZO(A)ANTHRACENE	56-55-3	ug/l	1 : 1 : 1	100	3.30E+00	3.30E+00	3.30E+00	8.48E+00	3.89E-01	No
							Cumulative Risk:		**3.89E-01**	

Table C-2
Cumulative Risk Screening
Using Part 201 Criteria Industrial Drinking Water Criteria (DWC)- Cancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial Cancer DWC (g)	Ratio (h)	Constituent of Interest?
RFIMW 24										
ARSENIC	7440-38-2	ug/L	1 : 6 : 6	17	1.10E+01	1.10E+01	4.66E+00	2.32E+00	4.75E+00	Yes
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	3 : 5 : 5	60	2.00E+00	4.10E+00	2.84E+00	1.09E+03	3.77E-03	No
BENZENE	71-43-2	ug/l	1 : 1 : 6	100	1.10E-01	1.10E-01	1.10E-01	1.20E+02	9.18E-04	No
METHYLENE CHLORIDE	75-09-2	ug/l	1 : 1 : 6	100	4.50E-01	4.50E-01	4.50E-01	8.28E+02	5.44E-04	No
							Cumulative Risk:		**5.24E-03**	
RFIMW 25										
ARSENIC	7440-38-2	ug/L	4 : 6 : 6	67	7.80E+00	2.60E+01	1.30E+01	2.32E+00	1.12E+01	Yes
							Cumulative Risk:		**0.00E+00**	
RFIMW 26										
ARSENIC	7440-38-2	ug/L	2 : 2 : 2	100	4.30E+00	7.00E+00	5.65E+00	2.32E+00	3.02E+00	Yes
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	100	1.80E+01	1.80E+01	1.80E+01	1.09E+03	1.66E-02	No
							Cumulative Risk:		**1.66E-02**	
RFIMW 27										
ARSENIC	7440-38-2	ug/L	1 : 6 : 6	17	5.90E+00	5.90E+00	4.40E+00	2.32E+00	2.55E+00	Yes
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 4 : 4	25	4.10E+00	4.10E+00	2.90E+00	1.09E+03	3.77E-03	No
BENZENE	71-43-2	ug/l	1 : 1 : 6	100	1.10E-01	1.10E-01	1.10E-01	1.20E+02	9.18E-04	No
							Cumulative Risk:		**4.69E-03**	
RFIMW 28										
ARSENIC	7440-38-2	ug/L	6 : 6 : 6	100	4.00E+01	6.90E+01	5.07E+01	2.32E+00	2.98E+01	Yes
BENZENE	71-43-2	ug/l	5 : 5 : 6	100	1.20E+00	2.30E+00	1.70E+00	1.20E+02	1.92E-02	No
							Cumulative Risk:		**1.92E-02**	
RFIMW 29										
ARSENIC	7440-38-2	ug/L	4 : 6 : 6	67	8.50E+00	3.05E+01	1.33E+01	2.32E+00	1.32E+01	Yes
							Cumulative Risk:		**0.00E+00**	

Table C-2
Cumulative Risk Screening
Using Part 201 Criteria Industrial Drinking Water Criteria (DWC)- Cancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial Cancer DWC (g)	Ratio (h)	Constituent of Interest?
TMW-2										
PROPYLENE OXIDE	75-56-9	ug/L	1 : 1 : 1	100	2.00E+03	2.00E+03	2.00E+03	2.20E+00	9.09E+02	Yes
							Cumulative Risk:		**0.00E+00**	
TMW-2D										
PROPYLENE OXIDE	75-56-9	ug/L	1 : 1 : 1	100	1.90E+03	1.90E+03	1.90E+03	2.20E+00	8.64E+02	Yes
							Cumulative Risk:		**0.00E+00**	
WHI1-3S										
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	8.80E+01	8.80E+01	8.80E+01	2.32E+00	3.80E+01	Yes
BENZENE	71-43-2	ug/l	1 : 1 : 1	100	6.81E+02	6.81E+02	6.81E+02	1.20E+02	5.68E+00	Yes
							Cumulative Risk:		**0.00E+00**	
WHI2-1S										
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	3.80E+01	3.80E+01	3.80E+01	2.32E+00	1.64E+01	Yes
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	100	8.10E+02	8.10E+02	8.10E+02	1.09E+03	7.46E-01	No
							Cumulative Risk:		**7.46E-01**	
WHI2-2S										
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	3.80E+01	3.80E+01	3.80E+01	2.32E+00	1.64E+01	Yes
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	100	8.40E+00	8.40E+00	8.40E+00	1.09E+03	7.73E-03	No
							Cumulative Risk:		**7.73E-03**	
WHI2-3S										
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	4.20E+01	4.20E+01	4.20E+01	2.32E+00	1.81E+01	Yes
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	100	1.21E+02	1.21E+02	1.21E+02	1.09E+03	1.11E-01	No
							Cumulative Risk:		**1.11E-01**	
WHI3-1S										
ARSENIC	7440-38-2	ug/L	2 : 2 : 2	100	1.60E+01	1.42E+02	7.90E+01	2.32E+00	6.13E+01	Yes
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	100	8.23E+01	8.23E+01	8.23E+01	1.09E+03	7.58E-02	No
							Cumulative Risk:		**7.58E-02**	

Table C-2
Cumulative Risk Screening
Using Part 201 Criteria Industrial Drinking Water Criteria (DWC)- Cancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial Cancer DWC (g)	Ratio (h)	Constituent of Interest?
WHI3-2S										
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	4.40E+01	4.40E+01	4.40E+01	2.32E+00	1.90E+01	Yes
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	100	1.60E+01	1.60E+01	1.60E+01	1.09E+03	1.47E-02	No
							Cumulative Risk:		**1.47E-02**	
WHI3-3S										
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	4.00E+00	4.00E+00	4.00E+00	2.32E+00	1.73E+00	Yes
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	100	6.38E+01	6.38E+01	6.38E+01	1.09E+03	5.87E-02	No
							Cumulative Risk:		**5.87E-02**	
WHI4-1S										
ARSENIC	7440-38-2	ug/L	1 : 2 : 2	50	1.03E+02	1.03E+02	5.40E+01	2.32E+00	4.44E+01	Yes
							Cumulative Risk:		**0.00E+00**	
WHI4-2S										
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	3.00E+01	3.00E+01	3.00E+01	2.32E+00	1.29E+01	Yes
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	100	2.68E+01	2.68E+01	2.68E+01	1.09E+03	2.47E-02	No
							Cumulative Risk:		**2.47E-02**	
WHI9-2F										
ARSENIC	7440-38-2	ug/L	2 : 2 : 2	100	3.30E+01	4.10E+01	3.70E+01	2.32E+00	1.77E+01	Yes
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/l	1 : 1 : 1	100	3.29E+00	3.29E+00	3.29E+00	8.28E+00	3.98E-01	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	100	2.38E+01	2.38E+01	2.38E+01	1.09E+03	2.19E-02	No
1,2-DICHLOROPROPANE	78-87-5	ug/l	1 : 1 : 2	100	1.74E+00	1.74E+00	1.74E+00	9.40E+01	1.85E-02	No
							Cumulative Risk:		**4.38E-01**	
WHI9-2S										
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	100	1.13E+00	1.13E+00	1.13E+00	1.09E+03	1.04E-03	No
							Cumulative Risk:		**1.04E-03**	

Table C-2
Cumulative Risk Screening
Using Part 201 Criteria Industrial Drinking Water Criteria (DWC)- Cancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial Cancer DWC (g)	Ratio (h)	Constituent of Interest?

Notes:

CAS - Chemical Abstract Service.
(a) Only chemicals with at least one positively detected result are reported.
(b) Frequency of detection - Number of detected samples: Number of samples used to calculate statistics: Number of total samples.
(c) Percent of samples with detects out of samples used to calculate statistics.
(d) Minimum detected concentration for each chemical, after duplicates have been averaged.
(e) Maximum detected concentration for each chemical, after duplicates have been averaged.
(f) Arithmetic mean concentration for each chemical, after duplicates have been averaged and any non detected results with one-half the sample quantitation limit greater than the maximum detected concentration have been excluded.
(g) Industrial Drinking Water Criteria (DWC): Carcinogen (MDEQ, Dec. 2002).
(h) Ratio of the maximum detected concentration and the Part 201 criterion.

Table C-3
Cumulative Risk Screening
Using Part 201 Criteria Industrial Drinking Water Criteria (DWC)- NonCancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer DWC (g)	Ratio (h)	Constituent of Interest?
AOC 6										
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	100	9.50E+00	9.50E+00	9.50E+00	3.50E+02	2.71E-02	No
TETRACHLOROETHENE	127-18-4	ug/l	1 : 1 : 1	100	4.70E-01	4.70E-01	4.70E-01	2.09E+02	2.25E-03	No
							Cumulative Risk:		**2.94E-02**	
CMSMW-1										
ACETONE	67-64-1	ug/l	1 : 1 : 1	100	9.40E+02	9.40E+02	9.40E+02	2.09E+03	4.51E-01	No
							Cumulative Risk:		**4.51E-01**	
CMSMW-12										
CARBON DISULFIDE	75-15-0	ug/l	1 : 1 : 1	100	1.50E+00	1.50E+00	1.50E+00	2.29E+03	6.54E-04	No
							Cumulative Risk:		**6.54E-04**	
CMSMW-13F										
NAPHTHALENE	91-20-3	ug/l	1 : 1 : 1	100	1.90E+01	1.90E+01	1.90E+01	1.48E+03	1.28E-02	No
							Cumulative Risk:		**1.28E-02**	
CMSMW-13S										
2-PICOLINE	109-06-8	ug/l	1 : 1 : 1	100	2.90E+01	2.90E+01	2.90E+01	2.09E+01	1.39E+00	Yes
PYRIDINE	110-86-1	ug/l	1 : 1 : 1	100	3.60E+00	3.60E+00	3.60E+00	2.09E+01	1.73E-01	No
ACETONE	67-64-1	ug/l	1 : 1 : 1	100	8.30E+01	8.30E+01	8.30E+01	2.09E+03	3.98E-02	No
2,4-DIMETHYLPHENOL	105-67-9	ug/l	1 : 1 : 1	100	5.50E+00	5.50E+00	5.50E+00	1.04E+03	5.27E-03	No
TOTAL XYLENES	Total Xylenes	ug/L	1 : 1 : 1	100	3.18E+00	3.18E+00	3.18E+00	3.75E+04	8.47E-05	No
							Cumulative Risk:		**2.18E-01**	
CMSMW-14S										
ACETONE	67-64-1	ug/l	1 : 1 : 1	100	4.65E+02	4.65E+02	4.65E+02	2.09E+03	2.23E-01	No
NAPHTHALENE	91-20-3	ug/l	1 : 1 : 1	100	5.65E+00	5.65E+00	5.65E+00	1.48E+03	3.82E-03	No
1,2-DICHLOROPROPANE	78-87-5	ug/l	1 : 1 : 1	100	5.20E-01	5.20E-01	5.20E-01	9.18E+03	5.67E-05	No
							Cumulative Risk:		**2.27E-01**	

Table C-3
Cumulative Risk Screening
Using Part 201 Criteria Industrial Drinking Water Criteria (DWC)- NonCancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer DWC (g)	Ratio (h)	Constituent of Interest?
CMSMW-15										
ETHYLBENZENE	100-41-4	ug/l	1 : 1 : 1	100	2.80E+00	2.80E+00	2.80E+00	2.02E+03	1.38E-03	No
STYRENE	100-42-5	ug/l	1 : 1 : 1	100	3.60E+00	3.60E+00	3.60E+00	4.17E+03	8.63E-04	No
							Cumulative Risk:		**2.25E-03**	
CMSMW-2										
NITRITE	14797-65-0	ug/L	1 : 1 : 1	100	8.20E+03	8.20E+03	8.20E+03	1.04E+04	7.86E-01	No
VANADIUM	7440-62-2	ug/L	1 : 1 : 1	100	3.30E+00	3.30E+00	3.30E+00	1.04E+02	3.16E-02	No
BARIUM	7440-39-3	ug/L	1 : 1 : 1	100	2.30E+02	2.30E+02	2.30E+02	7.30E+03	3.15E-02	No
ACETONE	67-64-1	ug/l	1 : 1 : 1	100	4.80E+01	4.80E+01	4.80E+01	2.09E+03	2.30E-02	No
ZINC	7440-66-6	ug/L	1 : 1 : 1	100	4.90E+01	4.90E+01	4.90E+01	6.88E+03	7.12E-03	No
TOLUENE	108-88-3	ug/l	1 : 1 : 1	100	2.90E+01	2.90E+01	2.90E+01	4.59E+03	6.32E-03	No
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	4.34E-01	4.34E-01	4.34E-01	1.10E+02	3.95E-03	No
NICKEL	7440-02-0	ug/L	1 : 1 : 1	100	4.20E+00	4.20E+00	4.20E+00	1.59E+03	2.65E-03	No
CHLOROBENZENE	108-90-7	ug/l	1 : 1 : 1	100	9.40E-01	9.40E-01	9.40E-01	3.96E+02	2.37E-03	No
PHENOL	108-95-2	ug/l	1 : 1 : 1	100	2.40E+01	2.40E+01	2.40E+01	1.25E+04	1.92E-03	No
1,2-DICHLOROBENZENE	95-50-1	ug/l	1 : 1 : 1	100	1.10E+00	1.10E+00	1.10E+00	1.79E+03	6.13E-04	No
							Cumulative Risk:		**8.97E-01**	
CMSMW-8										
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	3.90E+00	3.90E+00	3.90E+00	1.10E+02	3.55E-02	No
							Cumulative Risk:		**3.55E-02**	

Table C-3
Cumulative Risk Screening
Using Part 201 Criteria Industrial Drinking Water Criteria (DWC)- NonCancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer DWC (g)	Ratio (h)	Constituent of Interest?
ENSR BG-MW-1										
THALLIUM	7440-28-0	ug/L	1:1:1	100	1.00E+01	1.00E+01	1.00E+01	1.40E+00	7.16E+00	Yes
ARSENIC	7440-38-2	ug/L	1:1:1	100	3.50E+00	3.50E+00	3.50E+00	5.63E+00	6.22E-01	No
COBALT	7440-48-4	ug/L	1:1:1	100	3.10E+00	3.10E+00	3.10E+00	1.04E+02	2.97E-02	No
NICKEL	7440-02-0	ug/L	1:1:1	100	4.40E+01	4.40E+01	4.40E+01	1.59E+03	2.78E-02	No
BARIUM	7440-39-3	ug/L	1:1:1	100	4.90E+01	4.90E+01	4.90E+01	7.30E+03	6.71E-03	No
CHROMIUM	7440-47-3	ug/L	1:1:1	100	2.10E+00	2.10E+00	2.10E+00	3.50E+02	5.99E-03	No
ZINC	7440-66-6	ug/L	1:1:1	100	2.40E+01	2.40E+01	2.40E+01	6.88E+03	3.49E-03	No
COPPER	7440-50-8	ug/L	1:1:1	100	4.10E+00	4.10E+00	4.10E+00	3.96E+03	1.03E-03	No
MERCURY	7439-97-6	ug/l	2:2:2	100	3.53E-03	1.62E-02	9.86E-03	1.10E+02	1.47E-04	No
							Cumulative Risk:		**6.96E-01**	
ERB-1										
CHLOROFORM	67-66-3	ug/l	1:1:1	100	3.80E+01	3.80E+01	3.80E+01	2.71E+02	1.40E-01	No
METHYLENE CHLORIDE	75-09-2	ug/l	1:1:1	100	1.30E+01	1.30E+01	1.30E+01	1.21E+03	1.07E-02	No
BROMODICHLOROMETHANE	75-27-4	ug/l	1:1:1	100	1.20E+00	1.20E+00	1.20E+00	3.75E+02	3.20E-03	No
CHLOROBENZENE	108-90-7	ug/l	1:1:1	100	3.40E-01	3.40E-01	3.40E-01	3.96E+02	8.58E-04	No
TOLUENE	108-88-3	ug/l	1:1:1	100	6.00E-01	6.00E-01	6.00E-01	4.59E+03	1.31E-04	No
STYRENE	100-42-5	ug/l	1:1:1	100	2.80E-01	2.80E-01	2.80E-01	4.17E+03	6.71E-05	No
							Cumulative Risk:		**1.55E-01**	
GTI SB-3										
STYRENE	100-42-5	ug/l	1:1:1	100	1.90E+00	1.90E+00	1.90E+00	4.17E+03	4.55E-04	No
							Cumulative Risk:		**4.55E-04**	

Table C-3
Cumulative Risk Screening
Using Part 201 Criteria Industrial Drinking Water Criteria (DWC)- NonCancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer DWC (g)	Ratio (h)	Constituent of Interest?
GTI-TPW-1										
ARSENIC	7440-38-2	ug/L	1:1:1	100	6.00E+00	6.00E+00	6.00E+00	5.63E+00	1.07E+00	Yes
IRON	7439-89-6	ug/L	1:1:1	100	1.32E+02	1.32E+02	1.32E+02	6.26E+03	2.11E-02	No
CHROMIUM	7440-47-3	ug/L	1:1:1	100	4.00E+00	4.00E+00	4.00E+00	3.50E+02	1.14E-02	No
BARIUM	7440-39-3	ug/L	1:1:1	100	6.70E+01	6.70E+01	6.70E+01	7.30E+03	9.18E-03	No
MAGNESIUM	7439-95-4	ug/L	1:1:1	100	4.30E+03	4.30E+03	4.30E+03	1.15E+06	3.75E-03	No
TOTAL XYLENES	Total Xylenes	ug/L	1:1:1	100	3.69E+01	3.69E+01	3.69E+01	3.75E+04	9.83E-04	No
ACETOPHENONE	98-86-2	ug/l	1:1:1	100	2.99E+00	2.99E+00	2.99E+00	4.38E+03	6.83E-04	No
							Cumulative Risk:		**4.71E-02**	
P-15-N										
ARSENIC	7440-38-2	ug/L	1:1:1	100	3.30E+01	3.30E+01	3.30E+01	5.63E+00	5.86E+00	Yes
VANADIUM	7440-62-2	ug/L	1:1:1	100	1.30E+01	1.30E+01	1.30E+01	1.04E+02	1.25E-01	No
BARIUM	7440-39-3	ug/L	1:1:1	100	9.50E+01	9.50E+01	9.50E+01	7.30E+03	1.30E-02	No
1,2-DICHLOROPROPANE	78-87-5	ug/l	1:1:1	100	6.63E+01	6.63E+01	6.63E+01	9.18E+03	7.22E-03	No
NICKEL	7440-02-0	ug/L	1:1:1	100	5.00E+00	5.00E+00	5.00E+00	1.59E+03	3.15E-03	No
NAPHTHALENE	91-20-3	ug/l	1:1:1	100	3.76E+00	3.76E+00	3.76E+00	1.48E+03	2.54E-03	No
							Cumulative Risk:		**1.51E-01**	
P-34-N										
ARSENIC	7440-38-2	ug/L	6:6:6	100	1.60E+01	2.70E+02	8.98E+01	5.63E+00	4.79E+01	Yes
VANADIUM	7440-62-2	ug/L	4:6:6	67	2.60E+01	8.70E+01	4.35E+01	1.04E+02	8.34E-01	Yes
CHROMIUM	7440-47-3	ug/L	5:6:6	83	8.00E+00	5.00E+01	2.56E+01	3.50E+02	1.43E-01	No
CADMIUM	7440-43-9	ug/L	3:6:6	50	1.30E+00	1.90E+00	1.05E+00	2.09E+01	9.11E-02	No
NICKEL	7440-02-0	ug/L	3:6:6	50	4.80E+01	9.40E+01	4.28E+01	1.59E+03	5.93E-02	No
ZINC	7440-66-6	ug/L	4:6:6	67	7.00E+01	3.30E+02	1.46E+02	6.88E+03	4.79E-02	No
BARIUM	7440-39-3	ug/L	6:6:6	100	9.50E+01	2.70E+02	1.84E+02	7.30E+03	3.70E-02	No
COPPER	7440-50-8	ug/L	4:6:6	67	1.80E+01	5.70E+01	2.90E+01	3.96E+03	1.44E-02	No
DIETHYL PHTHALATE	84-66-2	ug/l	1:1:4	100	1.70E+00	1.70E+00	1.70E+00	1.56E+04	1.09E-04	No
							Cumulative Risk:		**3.93E-01**	

Table C-3
Cumulative Risk Screening
Using Part 201 Criteria Industrial Drinking Water Criteria (DWC)- NonCancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer DWC (g)	Ratio (h)	Constituent of Interest?
P-36-N										
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	7.70E+01	7.70E+01	7.70E+01	5.63E+00	1.37E+01	Yes
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	100	1.02E+02	1.02E+02	1.02E+02	3.96E+02	2.57E-01	No
IRON	7439-89-6	ug/L	1 : 1 : 1	100	1.00E+03	1.00E+03	1.00E+03	6.26E+03	1.60E-01	No
BARIUM	7440-39-3	ug/L	1 : 1 : 1	100	3.32E+02	3.32E+02	3.32E+02	7.30E+03	4.55E-02	No
MAGNESIUM	7439-95-4	ug/L	1 : 1 : 1	100	1.61E+04	1.61E+04	1.61E+04	1.15E+06	1.40E-02	No
DIETHYL PHTHALATE	84-66-2	ug/l	1 : 1 : 1	100	2.66E+00	2.66E+00	2.66E+00	1.56E+04	1.70E-04	No
							Cumulative Risk:		**4.77E-01**	
PM1NA										
ARSENIC	7440-38-2	ug/L	4 : 4 : 4	100	3.10E+01	6.60E+02	4.43E+02	5.63E+00	1.17E+02	Yes
ANTIMONY	7440-36-0	ug/L	1 : 4 : 4	25	2.00E+01	2.00E+01	9.50E+00	7.30E+00	2.74E+00	Yes
CADMIUM	7440-43-9	ug/L	2 : 4 : 4	50	2.10E+00	2.00E+01	5.78E+00	2.09E+01	9.59E-01	Yes
VANADIUM	7440-62-2	ug/L	4 : 4 : 4	100	3.50E+01	8.50E+01	6.08E+01	1.04E+02	8.15E-01	Yes
CHROMIUM	7440-47-3	ug/L	4 : 4 : 4	100	2.80E+01	1.40E+02	8.20E+01	3.50E+02	4.00E-01	No
NICKEL	7440-02-0	ug/L	3 : 4 : 4	75	5.40E+01	1.50E+02	8.60E+01	1.59E+03	9.46E-02	No
ZINC	7440-66-6	ug/L	2 : 4 : 4	50	6.20E+01	4.50E+02	1.67E+02	6.88E+03	6.54E-02	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 2 : 2	50	1.90E+01	1.90E+01	1.08E+01	3.96E+02	4.79E-02	No
BARIUM	7440-39-3	ug/L	4 : 4 : 4	100	6.90E+01	3.00E+02	1.61E+02	7.30E+03	4.11E-02	No
COPPER	7440-50-8	ug/L	3 : 4 : 4	75	1.80E+01	1.10E+02	5.25E+01	3.96E+03	2.78E-02	No
2,6-DICHLOROPHENOL	87-65-0	ug/l	3 : 3 : 4	100	2.40E+00	2.90E+00	2.70E+00	2.09E+02	1.39E-02	No
MERCURY	7439-97-6	ug/L	2 : 4 : 4	50	3.60E-01	1.00E+00	3.90E-01	1.10E+02	9.09E-03	No
TOTAL METHYLPHENOL	xtal Methylpl	ug/L	3 : 3 : 4	100	4.00E+00	8.40E+00	4.43E+00	1.04E+03	8.05E-03	No
ACETONE	67-64-1	ug/l	1 : 1 : 2	100	9.00E+00	9.00E+00	9.00E+00	2.09E+03	4.32E-03	No
CARBON DISULFIDE	75-15-0	ug/l	4 : 4 : 4	100	1.50E+00	3.50E+00	2.40E+00	2.29E+03	1.53E-03	No
							Cumulative Risk:		**7.13E-01**	
PM1NB										
CARBON DISULFIDE	75-15-0	ug/l	1 : 1 : 1	100	3.10E+00	3.10E+00	3.10E+00	2.29E+03	1.35E-03	No
							Cumulative Risk:		**1.35E-03**	

Table C-3
Cumulative Risk Screening
Using Part 201 Criteria Industrial Drinking Water Criteria (DWC)- NonCancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer DWC (g)	Ratio (h)	Constituent of Interest?
PM3NB										
CARBON DISULFIDE	75-15-0	ug/l	1 : 1 : 1	100	6.30E-01	6.30E-01	6.30E-01	2.29E+03	2.75E-04	No
							Cumulative Risk:		2.75E-04	
PM4NA										
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	3.00E+02	3.00E+02	3.00E+02	5.63E+00	5.33E+01	Yes
ANTIMONY	7440-36-0	ug/L	1 : 1 : 1	100	1.30E+01	1.30E+01	1.30E+01	7.30E+00	1.78E+00	Yes
VANADIUM	7440-62-2	ug/L	1 : 1 : 1	100	6.60E+01	6.60E+01	6.60E+01	1.04E+02	6.33E-01	No
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	100	4.10E+01	4.10E+01	4.10E+01	3.50E+02	1.17E-01	No
NICKEL	7440-02-0	ug/L	1 : 1 : 1	100	5.30E+01	5.30E+01	5.30E+01	1.59E+03	3.34E-02	No
COBALT	7440-48-4	ug/L	1 : 1 : 1	100	3.30E+00	3.30E+00	3.30E+00	1.04E+02	3.16E-02	No
BARIUM	7440-39-3	ug/L	1 : 1 : 1	100	1.00E+02	1.00E+02	1.00E+02	7.30E+03	1.37E-02	No
ZINC	7440-66-6	ug/L	1 : 1 : 1	100	3.30E+01	3.30E+01	3.30E+01	6.88E+03	4.79E-03	No
TOLUENE	108-88-3	ug/l	1 : 1 : 1	100	1.30E+01	1.30E+01	1.30E+01	4.59E+03	2.83E-03	No
COPPER	7440-50-8	ug/L	1 : 1 : 1	100	4.70E+00	4.70E+00	4.70E+00	3.96E+03	1.19E-03	No
CARBON DISULFIDE	75-15-0	ug/l	1 : 1 : 1	100	1.40E+00	1.40E+00	1.40E+00	2.29E+03	6.10E-04	No
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	5.26E-02	5.26E-02	5.26E-02	1.10E+02	4.78E-04	No
							Cumulative Risk:		8.39E-01	
RFIMW 01										
THALLIUM	7440-28-0	ug/L	1 : 1 : 1	100	7.65E+00	7.65E+00	7.65E+00	1.40E+00	5.47E+00	Yes
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	3.50E+00	3.50E+00	3.50E+00	5.63E+00	6.22E-01	No
VANADIUM	7440-62-2	ug/L	1 : 1 : 1	100	5.50E+00	5.50E+00	5.50E+00	1.04E+02	5.27E-02	No
TOLUENE	108-88-3	ug/l	1 : 1 : 1	100	1.20E+02	1.20E+02	1.20E+02	4.59E+03	2.62E-02	No
BARIUM	7440-39-3	ug/L	1 : 1 : 1	100	1.85E+02	1.85E+02	1.85E+02	7.30E+03	2.53E-02	No
CADMIUM	7440-43-9	ug/L	1 : 1 : 1	100	4.30E-01	4.30E-01	4.30E-01	2.09E+01	2.06E-02	No
COBALT	7440-48-4	ug/L	1 : 1 : 1	100	1.25E+00	1.25E+00	1.25E+00	1.04E+02	1.20E-02	No
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	100	1.80E+00	1.80E+00	1.80E+00	3.50E+02	5.14E-03	No
ZINC	7440-66-6	ug/L	1 : 1 : 1	100	1.70E+01	1.70E+01	1.70E+01	6.88E+03	2.47E-03	No
NICKEL	7440-02-0	ug/L	1 : 1 : 1	100	3.90E+00	3.90E+00	3.90E+00	1.59E+03	2.46E-03	No
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	2.83E-02	2.83E-02	2.83E-02	1.10E+02	2.57E-04	No
							Cumulative Risk:		7.69E-01	

Table C-3
Cumulative Risk Screening
Using Part 201 Criteria Industrial Drinking Water Criteria (DWC)- NonCancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer DWC (g)	Ratio (h)	Constituent of Interest?
RFIMW 02										
ARSENIC	7440-38-2	ug/L	4 : 4 : 4	100	7.50E+00	4.40E+01	2.06E+01	5.63E+00	7.81E+00	Yes
VANADIUM	7440-62-2	ug/L	3 : 4 : 4	75	2.40E+01	1.30E+02	4.85E+01	1.04E+02	1.25E+00	Yes
CHROMIUM	7440-47-3	ug/L	4 : 4 : 4	100	3.00E+01	1.80E+02	8.00E+01	3.50E+02	5.14E-01	Yes
CADMIUM	7440-43-9	ug/L	2 : 4 : 4	50	2.10E+00	6.80E+00	2.60E+00	2.09E+01	3.26E-01	No
TOTAL METHYLPHENOL	otal Methylph	ug/L	3 : 3 : 3	100	3.85E+01	1.95E+02	1.15E+02	1.04E+03	1.87E-01	No
NICKEL	7440-02-0	ug/L	3 : 4 : 4	75	4.40E+01	1.70E+02	7.13E+01	1.59E+03	1.07E-01	No
BARIUM	7440-39-3	ug/L	4 : 4 : 4	100	4.40E+02	7.70E+02	5.55E+02	7.30E+03	1.05E-01	No
ZINC	7440-66-6	ug/L	2 : 4 : 4	50	7.60E+01	3.10E+02	1.17E+02	6.88E+03	4.50E-02	No
COPPER	7440-50-8	ug/L	3 : 4 : 4	75	4.20E+01	1.40E+02	6.28E+01	3.96E+03	3.53E-02	No
ACETONE	67-64-1	ug/l	1 : 2 : 2	50	2.70E+01	2.70E+01	1.60E+01	2.09E+03	1.29E-02	No
PHENOL	108-95-2	ug/l	1 : 3 : 3	33	5.30E+00	5.30E+00	3.43E+00	1.25E+04	4.24E-04	No
CARBON DISULFIDE	75-15-0	ug/l	3 : 4 : 4	75	1.20E-01	5.90E-01	3.38E-01	2.29E+03	2.57E-04	No
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	4.16E-03	4.16E-03	4.16E-03	1.10E+02	3.78E-05	No
							Cumulative Risk:		**8.20E-01**	

Table C-3
Cumulative Risk Screening
Using Part 201 Criteria Industrial Drinking Water Criteria (DWC)- NonCancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer DWC (g)	Ratio (h)	Constituent of Interest?
RFIMW 03										
ARSENIC	7440-38-2	ug/L	4 : 4 : 4	100	1.90E+01	5.00E+01	3.00E+01	5.63E+00	8.88E+00	Yes
VANADIUM	7440-62-2	ug/L	4 : 4 : 4	100	3.50E+01	1.30E+02	6.25E+01	1.04E+02	1.25E+00	Yes
CHROMIUM	7440-47-3	ug/L	4 : 4 : 4	100	3.00E+01	1.50E+02	6.33E+01	3.50E+02	4.28E-01	Yes
BARIUM	7440-39-3	ug/L	4 : 4 : 4	100	1.20E+03	1.70E+03	1.50E+03	7.30E+03	2.33E-01	No
CADMIUM	7440-43-9	ug/L	1 : 4 : 4	25	3.30E+00	3.30E+00	1.20E+00	2.09E+01	1.58E-01	No
NICKEL	7440-02-0	ug/L	4 : 4 : 4	100	4.70E+01	1.80E+02	8.55E+01	1.59E+03	1.14E-01	No
TOTAL METHYLPHENOL	otal Methylpl	ug/L	3 : 4 : 4	75	1.40E+01	7.80E+01	3.12E+01	1.04E+03	7.48E-02	No
ZINC	7440-66-6	ug/L	3 : 4 : 4	75	9.10E+01	3.40E+02	1.49E+02	6.88E+03	4.94E-02	No
COPPER	7440-50-8	ug/L	3 : 4 : 4	75	3.20E+01	1.20E+02	5.40E+01	3.96E+03	3.03E-02	No
ACETONE	67-64-1	ug/l	2 : 3 : 3	67	1.70E+01	2.20E+01	1.58E+01	2.09E+03	1.05E-02	No
ACETOPHENONE	98-86-2	ug/l	1 : 1 : 3	100	1.90E+00	1.90E+00	1.90E+00	4.38E+03	4.34E-04	No
METHYL ETHYL KETONE	78-93-3	ug/l	2 : 2 : 2	100	5.60E+00	6.40E+00	6.00E+00	3.75E+04	1.70E-04	No
PHENOL	108-95-2	ug/l	1 : 1 : 2	100	1.50E+00	1.50E+00	1.50E+00	1.25E+04	1.20E-04	No
TOLUENE	108-88-3	ug/l	2 : 2 : 4	100	1.60E-01	3.10E-01	2.35E-01	4.59E+03	6.76E-05	No
CARBON DISULFIDE	75-15-0	ug/l	1 : 1 : 4	100	1.20E-01	1.20E-01	1.20E-01	2.29E+03	5.23E-05	No
							Cumulative Risk:		**6.71E-01**	
RFIMW 04										
ARSENIC	7440-38-2	ug/L	4 : 4 : 4	100	1.90E+02	5.70E+02	3.85E+02	5.63E+00	1.01E+02	Yes
CHROMIUM	7440-47-3	ug/L	3 : 4 : 4	75	5.80E+00	2.20E+01	1.13E+01	3.50E+02	6.28E-02	No
BARIUM	7440-39-3	ug/L	4 : 4 : 4	100	3.60E+01	1.00E+02	7.38E+01	7.30E+03	1.37E-02	No
ZINC	7440-66-6	ug/L	2 : 4 : 4	50	5.00E+01	5.20E+01	3.33E+01	6.88E+03	7.56E-03	No
COPPER	7440-50-8	ug/L	1 : 4 : 4	25	1.80E+01	1.80E+01	9.25E+00	3.96E+03	4.54E-03	No
CARBON DISULFIDE	75-15-0	ug/l	2 : 2 : 4	100	1.00E-01	2.00E-01	1.50E-01	2.29E+03	8.72E-05	No
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	7.45E-03	7.45E-03	7.45E-03	1.10E+02	6.77E-05	No
							Cumulative Risk:		**8.87E-02**	

Table C-3
Cumulative Risk Screening
Using Part 201 Criteria Industrial Drinking Water Criteria (DWC)- NonCancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer DWC (g)	Ratio (h)	Constituent of Interest?
RFIMW 05										
BARIUM	7440-39-3	ug/L	4 : 4 : 4	100	8.60E+02	1.40E+03	1.10E+03	7.30E+03	1.92E-01	No
SELENIUM	7782-49-2	ug/L	3 : 4 : 4	75	5.40E+00	9.90E+00	6.76E+00	1.04E+02	9.49E-02	No
TOTAL METHYLPHENOL	xtal Methylpl	ug/L	4 : 4 : 4	100	6.07E+01	9.33E+01	7.43E+01	1.04E+03	8.95E-02	No
CHROMIUM	7440-47-3	ug/L	2 : 4 : 4	50	6.60E+00	3.00E+01	1.04E+01	3.50E+02	8.56E-02	No
ACETONE	67-64-1	ug/l	3 : 4 : 4	75	6.90E+01	1.40E+02	8.35E+01	2.09E+03	6.71E-02	No
ZINC	7440-66-6	ug/L	1 : 4 : 4	25	7.60E+01	7.60E+01	2.75E+01	6.88E+03	1.10E-02	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	2 : 3 : 3	67	1.90E+00	3.00E+00	2.47E+00	3.96E+02	7.57E-03	No
COPPER	7440-50-8	ug/L	1 : 4 : 4	25	2.20E+01	2.20E+01	1.00E+01	3.96E+03	5.55E-03	No
PHENOL	108-95-2	ug/l	3 : 4 : 4	75	1.40E+01	4.10E+01	2.35E+01	1.25E+04	3.28E-03	No
NAPHTHALENE	91-20-3	ug/l	4 : 4 : 4	100	2.90E+00	3.90E+00	3.35E+00	1.48E+03	2.63E-03	No
2-METHYLNAPHTHALENE	91-57-6	ug/l	1 : 1 : 2	100	1.20E+00	1.20E+00	1.20E+00	7.51E+02	1.60E-03	No
METHYL ETHYL KETONE	78-93-3	ug/l	3 : 4 : 4	75	9.10E+00	9.90E+00	8.45E+00	3.75E+04	2.64E-04	No
TOLUENE	108-88-3	ug/l	3 : 4 : 4	75	2.80E-01	6.10E-01	4.22E-01	4.59E+03	1.33E-04	No
1,2-DICHLOROPROPANE	78-87-5	ug/l	4 : 4 : 4	100	3.90E-01	1.10E+00	7.32E-01	9.18E+03	1.20E-04	No
							Cumulative Risk:		5.61E-01	

Table C-3
Cumulative Risk Screening
Using Part 201 Criteria Industrial Drinking Water Criteria (DWC)- NonCancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer DWC (g)	Ratio (h)	Constituent of Interest?
RFIMW 06										
ARSENIC	7440-38-2	ug/L	2 : 4 : 4	50	5.60E+00	7.50E+00	4.53E+00	5.63E+00	1.33E+00	Yes
CHROMIUM	7440-47-3	ug/L	4 : 4 : 4	100	1.10E+01	3.30E+01	1.80E+01	3.50E+02	9.42E-02	No
SELENIUM	7782-49-2	ug/L	1 : 4 : 4	25	6.00E+00	6.00E+00	3.38E+00	1.04E+02	5.75E-02	No
TOTAL METHYLPHENOL	otal Methylpl	ug/L	4 : 4 : 4	100	1.35E+01	2.45E+01	1.94E+01	1.04E+03	2.35E-02	No
BARIUM	7440-39-3	ug/L	4 : 4 : 4	100	9.20E+01	1.30E+02	1.13E+02	7.30E+03	1.78E-02	No
ZINC	7440-66-6	ug/L	1 : 4 : 4	25	7.70E+01	7.70E+01	3.65E+01	6.88E+03	1.12E-02	No
PHENANTHRENE	85-01-8	ug/l	1 : 1 : 3	100	1.40E+00	1.40E+00	1.40E+00	1.48E+02	9.45E-03	No
ACETONE	67-64-1	ug/l	2 : 3 : 3	67	1.40E+01	1.90E+01	1.27E+01	2.09E+03	9.11E-03	No
COPPER	7440-50-8	ug/L	2 : 4 : 4	50	1.30E+01	2.20E+01	1.14E+01	3.96E+03	5.55E-03	No
1,2-DICHLOROPROPANE	78-87-5	ug/l	4 : 4 : 4	100	2.20E+01	3.50E+01	2.90E+01	9.18E+03	3.81E-03	No
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	3.24E-01	3.24E-01	3.24E-01	1.10E+02	2.95E-03	No
PHENOL	108-95-2	ug/l	3 : 4 : 4	75	1.00E+01	1.40E+01	1.08E+01	1.25E+04	1.12E-03	No
NAPHTHALENE	91-20-3	ug/l	3 : 3 : 3	100	1.30E+00	1.60E+00	1.47E+00	1.48E+03	1.08E-03	No
CARBON DISULFIDE	75-15-0	ug/l	1 : 1 : 4	100	3.20E-01	3.20E-01	3.20E-01	2.29E+03	1.39E-04	No
TOLUENE	108-88-3	ug/l	2 : 2 : 4	100	1.60E-01	2.00E-01	1.80E-01	4.59E+03	4.36E-05	No
							Cumulative Risk:		**2.37E-01**	

Table C-3
Cumulative Risk Screening
Using Part 201 Criteria Industrial Drinking Water Criteria (DWC)- NonCancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer DWC (g)	Ratio (h)	Constituent of Interest?
RFIMW 07										
2-METHYLNAPHTHALENE	91-57-6	ug/l	4 : 4 : 4	100	4.20E+01	1.10E+02	8.60E+01	7.51E+02	1.46E-01	No
TOTAL METHYLPHENOL	otal Methylpl	ug/L	4 : 4 : 4	100	1.87E+01	1.37E+02	5.61E+01	1.04E+03	1.31E-01	No
1,1-DICHLOROETHENE	75-35-4	ug/l	1 : 1 : 1	100	1.70E+00	1.70E+00	1.70E+00	1.88E+01	9.06E-02	No
SELENIUM	7782-49-2	ug/L	1 : 1 : 1	100	4.80E+00	4.80E+00	4.80E+00	1.04E+02	4.60E-02	No
NAPHTHALENE	91-20-3	ug/l	4 : 4 : 4	100	3.40E+01	6.55E+01	5.46E+01	1.48E+03	4.42E-02	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 3 : 3	33	1.30E+01	1.30E+01	7.67E+00	3.96E+02	3.28E-02	No
PHENOL	108-95-2	ug/l	3 : 4 : 4	75	4.55E+01	3.10E+02	1.24E+02	1.25E+04	2.48E-02	No
ACETONE	67-64-1	ug/l	1 : 1 : 1	100	4.40E+01	4.40E+01	4.40E+01	2.09E+03	2.11E-02	No
PHENANTHRENE	85-01-8	ug/l	3 : 3 : 4	100	2.20E+00	3.05E+00	2.75E+00	1.48E+02	2.06E-02	No
VANADIUM	7440-62-2	ug/L	1 : 1 : 1	100	1.30E+00	1.30E+00	1.30E+00	1.04E+02	1.25E-02	No
BARIUM	7440-39-3	ug/L	1 : 1 : 1	100	8.60E+01	8.60E+01	8.60E+01	7.30E+03	1.18E-02	No
ETHYLBENZENE	100-41-4	ug/l	1 : 1 : 1	100	1.10E+01	1.10E+01	1.10E+01	2.02E+03	5.44E-03	No
1,1-DICHLOROETHANE	75-34-3	ug/l	1 : 1 : 1	100	1.20E+01	1.20E+01	1.20E+01	2.50E+03	4.79E-03	No
TOLUENE	108-88-3	ug/l	1 : 1 : 1	100	1.70E+01	1.70E+01	1.70E+01	4.59E+03	3.70E-03	No
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	100	1.10E+00	1.10E+00	1.10E+00	3.50E+02	3.14E-03	No
NICKEL	7440-02-0	ug/L	1 : 1 : 1	100	3.60E+00	3.60E+00	3.60E+00	1.59E+03	2.27E-03	No
CUMENE	98-82-8	ug/l	1 : 1 : 1	100	4.80E+00	4.80E+00	4.80E+00	2.29E+03	2.09E-03	No
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	1.21E-01	1.21E-01	1.21E-01	1.10E+02	1.10E-03	No
ACENAPHTHENE	83-32-9	ug/l	2 : 2 : 4	100	2.70E+00	2.80E+00	2.75E+00	3.75E+03	7.46E-04	No
TOTAL XYLENES	Total Xylenes	ug/l	1 : 1 : 1	100	2.20E+01	2.20E+01	2.20E+01	3.75E+04	5.86E-04	No
METHYLCYCLOHEXANE	108-87-2	ug/l	1 : 1 : 1	100	2.80E+00	2.80E+00	2.80E+00	5.20E+03	5.38E-04	No
2-HEXANONE	591-78-6	ug/l	1 : 1 : 1	100	1.30E+00	1.30E+00	1.30E+00	2.92E+03	4.45E-04	No
1,1,1-TRICHLOROETHANE	71-55-6	ug/l	1 : 1 : 1	100	1.30E+01	1.30E+01	1.30E+01	4.59E+04	2.83E-04	No
4-METHYL-2-PENTANONE (MIBK)	108-10-1	ug/l	1 : 1 : 1	100	9.10E-01	9.10E-01	9.10E-01	5.21E+03	1.75E-04	No
CYCLOHEXANE	110-82-7	ug/l	1 : 1 : 1	100	1.40E+00	1.40E+00	1.40E+00	1.00E+04	1.40E-04	No
							Cumulative Risk:		6.08E-01	

Table C-3
Cumulative Risk Screening
Using Part 201 Criteria Industrial Drinking Water Criteria (DWC)- NonCancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer DWC (g)	Ratio (h)	Constituent of Interest?
RFIMW 08										
BARIUM	7440-39-3	ug/L	3 : 3 : 3	100	8.70E+02	1.10E+03	9.90E+02	7.30E+03	1.51E-01	No
CHROMIUM	7440-47-3	ug/L	1 : 4 : 4	25	3.20E+01	3.20E+01	9.88E+00	3.50E+02	9.13E-02	No
CADMIUM	7440-43-9	ug/L	1 : 4 : 4	25	1.20E+00	1.20E+00	6.75E-01	2.09E+01	5.75E-02	No
CHLOROFORM	67-66-3	ug/l	1 : 4 : 4	25	1.20E+01	1.20E+01	3.38E+00	2.71E+02	4.43E-02	No
ZINC	7440-66-6	ug/L	1 : 4 : 4	25	2.40E+02	2.40E+02	7.68E+01	6.88E+03	3.49E-02	No
COPPER	7440-50-8	ug/L	1 : 4 : 4	25	3.30E+01	3.30E+01	1.25E+01	3.96E+03	8.33E-03	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 4	100	1.80E+00	1.80E+00	1.80E+00	3.96E+02	4.54E-03	No
CARBON DISULFIDE	75-15-0	ug/l	2 : 4 : 4	50	1.50E-01	1.10E+00	5.63E-01	2.29E+03	4.79E-04	No
PHENOL	108-95-2	ug/l	1 : 4 : 4	25	4.80E+00	4.80E+00	3.08E+00	1.25E+04	3.84E-04	No
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	5.32E-03	5.32E-03	5.32E-03	1.10E+02	4.84E-05	No
							Cumulative Risk:		**3.92E-01**	
RFIMW 09										
THALLIUM	7440-28-0	ug/L	1 : 1 : 1	100	9.40E+00	9.40E+00	9.40E+00	1.40E+00	6.73E+00	Yes
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	2.30E+01	2.30E+01	2.30E+01	5.63E+00	4.08E+00	Yes
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	100	8.80E+01	8.80E+01	8.80E+01	3.50E+02	2.51E-01	No
NICKEL	7440-02-0	ug/L	1 : 1 : 1	100	4.80E+01	4.80E+01	4.80E+01	1.59E+03	3.03E-02	No
BARIUM	7440-39-3	ug/L	1 : 1 : 1	100	1.60E+02	1.60E+02	1.60E+02	7.30E+03	2.19E-02	No
COBALT	7440-48-4	ug/L	1 : 1 : 1	100	1.50E+00	1.50E+00	1.50E+00	1.04E+02	1.44E-02	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 4	100	2.40E+00	2.40E+00	2.40E+00	3.96E+02	6.06E-03	No
ZINC	7440-66-6	ug/L	1 : 1 : 1	100	1.40E+01	1.40E+01	1.40E+01	6.88E+03	2.03E-03	No
PHENOL	108-95-2	ug/l	1 : 4 : 4	25	5.60E+00	5.60E+00	3.27E+00	1.25E+04	4.47E-04	No
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	1.37E-03	1.37E-03	1.37E-03	1.10E+02	1.25E-05	No
							Cumulative Risk:		**3.26E-01**	
RFIMW 10										
ARSENIC	7440-38-2	ug/L	4 : 4 : 4	100	1.50E+01	1.90E+01	1.64E+01	5.63E+00	3.37E+00	Yes
BARIUM	7440-39-3	ug/L	4 : 4 : 4	100	7.50E+02	8.60E+02	8.10E+02	7.30E+03	1.18E-01	No
CHROMIUM	7440-47-3	ug/L	1 : 4 : 4	25	1.40E+01	1.40E+01	5.38E+00	3.50E+02	4.00E-02	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 3	100	1.50E+00	1.50E+00	1.50E+00	3.96E+02	3.79E-03	No
							Cumulative Risk:		**1.62E-01**	

Table C-3
Cumulative Risk Screening
Using Part 201 Criteria Industrial Drinking Water Criteria (DWC)- NonCancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer DWC (g)	Ratio (h)	Constituent of Interest?
RFIMW 11										
ARSENIC	7440-38-2	ug/L	4 : 4 : 4	100	1.70E+01	1.40E+02	9.68E+01	5.63E+00	2.49E+01	Yes
ANTIMONY	7440-36-0	ug/L	2 : 4 : 4	50	8.50E+00	1.00E+01	6.34E+00	7.30E+00	1.37E+00	Yes
VANADIUM	7440-62-2	ug/L	3 : 4 : 4	75	7.20E+01	7.90E+01	5.85E+01	1.04E+02	7.58E-01	Yes
CHROMIUM	7440-47-3	ug/L	4 : 4 : 4	100	1.90E+01	1.10E+02	7.90E+01	3.50E+02	3.14E-01	No
CADMIUM	7440-43-9	ug/L	3 : 4 : 4	75	2.80E+00	4.30E+00	2.90E+00	2.09E+01	2.06E-01	No
COPPER	7440-50-8	ug/L	3 : 4 : 4	75	3.20E+02	4.20E+02	2.83E+02	3.96E+03	1.06E-01	No
ZINC	7440-66-6	ug/L	3 : 4 : 4	75	6.90E+01	6.00E+02	3.56E+02	6.88E+03	8.72E-02	No
NICKEL	7440-02-0	ug/L	3 : 4 : 4	75	1.00E+02	1.30E+02	9.50E+01	1.59E+03	8.20E-02	No
BARIUM	7440-39-3	ug/L	4 : 4 : 4	100	1.00E+02	3.40E+02	2.50E+02	7.30E+03	4.66E-02	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	2 : 2 : 2	100	2.80E+00	3.50E+00	3.15E+00	3.96E+02	8.83E-03	No
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	1.62E-03	1.62E-03	1.62E-03	1.10E+02	1.47E-05	No
							Cumulative Risk:		8.51E-01	
RFIMW 12										
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	3.80E+01	3.80E+01	3.80E+01	5.63E+00	6.75E+00	Yes
THALLIUM	7440-28-0	ug/L	1 : 1 : 1	100	5.90E+00	5.90E+00	5.90E+00	1.40E+00	4.22E+00	Yes
TOTAL METHYLPHENOL	otal Methylpl	ug/L	4 : 4 : 4	100	1.93E+02	4.70E+02	2.83E+02	1.04E+03	4.51E-01	Yes
VANADIUM	7440-62-2	ug/L	1 : 1 : 1	100	4.20E+01	4.20E+01	4.20E+01	1.04E+02	4.03E-01	No
PHENOL	108-95-2	ug/l	3 : 4 : 4	75	7.90E+02	1.10E+03	7.94E+02	1.25E+04	8.79E-02	No
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	100	1.90E+01	1.90E+01	1.90E+01	3.50E+02	5.42E-02	No
CADMIUM	7440-43-9	ug/L	1 : 1 : 1	100	6.40E-01	6.40E-01	6.40E-01	2.09E+01	3.07E-02	No
NICKEL	7440-02-0	ug/L	1 : 1 : 1	100	4.60E+01	4.60E+01	4.60E+01	1.59E+03	2.90E-02	No
BARIUM	7440-39-3	ug/L	1 : 1 : 1	100	7.80E+01	7.80E+01	7.80E+01	7.30E+03	1.07E-02	No
TOLUENE	108-88-3	ug/l	1 : 1 : 1	100	1.60E+01	1.60E+01	1.60E+01	4.59E+03	3.49E-03	No
COPPER	7440-50-8	ug/L	1 : 1 : 1	100	3.30E+00	3.30E+00	3.30E+00	3.96E+03	8.33E-04	No
CARBON DISULFIDE	75-15-0	ug/l	1 : 1 : 1	100	1.30E+00	1.30E+00	1.30E+00	2.29E+03	5.67E-04	No
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	1.45E-02	1.45E-02	1.45E-02	1.10E+02	1.32E-04	No
							Cumulative Risk:		6.20E-01	

Table C-3
Cumulative Risk Screening
Using Part 201 Criteria Industrial Drinking Water Criteria (DWC)- NonCancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer DWC (g)	Ratio (h)	Constituent of Interest?
RFIMW 13										
THALLIUM	7440-28-0	ug/L	1 : 1 : 1	100	7.80E+00	7.80E+00	7.80E+00	1.40E+00	5.58E+00	Yes
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	4.80E+00	4.80E+00	4.80E+00	5.63E+00	8.52E-01	Yes
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	100	5.40E+01	5.40E+01	5.40E+01	3.50E+02	1.54E-01	No
VANADIUM	7440-62-2	ug/L	1 : 1 : 1	100	7.20E+00	7.20E+00	7.20E+00	1.04E+02	6.90E-02	No
BARIUM	7440-39-3	ug/L	1 : 1 : 1	100	1.30E+02	1.30E+02	1.30E+02	7.30E+03	1.78E-02	No
TOLUENE	108-88-3	ug/l	1 : 1 : 1	100	7.60E+01	7.60E+01	7.60E+01	4.59E+03	1.66E-02	No
NICKEL	7440-02-0	ug/L	1 : 1 : 1	100	8.40E+00	8.40E+00	8.40E+00	1.59E+03	5.30E-03	No
ZINC	7440-66-6	ug/L	1 : 1 : 1	100	3.50E+01	3.50E+01	3.50E+01	6.88E+03	5.09E-03	No
COPPER	7440-50-8	ug/L	1 : 1 : 1	100	5.70E+00	5.70E+00	5.70E+00	3.96E+03	1.44E-03	No
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	5.54E-02	5.54E-02	5.54E-02	1.10E+02	5.04E-04	No
							Cumulative Risk:		**2.70E-01**	
RFIMW 15										
THALLIUM	7440-28-0	ug/L	1 : 1 : 1	100	9.60E+00	9.60E+00	9.60E+00	1.40E+00	6.87E+00	Yes
NICKEL	7440-02-0	ug/L	1 : 1 : 1	100	1.50E+03	1.50E+03	1.50E+03	1.59E+03	9.46E-01	Yes
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	100	2.50E+02	2.50E+02	2.50E+02	3.50E+02	7.13E-01	No
COBALT	7440-48-4	ug/L	1 : 1 : 1	100	1.80E+01	1.80E+01	1.80E+01	1.04E+02	1.73E-01	No
BARIUM	7440-39-3	ug/L	1 : 1 : 1	100	1.40E+02	1.40E+02	1.40E+02	7.30E+03	1.92E-02	No
COPPER	7440-50-8	ug/L	1 : 1 : 1	100	1.90E+01	1.90E+01	1.90E+01	3.96E+03	4.79E-03	No
TOLUENE	108-88-3	ug/l	1 : 1 : 1	100	1.80E+01	1.80E+01	1.80E+01	4.59E+03	3.92E-03	No
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	3.06E-03	3.06E-03	3.06E-03	1.10E+02	2.78E-05	No
							Cumulative Risk:		**9.14E-01**	

Table C-3
Cumulative Risk Screening
Using Part 201 Criteria Industrial Drinking Water Criteria (DWC)- NonCancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer DWC (g)	Ratio (h)	Constituent of Interest?
RFIMW 16										
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	3.90E+01	3.90E+01	3.90E+01	5.63E+00	6.93E+00	Yes
VANADIUM	7440-62-2	ug/L	1 : 1 : 1	100	2.00E+02	2.00E+02	2.00E+02	1.04E+02	1.92E+00	Yes
ACETONE	67-64-1	ug/l	1 : 1 : 1	100	5.40E+02	5.40E+02	5.40E+02	2.09E+03	2.59E-01	No
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	100	4.00E+01	4.00E+01	4.00E+01	3.50E+02	1.14E-01	No
SELENIUM	7782-49-2	ug/L	1 : 1 : 1	100	6.50E+00	6.50E+00	6.50E+00	1.04E+02	6.23E-02	No
BARIUM	7440-39-3	ug/L	1 : 1 : 1	100	2.40E+02	2.40E+02	2.40E+02	7.30E+03	3.29E-02	No
PHENOL	108-95-2	ug/l	1 : 1 : 1	100	3.50E+02	3.50E+02	3.50E+02	1.25E+04	2.80E-02	No
NICKEL	7440-02-0	ug/L	1 : 1 : 1	100	4.40E+01	4.40E+01	4.40E+01	1.59E+03	2.78E-02	No
COPPER	7440-50-8	ug/L	1 : 1 : 1	100	1.80E+01	1.80E+01	1.80E+01	3.96E+03	4.54E-03	No
CARBON DISULFIDE	75-15-0	ug/l	1 : 1 : 1	100	3.40E+00	3.40E+00	3.40E+00	2.29E+03	1.48E-03	No
METHYL ETHYL KETONE	78-93-3	ug/l	1 : 1 : 1	100	4.30E+01	4.30E+01	4.30E+01	3.75E+04	1.15E-03	No
TOLUENE	108-88-3	ug/l	1 : 1 : 1	100	2.00E+00	2.00E+00	2.00E+00	4.59E+03	4.36E-04	No
							Cumulative Risk:		**5.32E-01**	
RFIMW 21										
ACETONE	67-64-1	ug/l	1 : 1 : 1	100	2.10E+03	2.10E+03	2.10E+03	2.09E+03	1.01E+00	Yes
PHENOL	108-95-2	ug/l	1 : 1 : 1	100	1.80E+01	1.80E+01	1.80E+01	1.25E+04	1.44E-03	No
							Cumulative Risk:		**1.44E-03**	

Table C-3
Cumulative Risk Screening
Using Part 201 Criteria Industrial Drinking Water Criteria (DWC)- NonCancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer DWC (g)	Ratio (h)	Constituent of Interest?
RFIMW 22										
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	1.90E+02	1.90E+02	1.90E+02	5.63E+00	3.37E+01	Yes
VANADIUM	7440-62-2	ug/L	1 : 1 : 1	100	5.00E+02	5.00E+02	5.00E+02	1.04E+02	4.79E+00	Yes
VINYL CHLORIDE	75-01-4	ug/l	1 : 1 : 1	100	2.80E+02	2.80E+02	2.80E+02	6.26E+01	4.47E+00	Yes
ACETONE	67-64-1	ug/l	1 : 1 : 1	100	5.20E+03	5.20E+03	5.20E+03	2.09E+03	2.49E+00	Yes
CHLOROBENZENE	108-90-7	ug/l	1 : 1 : 1	100	6.40E+02	6.40E+02	6.40E+02	3.96E+02	1.61E+00	Yes
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	100	6.10E+01	6.10E+01	6.10E+01	3.50E+02	1.74E-01	No
BERYLLIUM	7440-41-7	ug/L	1 : 1 : 1	100	1.20E+00	1.20E+00	1.20E+00	3.13E+01	3.84E-02	No
COBALT	7440-48-4	ug/L	1 : 1 : 1	100	3.80E+00	3.80E+00	3.80E+00	1.04E+02	3.64E-02	No
NICKEL	7440-02-0	ug/L	1 : 1 : 1	100	4.20E+01	4.20E+01	4.20E+01	1.59E+03	2.65E-02	No
ETHYLBENZENE	100-41-4	ug/l	1 : 1 : 1	100	5.30E+01	5.30E+01	5.30E+01	2.02E+03	2.62E-02	No
PHENOL	108-95-2	ug/l	1 : 1 : 1	100	2.20E+02	2.20E+02	2.20E+02	1.25E+04	1.76E-02	No
BARIUM	7440-39-3	ug/L	1 : 1 : 1	100	1.10E+02	1.10E+02	1.10E+02	7.30E+03	1.51E-02	No
2,4,5-TP (SILVEX)	93-72-1	ug/l	1 : 1 : 4	100	8.60E-01	8.60E-01	8.60E-01	1.56E+02	5.50E-03	No
COPPER	7440-50-8	ug/L	1 : 1 : 1	100	1.70E+01	1.70E+01	1.70E+01	3.96E+03	4.29E-03	No
ZINC	7440-66-6	ug/L	1 : 1 : 1	100	2.20E+01	2.20E+01	2.20E+01	6.88E+03	3.20E-03	No
METHYL ETHYL KETONE	78-93-3	ug/l	1 : 1 : 1	100	8.00E+01	8.00E+01	8.00E+01	3.75E+04	2.13E-03	No
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	3.33E-02	3.33E-02	3.33E-02	1.10E+02	3.03E-04	No
							Cumulative Risk:		**3.50E-01**	
RFIMW 23										
ARSENIC	7440-38-2	ug/L	4 : 4 : 4	100	6.30E+00	1.20E+01	9.57E+00	5.63E+00	2.13E+00	Yes
CHROMIUM	7440-47-3	ug/L	3 : 4 : 4	75	7.20E+00	3.50E+01	1.42E+01	3.50E+02	9.99E-02	No
BARIUM	7440-39-3	ug/L	4 : 4 : 4	100	9.90E+01	1.30E+02	1.12E+02	7.30E+03	1.78E-02	No
ZINC	7440-66-6	ug/L	1 : 4 : 4	25	1.20E+02	1.20E+02	5.90E+01	6.88E+03	1.74E-02	No
PYRENE	129-00-0	ug/l	1 : 1 : 1	100	9.60E+00	9.60E+00	9.60E+00	1.56E+03	6.14E-03	No
COPPER	7440-50-8	ug/L	1 : 4 : 4	25	2.30E+01	2.30E+01	1.01E+01	3.96E+03	5.80E-03	No
FLUORANTHENE	206-44-0	ug/l	1 : 1 : 1	100	4.50E+00	4.50E+00	4.50E+00	2.50E+03	1.80E-03	No
							Cumulative Risk:		**1.49E-01**	

Table C-3
Cumulative Risk Screening
Using Part 201 Criteria Industrial Drinking Water Criteria (DWC)- NonCancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer DWC (g)	Ratio (h)	Constituent of Interest?
RFIMW 24										
ARSENIC	7440-38-2	ug/L	1:6:6	17	1.10E+01	1.10E+01	4.66E+00	5.63E+00	1.95E+00	Yes
CHROMIUM	7440-47-3	ug/L	6:6:6	100	1.70E+01	6.20E+02	2.72E+02	3.50E+02	1.77E+00	Yes
VANADIUM	7440-62-2	ug/L	1:6:6	17	2.30E+01	2.30E+01	1.22E+01	1.04E+02	2.21E-01	No
NICKEL	7440-02-0	ug/L	3:5:5	60	4.20E+01	1.60E+02	6.20E+01	1.59E+03	1.01E-01	No
SELENIUM	7782-49-2	ug/L	1:6:6	17	6.90E+00	6.90E+00	3.82E+00	1.04E+02	6.62E-02	No
BARIUM	7440-39-3	ug/L	6:6:6	100	5.40E+01	1.20E+02	8.33E+01	7.30E+03	1.64E-02	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	3:5:5	60	2.00E+00	4.10E+00	2.84E+00	3.96E+02	1.03E-02	No
ZINC	7440-66-6	ug/L	2:6:6	33	4.60E+01	5.10E+01	3.46E+01	6.88E+03	7.41E-03	No
COPPER	7440-50-8	ug/L	3:6:6	50	1.80E+01	2.10E+01	1.44E+01	3.96E+03	5.30E-03	No
METHYLENE CHLORIDE	75-09-2	ug/l	1:1:6	100	4.50E-01	4.50E-01	4.50E-01	1.21E+03	3.72E-04	No
							Cumulative Risk:		4.28E-01	
RFIMW 25										
ARSENIC	7440-38-2	ug/L	4:6:6	67	7.80E+00	2.60E+01	1.30E+01	5.63E+00	4.62E+00	Yes
CHROMIUM	7440-47-3	ug/L	6:6:6	100	1.90E+02	1.40E+03	6.78E+02	3.50E+02	4.00E+00	Yes
VANADIUM	7440-62-2	ug/L	3:6:6	50	5.70E+01	9.10E+01	3.98E+01	1.04E+02	8.73E-01	Yes
NICKEL	7440-02-0	ug/L	6:6:6	100	5.70E+01	2.90E+02	1.52E+02	1.59E+03	1.83E-01	No
CADMIUM	7440-43-9	ug/L	2:6:6	33	1.10E+00	1.60E+00	7.83E-01	2.09E+01	7.67E-02	No
BARIUM	7440-39-3	ug/L	6:6:6	100	1.35E+02	2.70E+02	2.13E+02	7.30E+03	3.70E-02	No
ZINC	7440-66-6	ug/L	4:6:6	67	5.70E+01	1.90E+02	1.04E+02	6.88E+03	2.76E-02	No
COPPER	7440-50-8	ug/L	5:6:6	83	1.45E+01	6.10E+01	3.27E+01	3.96E+03	1.54E-02	No
							Cumulative Risk:		3.40E-01	

Table C-3
Cumulative Risk Screening
Using Part 201 Criteria Industrial Drinking Water Criteria (DWC)- NonCancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer DWC (g)	Ratio (h)	Constituent of Interest?
RFIMW 26										
CHROMIUM	7440-47-3	ug/L	2 : 2 : 2	100	9.15E+01	5.17E+03	2.63E+03	3.50E+02	1.48E+01	Yes
THALLIUM	7440-28-0	ug/L	1 : 2 : 2	50	1.01E+01	1.01E+01	7.55E+00	1.40E+00	7.23E+00	Yes
IRON	7439-89-6	ug/L	1 : 1 : 1	100	2.34E+04	2.34E+04	2.34E+04	6.26E+03	3.74E+00	Yes
NICKEL	7440-02-0	ug/L	2 : 2 : 2	100	4.85E+01	2.46E+03	1.25E+03	1.59E+03	1.55E+00	Yes
ARSENIC	7440-38-2	ug/L	2 : 2 : 2	100	4.30E+00	7.00E+00	5.65E+00	5.63E+00	1.24E+00	Yes
VANADIUM	7440-62-2	ug/L	2 : 2 : 2	100	2.90E+00	2.00E+01	1.14E+01	1.04E+02	1.92E-01	No
NITRATE	14797-55-8	ug/L	1 : 1 : 1	100	8.90E+03	8.90E+03	8.90E+03	1.67E+05	5.33E-02	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	100	1.80E+01	1.80E+01	1.80E+01	3.96E+02	4.54E-02	No
BARIUM	7440-39-3	ug/L	2 : 2 : 2	100	5.65E+01	2.74E+02	1.65E+02	7.30E+03	3.75E-02	No
COPPER	7440-50-8	ug/L	2 : 2 : 2	100	8.15E+00	1.40E+02	7.41E+01	3.96E+03	3.53E-02	No
SELENIUM	7782-49-2	ug/L	1 : 2 : 2	50	3.52E+00	3.52E+00	2.76E+00	1.04E+02	3.38E-02	No
ZINC	7440-66-6	ug/L	1 : 2 : 2	50	2.20E+02	2.20E+02	1.13E+02	6.88E+03	3.20E-02	No
MAGNESIUM	7439-95-4	ug/L	1 : 1 : 1	100	2.02E+04	2.02E+04	2.02E+04	1.15E+06	1.76E-02	No
COBALT	7440-48-4	ug/L	1 : 1 : 1	100	1.50E+00	1.50E+00	1.50E+00	1.04E+02	1.44E-02	No
TOLUENE	108-88-3	ug/l	1 : 2 : 2	50	2.70E+01	2.70E+01	1.38E+01	4.59E+03	5.88E-03	No
DIETHYL PHTHALATE	84-66-2	ug/l	1 : 1 : 1	100	2.29E+01	2.29E+01	2.29E+01	1.56E+04	1.46E-03	No
MERCURY	7439-97-6	ug/l	1 : 1 : 2	100	1.97E-02	1.97E-02	1.97E-02	1.10E+02	1.79E-04	No
							Cumulative Risk:		**4.69E-01**	
RFIMW 27										
ARSENIC	7440-38-2	ug/L	1 : 6 : 6	17	5.90E+00	5.90E+00	4.40E+00	5.63E+00	1.05E+00	Yes
VANADIUM	7440-62-2	ug/L	1 : 6 : 6	17	2.30E+01	2.30E+01	1.22E+01	1.04E+02	2.21E-01	No
SILVER	7440-22-4	ug/L	1 : 6 : 6	17	1.50E+01	1.50E+01	6.67E+00	9.80E+01	1.53E-01	No
CHROMIUM	7440-47-3	ug/L	6 : 6 : 6	100	6.50E+00	3.50E+01	1.88E+01	3.50E+02	9.99E-02	No
CADMIUM	7440-43-9	ug/L	1 : 6 : 6	17	1.10E+00	1.10E+00	7.67E-01	2.09E+01	5.27E-02	No
ZINC	7440-66-6	ug/L	2 : 6 : 6	33	5.90E+01	3.40E+02	7.91E+01	6.88E+03	4.94E-02	No
BARIUM	7440-39-3	ug/L	6 : 6 : 6	100	1.80E+02	2.60E+02	2.20E+02	7.30E+03	3.56E-02	No
COPPER	7440-50-8	ug/L	3 : 6 : 6	50	1.50E+01	5.20E+01	1.83E+01	3.96E+03	1.31E-02	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 4 : 4	25	4.10E+00	4.10E+00	2.90E+00	3.96E+02	1.03E-02	No
							Cumulative Risk:		**6.35E-01**	

Table C-3
Cumulative Risk Screening
Using Part 201 Criteria Industrial Drinking Water Criteria (DWC)- NonCancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer DWC (g)	Ratio (h)	Constituent of Interest?
RFIMW 28										
ARSENIC	7440-38-2	ug/L	6 : 6 : 6	100	4.00E+01	6.90E+01	5.07E+01	5.63E+00	1.23E+01	Yes
VANADIUM	7440-62-2	ug/L	5 : 6 : 6	83	2.30E+01	8.05E+01	3.41E+01	1.04E+02	7.72E-01	Yes
PYRIDINE	110-86-1	ug/l	3 : 3 : 6	100	2.70E+00	4.10E+00	3.63E+00	2.09E+01	1.97E-01	No
CHROMIUM	7440-47-3	ug/L	6 : 6 : 6	100	5.20E+00	5.00E+01	1.92E+01	3.50E+02	1.43E-01	No
CADMIUM	7440-43-9	ug/L	5 : 6 : 6	83	1.00E+00	2.80E+00	1.57E+00	2.09E+01	1.34E-01	No
TOTAL METHYLPHENOL	otal Methylpl	ug/L	5 : 6 : 6	83	2.93E+01	4.53E+01	3.38E+01	1.04E+03	4.34E-02	No
2,4-DIMETHYLPHENOL	105-67-9	ug/l	6 : 6 : 6	100	6.70E+00	3.50E+01	2.05E+01	1.04E+03	3.36E-02	No
NICKEL	7440-02-0	ug/L	2 : 6 : 6	33	4.10E+01	4.30E+01	2.73E+01	1.59E+03	2.71E-02	No
ZINC	7440-66-6	ug/L	4 : 6 : 6	67	5.00E+01	1.45E+02	7.49E+01	6.88E+03	2.11E-02	No
BARIUM	7440-39-3	ug/L	6 : 6 : 6	100	5.20E+01	1.35E+02	8.17E+01	7.30E+03	1.85E-02	No
COPPER	7440-50-8	ug/L	4 : 6 : 6	67	2.40E+01	6.35E+01	2.90E+01	3.96E+03	1.60E-02	No
ACETONE	67-64-1	ug/l	1 : 2 : 1	50	1.40E+01	1.40E+01	1.05E+01	2.09E+03	6.71E-03	No
CARBON DISULFIDE	75-15-0	ug/l	1 : 1 : 6	100	2.70E-01	2.70E-01	2.70E-01	2.29E+03	1.18E-04	No
MERCURY	7439-97-6	ug/l	2 : 2 : 2	100	3.13E-03	4.31E-03	3.72E-03	1.10E+02	3.92E-05	No
							Cumulative Risk:		**6.40E-01**	
RFIMW 29										
ARSENIC	7440-38-2	ug/L	4 : 6 : 6	67	8.50E+00	3.05E+01	1.33E+01	5.63E+00	5.42E+00	Yes
ANTIMONY	7440-36-0	ug/L	2 : 6 : 6	33	7.00E+00	7.95E+00	5.33E+00	7.30E+00	1.09E+00	Yes
CHROMIUM	7440-47-3	ug/L	6 : 6 : 6	100	5.50E+01	2.75E+02	1.32E+02	3.50E+02	7.85E-01	Yes
NICKEL	7440-02-0	ug/L	5 : 6 : 6	83	5.00E+01	1.10E+03	3.16E+02	1.59E+03	6.94E-01	Yes
VANADIUM	7440-62-2	ug/L	5 : 6 : 6	83	2.00E+01	5.85E+01	3.01E+01	1.04E+02	5.61E-01	No
CADMIUM	7440-43-9	ug/L	2 : 6 : 6	33	1.10E+00	1.40E+00	7.50E-01	2.09E+01	6.71E-02	No
BARIUM	7440-39-3	ug/L	6 : 6 : 6	100	6.60E+01	2.30E+02	1.56E+02	7.30E+03	3.15E-02	No
ZINC	7440-66-6	ug/L	3 : 6 : 6	50	4.65E+01	1.25E+02	5.81E+01	6.88E+03	1.82E-02	No
COPPER	7440-50-8	ug/L	4 : 6 : 6	67	1.50E+01	5.00E+01	2.80E+01	3.96E+03	1.26E-02	No
							Cumulative Risk:		**6.90E-01**	

Table C-3
Cumulative Risk Screening
Using Part 201 Criteria Industrial Drinking Water Criteria (DWC)- NonCancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer DWC (g)	Ratio (h)	Constituent of Interest?
WHI1-3S										
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	8.80E+01	8.80E+01	8.80E+01	5.63E+00	1.56E+01	Yes
VANADIUM	7440-62-2	ug/L	1 : 1 : 1	100	4.77E+02	4.77E+02	4.77E+02	1.04E+02	4.57E+00	Yes
IRON	7439-89-6	ug/L	1 : 1 : 1	100	2.32E+04	2.32E+04	2.32E+04	6.26E+03	3.71E+00	Yes
ACETONE	67-64-1	ug/l	1 : 1 : 1	100	1.70E+03	1.70E+03	1.70E+03	2.09E+03	8.15E-01	Yes
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	100	1.22E+02	1.22E+02	1.22E+02	3.50E+02	3.48E-01	No
SELENIUM	7782-49-2	ug/L	1 : 1 : 1	100	7.00E+00	7.00E+00	7.00E+00	1.04E+02	6.71E-02	No
NICKEL	7440-02-0	ug/L	1 : 1 : 1	100	4.70E+01	4.70E+01	4.70E+01	1.59E+03	2.97E-02	No
BARIUM	7440-39-3	ug/L	1 : 1 : 1	100	1.28E+02	1.28E+02	1.28E+02	7.30E+03	1.75E-02	No
COPPER	7440-50-8	ug/L	1 : 1 : 1	100	3.80E+01	3.80E+01	3.80E+01	3.96E+03	9.59E-03	No
ZINC	7440-66-6	ug/L	1 : 1 : 1	100	6.10E+01	6.10E+01	6.10E+01	6.88E+03	8.86E-03	No
MAGNESIUM	7439-95-4	ug/L	1 : 1 : 1	100	9.10E+03	9.10E+03	9.10E+03	1.15E+06	7.93E-03	No
PHENOL	108-95-2	ug/l	1 : 1 : 1	100	1.99E+01	1.99E+01	1.99E+01	1.25E+04	1.59E-03	No
ACETOPHENONE	98-86-2	ug/l	1 : 1 : 1	100	1.93E+00	1.93E+00	1.93E+00	4.38E+03	4.41E-04	No
DIETHYL PHTHALATE	84-66-2	ug/l	1 : 1 : 1	100	1.09E+00	1.09E+00	1.09E+00	1.56E+04	6.97E-05	No
							Cumulative Risk:		**4.91E-01**	
WHI2-1S										
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	3.80E+01	3.80E+01	3.80E+01	5.63E+00	6.75E+00	Yes
IRON	7439-89-6	ug/L	1 : 1 : 1	100	2.01E+04	2.01E+04	2.01E+04	6.26E+03	3.21E+00	Yes
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	100	8.10E+02	8.10E+02	8.10E+02	3.96E+02	2.04E+00	Yes
VANADIUM	7440-62-2	ug/L	1 : 1 : 1	100	2.60E+01	2.60E+01	2.60E+01	1.04E+02	2.49E-01	No
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	100	4.50E+01	4.50E+01	4.50E+01	3.50E+02	1.28E-01	No
MAGNESIUM	7439-95-4	ug/L	1 : 1 : 1	100	4.19E+04	4.19E+04	4.19E+04	1.15E+06	3.65E-02	No
BARIUM	7440-39-3	ug/L	1 : 1 : 1	100	1.09E+02	1.09E+02	1.09E+02	7.30E+03	1.49E-02	No
NICKEL	7440-02-0	ug/L	1 : 1 : 1	100	2.00E+01	2.00E+01	2.00E+01	1.59E+03	1.26E-02	No
ZINC	7440-66-6	ug/L	1 : 1 : 1	100	4.90E+01	4.90E+01	4.90E+01	6.88E+03	7.12E-03	No
COPPER	7440-50-8	ug/L	1 : 1 : 1	100	2.20E+01	2.20E+01	2.20E+01	3.96E+03	5.55E-03	No
MERCURY	7439-97-6	ug/l	1 : 1 : 2	100	3.71E-03	3.71E-03	3.71E-03	1.10E+02	3.37E-05	No
							Cumulative Risk:		**4.55E-01**	

Table C-3
Cumulative Risk Screening
Using Part 201 Criteria Industrial Drinking Water Criteria (DWC)- NonCancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer DWC (g)	Ratio (h)	Constituent of Interest?
WHI2-2S										
IRON	7439-89-6	ug/L	1 : 1 : 1	100	1.44E+05	1.44E+05	1.44E+05	6.26E+03	2.30E+01	Yes
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	3.80E+01	3.80E+01	3.80E+01	5.63E+00	6.75E+00	Yes
VANADIUM	7440-62-2	ug/L	1 : 1 : 1	100	7.70E+01	7.70E+01	7.70E+01	1.04E+02	7.38E-01	Yes
CADMIUM	7440-43-9	ug/L	1 : 1 : 1	100	8.00E+00	8.00E+00	8.00E+00	2.09E+01	3.84E-01	Yes
MERCURY	7439-97-6	ug/L	1 : 1 : 1	100	3.34E+01	3.34E+01	3.34E+01	1.10E+02	3.04E-01	No
MAGNESIUM	7439-95-4	ug/L	1 : 1 : 1	100	2.07E+05	2.07E+05	2.07E+05	1.15E+06	1.80E-01	No
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	100	6.20E+01	6.20E+01	6.20E+01	3.50E+02	1.77E-01	No
ZINC	7440-66-6	ug/L	1 : 1 : 1	100	6.66E+02	6.66E+02	6.66E+02	6.88E+03	9.68E-02	No
BARIUM	7440-39-3	ug/L	1 : 1 : 1	100	4.32E+02	4.32E+02	4.32E+02	7.30E+03	5.92E-02	No
COPPER	7440-50-8	ug/L	1 : 1 : 1	100	1.18E+02	1.18E+02	1.18E+02	3.96E+03	2.98E-02	No
NICKEL	7440-02-0	ug/L	1 : 1 : 1	100	4.00E+01	4.00E+01	4.00E+01	1.59E+03	2.52E-02	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	100	8.40E+00	8.40E+00	8.40E+00	3.96E+02	2.12E-02	No
DIETHYL PHTHALATE	84-66-2	ug/l	1 : 1 : 1	100	4.35E+00	4.35E+00	4.35E+00	1.56E+04	2.78E-04	No
ACETOPHENONE	98-86-2	ug/l	1 : 1 : 1	100	1.13E+00	1.13E+00	1.13E+00	4.38E+03	2.58E-04	No
							Cumulative Risk:		8.94E-01	
WHI2-3S										
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	4.20E+01	4.20E+01	4.20E+01	5.63E+00	7.46E+00	Yes
IRON	7439-89-6	ug/L	1 : 1 : 1	100	2.68E+03	2.68E+03	2.68E+03	6.26E+03	4.28E-01	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	100	1.21E+02	1.21E+02	1.21E+02	3.96E+02	3.05E-01	No
VANADIUM	7440-62-2	ug/L	1 : 1 : 1	100	6.00E+00	6.00E+00	6.00E+00	1.04E+02	5.75E-02	No
BARIUM	7440-39-3	ug/L	1 : 1 : 1	100	1.43E+02	1.43E+02	1.43E+02	7.30E+03	1.96E-02	No
MAGNESIUM	7439-95-4	ug/L	1 : 1 : 1	100	2.11E+04	2.11E+04	2.11E+04	1.15E+06	1.84E-02	No
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	100	6.00E+00	6.00E+00	6.00E+00	3.50E+02	1.71E-02	No
ZINC	7440-66-6	ug/L	1 : 1 : 1	100	4.30E+01	4.30E+01	4.30E+01	6.88E+03	6.25E-03	No
NICKEL	7440-02-0	ug/L	1 : 1 : 1	100	9.00E+00	9.00E+00	9.00E+00	1.59E+03	5.68E-03	No
COPPER	7440-50-8	ug/L	1 : 1 : 1	100	8.00E+00	8.00E+00	8.00E+00	3.96E+03	2.02E-03	No
DIETHYL PHTHALATE	84-66-2	ug/l	1 : 1 : 1	100	2.20E+00	2.20E+00	2.20E+00	1.56E+04	1.41E-04	No
							Cumulative Risk:		8.60E-01	

Table C-3
Cumulative Risk Screening
Using Part 201 Criteria Industrial Drinking Water Criteria (DWC)- NonCancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer DWC (g)	Ratio (h)	Constituent of Interest?
WHI3-1S										
IRON	7439-89-6	ug/L	1:1:1	100	1.63E+05	1.63E+05	1.63E+05	6.26E+03	2.61E+01	Yes
ARSENIC	7440-38-2	ug/L	2:2:2	100	1.60E+01	1.42E+02	7.90E+01	5.63E+00	2.52E+01	Yes
VANADIUM	7440-62-2	ug/L	2:2:2	100	1.70E+01	2.40E+02	1.29E+02	1.04E+02	2.30E+00	Yes
CHROMIUM	7440-47-3	ug/L	2:2:2	100	1.00E+01	1.31E+02	7.05E+01	3.50E+02	3.74E-01	Yes
NITRITE	14797-65-0	ug/L	1:1:1	100	2.80E+03	2.80E+03	2.80E+03	1.04E+04	2.68E-01	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1:1:1	100	8.23E+01	8.23E+01	8.23E+01	3.96E+02	2.08E-01	No
NITRATE	14797-55-8	ug/L	1:1:1	100	2.20E+04	2.20E+04	2.20E+04	1.67E+05	1.32E-01	No
NICKEL	7440-02-0	ug/L	2:2:2	100	9.20E+00	1.08E+02	5.86E+01	1.59E+03	6.81E-02	No
ZINC	7440-66-6	ug/L	2:2:2	100	4.60E+01	4.65E+02	2.56E+02	6.88E+03	6.76E-02	No
CADMIUM	7440-43-9	ug/L	2:2:2	100	4.10E-01	1.00E+00	7.05E-01	2.09E+01	4.79E-02	No
BARIUM	7440-39-3	ug/L	2:2:2	100	1.10E+02	2.91E+02	2.01E+02	7.30E+03	3.99E-02	No
COPPER	7440-50-8	ug/L	2:2:2	100	1.10E+01	1.48E+02	7.95E+01	3.96E+03	3.73E-02	No
MAGNESIUM	7439-95-4	ug/L	1:1:1	100	2.30E+04	2.30E+04	2.30E+04	1.15E+06	2.00E-02	No
TOLUENE	108-88-3	ug/l	1:2:2	50	3.50E+01	3.50E+01	1.78E+01	4.59E+03	7.63E-03	No
MERCURY	7439-97-6	ug/L	2:2:2	100	1.05E-02	6.00E-01	3.05E-01	1.10E+02	5.45E-03	No
ACETOPHENONE	98-86-2	ug/l	1:1:1	100	1.01E+00	1.01E+00	1.01E+00	4.38E+03	2.31E-04	No
DIETHYL PHTHALATE	84-66-2	ug/l	1:1:1	100	2.41E+00	2.41E+00	2.41E+00	1.56E+04	1.54E-04	No
							Cumulative Risk:		9.02E-01	

Table C-3
Cumulative Risk Screening
Using Part 201 Criteria Industrial Drinking Water Criteria (DWC)- NonCancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer DWC (g)	Ratio (h)	Constituent of Interest?
WHI3-2S										
ARSENIC	7440-38-2	ug/L	1:1:1	100	4.40E+01	4.40E+01	4.40E+01	5.63E+00	7.81E+00	Yes
IRON	7439-89-6	ug/L	1:1:1	100	1.94E+04	1.94E+04	1.94E+04	6.26E+03	3.10E+00	Yes
VANADIUM	7440-62-2	ug/L	1:1:1	100	4.20E+01	4.20E+01	4.20E+01	1.04E+02	4.03E-01	No
DINOSEB	88-85-7	ug/l	1:1:1	100	3.44E+00	3.44E+00	3.44E+00	2.09E+01	1.65E-01	No
CHROMIUM	7440-47-3	ug/L	1:1:1	100	4.20E+01	4.20E+01	4.20E+01	3.50E+02	1.20E-01	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1:1:1	100	1.60E+01	1.60E+01	1.60E+01	3.96E+02	4.04E-02	No
BARIUM	7440-39-3	ug/L	1:1:1	100	1.91E+02	1.91E+02	1.91E+02	7.30E+03	2.62E-02	No
ZINC	7440-66-6	ug/L	1:1:1	100	1.79E+02	1.79E+02	1.79E+02	6.88E+03	2.60E-02	No
NICKEL	7440-02-0	ug/L	1:1:1	100	2.10E+01	2.10E+01	2.10E+01	1.59E+03	1.32E-02	No
MAGNESIUM	7439-95-4	ug/L	1:1:1	100	1.04E+04	1.04E+04	1.04E+04	1.15E+06	9.07E-03	No
COPPER	7440-50-8	ug/L	1:1:1	100	2.60E+01	2.60E+01	2.60E+01	3.96E+03	6.56E-03	No
MERCURY	7439-97-6	ug/L	2:2:2	100	6.44E-02	2.00E-01	1.32E-01	1.10E+02	1.82E-03	No
							Cumulative Risk:		8.11E-01	
WHI3-3S										
ARSENIC	7440-38-2	ug/L	1:1:1	100	4.00E+00	4.00E+00	4.00E+00	5.63E+00	7.10E-01	Yes
IRON	7439-89-6	ug/L	1:1:1	100	3.39E+03	3.39E+03	3.39E+03	6.26E+03	5.42E-01	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1:1:1	100	6.38E+01	6.38E+01	6.38E+01	3.96E+02	1.61E-01	No
VANADIUM	7440-62-2	ug/L	1:1:1	100	6.00E+00	6.00E+00	6.00E+00	1.04E+02	5.75E-02	No
MAGNESIUM	7439-95-4	ug/L	1:1:1	100	5.24E+04	5.24E+04	5.24E+04	1.15E+06	4.57E-02	No
BARIUM	7440-39-3	ug/L	1:1:1	100	1.98E+02	1.98E+02	1.98E+02	7.30E+03	2.71E-02	No
CHROMIUM	7440-47-3	ug/L	1:1:1	100	6.00E+00	6.00E+00	6.00E+00	3.50E+02	1.71E-02	No
NICKEL	7440-02-0	ug/L	1:1:1	100	7.00E+00	7.00E+00	7.00E+00	1.59E+03	4.42E-03	No
ZINC	7440-66-6	ug/L	1:1:1	100	2.00E+01	2.00E+01	2.00E+01	6.88E+03	2.91E-03	No
COPPER	7440-50-8	ug/L	1:1:1	100	8.00E+00	8.00E+00	8.00E+00	3.96E+03	2.02E-03	No
BUTYL BENZYL PHTHALATE	85-68-7	ug/l	1:1:1	100	1.56E+00	1.56E+00	1.56E+00	3.34E+03	4.67E-04	No
DIETHYL PHTHALATE	84-66-2	ug/l	1:1:1	100	1.91E+00	1.91E+00	1.91E+00	1.56E+04	1.22E-04	No
							Cumulative Risk:		8.60E-01	

Table C-3
Cumulative Risk Screening
Using Part 201 Criteria Industrial Drinking Water Criteria (DWC)- NonCancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer DWC (g)	Ratio (h)	Constituent of Interest?
WHI4-1S										
ANTIMONY	7440-36-0	ug/L	1:2:2	50	5.54E+02	5.54E+02	2.78E+02	7.30E+00	7.59E+01	Yes
IRON	7439-89-6	ug/L	1:1:1	100	3.54E+05	3.54E+05	3.54E+05	6.26E+03	5.66E+01	Yes
ARSENIC	7440-38-2	ug/L	1:2:2	50	1.03E+02	1.03E+02	5.40E+01	5.63E+00	1.83E+01	Yes
COPPER	7440-50-8	ug/L	2:2:2	100	1.90E+01	8.69E+03	4.35E+03	3.96E+03	2.19E+00	Yes
VANADIUM	7440-62-2	ug/L	1:2:2	50	1.71E+02	1.71E+02	8.57E+01	1.04E+02	1.64E+00	Yes
CHROMIUM	7440-47-3	ug/L	1:2:2	50	1.46E+02	1.46E+02	7.33E+01	3.50E+02	4.17E-01	No
ZINC	7440-66-6	ug/L	1:2:2	50	8.11E+02	8.11E+02	4.09E+02	6.88E+03	1.18E-01	No
BARIUM	7440-39-3	ug/L	2:2:2	100	2.60E+01	7.08E+02	3.67E+02	7.30E+03	9.70E-02	No
MERCURY	7439-97-6	ug/L	2:2:2	100	6.73E-02	1.02E+01	5.13E+00	1.10E+02	9.27E-02	No
NICKEL	7440-02-0	ug/L	1:2:2	50	8.10E+01	8.10E+01	4.11E+01	1.59E+03	5.11E-02	No
MAGNESIUM	7439-95-4	ug/L	1:1:1	100	1.13E+04	1.13E+04	1.13E+04	1.15E+06	9.85E-03	No
TOLUENE	108-88-3	ug/l	1:2:2	50	1.40E+01	1.40E+01	7.25E+00	4.59E+03	3.05E-03	No
							Cumulative Risk:		7.88E-01	
WHI4-2S										
ARSENIC	7440-38-2	ug/L	1:1:1	100	3.00E+01	3.00E+01	3.00E+01	5.63E+00	5.33E+00	Yes
IRON	7439-89-6	ug/L	1:1:1	100	2.04E+04	2.04E+04	2.04E+04	6.26E+03	3.26E+00	Yes
VANADIUM	7440-62-2	ug/L	1:1:1	100	4.20E+01	4.20E+01	4.20E+01	1.04E+02	4.03E-01	No
CADMIUM	7440-43-9	ug/L	1:1:1	100	2.00E+00	2.00E+00	2.00E+00	2.09E+01	9.59E-02	No
CHROMIUM	7440-47-3	ug/L	1:1:1	100	3.00E+01	3.00E+01	3.00E+01	3.50E+02	8.56E-02	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1:1:1	100	2.68E+01	2.68E+01	2.68E+01	3.96E+02	6.76E-02	No
MAGNESIUM	7439-95-4	ug/L	1:1:1	100	5.66E+04	5.66E+04	5.66E+04	1.15E+06	4.93E-02	No
BARIUM	7440-39-3	ug/L	1:1:1	100	2.94E+02	2.94E+02	2.94E+02	7.30E+03	4.03E-02	No
ZINC	7440-66-6	ug/L	1:1:1	100	2.24E+02	2.24E+02	2.24E+02	6.88E+03	3.25E-02	No
NICKEL	7440-02-0	ug/L	1:1:1	100	2.20E+01	2.20E+01	2.20E+01	1.59E+03	1.39E-02	No
COPPER	7440-50-8	ug/L	1:1:1	100	5.40E+01	5.40E+01	5.40E+01	3.96E+03	1.36E-02	No
MERCURY	7439-97-6	ug/L	2:2:2	100	7.67E-01	8.00E-01	7.84E-01	1.10E+02	7.27E-03	No
BUTYL BENZYL PHTHALATE	85-68-7	ug/l	1:1:1	100	1.01E+00	1.01E+00	1.01E+00	3.34E+03	3.03E-04	No
ACETOPHENONE	98-86-2	ug/l	1:1:1	100	1.29E+00	1.29E+00	1.29E+00	4.38E+03	2.95E-04	No
DIETHYL PHTHALATE	84-66-2	ug/l	1:1:1	100	2.05E+00	2.05E+00	2.05E+00	1.56E+04	1.31E-04	No
							Cumulative Risk:		8.10E-01	

Table C-3
Cumulative Risk Screening
Using Part 201 Criteria Industrial Drinking Water Criteria (DWC)- NonCancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer DWC (g)	Ratio (h)	Constituent of Interest?
WHI9-2F										
ARSENIC	7440-38-2	ug/L	2:2:2	100	3.30E+01	4.10E+01	3.70E+01	5.63E+00	7.28E+00	Yes
IRON	7439-89-6	ug/L	1:1:1	100	1.68E+04	1.68E+04	1.68E+04	6.26E+03	2.68E+00	Yes
VANADIUM	7440-62-2	ug/L	2:2:2	100	5.20E+01	8.30E+01	6.75E+01	1.04E+02	7.96E-01	Yes
ANTIMONY	7440-36-0	ug/L	1:1:2	100	3.60E+00	3.60E+00	3.60E+00	7.30E+00	4.93E-01	Yes
CADMIUM	7440-43-9	ug/L	2:2:2	100	1.00E+00	2.90E+00	1.95E+00	2.09E+01	1.39E-01	No
COPPER	7440-50-8	ug/L	2:2:2	100	8.30E+01	4.09E+02	2.46E+02	3.96E+03	1.03E-01	No
CHROMIUM	7440-47-3	ug/L	2:2:2	100	6.20E+00	2.70E+01	1.66E+01	3.50E+02	7.71E-02	No
ZINC	7440-66-6	ug/L	2:2:2	100	1.00E+02	5.25E+02	3.13E+02	6.88E+03	7.63E-02	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1:1:1	100	2.38E+01	2.38E+01	2.38E+01	3.96E+02	6.01E-02	No
SELENIUM	7782-49-2	ug/L	1:2:2	50	4.00E+00	4.00E+00	2.98E+00	1.04E+02	3.84E-02	No
NICKEL	7440-02-0	ug/L	2:2:2	100	1.10E+01	3.30E+01	2.20E+01	1.59E+03	2.08E-02	No
MERCURY	7439-97-6	ug/L	2:2:2	100	7.57E-01	2.00E+00	1.38E+00	1.10E+02	1.82E-02	No
NAPHTHALENE	91-20-3	ug/l	1:1:1	100	1.79E+01	1.79E+01	1.79E+01	1.48E+03	1.21E-02	No
BARIUM	7440-39-3	ug/L	2:2:2	100	1.10E+01	7.50E+01	4.30E+01	7.30E+03	1.03E-02	No
PHENANTHRENE	85-01-8	ug/l	1:1:1	100	1.23E+00	1.23E+00	1.23E+00	1.48E+02	8.31E-03	No
MAGNESIUM	7439-95-4	ug/L	1:1:1	100	7.80E+03	7.80E+03	7.80E+03	1.15E+06	6.80E-03	No
TOLUENE	108-88-3	ug/l	1:2:2	50	3.00E+01	3.00E+01	1.53E+01	4.59E+03	6.54E-03	No
2-METHYLNAPHTHALENE	91-57-6	ug/l	1:1:1	100	2.63E+00	2.63E+00	2.63E+00	7.51E+02	3.50E-03	No
ACETOPHENONE	98-86-2	ug/l	1:1:1	100	1.86E+00	1.86E+00	1.86E+00	4.38E+03	4.25E-04	No
1,2-DICHLOROPROPANE	78-87-5	ug/l	1:1:2	100	1.74E+00	1.74E+00	1.74E+00	9.18E+03	1.90E-04	No
DIETHYL PHTHALATE	84-66-2	ug/l	1:1:1	100	1.40E+00	1.40E+00	1.40E+00	1.56E+04	8.95E-05	No
							Cumulative Risk:		5.81E-01	

Table C-3
Cumulative Risk Screening
Using Part 201 Criteria Industrial Drinking Water Criteria (DWC)- NonCancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer DWC (g)	Ratio (h)	Constituent of Interest?
WHI9-2S										
IRON	7439-89-6	ug/L	1:1:1	100	1.88E+04	1.88E+04	1.88E+04	6.26E+03	3.00E+00	Yes
MAGNESIUM	7439-95-4	ug/L	1:1:1	100	2.03E+05	2.03E+05	2.03E+05	1.15E+06	1.77E-01	No
BARIUM	7440-39-3	ug/L	1:1:1	100	5.64E+02	5.64E+02	5.64E+02	7.30E+03	7.73E-02	No
ZINC	7440-66-6	ug/L	1:1:1	100	6.80E+01	6.80E+01	6.80E+01	6.88E+03	9.88E-03	No
NICKEL	7440-02-0	ug/L	1:1:1	100	5.00E+00	5.00E+00	5.00E+00	1.59E+03	3.15E-03	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1:1:1	100	1.13E+00	1.13E+00	1.13E+00	3.96E+02	2.85E-03	No
MERCURY	7439-97-6	ug/l	1:1:2	100	4.11E-02	4.11E-02	4.11E-02	1.10E+02	3.74E-04	No
DIETHYL PHTHALATE	84-66-2	ug/l	1:1:1	100	2.05E+00	2.05E+00	2.05E+00	1.56E+04	1.31E-04	No
							Cumulative Risk:		2.71E-01	

Notes:

CAS - Chemical Abstract Service.
(a) Only chemicals with at least one positively detected result are reported.
(b) Frequency of detection - Number of detected samples: Number of samples used to calculate statistics: Number of total samples.
(c) Percent of samples with detects out of samples used to calculate statistics.
(d) Minimum detected concentration for each chemical, after duplicates have been averaged.
(e) Maximum detected concentration for each chemical, after duplicates have been averaged.
(f) Arithmetic mean concentration for each chemical, after duplicates have been averaged and any non detected results with one-half the sample quantitation limit greater than the maximum detected concentration have been excluded.
(g) Industrial Drinking Water Criteria (DWC): NonCarcinogen (MDEQ, Dec. 2002).
(h) Ratio of the maximum detected concentration and the Part 201 criterion.

Table C-4
Risk Screening for Lead
Using Part 201 Industrial Drinking Water Criteria (a)
Groundwater
BASF Wyandotte, MI Facility

Area	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial DWC	Exceeds? (g)
RFIMW 25	ug/L	5 : 6 : 6	83	3.60E+00	1.70E+01	8.40E+00	4.00E+00	Yes
P-34-N	ug/L	6 : 6 : 6	100	1.20E+01	6.00E+01	2.93E+01	4.00E+00	Yes
PM1NA	ug/L	4 : 4 : 4	100	1.00E+01	8.90E+01	5.00E+01	4.00E+00	Yes
RFIMW 02	ug/L	2 : 4 : 4	50	1.00E+01	4.60E+01	1.51E+01	4.00E+00	Yes
RFIMW 03	ug/L	4 : 4 : 4	100	1.60E+01	7.10E+01	3.23E+01	4.00E+00	Yes
RFIMW 04	ug/L	2 : 4 : 4	50	3.90E+00	4.30E+00	2.80E+00	4.00E+00	Yes
RFIMW 06	ug/L	1 : 4 : 4	25	7.90E+00	7.90E+00	3.45E+00	4.00E+00	Yes
RFIMW 08	ug/L	1 : 4 : 4	25	3.60E+00	3.60E+00	2.02E+00	4.00E+00	No
RFIMW 11	ug/L	4 : 4 : 4	100	1.90E+01	2.20E+02	1.62E+02	4.00E+00	Yes
RFIMW 13	ug/L	1 : 1 : 1	100	3.20E+00	3.20E+00	3.20E+00	4.00E+00	No
RFIMW 16	ug/L	1 : 1 : 1	100	3.00E+00	3.00E+00	3.00E+00	4.00E+00	No
RFIMW 22	ug/L	1 : 1 : 1	100	2.80E+00	2.80E+00	2.80E+00	4.00E+00	No
P-34-N	ug/L	1 : 6 : 6	17	3.80E+00	3.80E+00	1.88E+00	4.00E+00	No
RFIMW 24	ug/L	5 : 6 : 6	83	4.30E+00	7.10E+00	4.91E+00	4.00E+00	Yes
WHI9-2F	ug/L	2 : 2 : 2	100	1.40E+02	1.10E+03	6.20E+02	4.00E+00	Yes
RFIMW 26	ug/L	1 : 2 : 2	50	8.00E+00	8.00E+00	4.75E+00	4.00E+00	Yes
RFIMW 27	ug/L	1 : 6 : 6	17	7.30E+00	7.30E+00	2.72E+00	4.00E+00	Yes
RFIMW 28	ug/L	5 : 6 : 6	83	3.10E+00	1.51E+01	5.97E+00	4.00E+00	Yes
RFIMW 29	ug/L	5 : 6 : 6	83	6.50E+00	1.90E+01	9.23E+00	4.00E+00	Yes
WHI1-3S	ug/L	1 : 1 : 1	100	1.30E+01	1.30E+01	1.30E+01	4.00E+00	Yes
WHI2-1S	ug/L	1 : 1 : 1	100	1.10E+01	1.10E+01	1.10E+01	4.00E+00	Yes
WHI2-2S	ug/L	1 : 1 : 1	100	2.39E+02	2.39E+02	2.39E+02	4.00E+00	Yes
WHI3-1S	ug/L	2 : 2 : 2	100	2.30E+01	2.16E+02	1.20E+02	4.00E+00	Yes
WHI3-2S	ug/L	1 : 1 : 1	100	2.30E+01	2.30E+01	2.30E+01	4.00E+00	Yes
WHI4-1S	ug/L	2 : 2 : 2	100	8.50E+00	5.58E+03	2.79E+03	4.00E+00	Yes
WHI4-2S	ug/L	1 : 1 : 1	100	3.16E+02	3.16E+02	3.16E+02	4.00E+00	Yes
RFIMW 23	ug/L	1 : 4 : 4	25	6.10E+00	6.10E+00	2.65E+00	4.00E+00	Yes

Table C-4
Risk Screening for Lead
Using Part 201 Industrial Drinking Water Criteria (a)
Groundwater
BASF Wyandotte, MI Facility

Area	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial DWC	Exceeds? (g)

Notes:

CAS - Chemical Abstract Service.
DWC - Drinking Water Criteria
(a) MDEQ. Part 201 Generic Cleanup Criteria. Dec. 2002.
(b) Frequency of detection - Number of detected samples: Number of samples used to calculate statistics: Number of total samples.
(c) Percent of samples with detects out of samples used to calculate statistics.
(d) Minimum detected concentration for each chemical, after duplicates have been averaged.
(e) Maximum detected concentration for each chemical, after duplicates have been averaged.
(f) Arithmetic mean concentration for each chemical, after duplicates have been averaged and any non detected results with one-half the sample quantitation limit greater than the maximum detected concentration have been excluded.
(g) Chemicals where maximum detected concentration exceeds criterion.

APPENDIX D

SOIL SCREENING TABLES

Table D-1
Cumulative Risk Screening
Using Part 201 Criteria Industrial and Commercial II Direct Contact Criteria (DCC)- Cancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial Cancer DCC (g)	Ratio (h)	Constituent of Interest?
AOC 1										
BENZENE	71-43-2	ug/kg	1 : 43 : 52	2	3.80E+02	3.80E+02	6.65E+01	8.38E+05	4.54E-04	No
							Cumulative Risk:		**4.54E-04**	
AOC 2										
ARSENIC	7440-38-2	ug/kg	8 : 8 : 8	100	7.30E+02	4.11E+04	1.81E+04	3.68E+04	1.12E+00	Yes
BENZO(A)PYRENE	50-32-8	ug/kg	5 : 8 : 8	63	8.50E+01	1.70E+03	4.29E+02	8.00E+03	2.13E-01	No
BENZO(B)FLUORANTHENE	205-99-2	ug/kg	5 : 8 : 8	63	9.60E+01	2.20E+03	5.41E+02	8.00E+04	2.75E-02	No
BENZO(A)ANTHRACENE	56-55-3	ug/kg	6 : 8 : 8	75	5.80E+01	2.00E+03	4.80E+02	8.00E+04	2.50E-02	No
DIBENZ(A,H)ANTHRACENE	53-70-3	ug/kg	2 : 4 : 8	50	7.20E+01	1.90E+02	1.56E+02	8.00E+03	2.38E-02	No
INDENO(1,2,3-CD)PYRENE	193-39-5	ug/kg	5 : 8 : 8	63	7.00E+01	7.00E+02	2.46E+02	8.00E+04	8.75E-03	No
BENZO(K)FLUORANTHENE	207-08-9	ug/kg	4 : 8 : 8	50	1.20E+02	9.80E+02	2.94E+02	8.00E+05	1.23E-03	No
CHRYSENE	218-01-9	ug/kg	6 : 8 : 8	75	5.70E+01	1.70E+03	4.33E+02	8.00E+06	2.13E-04	No
BENZENE	71-43-2	ug/kg	1 : 8 : 8	13	2.70E+01	2.70E+01	6.04E+00	8.38E+05	3.22E-05	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/kg	4 : 6 : 8	67	8.90E+01	2.38E+02	1.57E+02	1.17E+07	2.04E-05	No
METHYLENE CHLORIDE	75-09-2	ug/kg	1 : 8 : 8	13	2.70E+01	2.70E+01	6.04E+00	5.78E+06	4.67E-06	No
							Cumulative Risk:		**2.99E-01**	
AOC 4										
BENZO(A)PYRENE	50-32-8	ug/kg	2 : 2 : 2	100	3.30E+05	4.10E+06	2.22E+06	8.00E+03	5.13E+02	Yes
BENZO(A)ANTHRACENE	56-55-3	ug/kg	2 : 2 : 2	100	4.90E+05	4.90E+06	2.70E+06	8.00E+04	6.13E+01	Yes
BENZO(B)FLUORANTHENE	205-99-2	ug/kg	2 : 2 : 2	100	4.10E+05	4.40E+06	2.41E+06	8.00E+04	5.50E+01	Yes
INDENO(1,2,3-CD)PYRENE	193-39-5	ug/kg	2 : 2 : 2	100	1.20E+05	1.60E+06	8.60E+05	8.00E+04	2.00E+01	Yes
BENZO(K)FLUORANTHENE	207-08-9	ug/kg	2 : 2 : 2	100	1.90E+05	2.50E+06	1.35E+06	8.00E+05	3.13E+00	Yes
BENZENE	71-43-2	ug/kg	2 : 2 : 2	100	2.50E+05	6.80E+05	4.65E+05	8.38E+05	8.12E-01	Yes
CHRYSENE	218-01-9	ug/kg	2 : 2 : 2	100	4.70E+05	5.20E+06	2.84E+06	8.00E+06	6.50E-01	Yes
ARSENIC	7440-38-2	ug/kg	2 : 2 : 2	100	1.45E+04	2.05E+04	1.75E+04	3.68E+04	5.57E-01	No
STYRENE	100-42-5	ug/kg	2 : 2 : 2	100	9.60E+04	2.40E+05	1.68E+05	1.87E+06	1.28E-01	No
							Cumulative Risk:		**6.85E-01**	

Table D-1
Cumulative Risk Screening
Using Part 201 Criteria Industrial and Commercial II Direct Contact Criteria (DCC)- Cancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial Cancer DCC (g)	Ratio (h)	Constituent of Interest?
AOC 6										
BENZO(A)PYRENE	50-32-8	ug/kg	9 : 11 : 12	82	1.20E+02	9.40E+04	1.39E+04	8.00E+03	1.18E+01	Yes
ARSENIC	7440-38-2	ug/kg	12 : 12 : 12	100	3.90E+03	2.00E+05	3.88E+04	3.68E+04	5.43E+00	Yes
BENZENE	71-43-2	ug/kg	5 : 12 : 12	42	3.90E+00	1.40E+06	1.93E+05	8.38E+05	1.67E+00	Yes
BENZO(A)ANTHRACENE	56-55-3	ug/kg	9 : 11 : 12	82	1.30E+02	1.30E+05	1.73E+04	8.00E+04	1.63E+00	Yes
DIBENZ(A,H)ANTHRACENE	53-70-3	ug/kg	7 : 10 : 12	70	1.10E+02	1.20E+04	2.60E+03	8.00E+03	1.50E+00	Yes
BENZO(B)FLUORANTHENE	205-99-2	ug/kg	9 : 11 : 12	82	1.50E+02	1.00E+05	1.62E+04	8.00E+04	1.25E+00	Yes
INDENO(1,2,3-CD)PYRENE	193-39-5	ug/kg	8 : 11 : 12	73	7.30E+01	4.30E+04	8.01E+03	8.00E+04	5.38E-01	No
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/kg	5 : 10 : 12	50	1.30E+02	5.20E+03	1.91E+03	5.78E+04	8.99E-02	No
BENZO(K)FLUORANTHENE	207-08-9	ug/kg	8 : 11 : 12	73	5.00E+01	5.60E+04	8.81E+03	8.00E+05	7.00E-02	No
CHRYSENE	218-01-9	ug/kg	9 : 11 : 12	82	2.10E+02	1.20E+05	1.62E+04	8.00E+06	1.50E-02	No
1,2-DICHLOROPROPANE	78-87-5	ug/kg	2 : 9 : 12	22	5.20E+00	2.20E+01	5.51E+00	6.57E+05	3.35E-05	No
CHLOROFORM	67-66-3	ug/kg	1 : 9 : 12	11	1.00E+01	1.00E+01	3.93E+00	5.52E+06	1.81E-06	No
METHYLENE CHLORIDE	75-09-2	ug/kg	4 : 9 : 12	44	7.30E+00	1.00E+01	5.85E+00	5.78E+06	1.73E-06	No
							Cumulative Risk:		**7.13E-01**	
AOC 7A										
ARSENIC	7440-38-2	ug/kg	14 : 14 : 14	100	2.50E+03	6.24E+04	1.77E+04	3.68E+04	1.69E+00	Yes
							Cumulative Risk:		**0.00E+00**	
AOC 7B										
ARSENIC	7440-38-2	ug/kg	4 : 4 : 4	100	1.70E+03	1.17E+04	7.45E+03	3.68E+04	3.18E-01	No
							Cumulative Risk:		**3.18E-01**	
AOC 7C										
ARSENIC	7440-38-2	ug/kg	4 : 4 : 4	100	1.92E+04	3.45E+04	2.67E+04	3.68E+04	9.37E-01	Yes
							Cumulative Risk:		**0.00E+00**	

Table D-1
Cumulative Risk Screening
Using Part 201 Criteria Industrial and Commercial II Direct Contact Criteria (DCC)- Cancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial Cancer DCC (g)	Ratio (h)	Constituent of Interest?
RFIMW 07										
BENZO(A)PYRENE	50-32-8	ug/kg	2 : 6 : 6	33	2.00E+02	1.10E+03	5.64E+02	8.00E+03	1.37E-01	No
BENZO(A)ANTHRACENE	56-55-3	ug/kg	1 : 6 : 6	17	1.70E+03	1.70E+03	6.81E+02	8.00E+04	2.12E-02	No
BENZO(B)FLUORANTHENE	205-99-2	ug/kg	1 : 6 : 6	17	1.51E+03	1.51E+03	6.50E+02	8.00E+04	1.89E-02	No
INDENO(1,2,3-CD)PYRENE	193-39-5	ug/kg	1 : 6 : 6	17	5.18E+02	5.18E+02	4.85E+02	8.00E+04	6.47E-03	No
BENZO(K)FLUORANTHENE	207-08-9	ug/kg	1 : 6 : 6	17	5.08E+02	5.08E+02	4.83E+02	8.00E+05	6.35E-04	No
CHRYSENE	218-01-9	ug/kg	1 : 6 : 6	17	1.35E+03	1.35E+03	6.23E+02	8.00E+06	1.69E-04	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/kg	2 : 2 : 6	100	2.38E+02	3.00E+02	2.69E+02	1.17E+07	2.57E-05	No
METHYLENE CHLORIDE	75-09-2	ug/kg	1 : 3 : 6	33	4.25E+00	4.25E+00	4.78E+00	5.78E+06	7.35E-07	No
							Cumulative Risk:		**1.85E-01**	
RFIMW 08										
BENZO(A)PYRENE	50-32-8	ug/kg	2 : 10 : 10	20	5.00E+02	5.80E+02	2.95E+02	8.00E+03	7.25E-02	No
BENZO(B)FLUORANTHENE	205-99-2	ug/kg	2 : 10 : 10	20	5.30E+02	8.70E+02	3.27E+02	8.00E+04	1.09E-02	No
BENZO(A)ANTHRACENE	56-55-3	ug/kg	2 : 10 : 10	20	5.50E+02	8.30E+02	3.25E+02	8.00E+04	1.04E-02	No
INDENO(1,2,3-CD)PYRENE	193-39-5	ug/kg	1 : 9 : 10	11	2.80E+02	2.80E+02	2.30E+02	8.00E+04	3.50E-03	No
BENZO(K)FLUORANTHENE	207-08-9	ug/kg	1 : 9 : 10	11	2.90E+02	2.90E+02	2.31E+02	8.00E+05	3.63E-04	No
CHRYSENE	218-01-9	ug/kg	2 : 10 : 10	20	5.10E+02	6.80E+02	3.06E+02	8.00E+06	8.50E-05	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/kg	3 : 7 : 10	43	1.30E+02	2.20E+02	1.86E+02	1.17E+07	1.89E-05	No
							Cumulative Risk:		**9.78E-02**	
RFIMW 24										
ARSENIC	7440-38-2	ug/kg	2 : 2 : 2	100	1.40E+03	8.00E+03	4.70E+03	3.68E+04	2.17E-01	No
BENZO(A)PYRENE	50-32-8	ug/kg	1 : 1 : 2	100	4.70E+01	4.70E+01	4.70E+01	8.00E+03	5.88E-03	No
BENZO(B)FLUORANTHENE	205-99-2	ug/kg	1 : 1 : 2	100	2.10E+02	2.10E+02	2.10E+02	8.00E+04	2.63E-03	No
BENZO(A)ANTHRACENE	56-55-3	ug/kg	1 : 1 : 2	100	7.10E+01	7.10E+01	7.10E+01	8.00E+04	8.88E-04	No
INDENO(1,2,3-CD)PYRENE	193-39-5	ug/kg	1 : 1 : 2	100	3.90E+01	3.90E+01	3.90E+01	8.00E+04	4.88E-04	No
4,4'-DDE	72-55-9	ug/kg	1 : 2 : 2	50	2.20E+01	2.20E+01	1.21E+01	1.87E+05	1.18E-04	No
BENZO(K)FLUORANTHENE	207-08-9	ug/kg	1 : 1 : 2	100	3.80E+01	3.80E+01	3.80E+01	8.00E+05	4.75E-05	No
CHRYSENE	218-01-9	ug/kg	1 : 1 : 2	100	6.50E+01	6.50E+01	6.50E+01	8.00E+06	8.13E-06	No
							Cumulative Risk:		**2.27E-01**	

Table D-1
Cumulative Risk Screening
Using Part 201 Criteria Industrial and Commercial II Direct Contact Criteria (DCC)- Cancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial Cancer DCC (g)	Ratio (h)	Constituent of Interest?
RFIMW 25										
ARSENIC	7440-38-2	ug/kg	2 : 2 : 2	100	1.80E+03	6.00E+03	3.90E+03	3.68E+04	1.63E-01	No
BENZO(A)PYRENE	50-32-8	ug/kg	2 : 2 : 2	100	3.10E+02	3.15E+02	3.13E+02	8.00E+03	3.94E-02	No
BENZO(B)FLUORANTHENE	205-99-2	ug/kg	2 : 2 : 2	100	5.35E+02	7.30E+02	6.33E+02	8.00E+04	9.13E-03	No
DIBENZ(A,H)ANTHRACENE	53-70-3	ug/kg	1 : 1 : 2	100	5.00E+01	5.00E+01	5.00E+01	8.00E+03	6.25E-03	No
BENZO(A)ANTHRACENE	56-55-3	ug/kg	2 : 2 : 2	100	3.50E+02	3.80E+02	3.65E+02	8.00E+04	4.75E-03	No
INDENO(1,2,3-CD)PYRENE	193-39-5	ug/kg	2 : 2 : 2	100	2.60E+02	3.00E+02	2.80E+02	8.00E+04	3.75E-03	No
BENZO(K)FLUORANTHENE	207-08-9	ug/kg	2 : 2 : 2	100	2.00E+02	2.45E+02	2.23E+02	8.00E+05	3.06E-04	No
CHRYSENE	218-01-9	ug/kg	2 : 2 : 2	100	3.10E+02	3.80E+02	3.45E+02	8.00E+06	4.75E-05	No
							Cumulative Risk:		**2.27E-01**	
RFIMW 26										
ARSENIC	7440-38-2	ug/kg	2 : 2 : 2	100	5.10E+03	9.50E+03	7.30E+03	3.68E+04	2.58E-01	No
Total PCBs	Total PCBs	ug/kg	1 : 2 : 2	50	2.30E+03	2.30E+03	1.44E+03	1.58E+04	1.46E-01	No
BENZO(A)PYRENE	50-32-8	ug/kg	1 : 2 : 2	50	5.70E+02	5.70E+02	3.83E+02	8.00E+03	7.13E-02	No
DIBENZ(A,H)ANTHRACENE	53-70-3	ug/kg	1 : 1 : 2	100	8.40E+01	8.40E+01	8.40E+01	8.00E+03	1.05E-02	No
BENZO(B)FLUORANTHENE	205-99-2	ug/kg	1 : 2 : 2	50	8.10E+02	8.10E+02	5.03E+02	8.00E+04	1.01E-02	No
BENZO(A)ANTHRACENE	56-55-3	ug/kg	2 : 2 : 2	100	4.00E+01	6.50E+02	3.45E+02	8.00E+04	8.13E-03	No
INDENO(1,2,3-CD)PYRENE	193-39-5	ug/kg	1 : 2 : 2	50	3.00E+02	3.00E+02	2.78E+02	8.00E+04	4.50E-03	No
BENZO(K)FLUORANTHENE	207-08-9	ug/kg	1 : 2 : 2	50	2.50E+02	2.50E+02	2.23E+02	8.00E+05	3.13E-04	No
CHRYSENE	218-01-9	ug/kg	2 : 2 : 2	100	4.50E+01	5.10E+02	2.78E+02	8.00E+06	6.38E-05	No
							Cumulative Risk:		**5.09E-01**	
RFIMW 27										
ARSENIC	7440-38-2	ug/kg	2 : 2 : 2	100	2.50E+03	7.40E+03	4.95E+03	3.68E+04	2.01E-01	No
							Cumulative Risk:		**2.01E-01**	
RFIMW 28										
ARSENIC	7440-38-2	ug/kg	2 : 2 : 2	100	1.80E+03	8.90E+03	5.35E+03	3.68E+04	2.42E-01	No
							Cumulative Risk:		**2.42E-01**	

Table D-1
Cumulative Risk Screening
Using Part 201 Criteria Industrial and Commercial II Direct Contact Criteria (DCC)- Cancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial Cancer DCC (g)	Ratio (h)	Constituent of Interest?
SWMU F										
ARSENIC	7440-38-2	ug/kg	10 : 10 : 10	100	4.40E+03	6.39E+04	2.32E+04	3.68E+04	1.74E+00	Yes
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/kg	6 : 10 : 10	60	2.90E+02	2.80E+04	5.78E+03	5.78E+04	4.84E-01	Yes
Total PCBs	Total PCBs	ug/kg	1 : 8 : 8	13	3.34E+03	3.34E+03	1.17E+03	1.58E+04	2.12E-01	No
BENZO(A)PYRENE	50-32-8	ug/kg	3 : 0 : 10	30	1.10E+02	1.00E+03	5.10E+02	8.00E+03	2.00E-01	No
1,2-DICHLOROPROPANE	78-87-5	ug/kg	5 : 10 : 10	50	4.20E+00	7.00E+04	9.60E+03	8.57E+05	1.07E-01	No
BENZO(A)ANTHRACENE	56-55-3	ug/kg	4 : 6 : 10	67	1.20E+02	1.70E+03	6.64E+02	8.00E+04	2.13E-02	No
BENZO(B)FLUORANTHENE	205-99-2	ug/kg	4 : 6 : 10	67	1.50E+02	1.50E+03	6.06E+02	8.00E+04	1.88E-02	No
BENZENE	71-43-2	ug/kg	1 : 9 : 10	11	2.00E+03	2.00E+03	7.86E+02	8.38E+05	2.39E-03	No
INDENO(1,2,3-CD)PYRENE	193-39-5	ug/kg	1 : 1 : 10	100	1.00E+02	1.00E+02	1.00E+02	8.00E+04	1.25E-03	No
BENZO(K)FLUORANTHENE	207-08-9	ug/kg	4 : 6 : 10	67	8.20E+01	8.90E+02	3.26E+02	8.00E+05	1.11E-03	No
CHRYSENE	218-01-9	ug/kg	4 : 6 : 10	67	1.60E+02	1.70E+03	6.31E+02	8.00E+06	2.13E-04	No
PENTACHLOROPHENOL	87-86-5	ug/kg	2 : 10 : 20	20	1.60E+01	6.40E+01	1.16E+01	3.24E+05	1.98E-04	No
4,4'-DDE	72-55-9	ug/kg	1 : 4 : 8	25	7.80E+00	7.80E+00	4.17E+00	1.87E+05	4.18E-05	No
							Cumulative Risk:		**5.64E-01**	
SWMU G										
ARSENIC	7440-38-2	ug/kg	10 : 10 : 10	100	4.80E+03	1.01E+05	2.67E+04	3.68E+04	2.74E+00	Yes
BENZO(A)PYRENE	50-32-8	ug/kg	9 : 10 : 10	90	3.10E+02	3.70E+03	8.10E+02	8.00E+03	4.63E-01	No
DIBENZ(A,H)ANTHRACENE	53-70-3	ug/kg	4 : 9 : 10	44	4.10E+01	6.40E+02	2.25E+02	8.00E+03	8.00E-02	No
Total PCBs	Total PCBs	ug/kg	5 : 10 : 10	50	5.12E+02	1.24E+03	5.58E+02	1.58E+04	7.88E-02	No
BENZO(B)FLUORANTHENE	205-99-2	ug/kg	9 : 10 : 10	90	6.00E+02	4.50E+03	1.20E+03	8.00E+04	5.63E-02	No
BENZO(A)ANTHRACENE	56-55-3	ug/kg	9 : 10 : 10	90	3.90E+02	3.20E+03	7.98E+02	8.00E+04	4.00E-02	No
INDENO(1,2,3-CD)PYRENE	193-39-5	ug/kg	8 : 9 : 10	89	1.40E+02	1.80E+03	4.00E+02	8.00E+04	2.25E-02	No
BENZO(K)FLUORANTHENE	207-08-9	ug/kg	9 : 10 : 10	90	1.30E+02	1.60E+03	4.29E+02	8.00E+05	2.00E-03	No
PENTACHLOROPHENOL	87-86-5	ug/kg	3 : 10 : 20	30	3.90E+01	6.20E+02	1.29E+02	3.24E+05	1.91E-03	No
CHRYSENE	218-01-9	ug/kg	9 : 10 : 10	90	3.50E+02	3.60E+03	8.40E+02	8.00E+06	4.50E-04	No
4,4'-DDT	50-29-3	ug/kg	1 : 10 : 10	10	1.55E+01	1.55E+01	9.75E+00	2.76E+05	5.61E-05	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/kg	1 : 1 : 10	100	4.10E+01	4.10E+01	4.10E+01	1.17E+07	3.51E-06	No
							Cumulative Risk:		**7.45E-01**	

Table D-1
Cumulative Risk Screening
Using Part 201 Criteria Industrial and Commercial II Direct Contact Criteria (DCC)- Cancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial Cancer DCC (g)	Ratio (h)	Constituent of Interest?
SWMU H										
1,2-DICHLOROPROPANE	78-87-5	ug/kg	9 : 11 : 11	82	4.00E+00	5.00E+07	4.57E+06	6.57E+05	7.62E+01	Yes
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/kg	8 : 11 : 11	73	1.30E+02	1.40E+06	1.42E+05	5.78E+04	2.42E+01	Yes
ARSENIC	7440-38-2	ug/kg	11 : 11 : 11	100	1.90E+03	1.16E+05	2.28E+04	3.68E+04	3.15E+00	Yes
BENZO(A)PYRENE	50-32-8	ug/kg	3 : 10 : 11	30	1.00E+02	3.10E+03	7.70E+02	8.00E+03	3.88E-01	No
BIS(2-CHLOROETHYL) ETHER	111-44-4	ug/kg	2 : 10 : 11	20	8.20E+01	1.20E+04	1.66E+03	5.78E+04	2.07E-01	No
Total PCBs	Total PCBs	ug/kg	1 : 11 : 11	9	3.10E+03	3.10E+03	6.86E+02	1.58E+04	1.96E-01	No
BENZO(A)ANTHRACENE	56-55-3	ug/kg	3 : 10 : 11	30	1.40E+02	4.50E+03	9.18E+02	8.00E+04	5.63E-02	No
BENZO(B)FLUORANTHENE	205-99-2	ug/kg	3 : 10 : 11	30	2.10E+02	4.20E+03	9.08E+02	8.00E+04	5.25E-02	No
INDENO(1,2,3-CD)PYRENE	193-39-5	ug/kg	2 : 2 : 11	100	8.40E+01	1.50E+02	1.17E+02	8.00E+04	1.88E-03	No
BENZENE	71-43-2	ug/kg	1 : 8 : 11	13	7.80E+02	7.80E+02	1.02E+02	8.38E+05	9.31E-04	No
PENTACHLOROPHENOL	87-86-5	ug/kg	4 : 11 : 22	36	1.00E+01	3.00E+02	5.24E+01	3.24E+05	9.26E-04	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/kg	2 : 10 : 11	20	1.90E+03	1.00E+04	1.64E+03	1.17E+07	8.57E-04	No
CHRYSENE	218-01-9	ug/kg	3 : 10 : 11	30	1.50E+02	4.80E+03	9.52E+02	8.00E+06	6.00E-04	No
ALPHA-CHLORDANE	5103-71-9	ug/kg	1 : 11 : 11	9	4.00E+01	4.00E+01	6.55E+00	1.48E+05	2.71E-04	No
BENZO(K)FLUORANTHENE	207-08-9	ug/kg	2 : 2 : 11	100	8.80E+01	1.30E+02	1.09E+02	8.00E+05	1.63E-04	No
							Cumulative Risk:		**9.06E-01**	

Table D-1
Cumulative Risk Screening
Using Part 201 Criteria Industrial and Commercial II Direct Contact Criteria (DCC)- Cancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial Cancer DCC (g)	Ratio (h)	Constituent of Interest?

Notes:

CAS - Chemical Abstract Service.
(a) Only chemicals with at least one positively detected result are reported.
(b) Frequency of detection - Number of detected samples: Number of samples used to calculate statistics: Number of total samples.
(c) Percent of samples with detects out of samples used to calculate statistics.
(d) Minimum detected concentration for each chemical, after duplicates have been averaged.
(e) Maximum detected concentration for each chemical, after duplicates have been averaged.
(f) Arithmetic mean concentration for each chemical, after duplicates have been averaged and any non detected results with one-half the sample quantitation limit greater than the maximum detected concentration have been excluded.
(g) Industrial and Commercial II Direct Contact Criteria (DCC): Carcinogen (MDEQ, Dec. 2002).
(h) Ratio of the maximum detected concentration and the Part 201 criterion.

Table D-2
Cumulative Risk Screening
Using Part 201 Criteria Industrial and Commercial II Direct Contact Criteria (DCC)- NonCancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer DCC (g)	Ratio (h)	Constituent of Interest?
AOC 1										
ETHYLBENZENE	100-41-4	ug/kg	1 : 42 : 53	2	3.00E+02	3.00E+02	5.56E+01	7.07E+07	4.24E-06	No
TOLUENE	108-88-3	ug/kg	2 : 15 : 53	13	3.40E+01	3.40E+01	2.37E+01	1.60E+08	2.12E-07	No
XYLENES	1330-20-7	ug/kg	1 : 22 : 53	5	3.50E+01	3.50E+01	2.34E+01	1.31E+09	2.67E-08	No
							Cumulative Risk:		**4.48E-06**	

Table D-2
Cumulative Risk Screening
Using Part 201 Criteria Industrial and Commercial II Direct Contact Criteria (DCC)- NonCancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer DCC (g)	Ratio (h)	Constituent of Interest?
AOC 2										
TOTAL CYANIDE	57-12-5	ug/kg	6 : 8 : 8	75	7.65E+02	4.60E+04	1.04E+04	2.50E+05	1.84E-01	No
ARSENIC	7440-38-2	ug/kg	8 : 8 : 8	100	7.30E+02	4.11E+04	1.81E+04	4.47E+05	9.19E-02	No
MERCURY	7439-97-6	ug/kg	5 : 8 : 8	63	1.50E+02	1.71E+04	2.40E+03	5.80E+05	2.95E-02	No
CHROMIUM	7440-47-3	ug/kg	8 : 8 : 8	100	5.30E+03	1.01E+05	3.36E+04	9.22E+06	1.10E-02	No
VANADIUM	7440-62-2	ug/kg	7 : 8 : 8	88	1.02E+04	5.34E+04	1.74E+04	9.60E+06	5.56E-03	No
CADMIUM	7440-43-9	ug/kg	8 : 8 : 8	100	1.40E+02	3.50E+03	7.44E+02	2.07E+06	1.69E-03	No
ZINC	7440-66-6	ug/kg	8 : 8 : 8	100	1.85E+04	9.66E+05	1.80E+05	6.34E+08	1.52E-03	No
BARIUM	7440-39-3	ug/kg	8 : 8 : 8	100	4.50E+03	7.89E+04	4.37E+04	1.34E+08	5.87E-04	No
COPPER	7440-50-8	ug/kg	8 : 8 : 8	100	3.20E+03	2.44E+04	1.51E+04	7.30E+07	3.34E-04	No
PHENANTHRENE	85-01-8	ug/kg	6 : 8 : 8	75	9.70E+01	1.20E+03	5.10E+02	5.17E+06	2.32E-04	No
2-METHYLNAPHTHALENE	91-57-6	ug/kg	4 : 8 : 8	50	2.45E+02	3.40E+03	6.97E+02	2.62E+07	1.30E-04	No
NICKEL	7440-02-0	ug/kg	8 : 8 : 8	100	4.80E+03	1.33E+04	9.82E+03	1.46E+08	9.11E-05	No
BENZO(GHI)PERYLENE	191-24-2	ug/kg	5 : 8 : 8	63	6.10E+01	6.20E+02	2.43E+02	6.98E+06	8.88E-05	No
SELENIUM	7782-49-2	ug/kg	1 : 8 : 8	13	7.60E+02	7.60E+02	3.81E+02	9.60E+06	7.92E-05	No
NAPHTHALENE	91-20-3	ug/kg	4 : 8 : 8	50	4.75E+02	2.50E+03	6.69E+02	5.17E+07	4.83E-05	No
ACENAPHTHYLENE	208-96-8	ug/kg	3 : 5 : 8	60	8.20E+01	1.90E+02	1.58E+02	5.17E+06	3.67E-05	No
PYRENE	129-00-0	ug/kg	6 : 8 : 8	75	8.70E+01	2.60E+03	6.34E+02	8.40E+07	3.09E-05	No
FLUORANTHENE	206-44-0	ug/kg	6 : 8 : 8	75	9.00E+01	2.70E+03	6.69E+02	1.34E+08	2.01E-05	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/kg	4 : 6 : 8	67	8.90E+01	2.38E+02	1.57E+02	2.13E+07	1.12E-05	No
ACETOPHENONE	98-86-2	ug/kg	2 : 7 : 8	29	1.80E+02	2.90E+02	2.10E+02	1.53E+08	1.89E-06	No
ACETONE	67-64-1	ug/kg	2 : 8 : 8	25	3.00E+01	1.00E+02	3.91E+01	7.29E+07	1.37E-06	No
ANTHRACENE	120-12-7	ug/kg	5 : 8 : 8	63	5.20E+01	5.90E+02	2.07E+02	7.29E+08	8.10E-07	No
METHYLENE CHLORIDE	75-09-2	ug/kg	1 : 8 : 8	13	2.70E+01	2.70E+01	6.04E+00	4.23E+07	6.39E-07	No
TOLUENE	108-88-3	ug/kg	2 : 8 : 8	25	1.15E+01	4.30E+01	9.09E+00	1.60E+08	2.68E-07	No
ETHYLBENZENE	100-41-4	ug/kg	1 : 8 : 8	13	4.90E+00	4.90E+00	3.28E+00	7.07E+07	6.93E-08	No
Total XYLENES	Total Xylenes	ug/kg	1 : 8 : 8	13	3.11E+01	3.11E+01	9.21E+00	1.31E+09	2.37E-08	No
								Cumulative Risk:	**3.27E-01**	

Table D-2
Cumulative Risk Screening
Using Part 201 Criteria Industrial and Commercial II Direct Contact Criteria (DCC)- NonCancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer DCC (g)	Ratio (h)	Constituent of Interest?
AOC 4										
PHENANTHRENE	85-01-8	ug/kg	2 : 2 : 2	100	2.70E+06	2.30E+07	1.29E+07	5.17E+06	4.45E+00	Yes
ACENAPHTHYLENE	208-96-8	ug/kg	2 : 2 : 2	100	1.00E+06	9.30E+06	5.15E+06	5.17E+06	1.80E+00	Yes
NAPHTHALENE	91-20-3	ug/kg	2 : 2 : 2	100	6.00E+06	4.80E+07	2.70E+07	5.17E+07	9.28E-01	Yes
2-METHYLNAPHTHALENE	91-57-6	ug/kg	2 : 2 : 2	100	9.40E+05	9.00E+06	4.97E+06	2.62E+07	3.43E-01	Yes
Total METHYLPHENOL	otal MethylPh	ug/kg	2 : 2 : 2	100	1.01E+06	9.90E+06	5.46E+06	3.64E+07	2.72E-01	Yes
BENZO(GHI)PERYLENE	191-24-2	ug/kg	1 : 2 : 2	50	1.50E+06	1.50E+06	1.03E+06	6.98E+06	2.15E-01	No
PYRENE	129-00-0	ug/kg	2 : 2 : 2	100	1.10E+06	9.90E+06	5.50E+06	8.40E+07	1.18E-01	No
THALLIUM	7440-28-0	ug/kg	2 : 2 : 2	100	7.20E+03	1.40E+04	1.06E+04	1.29E+05	1.09E-01	No
FLUORENE	86-73-7	ug/kg	2 : 2 : 2	100	1.20E+06	9.50E+06	5.35E+06	8.75E+07	1.09E-01	No
FLUORANTHENE	206-44-0	ug/kg	2 : 2 : 2	100	1.60E+06	1.40E+07	7.80E+06	1.34E+08	1.04E-01	No
TOTAL CYANIDE	57-12-5	ug/kg	2 : 2 : 2	100	1.10E+04	1.90E+04	1.50E+04	2.50E+05	7.60E-02	No
ARSENIC	7440-38-2	ug/kg	2 : 2 : 2	100	1.45E+04	2.05E+04	1.75E+04	4.47E+05	4.58E-02	No
ANTHRACENE	120-12-7	ug/kg	2 : 2 : 2	100	8.70E+05	7.10E+06	3.99E+06	7.29E+08	9.74E-03	No
PHENOL	108-95-2	ug/kg	1 : 2 : 2	50	2.30E+06	2.30E+06	1.43E+06	4.37E+08	5.26E-03	No
TOLUENE	108-88-3	ug/kg	2 : 2 : 2	100	1.90E+05	5.90E+05	3.90E+05	1.60E+08	3.68E-03	No
STYRENE	100-42-5	ug/kg	2 : 2 : 2	100	9.60E+04	2.40E+05	1.68E+05	1.46E+08	1.65E-03	No
MERCURY	7439-97-6	ug/kg	2 : 2 : 2	100	1.30E+02	6.20E+02	3.75E+02	5.80E+05	1.07E-03	No
Total XYLENES	Total Xylenes	ug/kg	2 : 2 : 2	100	2.55E+05	9.80E+05	6.18E+05	1.31E+09	7.47E-04	No
CADMIUM	7440-43-9	ug/kg	2 : 2 : 2	100	1.40E+03	1.40E+03	1.40E+03	2.07E+06	6.77E-04	No
SELENIUM	7782-49-2	ug/kg	2 : 2 : 2	100	2.60E+03	3.60E+03	3.10E+03	9.60E+06	3.75E-04	No
BARIUM	7440-39-3	ug/kg	2 : 2 : 2	100	1.25E+04	3.35E+04	2.30E+04	1.34E+08	2.49E-04	No
ZINC	7440-66-6	ug/kg	2 : 2 : 2	100	1.01E+05	1.14E+05	1.08E+05	6.34E+08	1.80E-04	No
CHROMIUM	7440-47-3	ug/kg	2 : 2 : 2	100	7.30E+02	1.20E+03	9.65E+02	9.22E+06	1.30E-04	No
COPPER	7440-50-8	ug/kg	2 : 2 : 2	100	3.40E+03	3.70E+03	3.55E+03	7.30E+07	5.07E-05	No
								Cumulative Risk:	**8.00E-01**	

Table D-2
Cumulative Risk Screening
Using Part 201 Criteria Industrial and Commercial II Direct Contact Criteria (DCC)- NonCancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer DCC (g)	Ratio (h)	Constituent of Interest?
AOC 6										
ARSENIC	7440-38-2	ug/kg	12 : 12 : 12	100	3.90E+03	2.00E+05	3.88E+04	4.47E+05	4.47E-01	No
PHENANTHRENE	85-01-8	ug/kg	9 : 12 : 12	75	5.20E+02	4.90E+05	6.33E+04	5.17E+06	9.47E-02	No
NAPHTHALENE	91-20-3	ug/kg	10 : 12 : 12	83	4.30E+01	2.70E+06	2.53E+05	5.17E+07	5.22E-02	No
ACENAPHTHYLENE	208-96-8	ug/kg	8 : 11 : 12	73	5.80E+01	6.00E+04	8.13E+03	5.17E+06	1.16E-02	No
TOTAL CYANIDE	57-12-5	ug/kg	8 : 12 : 12	67	2.70E+02	2.40E+03	7.76E+02	2.50E+05	9.60E-03	No
CHROMIUM	7440-47-3	ug/kg	12 : 12 : 12	100	2.50E+03	5.32E+04	1.29E+04	9.22E+06	5.77E-03	No
MERCURY	7439-97-6	ug/kg	8 : 12 : 12	67	1.40E+02	3.30E+03	7.83E+02	5.80E+05	5.69E-03	No
BENZO(GHI)PERYLENE	191-24-2	ug/kg	9 : 11 : 12	82	8.70E+01	3.10E+04	6.83E+03	6.98E+06	4.44E-03	No
2-METHYLNAPHTHALENE	91-57-6	ug/kg	8 : 12 : 12	67	4.90E+01	9.90E+04	1.67E+04	2.62E+07	3.77E-03	No
PYRENE	129-00-0	ug/kg	9 : 12 : 12	75	1.70E+02	2.80E+05	4.52E+04	8.40E+07	3.33E-03	No
FLUORANTHENE	206-44-0	ug/kg	9 : 12 : 12	75	1.20E+02	3.50E+05	5.24E+04	1.34E+08	2.60E-03	No
FLUORENE	86-73-7	ug/kg	10 : 12 : 12	83	5.40E+01	2.10E+05	3.70E+04	8.75E+07	2.40E-03	No
SELENIUM	7782-49-2	ug/kg	7 : 12 : 12	58	1.00E+03	2.30E+04	5.09E+03	9.60E+06	2.40E-03	No
VANADIUM	7440-62-2	ug/kg	9 : 12 : 12	75	7.30E+03	1.95E+04	1.05E+04	9.60E+06	2.03E-03	No
BARIUM	7440-39-3	ug/kg	12 : 12 : 12	100	8.50E+03	1.87E+05	7.72E+04	1.34E+08	1.39E-03	No
CADMIUM	7440-43-9	ug/kg	9 : 12 : 12	75	1.40E+02	2.00E+03	5.23E+02	2.07E+06	9.67E-04	No
COPPER	7440-50-8	ug/kg	12 : 12 : 12	100	7.40E+03	4.94E+04	2.55E+04	7.30E+07	6.77E-04	No
BERYLLIUM	7440-41-7	ug/kg	1 : 12 : 12	8	8.90E+02	8.90E+02	3.95E+02	1.56E+06	5.69E-04	No
ETHYLBENZENE	100-41-4	ug/kg	1 : 9 : 9	11	3.20E+04	3.20E+04	7.08E+03	7.07E+07	4.53E-04	No
ZINC	7440-66-6	ug/kg	12 : 12 : 12	100	1.03E+04	2.52E+05	6.55E+04	6.34E+08	3.98E-04	No
NICKEL	7440-02-0	ug/kg	8 : 12 . 12	67	5.30E+03	3.39E+04	1.16E+04	1.46E+08	2.32E-04	No
ANTHRACENE	120-12-7	ug/kg	6 : 11 : 12	55	1.27E+02	1.20E+05	1.44E+04	7.29E+08	1.65E-04	No
Total XYLENES	Total Xylenes	ug/kg	1 : 9 : 9	11	1.76E+05	1.76E+05	2.66E+04	1.31E+09	1.34E-04	No
ACENAPHTHENE	83-32-9	ug/kg	3 : 10 : 12	30	5.50E+01	1.20E+04	2.49E+03	1.31E+08	9.15E-05	No
ACETOPHENONE	98-86-2	ug/kg	5 : 9 : 12	56	3.00E+02	5.20E+03	1.24E+03	1.53E+08	3.40E-05	No
Total METHYLPHENOL	otal MethylPh	ug/kg	1 : 4 : 11	25	9.70E+02	9.70E+02	7.30E+02	3.64E+07	2.66E-05	No
2,4-DIMETHYLPHENOL	105-67-9	ug/kg	1 : 1 : 12	100	1.70E+02	1.70E+02	1.70E+02	3.64E+07	4.67E-06	No
1,2,3-TRICHLOROPROPANE	96-18-4	ug/kg	1 : 6 : 9	17	9.00E+00	9.00E+00	4.17E+00	4.15E+06	2.17E-06	No
CHLOROFORM	67-66-3	ug/kg	1 : 9 : 12	11	1.00E+01	1.00E+01	3.93E+00	9.47E+06	1.06E-06	No
METHYLENE CHLORIDE	75-09-2	ug/kg	4 : 9 : 12	44	7.30E+00	1.00E+01	5.85E+00	4.23E+07	2.37E-07	No
1,2-DICHLOROPROPANE	78-87-5	ug/kg	2 : 9 : 12	22	5.20E+00	2.20E+01	5.51E+00	3.21E+08	6.86E-08	No
TOLUENE	108-88-3	ug/kg	1 : 1 : 9	100	2.40E+00	2.40E+00	2.40E+00	1.60E+08	1.50E-08	No

Table D-2
Cumulative Risk Screening
Using Part 201 Criteria Industrial and Commercial II Direct Contact Criteria (DCC)- NonCancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum *Detected* Concentration (d)	Maximum *Detected* Concentration (e)	*Mean* Concentration (f)	Industrial *NonCancer* DCC (g)	Ratio (h)	Constituent of Interest?
							Cumulative Risk:		**6.53E-01**	
AOC 7A										
ARSENIC	7440-38-2	ug/kg	14 : 14 : 14	100	2.50E+03	6.24E+04	1.77E+04	4.47E+05	1.39E-01	No
TOTAL CYANIDE	57-12-5	ug/kg	15 : 19 : 19	79	3.20E+02	5.70E+03	1.66E+03	2.50E+05	2.28E-02	No
MERCURY	7439-97-6	ug/kg	11 : 14 : 14	79	1.30E+02	4.80E+03	1.27E+03	5.80E+05	8.28E-03	No
VANADIUM	7440-62-2	ug/kg	14 : 14 : 14	100	1.10E+04	4.13E+04	2.25E+04	9.60E+06	4.30E-03	No
CHROMIUM	7440-47-3	ug/kg	14 : 14 : 14	100	7.30E+03	2.91E+04	1.61E+04	9.22E+06	3.16E-03	No
SILVER	7440-22-4	ug/kg	1 : 14 : 14	7	1.00E+04	1.00E+04	1.31E+03	9.02E+06	1.11E-03	No
BARIUM	7440-39-3	ug/kg	14 : 14 : 14	100	8.30E+03	1.48E+05	6.59E+04	1.34E+08	1.10E-03	No
COBALT	7440-48-4	ug/kg	2 : 14 : 14	14	4.80E+03	9.70E+03	3.77E+03	9.60E+06	1.01E-03	No
BERYLLIUM	7440-41-7	ug/kg	2 : 14 : 14	14	7.10E+02	9.30E+02	3.91E+02	1.56E+06	5.95E-04	No
COPPER	7440-50-8	ug/kg	14 : 14 : 14	100	2.70E+03	3.70E+04	2.13E+04	7.30E+07	5.07E-04	No
CADMIUM	7440-43-9	ug/kg	12 : 14 : 14	86	1.40E+02	7.50E+02	3.37E+02	2.07E+06	3.63E-04	No
ZINC	7440-66-6	ug/kg	14 : 14 : 14	100	1.26E+04	1.90E+05	6.66E+04	6.34E+08	3.00E-04	No
NICKEL	7440-02-0	ug/kg	13 . 14 : 14	93	8.10E+03	3.18E+04	1.44E+04	1.46E+08	2.18E-04	No
SELENIUM	7782-49-2	ug/kg	4 : 14 : 14	29	6.33E+02	1.70E+03	5.83E+02	9.60E+06	1.77E-04	No
							Cumulative Risk:		**1.83E-01**	
AOC 7B										
ARSENIC	7440-38-2	ug/kg	4 : 4 : 4	100	1.70E+03	1.17E+04	7.45E+03	4.47E+05	2.61E-02	No
CHROMIUM	7440-47-3	ug/kg	4 : 4 : 4	100	6.40E+03	2.69E+04	1.31E+04	9.22E+06	2.92E-03	No
VANADIUM	7440-62-2	ug/kg	4 : 4 : 4	100	1.01E+04	1.89E+04	1.42E+04	9.60E+06	1.97E-03	No
MERCURY	7439-97-6	ug/kg	2 : 4 : 4	50	2.70E+02	5.70E+02	2.39E+02	5.80E+05	9.83E-04	No
BARIUM	7440-39-3	ug/kg	4 : 4 : 4	100	1.26E+04	1.08E+05	5.25E+04	1.34E+08	8.03E-04	No
BERYLLIUM	7440-41-7	ug/kg	1 : 4 : 4	25	7.80E+02	7.80E+02	4.20E+02	1.56E+06	4.99E-04	No
CADMIUM	7440-43-9	ug/kg	2 : 4 : 4	50	4.10E+02	5.10E+02	2.59E+02	2.07E+06	2.47E-04	No
ZINC	7440-66-6	ug/kg	4 : 4 : 4	100	1.46E+04	1.51E+05	6.45E+04	6.34E+08	2.38E-04	No
COPPER	7440-50-8	ug/kg	3 : 4 : 4	75	1.24E+04	1.65E+04	1.16E+04	7.30E+07	2.26E-04	No
NICKEL	7440-02-0	ug/kg	4 : 4 : 4	100	6.40E+03	1.38E+04	1.06E+04	1.46E+08	9.46E-05	No
							Cumulative Risk:		**3.41E-02**	

Table D-2
Cumulative Risk Screening
Using Part 201 Criteria Industrial and Commercial II Direct Contact Criteria (DCC)- NonCancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer DCC (g)	Ratio (h)	Constituent of Interest?
AOC 7C										
ARSENIC	7440-38-2	ug/kg	4 : 4 : 4	100	1.92E+04	3.45E+04	2.67E+04	4.47E+05	7.71E-02	No
MERCURY	7439-97-6	ug/kg	2 : 4 : 4	50	1.60E+02	2.20E+03	6.25E+02	5.80E+05	3.79E-03	No
VANADIUM	7440-62-2	ug/kg	4 : 4 : 4	100	1.19E+04	1.95E+04	1.58E+04	9.60E+06	2.03E-03	No
CHROMIUM	7440-47-3	ug/kg	4 : 4 : 4	100	6.00E+03	1.72E+04	9.13E+03	9.22E+06	1.87E-03	No
BARIUM	7440-39-3	ug/kg	4 : 4 : 4	100	2.07E+04	1.47E+05	6.38E+04	1.34E+08	1.09E-03	No
ZINC	7440-66-6	ug/kg	4 : 4 : 4	100	1.83E+04	6.03E+05	1.72E+05	6.34E+08	9.52E-04	No
BERYLLIUM	7440-41-7	ug/kg	1 : 4 : 4	25	1.30E+03	1.30E+03	5.76E+02	1.56E+06	8.31E-04	No
NICKEL	7440-02-0	ug/kg	4 : 4 : 4	100	1.01E+04	8.99E+04	3.36E+04	1.46E+08	6.16E-04	No
COPPER	7440-50-8	ug/kg	4 : 4 : 4	100	2.00E+04	3.08E+04	2.36E+04	7.30E+07	4.22E-04	No
CADMIUM	7440-43-9	ug/kg	1 : 4 : 4	25	6.70E+02	6.70E+02	2.19E+02	2.07E+06	3.24E-04	No
SELENIUM	7782-49-2	ug/kg	4 : 4 : 4	100	2.00E+03	2.40E+03	2.23E+03	9.60E+06	2.50E-04	No
							Cumulative Risk:		**8.93E-02**	

Table D-2
Cumulative Risk Screening
Using Part 201 Criteria Industrial and Commercial II Direct Contact Criteria (DCC)- NonCancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer DCC (g)	Ratio (h)	Constituent of Interest?
RFIMW 07										
PHENANTHRENE	85-01-8	ug/kg	2 : 6 : 6	33	1.10E+03	2.42E+03	9.22E+02	5.17E+06	4.68E-04	No
2-METHYLNAPHTHALENE	91-57-6	ug/kg	3 : 6 : 6	50	6.90E+02	5.50E+03	1.50E+03	2.62E+07	2.10E-04	No
Total METHYLPHENOL	otal MethylPh	ug/kg	2 : 6 : 6	33	3.21E+03	4.30E+03	2.06E+03	3.64E+07	1.18E-04	No
BENZO(GHI)PERYLENE	191-24-2	ug/kg	1 : 5 : 6	20	4.78E+02	4.78E+02	4.14E+02	6.98E+06	6.84E-05	No
PYRENE	129-00-0	ug/kg	1 : 6 : 6	17	2.15E+03	2.15E+03	7.56E+02	8.40E+07	2.56E-05	No
PHENOL	108-95-2	ug/kg	2 : 6 : 6	33	7.40E+02	1.10E+04	2.23E+03	4.37E+08	2.52E-05	No
NAPHTHALENE	91-20-3	ug/kg	2 : 6 : 6	33	5.80E+02	9.65E+02	5.93E+02	5.17E+07	1.87E-05	No
FLUORANTHENE	206-44-0	ug/kg	1 : 6 : 6	17	2.40E+03	2.40E+03	7.98E+02	1.34E+08	1.78E-05	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/kg	2 : 2 : 6	100	2.38E+02	3.00E+02	2.69E+02	2.13E+07	1.41E-05	No
2,4-DIMETHYLPHENOL	105-67-9	ug/kg	1 : 1 : 6	100	1.70E+02	1.70E+02	1.70E+02	3.64E+07	4.67E-06	No
FLUORENE	86-73-7	ug/kg	1 : 3 : 6	33	2.83E+02	2.83E+02	3.14E+02	8.75E+07	3.23E-06	No
ACENAPHTHENE	83-32-9	ug/kg	1 : 4 : 6	25	3.70E+02	3.70E+02	3.06E+02	1.31E+08	2.82E-06	No
ACETONE	67-64-1	ug/kg	5 : 6 : 6	83	3.60E+01	1.60E+02	7.91E+01	7.29E+07	2.20E-06	No
ANTHRACENE	120-12-7	ug/kg	1 : 5 : 6	20	4.78E+02	4.78E+02	4.14E+02	7.29E+08	6.55E-07	No
ETHYLBENZENE	100-41-4	ug/kg	2 : 6 : 6	33	2.10E+01	2.60E+01	1.10E+01	7.07E+07	3.68E-07	No
1,1-DICHLOROETHANE	75-34-3	ug/kg	1 : 5 : 6	20	1.20E+01	1.20E+01	6.20E+00	8.75E+07	1.37E-07	No
METHYLENE CHLORIDE	75-09-2	ug/kg	1 : 3 : 6	33	4.25E+00	4.25E+00	4.78E+00	4.23E+07	1.01E-07	No
Total XYLENES	Total Xylenes	ug/kg	3 : 6 : 6	50	1.04E+01	9.80E+01	3.11E+01	1.31E+09	7.47E-08	No
TOLUENE	108-88-3	ug/kg	1 : 5 : 6	20	7.80E+00	7.80E+00	6.38E+00	1.60E+08	4.87E-08	No
METHYL ETHYL KETONE	78-93-3	ug/kg	2 : 3 : 6	67	2.80E+01	3.40E+01	3.03E+01	1.31E+09	2.59E-08	No
1,1,1-TRICHLOROETHANE	71-55-6	ug/kg	2 : 6 : 6	33	3.03E+00	3.70E+01	1.42E+01	1.60E+09	2.31E-08	No
								Cumulative Risk:	**9.79E-04**	

Table D-2
Cumulative Risk Screening
Using Part 201 Criteria Industrial and Commercial II Direct Contact Criteria (DCC)- NonCancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer DCC (g)	Ratio (h)	Constituent of Interest?
RFIMW 08										
PHENANTHRENE	85-01-8	ug/kg	3 : 10 : 10	30	6.10E+02	1.30E+03	4.20E+02	5.17E+06	2.51E-04	No
BENZO(GHI)PERYLENE	191-24-2	ug/kg	1 : 6 : 10	17	2.30E+02	2.30E+02	2.09E+02	6.98E+06	3.29E-05	No
PYRENE	129-00-0	ug/kg	3 : 10 : 10	30	3.30E+02	1.40E+03	4.54E+02	8.40E+07	1.67E-05	No
DI-N-OCTYL PHTHALATE	117-84-0	ug/kg	1 : 8 : 10	13	2.60E+02	2.60E+02	2.22E+02	2.02E+07	1.29E-05	No
FLUORANTHENE	206-44-0	ug/kg	3 : 10 : 10	30	2.60E+02	1.70E+03	4.22E+02	1.34E+08	1.26E-05	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/kg	3 : 7 : 10	43	1.30E+02	2.20E+02	1.86E+02	2.13E+07	1.03E-05	No
FLUORENE	86-73-7	ug/kg	1 : 1 : 10	100	1.50E+02	1.50E+02	1.50E+02	8.75E+07	1.72E-06	No
ACETONE	67-64-1	ug/kg	10 : 10 : 10	100	1.50E+01	5.20E+01	3.65E+01	7.29E+07	7.14E-07	No
ANTHRACENE	120-12-7	ug/kg	2 : 9 : 10	22	2.90E+02	3.00E+02	2.34E+02	7.29E+08	4.12E-07	No
CARBON DISULFIDE	75-15-0	ug/kg	1 : 6 : 10	17	3.30E+00	3.30E+00	3.06E+00	8.02E+07	4.12E-08	No
TOLUENE	108-88-3	ug/kg	1 : 2 : 10	50	2.90E+00	2.90E+00	2.85E+00	1.60E+08	1.81E-08	No
METHYL ETHYL KETONE	78-93-3	ug/kg	5 : 5 : 10	100	7.70E+00	1.60E+01	1.27E+01	1.31E+09	1.22E-08	No
							Cumulative Risk:		**3.40E-04**	
RFIMW 24										
CHROMIUM	7440-47-3	ug/kg	2 : 2 : 2	100	8.50E+03	8.41E+05	4.25E+05	9.22E+06	9.12E-02	No
VANADIUM	7440-62-2	ug/kg	2 : 2 : 2	100	1.32E+04	2.22E+05	1.18E+05	9.60E+06	2.31E-02	No
ARSENIC	7440-38-2	ug/kg	2 : 2 : 2	100	1.40E+03	8.00E+03	4.70E+03	4.47E+05	1.79E-02	No
TOTAL CYANIDE	57-12-5	ug/kg	2 : 2 : 2	100	3.90E+02	2.70E+03	1.55E+03	2.50E+05	1.08E-02	No
BARIUM	7440-39-3	ug/kg	2 : 2 : 2	100	7.30E+03	9.70E+04	5.22E+04	1.34E+08	7.22E-04	No
CADMIUM	7440-43-9	ug/kg	1 : 2 : 2	50	1.40E+03	1.40E+03	7.33E+02	2.07E+06	6.77E-04	No
COPPER	7440-50-8	ug/kg	2 : 2 : 2	100	3.30E+03	2.97E+04	1.65E+04	7.30E+07	4.07E-04	No
ZINC	7440-66-6	ug/kg	2 : 2 : 2	100	1.02E+04	1.16E+05	6.31E+04	6.34E+08	1.83E-04	No
NICKEL	7440-02-0	ug/kg	1 : 2 : 2	50	1.39E+04	1.39E+04	8.25E+03	1.46E+08	9.52E-05	No
4,4'-DDE	72-55-9	ug/kg	1 : 2 : 2	50	2.20E+01	2.20E+01	1.21E+01	7.84E+05	2.81E-05	No
PHENANTHRENE	85-01-8	ug/kg	1 : 1 : 2	100	7.70E+01	7.70E+01	7.70E+01	5.17E+06	1.49E-05	No
BENZO(GHI)PERYLENE	191-24-2	ug/kg	1 : 1 : 2	100	5.40E+01	5.40E+01	5.40E+01	6.98E+06	7.73E-06	No
2-METHYLNAPHTHALENE	91-57-6	ug/kg	1 : 1 : 2	100	8.30E+01	8.30E+01	8.30E+01	2.62E+07	3.16E-06	No
PYRENE	129-00-0	ug/kg	1 : 1 : 2	100	1.10E+02	1.10E+02	1.10E+02	8.40E+07	1.31E-06	No
FLUORANTHENE	206-44-0	ug/kg	1 : 1 : 2	100	1.20E+02	1.20E+02	1.20E+02	1.34E+08	8.93E-07	No
							Cumulative Risk:		**1.45E-01**	

Table D-2
Cumulative Risk Screening
Using Part 201 Criteria Industrial and Commercial II Direct Contact Criteria (DCC)- NonCancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer DCC (g)	Ratio (h)	Constituent of Interest?
RFIMW 25										
ARSENIC	7440-38-2	ug/kg	2 : 2 : 2	100	1.80E+03	6.00E+03	3.90E+03	4.47E+05	1.34E-02	No
TOTAL CYANIDE	57-12-5	ug/kg	2 : 2 : 2	100	1.50E+03	1.90E+03	1.70E+03	2.50E+05	7.60E-03	No
VANADIUM	7440-62-2	ug/kg	2 : 2 : 2	100	9.05E+03	1.21E+04	1.06E+04	9.60E+06	1.26E-03	No
CHROMIUM	7440-47-3	ug/kg	2 : 2 : 2	100	6.50E+03	9.00E+03	7.75E+03	9.22E+06	9.76E-04	No
BARIUM	7440-39-3	ug/kg	2 : 2 : 2	100	1.23E+04	1.01E+05	5.67E+04	1.34E+08	7.51E-04	No
MERCURY	7439-97-6	ug/kg	1 : 2 : 2	50	1.60E+02	1.60E+02	1.10E+02	5.80E+05	2.76E-04	No
CADMIUM	7440-43-9	ug/kg	1 : 2 : 2	50	2.80E+02	2.80E+02	1.70E+02	2.07E+06	1.35E-04	No
COPPER	7440-50-8	ug/kg	2 : 2 : 2	100	2.75E+03	8.10E+03	5.43E+03	7.30E+07	1.11E-04	No
PHENANTHRENE	85-01-8	ug/kg	2 : 2 : 2	100	2.10E+02	5.65E+02	3.88E+02	5.17E+06	1.09E-04	No
ZINC	7440-66-6	ug/kg	2 : 2 : 2	100	1.33E+04	4.00E+04	2.67E+04	6.34E+08	6.31E-05	No
BENZO(GHI)PERYLENE	191-24-2	ug/kg	2 : 2 : 2	100	2.35E+02	3.60E+02	2.98E+02	6.98E+06	5.16E-05	No
NICKEL	7440-02-0	ug/kg	1 : 2 : 2	50	6.80E+03	6.80E+03	4.61E+03	1.46E+08	4.66E-05	No
PYRENE	129-00-0	ug/kg	2 : 2 : 2	100	6.50E+02	6.50E+02	6.50E+02	8.40E+07	7.74E-06	No
FLUORANTHENE	206-44-0	ug/kg	2 : 2 : 2	100	6.40E+02	7.50E+02	6.95E+02	1.34E+08	5.58E-06	No
ACENAPHTHENE	83-32-9	ug/kg	1 : 1 : 2	100	1.00E+02	1.00E+02	1.00E+02	1.31E+08	7.62E-07	No
ANTHRACENE	120-12-7	ug/kg	1 : 2 : 2	50	2.00E+02	2.00E+02	1.93E+02	7.29E+08	2.74E-07	No
								Cumulative Risk:	**2.48E-02**	

Table D-2
Cumulative Risk Screening
Using Part 201 Criteria Industrial and Commercial II Direct Contact Criteria (DCC)- NonCancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer DCC (g)	Ratio (h)	Constituent of Interest?
RFIMW 26										
Total PCBs	Total PCBs	ug/kg	1 : 2 : 2	50	2.30E+03	2.30E+03	1.44E+03	1.89E+04	1.22E-01	No
ARSENIC	7440-38-2	ug/kg	2 : 2 : 2	100	5.10E+03	9.50E+03	7.30E+03	4.47E+05	2.12E-02	No
TOTAL CYANIDE	57-12-5	ug/kg	1 : 2 : 2	50	3.70E+03	3.70E+03	1.93E+03	2.50E+05	1.48E-02	No
VANADIUM	7440-62-2	ug/kg	2 : 2 : 2	100	5.90E+03	1.70E+04	1.15E+04	9.60E+06	1.77E-03	No
CHROMIUM	7440-47-3	ug/kg	2 : 2 : 2	100	4.50E+03	1.56E+04	1.01E+04	9.22E+06	1.69E-03	No
COBALT	7440-48-4	ug/kg	1 : 2 : 2	50	6.10E+03	6.10E+03	4.53E+03	9.60E+06	6.35E-04	No
MERCURY	7439-97-6	ug/kg	1 : 2 : 2	50	2.70E+02	2.70E+02	1.65E+02	5.80E+05	4.66E-04	No
COPPER	7440-50-8	ug/kg	2 : 2 : 2	100	3.40E+03	2.57E+04	1.46E+04	7.30E+07	3.52E-04	No
CADMIUM	7440-43-9	ug/kg	1 : 2 : 2	50	6.20E+02	6.20E+02	3.40E+02	2.07E+06	3.00E-04	No
BARIUM	7440-39-3	ug/kg	2 : 2 : 2	100	1.24E+04	3.35E+04	2.30E+04	1.34E+08	2.49E-04	No
SELENIUM	7782-49-2	ug/kg	1 : 2 : 2	50	1.20E+03	1.20E+03	7.48E+02	9.60E+06	1.25E-04	No
NICKEL	7440-02-0	ug/kg	1 : 2 : 2	50	1.42E+04	1.42E+04	8.30E+03	1.46E+08	9.73E-05	No
ZINC	7440-66-6	ug/kg	2 : 2 : 2	100	9.60E+03	5.81E+04	3.39E+04	6.34E+08	9.17E-05	No
PHENANTHRENE	85-01-8	ug/kg	1 : 2 : 2	50	4.00E+02	4.00E+02	2.98E+02	5.17E+06	7.73E-05	No
BENZO(GHI)PERYLENE	191-24-2	ug/kg	1 : 2 : 2	50	3.60E+02	3.60E+02	2.78E+02	6.98E+06	5.16E-05	No
PYRENE	129-00-0	ug/kg	2 : 2 : 2	100	7.00E+01	7.80E+02	4.25E+02	8.40E+07	9.28E-06	No
2-METHYLNAPHTHALENE	91-57-6	ug/kg	1 : 2 : 2	50	2.20E+02	2.20E+02	2.08E+02	2.62E+07	8.39E-06	No
FLUORANTHENE	206-44-0	ug/kg	2 : 2 : 2	100	6.80E+01	7.90E+02	4.29E+02	1.34E+08	5.88E-06	No
NAPHTHALENE	91-20-3	ug/kg	1 : 1 : 2	100	1.50E+02	1.50E+02	1.50E+02	5.17E+07	2.90E-06	No
DIETHYL PHTHALATE	84-66-2	ug/kg	1 : 2 : 2	50	2.40E+02	2.40E+02	2.18E+02	5.47E+08	4.39E-07	No
ANTHRACENE	120-12-7	ug/kg	1 : 1 : 2	100	6.90E+01	6.90E+01	6.90E+01	7.29E+08	9.47E-08	No
TOLUENE	108-88-3	ug/kg	1 : 2 : 2	50	3.00E+00	3.00E+00	2.98E+00	1.60E+08	1.87E-08	No
							Cumulative Risk:		**1.64E-01**	

Table D-2
Cumulative Risk Screening
Using Part 201 Criteria Industrial and Commercial II Direct Contact Criteria (DCC)- NonCancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer DCC (g)	Ratio (h)	Constituent of Interest?
RFIMW 27										
ARSENIC	7440-38-2	ug/kg	2 : 2 : 2	100	2.50E+03	7.40E+03	4.95E+03	4.47E+05	1.65E-02	No
TOTAL CYANIDE	57-12-5	ug/kg	1 : 2 : 2	50	7.80E+02	7.80E+02	4.70E+02	2.50E+05	3.12E-03	No
VANADIUM	7440-62-2	ug/kg	2 : 2 : 2	100	2.02E+04	2.35E+04	2.19E+04	9.60E+06	2.45E-03	No
CHROMIUM	7440-47-3	ug/kg	2 : 2 : 2	100	9.00E+03	9.70E+03	9.35E+03	9.22E+06	1.05E-03	No
MERCURY	7439-97-6	ug/kg	1 : 2 : 2	50	5.20E+02	5.20E+02	2.93E+02	5.80E+05	8.97E-04	No
BARIUM	7440-39-3	ug/kg	2 : 2 : 2	100	1.81E+04	8.07E+04	4.94E+04	1.34E+08	6.00E-04	No
ZINC	7440-66-6	ug/kg	2 : 2 : 2	100	1.25E+04	1.34E+05	7.33E+04	6.34E+08	2.11E-04	No
COPPER	7440-50-8	ug/kg	2 : 2 : 2	100	6.20E+03	1.24E+04	9.30E+03	7.30E+07	1.70E-04	No
CADMIUM	7440-43-9	ug/kg	1 : 2 : 2	50	2.90E+02	2.90E+02	1.78E+02	2.07E+06	1.40E-04	No
NICKEL	7440-02-0	ug/kg	2 : 2 : 2	100	6.40E+03	1.28E+04	9.60E+03	1.46E+08	8.77E-05	No
							Cumulative Risk:		**2.53E-02**	
RFIMW 28										
ARSENIC	7440-38-2	ug/kg	2 : 2 : 2	100	1.80E+03	8.90E+03	5.35E+03	4.47E+05	1.99E-02	No
VANADIUM	7440-62-2	ug/kg	2 : 2 : 2	100	1.24E+04	2.79E+04	2.02E+04	9.60E+06	2.91E-03	No
CHROMIUM	7440-47-3	ug/kg	2 : 2 : 2	100	5.40E+03	1.61E+04	1.08E+04	9.22E+06	1.75E-03	No
BARIUM	7440-39-3	ug/kg	2 : 2 : 2	100	6.00E+03	1.79E+05	9.25E+04	1.34E+08	1.33E-03	No
BERYLLIUM	7440-41-7	ug/kg	1 : 2 : 2	50	1.10E+03	1.10E+03	7.00E+02	1.56E+06	7.03E-04	No
ZINC	7440-66-6	ug/kg	2 : 2 : 2	100	1.54E+04	1.17E+05	6.62E+04	6.34E+08	1.85E-04	No
COPPER	7440-50-8	ug/kg	2 : 2 : 2	100	6.90E+03	1.20E+04	9.45E+03	7.30E+07	1.64E-04	No
NICKEL	7440-02-0	ug/kg	2 : 2 : 2	100	5.70E+03	1.48E+04	1.03E+04	1.46E+08	1.01E-04	No
							Cumulative Risk:		**2.70E-02**	

Table D-2
Cumulative Risk Screening
Using Part 201 Criteria Industrial and Commercial II Direct Contact Criteria (DCC)- NonCancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer DCC (g)	Ratio (h)	Constituent of Interest?
SWMU F										
Total PCBs	Total PCBs	ug/kg	1 : 8 : 8	13	3.34E+03	3.34E+03	1.17E+03	1.89E+04	1.76E-01	No
ARSENIC	7440-38-2	ug/kg	10 : 10 : 10	100	4.40E+03	6.39E+04	2.32E+04	4.47E+05	1.43E-01	No
COPPER	7440-50-8	ug/kg	10 : 10 : 10	100	1.05E+04	7.71E+06	7.93E+05	7.30E+07	1.06E-01	No
MERCURY	7439-97-6	ug/kg	6 : 10 : 10	60	3.30E+02	2.11E+04	2.90E+03	5.80E+05	3.64E-02	No
ANTIMONY	7440-36-0	ug/kg	3 : 10 : 10	30	7.10E+02	1.60E+04	2.08E+03	6.72E+05	2.38E-02	No
TOTAL CYANIDE	57-12-5	ug/kg	8 : 10 : 10	80	1.10E+03	5.10E+03	2.20E+03	2.50E+05	2.04E-02	No
CHROMIUM	7440-47-3	ug/kg	10 : 10 : 10	100	6.40E+03	1.30E+05	2.38E+04	9.22E+06	1.41E-02	No
COBALT	7440-48-4	ug/kg	1 : 10 : 10	10	4.05E+04	4.05E+04	8.12E+03	9.60E+06	4.22E-03	No
BARIUM	7440-39-3	ug/kg	10 : 10 : 10	100	1.88E+04	4.91E+05	1.08E+05	1.34E+08	3.65E-03	No
CADMIUM	7440-43-9	ug/kg	10 : 10 : 10	100	2.70E+02	7.30E+03	1.20E+03	2.07E+06	3.53E-03	No
ACETONE	67-64-1	ug/kg	9 : 10 : 10	90	1.90E+02	1.90E+05	4.53E+04	7.29E+07	2.61E-03	No
VANADIUM	7440-62-2	ug/kg	9 : 10 : 10	90	9.30E+03	2.33E+04	1.60E+04	9.60E+06	2.43E-03	No
ZINC	7440-66-6	ug/kg	9 : 10 : 10	90	3.47E+04	1.00E+06	1.63E+05	6.34E+08	1.58E-03	No
Total METHYLPHENOL	otal MethylPh	ug/kg	4 : 10 : 10	40	6.85E+02	4.41E+04	1.33E+04	3.64E+07	1.21E-03	No
NICKEL	7440-02-0	ug/kg	9 : 10 : 10	90	6.40E+03	1.70E+05	2.82E+04	1.46E+08	1.16E-03	No
SILVER	7440-22-4	ug/kg	1 : 10 : 10	10	1.05E+04	1.05E+04	1.86E+03	9.02E+06	1.16E-03	No
PHENANTHRENE	85-01-8	ug/kg	4 : 7 : 10	57	2.00E+02	6.00E+03	1.59E+03	5.17E+06	1.16E-03	No
DI-N-OCTYL PHTHALATE	117-84-0	ug/kg	1 : 10 : 10	10	1.50E+04	1.50E+04	3.79E+03	2.02E+07	7.44E-04	No
TIN	7440-31-5	ug/kg	1 : 10 : 10	10	4.24E+05	4.24E+05	1.24E+05	6.10E+08	6.95E-04	No
TOLUENE	108-88-3	ug/kg	7 : 10 : 10	70	1.10E+01	1.10E+05	2.42E+04	1.60E+08	6.86E-04	No
SELENIUM	7782-49-2	ug/kg	5 : 10 : 10	50	1.20E+03	6.30E+03	1.62E+03	9.60E+06	6.56E-04	No
2,4-DIMETHYLPHENOL	105-67-9	ug/kg	1 : 10 : 10	10	2.20E+04	2.20E+04	5.14E+03	3.64E+07	6.04E-04	No
1,2-DICHLOROPROPANE	78-87-5	ug/kg	5 : 10 : 10	50	4.20E+00	7.00E+04	9.60E+03	3.21E+08	2.18E-04	No
BENZO(GHI)PERYLENE	191-24-2	ug/kg	3 : 6 : 10	50	5.90E+01	8.50E+02	4.04E+02	6.98E+06	1.22E-04	No
PYRENE	129-00-0	ug/kg	4 : 7 : 10	57	4.00E+02	3.40E+03	1.44E+03	8.40E+07	4.05E-05	No
FLUORANTHENE	206-44-0	ug/kg	5 : 7 : 10	71	6.30E+01	4.50E+03	1.42E+03	1.34E+08	3.35E-05	No
2-METHYLNAPHTHALENE	91-57-6	ug/kg	3 : 5 : 10	60	1.30E+02	7.30E+02	3.05E+02	2.62E+07	2.78E-05	No
BENZYL ALCOHOL	100-51-6	ug/kg	1 : 10 : 10	10	2.10E+04	2.10E+04	4.39E+03	1.02E+09	2.06E-05	No
PHENOL	108-95-2	ug/kg	2 : 7 : 10	29	1.90E+03	6.40E+03	1.71E+03	4.37E+08	1.46E-05	No
ACENAPHTHYLENE	208-96-8	ug/kg	1 : 1 : 10	100	6.80E+01	6.80E+01	6.80E+01	5.17E+06	1.31E-05	No
4,4'-DDE	72-55-9	ug/kg	1 : 4 : 8	25	7.80E+00	7.80E+00	4.17E+00	7.84E+05	9.95E-06	No
FLUORENE	86-73-7	ug/kg	2 : 5 : 10	40	1.70E+02	7.80E+02	3.50E+02	8.75E+07	8.92E-06	No
NAPHTHALENE	91-20-3	ug/kg	4 : 6 : 10	67	9.90E+01	4.50E+02	2.57E+02	5.17E+07	8.70E-06	No

Table D-2
Cumulative Risk Screening
Using Part 201 Criteria Industrial and Commercial II Direct Contact Criteria (DCC)- NonCancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer DCC (g)	Ratio (h)	Constituent of Interest?
BUTYL BENZYL PHTHALATE	85-68-7	ug/kg	1 : 6 : 10	17	1.00E+03	1.00E+03	4.80E+02	1.17E+08	8.58E-06	No
ACENAPHTHENE	83-32-9	ug/kg	1 : 5 : 10	20	4.40E+02	4.40E+02	2.94E+02	1.31E+08	3.35E-06	No
PENTACHLOROPHENOL	87-86-5	ug/kg	2 : 10 : 20	20	1.60E+01	6.40E+01	1.16E+01	1.98E+07	3.23E-06	No
ANTHRACENE	120-12-7	ug/kg	2 : 6 : 10	33	1.10E+02	1.30E+03	5.43E+02	7.29E+08	1.78E-06	No
METHYL ETHYL KETONE	78-93-3	ug/kg	1 : 1 : 10	100	1.70E+01	1.70E+01	1.70E+01	1.31E+09	1.30E-08	No
Total XYLENES	Total Xylenes	ug/kg	1 : 2 : 10	50	1.22E+01	1.22E+01	1.16E+01	1.31E+09	9.30E-09	No
								Cumulative Risk:	**5.46E-01**	

Table D-2
Cumulative Risk Screening
Using Part 201 Criteria Industrial and Commercial II Direct Contact Criteria (DCC)- NonCancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum *Detected* Concentration (d)	Maximum *Detected* Concentration (e)	*Mean* Concentration (f)	Industrial *NonCancer* DCC (g)	Ratio (h)	Constituent of Interest?
SWMU G										
ARSENIC	7440-38-2	ug/kg	10 : 10 : 10	100	4.80E+03	1.01E+05	2.67E+04	4.47E+05	2.26E-01	No
Total PCBs	Total PCBs	ug/kg	5 : 10 : 10	50	5.12E+02	1.24E+03	5.58E+02	1.89E+04	6.57E-02	No
MERCURY	7439-97-6	ug/kg	8 : 10 : 10	80	1.40E+02	5.40E+03	7.69E+02	5.80E+05	9.31E-03	No
ANTIMONY	7440-36-0	ug/kg	1 : 10 : 10	10	2.60E+03	2.60E+03	6.17E+02	6.72E+05	3.87E-03	No
CHROMIUM	7440-47-3	ug/kg	10 : 10 : 10	100	4.80E+03	3.36E+04	1.55E+04	9.22E+06	3.65E-03	No
VANADIUM	7440-62-2	ug/kg	10 : 10 : 10	100	7.20E+03	2.97E+04	1.30E+04	9.60E+06	3.09E-03	No
TOTAL CYANIDE	57-12-5	ug/kg	1 : 10 : 10	10	6.60E+02	6.60E+02	1.99E+02	2.50E+05	2.64E-03	No
COPPER	7440-50-8	ug/kg	10 : 10 : 10	100	1.53E+04	9.53E+04	3.39E+04	7.30E+07	1.31E-03	No
BERYLLIUM	7440-41-7	ug/kg	1 : 10 : 10	10	2.00E+03	2.00E+03	4.68E+02	1.56E+06	1.28E-03	No
BARIUM	7440-39-3	ug/kg	10 : 10 : 10	100	5.54E+04	1.66E+05	8.97E+04	1.34E+08	1.23E-03	No
CADMIUM	7440-43-9	ug/kg	10 : 10 : 10	100	3.00E+02	2.30E+03	7.90E+02	2.07E+06	1.11E-03	No
COBALT	7440-48-4	ug/kg	1 : 10 : 10	10	1.01E+04	1.01E+04	3.68E+03	9.60E+06	1.05E-03	No
ZINC	7440-66-6	ug/kg	10 : 10 : 10	100	3.52E+04	3.35E+05	1.09E+05	6.34E+08	5.29E-04	No
PHENANTHRENE	85-01-8	ug/kg	10 : 10 : 10	100	8.70E+01	1.90E+03	8.07E+02	5.17E+06	3.67E-04	No
ACENAPHTHYLENE	208-96-8	ug/kg	9 : 10 : 10	90	4.40E+01	1.80E+03	3.28E+02	5.17E+06	3.48E-04	No
BENZO(GHI)PERYLENE	191-24-2	ug/kg	9 : 10 : 10	90	1.40E+02	2.10E+03	4.73E+02	6.98E+06	3.01E-04	No
NICKEL	7440-02-0	ug/kg	10 : 10 : 10	100	7.60E+03	2.56E+04	1.34E+04	1.46E+08	1.75E-04	No
PYRENE	129-00-0	ug/kg	10 : 10 : 10	100	8.20E+01	6.10E+03	1.22E+03	8.40E+07	7.26E-05	No
2-METHYLNAPHTHALENE	91-57-6	ug/kg	9 : 10 : 10	90	2.50E+02	1.30E+03	5.63E+02	2.62E+07	4.96E-05	No
SELENIUM	7782-49-2	ug/kg	1 : 10 : 10	10	4.40E+02	4.40E+02	3.14E+02	9.60E+06	4.58E-05	No
PENTACHLOROPHENOL	87-86-5	ug/kg	3 : 10 : 20	30	3.90E+01	6.20E+02	1.29E+02	1.98E+07	3.13E-05	No
FLUORANTHENE	206-44-0	ug/kg	9 : 10 : 10	90	1.00E+02	3.80E+03	1.14E+03	1.34E+08	2.83E-05	No
4,4'-DDT	50-29-3	ug/kg	1 : 10 : 10	10	1.55E+01	1.55E+01	9.75E+00	8.29E+05	1.87E-05	No
Total METHYLPHENOL	otal MethylPl	ug/kg	1 : 7 : 10	14	5.88E+02	5.88E+02	5.83E+02	3.64E+07	1.61E-05	No
NAPHTHALENE	91-20-3	ug/kg	8 : 9 : 10	89	1.70E+02	8.10E+02	3.52E+02	5.17E+07	1.57E-05	No
FLUORENE	86-73-7	ug/kg	3 : 9 : 10	33	5.00E+01	2.50E+02	1.77E+02	8.75E+07	2.86E-06	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/kg	1 : 1 : 10	100	4.10E+01	4.10E+01	4.10E+01	2.13E+07	1.93E-06	No
2,4-DIMETHYLPHENOL	105-67-9	ug/kg	1 : 1 : 10	100	5.70E+01	5.70E+01	5.70E+01	3.64E+07	1.56E-06	No
ANTHRACENE	120-12-7	ug/kg	8 : 9 : 10	89	5.10E+01	7.00E+02	1.92E+02	7.29E+08	9.61E-07	No
ACENAPHTHENE	83-32-9	ug/kg	2 : 2 : 10	100	3.80E+01	4.30E+01	4.05E+01	1.31E+08	3.28E-07	No
DIETHYL PHTHALATE	84-66-2	ug/kg	1 : 1 : 10	100	1.00E+02	1.00E+02	1.00E+02	5.47E+08	1.83E-07	No
								Cumulative Risk:	**3.22E-01**	

Table D-2
Cumulative Risk Screening
Using Part 201 Criteria Industrial and Commercial II Direct Contact Criteria (DCC)- NonCancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer DCC (g)	Ratio (h)	Constituent of Interest?
SWMU H										
ARSENIC	7440-38-2	ug/kg	11 : 11 : 11	100	1.90E+03	1.16E+05	2.28E+04	4.47E+05	2.59E-01	No
Total PCBs	Total PCBs	ug/kg	1 : 11 : 11	9	3.10E+03	3.10E+03	6.86E+02	1.89E+04	1.64E-01	No
1,2-DICHLOROPROPANE	78-87-5	ug/kg	9 : 11 : 11	82	4.00E+00	5.00E+07	4.57E+06	3.21E+08	1.56E-01	No
MERCURY	7439-97-6	ug/kg	5 : 11 : 11	45	1.40E+02	5.29E+04	5.20E+03	5.80E+05	9.12E-02	No
TOTAL CYANIDE	57-12-5	ug/kg	4 : 11 : 11	36	6.00E+02	1.60E+04	2.34E+03	2.50E+05	6.40E-02	No
ANTIMONY	7440-36-0	ug/kg	4 : 11 : 11	36	8.20E+02	1.53E+04	1.90E+03	6.72E+05	2.28E-02	No
CHROMIUM	7440-47-3	ug/kg	11 : 11 : 11	100	6.70E+03	1.95E+05	4.52E+04	9.22E+06	2.12E-02	No
VANADIUM	7440-62-2	ug/kg	11 : 11 : 11	100	8.70E+03	5.09E+04	2.85E+04	9.60E+06	5.30E-03	No
1,2,3-TRICHLOROPROPANE	96-18-4	ug/kg	2 : 10 : 11	20	3.90E+03	1.70E+04	2.15E+03	4.15E+06	4.09E-03	No
PHENANTHRENE	85-01-8	ug/kg	3 : 10 : 11	30	2.50E+02	2.00E+04	2.48E+03	5.17E+06	3.87E-03	No
COPPER	7440-50-8	ug/kg	11 : 11 : 11	100	2.90E+03	2.21E+05	4.09E+04	7.30E+07	3.03E-03	No
SILVER	7440-22-4	ug/kg	1 : 11 : 11	9	2.17E+04	2.17E+04	2.62E+03	9.02E+06	2.40E-03	No
CADMIUM	7440-43-9	ug/kg	10 : 11 : 11	91	2.60E+02	4.20E+03	9.02E+02	2.07E+06	2.03E-03	No
BARIUM	7440-39-3	ug/kg	11 : 11 : 11	100	8.00E+03	2.23E+05	8.38E+04	1.34E+08	1.66E-03	No
COBALT	7440-48-4	ug/kg	6 : 11 : 11	55	9.60E+03	1.37E+04	7.60E+03	9.60E+06	1.43E-03	No
ZINC	7440-66-6	ug/kg	11 : 11 : 11	100	1.32E+04	6.28E+05	1.25E+05	6.34E+08	9.91E-04	No
NICKEL	7440-02-0	ug/kg	11 : 11 : 11	100	5.70E+03	9.34E+04	3.04E+04	1.46E+08	6.40E-04	No
BERYLLIUM	7440-41-7	ug/kg	1 : 11 : 11	9	9.10E+02	9.10E+02	4.11E+02	1.56E+06	5.82E-04	No
Total METHYLPHENOL	otal MethylPh	ug/kg	2 : 10 : 11	20	5.05E+02	1.89E+04	3.30E+03	3.64E+07	5.19E-04	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/kg	2 : 10 : 11	20	1.90E+03	1.00E+04	1.64E+03	2.13E+07	4.70E-04	No
NAPHTHALENE	91-20-3	ug/kg	3 : 10 : 11	30	9.30E+01	1.60E+04	2.05E+03	5.17E+07	3.09E-04	No
2-METHYLNAPHTHALENE	91-57-6	ug/kg	3 : 10 : 11	30	1.20E+02	6.40E+03	1.09E+03	2.62E+07	2.44E-04	No
2,4-DIMETHYLPHENOL	105-67-9	ug/kg	1 : 10 : 11	10	8.30E+03	8.30E+03	1.30E+03	3.64E+07	2.28E-04	No
SELENIUM	7782-49-2	ug/kg	2 : 11 : 11	18	1.10E+03	1.40E+03	5.14E+02	9.60E+06	1.46E-04	No
PYRENE	129-00-0	ug/kg	3 : 10 : 11	30	2.50E+02	8.60E+03	1.35E+03	8.40E+07	1.02E-04	No
FLUORANTHENE	206-44-0	ug/kg	3 : 10 : 11	30	2.20E+02	1.10E+04	1.58E+03	1.34E+08	8.18E-05	No
FLUORENE	86-73-7	ug/kg	1 : 10 : 11	10	5.40E+03	5.40E+03	1.01E+03	8.75E+07	6.17E-05	No
CHLOROBENZENE	108-90-7	ug/kg	1 : 8 : 11	13	8.30E+02	8.30E+02	1.08E+02	1.38E+07	5.99E-05	No
ACENAPHTHENE	83-32-9	ug/kg	1 : 10 : 11	10	6.70E+03	6.70E+03	1.14E+03	1.31E+08	5.11E-05	No
TOLUENE	108-88-3	ug/kg	2 : 10 : 11	20	1.30E+01	5.80E+03	1.06E+03	1.60E+08	3.62E-05	No
BENZO(GHI)PERYLENE	191-24-2	ug/kg	2 : 2 : 11	100	9.00E+01	1.80E+02	1.35E+02	6.98E+06	2.58E-05	No
ACETONE	67-64-1	ug/kg	7 : 8 : 11	88	2.00E+01	1.60E+03	3.18E+02	7.29E+07	2.20E-05	No
ALPHA-CHLORDANE	5103-71-9	ug/kg	1 : 11 : 11	9	4.00E+01	4.00E+01	6.55E+00	2.33E+06	1.72E-05	No

Table D-2
Cumulative Risk Screening
Using Part 201 Criteria Industrial and Commercial II Direct Contact Criteria (DCC)- NonCancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer DCC (g)	Ratio (h)	Constituent of Interest?
PENTACHLOROPHENOL	87-86-5	ug/kg	4 : 11 : 22	36	1.00E+01	3.00E+02	5.24E+01	1.98E+07	1.51E-05	No
1,2-DICHLOROBENZENE	95-50-1	ug/kg	1 : 8 : 11	13	6.80E+02	6.80E+02	8.93E+01	6.27E+07	1.09E-05	No
ANTHRACENE	120-12-7	ug/kg	2 : 10 : 11	20	7.40E+01	5.30E+03	9.87E+02	7.29E+08	7.27E-06	No
ETHYLBENZENE	100-41-4	ug/kg	1 : 8 : 11	13	4.70E+02	4.70E+02	6.30E+01	7.07E+07	6.65E-06	No
Total XYLENES	Total Xylenes	ug/kg	1 : 8 : 11	13	2.07E+03	2.07E+03	2.67E+02	1.31E+09	1.58E-06	No
PHENOL	108-95-2	ug/kg	2 : 7 : 11	29	2.70E+02	2.70E+02	2.36E+02	4.37E+08	6.17E-07	No
METHYL ETHYL KETONE	78-93-3	ug/kg	1 : 2 : 11	50	3.10E+01	3.10E+01	3.10E+01	1.31E+09	2.36E-08	No
							Cumulative Risk:		**8.06E-01**	

Notes:

CAS - Chemical Abstract Service.
(a) Only chemicals with at least one positively detected result are reported.
(b) Frequency of detection - Number of detected samples: Number of samples used to calculate statistics: Number of total samples.
(c) Percent of samples with detects out of samples used to calculate statistics.
(d) Minimum detected concentration for each chemical, after duplicates have been averaged.
(e) Maximum detected concentration for each chemical, after duplicates have been averaged.
(f) Arithmetic mean concentration for each chemical, after duplicates have been averaged and any non detected results with one-half the sample quantitation limit greater than the maximum detected concentration have been excluded.
(g) Industrial and Commercial II Direct Contact Criteria (DCC): NonCarcinogen (MDEQ, Dec. 2002).
(h) Ratio of the maximum detected concentration and the Part 201 criterion.

Table D-3
Cumulative Risk Screening
Using Part 201 Criteria Industrial Particulate Soil Inhalation Criteria for Ambient Air (PSIC)- Cancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial Cancer PSIC (g)	Ratio (h)	Constituent of Interest?
AOC 1										
BENZENE	71-43-2	ug/kg	1 : 43 : 52	2	3.80E+02	3.80E+02	6.65E+01	4.73E+08	8.04E-07	No
ETHYLBENZENE	100-41-4	ug/kg	1 : 42 : 53	2	3.00E+02	3.00E+02	5.56E+01	1.27E+10	2.37E-08	No
							Cumulative Risk:		**8.28E-07**	
AOC 2										
CHROMIUM	7440-47-3	ug/kg	8 : 8 : 8	100	5.30E+03	1.01E+05	3.36E+04	3.27E+05	3.09E-01	No
ARSENIC	7440-38-2	ug/kg	8 : 8 : 8	100	7.30E+02	4.11E+04	1.81E+04	9.12E+05	4.50E-02	No
CADMIUM	7440-43-9	ug/kg	8 : 8 : 8	100	1.40E+02	3.50E+03	7.44E+02	2.18E+06	1.61E-03	No
BENZO(A)PYRENE	50-32-8	ug/kg	5 : 8 : 8	63	8.50E+01	1.70E+03	4.29E+02	1.87E+06	9.10E-04	No
NICKEL	7440-02-0	ug/kg	8 : 8 : 8	100	4.80E+03	1.33E+04	9.82E+03	1.63E+07	8.14E-04	No
NAPHTHALENE	91-20-3	ug/kg	4 : 8 : 8	50	4.75E+02	2.50E+03	6.69E+02	1.27E+09	1.98E-06	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/kg	4 : 6 : 8	67	8.90E+01	2.38E+02	1.57E+02	8.86E+08	2.68E-07	No
BENZENE	71-43-2	ug/kg	1 : 8 : 8	13	2.70E+01	2.70E+01	6.04E+00	4.73E+08	5.71E-08	No
METHYLENE CHLORIDE	75-09-2	ug/kg	1 : 8 : 8	13	2.70E+01	2.70E+01	6.04E+00	8.35E+09	3.23E-09	No
ETHYLBENZENE	100-41-4	ug/kg	1 : 8 : 8	13	4.90E+00	4.90E+00	3.28E+00	1.27E+10	3.87E-10	No
							Cumulative Risk:		**3.57E-01**	
AOC 4										
BENZO(A)PYRENE	50-32-8	ug/kg	2 : 2 : 2	100	3.30E+05	4.10E+06	2.22E+06	1.87E+06	2.19E+00	Yes
NAPHTHALENE	91-20-3	ug/kg	2 : 2 : 2	100	6.00E+06	4.80E+07	2.70E+07	1.27E+09	3.79E-02	No
ARSENIC	7440-38-2	ug/kg	2 : 2 : 2	100	1.45E+04	2.05E+04	1.75E+04	9.12E+05	2.25E-02	No
CHROMIUM	7440-47-3	ug/kg	2 : 2 : 2	100	7.30E+02	1.20E+03	9.65E+02	3.27E+05	3.67E-03	No
BENZENE	71-43-2	ug/kg	2 : 2 : 2	100	2.50E+05	6.80E+05	4.65E+05	4.73E+08	1.44E-03	No
CADMIUM	7440-43-9	ug/kg	2 : 2 : 2	100	1.40E+03	1.40E+03	1.40E+03	2.18E+06	6.42E-04	No
STYRENE	100-42-5	ug/kg	2 : 2 : 2	100	9.60E+04	2.40E+05	1.68E+05	6.88E+09	3.49E-05	No
							Cumulative Risk:		**6.62E-02**	

Table D-3
Cumulative Risk Screening
Using Part 201 Criteria Industrial Particulate Soil Inhalation Criteria for Ambient Air (PSIC)- Cancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial Cancer PSIC (g)	Ratio (h)	Constituent of Interest?
AOC 6										
ARSENIC	7440-38-2	ug/kg	12 : 12 : 12	100	3.90E+03	2.00E+05	3.88E+04	9.12E+05	2.19E-01	No
CHROMIUM	7440-47-3	ug/kg	12 : 12 : 12	100	2.50E+03	5.32E+04	1.29E+04	3.27E+05	1.63E-01	No
BENZO(A)PYRENE	50-32-8	ug/kg	9 : 11 : 12	82	1.20E+02	9.40E+04	1.39E+04	1.87E+06	5.03E-02	No
BENZENE	71-43-2	ug/kg	5 : 12 : 12	42	3.90E+00	1.40E+06	1.93E+05	4.73E+08	2.96E-03	No
NAPHTHALENE	91-20-3	ug/kg	10 : 12 : 12	83	4.30E+01	2.70E+06	2.53E+05	1.27E+09	2.13E-03	No
NICKEL	7440-02-0	ug/kg	8 : 12 : 12	67	5.30E+03	3.39E+04	1.16E+04	1.63E+07	2.07E-03	No
CADMIUM	7440-43-9	ug/kg	9 : 12 : 12	75	1.40E+02	2.00E+03	5.23E+02	2.18E+06	9.18E-04	No
BERYLLIUM	7440-41-7	ug/kg	1 : 12 : 12	8	8.90E+02	8.90E+02	3.95E+02	1.63E+06	5.44E-04	No
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/kg	5 : 10 : 12	50	1.30E+02	5.20E+03	1.91E+03	1.19E+07	4.37E-04	No
ETHYLBENZENE	100-41-4	ug/kg	1 : 9 : 9	11	3.20E+04	3.20E+04	7.08E+03	1.27E+10	2.53E-06	No
CHLOROFORM	67-66-3	ug/kg	1 : 9 : 12	11	1.00E+01	1.00E+01	3.93E+00	1.63E+09	6.12E-09	No
METHYLENE CHLORIDE	75-09-2	ug/kg	4 : 9 : 12	44	7.30E+00	1.00E+01	5.85E+00	8.35E+09	1.20E-09	No
							Cumulative Risk:		**4.41E-01**	
AOC 7A										
CHROMIUM	7440-47-3	ug/kg	14 : 14 : 14	100	7.30E+03	2.91E+04	1.61E+04	3.27E+05	8.90E-02	No
ARSENIC	7440-38-2	ug/kg	14 : 14 : 14	100	2.50E+03	6.24E+04	1.77E+04	9.12E+05	6.84E-02	No
NICKEL	7440-02-0	ug/kg	13 : 14 : 14	93	8.10E+03	3.18E+04	1.44E+04	1.63E+07	1.95E-03	No
BERYLLIUM	7440-41-7	ug/kg	2 : 14 : 14	14	7.10E+02	9.30E+02	3.91E+02	1.63E+06	5.69E-04	No
CADMIUM	7440-43-9	ug/kg	12 : 14 : 14	86	1.40E+02	7.50E+02	3.37E+02	2.18E+06	3.44E-04	No
							Cumulative Risk:		**1.60E-01**	
AOC 7B										
CHROMIUM	7440-47-3	ug/kg	4 : 4 : 4	100	6.40E+03	2.69E+04	1.31E+04	3.27E+05	8.23E-02	No
ARSENIC	7440-38-2	ug/kg	4 : 4 : 4	100	1.70E+03	1.17E+04	7.45E+03	9.12E+05	1.28E-02	No
NICKEL	7440-02-0	ug/kg	4 : 4 : 4	100	6.40E+03	1.38E+04	1.06E+04	1.63E+07	8.44E-04	No
BERYLLIUM	7440-41-7	ug/kg	1 : 4 : 4	25	7.80E+02	7.80E+02	4.20E+02	1.63E+06	4.77E-04	No
CADMIUM	7440-43-9	ug/kg	2 : 4 : 4	50	4.10E+02	5.10E+02	2.59E+02	2.18E+06	2.34E-04	No
							Cumulative Risk:		**9.67E-02**	

Table D-3
Cumulative Risk Screening
Using Part 201 Criteria Industrial Particulate Soil Inhalation Criteria for Ambient Air (PSIC)- Cancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial Cancer PSIC (g)	Ratio (h)	Constituent of Interest?
AOC 7C										
CHROMIUM	7440-47-3	ug/kg	4 : 4 : 4	100	6.00E+03	1.72E+04	9.13E+03	3.27E+05	5.26E-02	No
ARSENIC	7440-38-2	ug/kg	4 : 4 : 4	100	1.92E+04	3.45E+04	2.67E+04	9.12E+05	3.78E-02	No
NICKEL	7440-02-0	ug/kg	4 : 4 : 4	100	1.01E+04	8.99E+04	3.36E+04	1.63E+07	5.50E-03	No
BERYLLIUM	7440-41-7	ug/kg	1 : 4 : 4	25	1.30E+03	1.30E+03	5.76E+02	1.63E+06	7.95E-04	No
CADMIUM	7440-43-9	ug/kg	1 : 4 : 4	25	6.70E+02	6.70E+02	2.19E+02	2.18E+06	3.07E-04	No
							Cumulative Risk:		**9.70E-02**	
RFIMW 07										
BENZO(A)PYRENE	50-32-8	ug/kg	2 : 6 : 6	33	2.00E+02	1.10E+03	5.64E+02	1.87E+06	5.87E-04	No
NAPHTHALENE	91-20-3	ug/kg	2 : 6 : 6	33	5.80E+02	9.65E+02	5.93E+02	1.27E+09	7.63E-07	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/kg	2 : 2 : 6	100	2.38E+02	3.00E+02	2.69E+02	8.86E+08	3.39E-07	No
ETHYLBENZENE	100-41-4	ug/kg	2 : 6 : 6	33	2.10E+01	2.60E+01	1.10E+01	1.27E+10	2.05E-09	No
METHYLENE CHLORIDE	75-09-2	ug/kg	1 : 3 : 6	33	4.25E+00	4.25E+00	4.78E+00	8.35E+09	5.09E-10	No
							Cumulative Risk:		**5.89E-04**	
RFIMW 08										
BENZO(A)PYRENE	50-32-8	ug/kg	2 : 10 : 10	20	5.00E+02	5.80E+02	2.95E+02	1.87E+06	3.10E-04	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/kg	3 : 7 : 10	43	1.30E+02	2.20E+02	1.86E+02	8.86E+08	2.48E-07	No
							Cumulative Risk:		**3.11E-04**	
RFIMW 24										
CHROMIUM	7440-47-3	ug/kg	2 : 2 : 2	100	8.50E+03	8.41E+05	4.25E+05	3.27E+05	2.57E+00	Yes
ARSENIC	7440-38-2	ug/kg	2 : 2 : 2	100	1.40E+03	8.00E+03	4.70E+03	9.12E+05	8.77E-03	No
NICKEL	7440-02-0	ug/kg	1 : 2 : 2	50	1.39E+04	1.39E+04	8.25E+03	1.63E+07	8.50E-04	No
CADMIUM	7440-43-9	ug/kg	1 : 2 : 2	50	1.40E+03	1.40E+03	7.33E+02	2.18E+06	6.42E-04	No
BENZO(A)PYRENE	50-32-8	ug/kg	1 : 1 : 2	100	4.70E+01	4.70E+01	4.70E+01	1.87E+06	2.52E-05	No
4,4'-DDE	72-55-9	ug/kg	1 : 2 : 2	50	2.20E+01	2.20E+01	1.21E+01	4.04E+07	5.44E-07	No
							Cumulative Risk:		**1.03E-02**	

Table D-3
Cumulative Risk Screening
Using Part 201 Criteria Industrial Particulate Soil Inhalation Criteria for Ambient Air (PSIC)- Cancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial Cancer PSIC (g)	Ratio (h)	Constituent of Interest?
RFIMW 25										
CHROMIUM	7440-47-3	ug/kg	2 : 2 : 2	100	6.50E+03	9.00E+03	7.75E+03	3.27E+05	2.75E-02	No
ARSENIC	7440-38-2	ug/kg	2 : 2 : 2	100	1.80E+03	6.00E+03	3.90E+03	9.12E+05	6.58E-03	No
NICKEL	7440-02-0	ug/kg	1 : 2 : 2	50	6.80E+03	6.80E+03	4.61E+03	1.63E+07	4.16E-04	No
BENZO(A)PYRENE	50-32-8	ug/kg	2 : 2 : 2	100	3.10E+02	3.15E+02	3.13E+02	1.87E+06	1.69E-04	No
CADMIUM	7440-43-9	ug/kg	1 : 2 : 2	50	2.80E+02	2.80E+02	1.70E+02	2.18E+06	1.28E-04	No
							Cumulative Risk:		**3.48E-02**	
RFIMW 26										
CHROMIUM	7440-47-3	ug/kg	2 : 2 : 2	100	4.50E+03	1.56E+04	1.01E+04	3.27E+05	4.77E-02	No
ARSENIC	7440-38-2	ug/kg	2 : 2 : 2	100	5.10E+03	9.50E+03	7.30E+03	9.12E+05	1.04E-02	No
NICKEL	7440-02-0	ug/kg	1 : 2 : 2	50	1.42E+04	1.42E+04	8.30E+03	1.63E+07	8.69E-04	No
Total PCBs	Total PCBs	ug/kg	1 : 2 : 2	50	2.30E+03	2.30E+03	1.44E+03	6.54E+06	3.52E-04	No
BENZO(A)PYRENE	50-32-8	ug/kg	1 : 2 : 2	50	5.70E+02	5.70E+02	3.83E+02	1.87E+06	3.05E-04	No
CADMIUM	7440-43-9	ug/kg	1 : 2 : 2	50	6.20E+02	6.20E+02	3.40E+02	2.18E+06	2.84E-04	No
NAPHTHALENE	91-20-3	ug/kg	1 : 1 : 2	100	1.50E+02	1.50E+02	1.50E+02	1.27E+09	1.19E-07	No
							Cumulative Risk:		**5.99E-02**	
RFIMW 27										
CHROMIUM	7440-47-3	ug/kg	2 : 2 : 2	100	9.00E+03	9.70E+03	9.35E+03	3.27E+05	2.97E-02	No
ARSENIC	7440-38-2	ug/kg	2 : 2 : 2	100	2.50E+03	7.40E+03	4.95E+03	9.12E+05	8.11E-03	No
NICKEL	7440-02-0	ug/kg	2 : 2 : 2	100	6.40E+03	1.28E+04	9.60E+03	1.63E+07	7.83E-04	No
CADMIUM	7440-43-9	ug/kg	1 : 2 : 2	50	2.90E+02	2.90E+02	1.78E+02	2.18E+06	1.33E-04	No
							Cumulative Risk:		**3.87E-02**	
RFIMW 28										
CHROMIUM	7440-47-3	ug/kg	2 : 2 : 2	100	5.40E+03	1.61E+04	1.08E+04	3.27E+05	4.92E-02	No
ARSENIC	7440-38-2	ug/kg	2 : 2 : 2	100	1.80E+03	8.90E+03	5.35E+03	9.12E+05	9.75E-03	No
NICKEL	7440-02-0	ug/kg	2 : 2 : 2	100	5.70E+03	1.48E+04	1.03E+04	1.63E+07	9.05E-04	No
BERYLLIUM	7440-41-7	ug/kg	1 : 2 : 2	50	1.10E+03	1.10E+03	7.00E+02	1.63E+06	6.73E-04	No
							Cumulative Risk:		**6.06E-02**	

Table D-3
Cumulative Risk Screening
Using Part 201 Criteria Industrial Particulate Soil Inhalation Criteria for Ambient Air (PSIC)- Cancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial Cancer PSIC (g)	Ratio (h)	Constituent of Interest?
SWMU F										
CHROMIUM	7440-47-3	ug/kg	10 : 10 : 10	100	6.40E+03	1.30E+05	2.38E+04	3.27E+05	3.98E-01	No
ARSENIC	7440-38-2	ug/kg	10 : 10 : 10	100	4.40E+03	6.39E+04	2.32E+04	9.12E+05	7.00E-02	No
NICKEL	7440-02-0	ug/kg	9 : 10 : 10	90	6.40E+03	1.70E+05	2.82E+04	1.63E+07	1.04E-02	No
CADMIUM	7440-43-9	ug/kg	10 : 10 : 10	100	2.70E+02	7.30E+03	1.20E+03	2.18E+06	3.35E-03	No
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/kg	6 : 10 : 10	60	2.90E+02	2.80E+04	5.78E+03	1.19E+07	2.36E-03	No
BENZO(A)PYRENE	50-32-8	ug/kg	3 : 6 : 10	50	1.20E+02	1.60E+03	5.16E+02	1.87E+06	8.56E-04	No
Total PCBs	Total PCBs	ug/kg	1 : 8 : 8	13	3.34E+03	3.34E+03	1.17E+03	6.54E+06	5.10E-04	No
BENZENE	71-43-2	ug/kg	1 : 9 : 10	11	2.00E+03	2.00E+03	7.86E+02	4.73E+08	4.23E-06	No
PENTACHLOROPHENOL	87-86-5	ug/kg	2 : 10 : 20	20	1.60E+01	6.40E+01	1.16E+01	1.31E+08	4.89E-07	No
NAPHTHALENE	91-20-3	ug/kg	4 : 6 : 10	67	9.90E+01	4.50E+02	2.57E+02	1.27E+09	3.56E-07	No
4,4'-DDE	72-55-9	ug/kg	1 : 4 : 8	25	7.80E+00	7.80E+00	4.17E+00	4.04E+07	1.93E-07	No
							Cumulative Risk:		**4.85E-01**	
SWMU G										
ARSENIC	7440-38-2	ug/kg	10 : 10 : 10	100	4.80E+03	1.01E+05	2.67E+04	9.12E+05	1.11E-01	No
CHROMIUM	7440-47-3	ug/kg	10 : 10 : 10	100	4.80E+03	3.36E+04	1.55E+04	3.27E+05	1.03E-01	No
BENZO(A)PYRENE	50-32-8	ug/kg	9 : 10 : 10	90	3.10E+02	3.70E+03	8.10E+02	1.87E+06	1.98E-03	No
NICKEL	7440-02-0	ug/kg	10 : 10 : 10	100	7.60E+03	2.56E+04	1.34E+04	1.63E+07	1.57E-03	No
BERYLLIUM	7440-41-7	ug/kg	1 : 10 : 10	10	2.00E+03	2.00E+03	4.68E+02	1.63E+06	1.22E-03	No
CADMIUM	7440-43-9	ug/kg	10 : 10 : 10	100	3.00E+02	2.30E+03	7.90E+02	2.18E+06	1.06E-03	No
Total PCBs	Total PCBs	ug/kg	5 : 10 : 10	50	5.12E+02	1.24E+03	5.58E+02	6.54E+06	1.90E-04	No
PENTACHLOROPHENOL	87-86-5	ug/kg	3 : 10 : 20	30	3.90E+01	6.20E+02	1.29E+02	1.31E+08	4.74E-06	No
NAPHTHALENE	91-20-3	ug/kg	8 : 9 : 10	89	1.70E+02	8.10E+02	3.52E+02	1.27E+09	6.40E-07	No
4,4'-DDT	50-29-3	ug/kg	1 : 10 : 10	10	1.55E+01	1.55E+01	9.75E+00	4.04E+07	3.83E-07	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/kg	1 : 1 : 10	100	4.10E+01	4.10E+01	4.10E+01	8.86E+08	4.63E-08	No
							Cumulative Risk:		**2.19E-01**	

Table D-3
Cumulative Risk Screening
Using Part 201 Criteria Industrial Particulate Soil Inhalation Criteria for Ambient Air (PSIC)- Cancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial Cancer PSIC (g)	Ratio (h)	Constituent of Interest?
SWMU H										
CHROMIUM	7440-47-3	ug/kg	11 : 11 : 11	100	6.70E+03	1.95E+05	4.52E+04	3.27E+05	5.96E-01	No
ARSENIC	7440-38-2	ug/kg	11 : 11 : 11	100	1.90E+03	1.16E+05	2.28E+04	9.12E+05	1.27E-01	No
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/kg	8 : 11 : 11	73	1.30E+02	1.40E+06	1.42E+05	1.19E+07	1.18E-01	No
NICKEL	7440-02-0	ug/kg	11 : 11 : 11	100	5.70E+03	9.34E+04	3.04E+04	1.63E+07	5.71E-03	No
CADMIUM	7440-43-9	ug/kg	10 : 11 : 11	91	2.60E+02	4.20E+03	9.02E+02	2.18E+06	1.93E-03	No
BENZO(A)PYRENE	50-32-8	ug/kg	3 : 10 : 11	30	1.00E+02	3.10E+03	7.70E+02	1.87E+06	1.66E-03	No
BIS(2-CHLOROETHYL) ETHER	111-44-4	ug/kg	2 : 10 : 11	20	8.20E+01	1.20E+04	1.66E+03	1.19E+07	1.01E-03	No
BERYLLIUM	7440-41-7	ug/kg	1 : 11 : 11	9	9.10E+02	9.10E+02	4.11E+02	1.63E+06	5.57E-04	No
Total PCBs	Total PCBs	ug/kg	1 : 11 : 11	9	3.10E+03	3.10E+03	6.86E+02	6.54E+06	4.73E-04	No
NAPHTHALENE	91-20-3	ug/kg	3 : 10 : 11	30	9.30E+01	1.60E+04	2.05E+03	1.27E+09	1.26E-05	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/kg	2 : 10 : 11	20	1.90E+03	1.00E+04	1.64E+03	8.86E+08	1.13E-05	No
PENTACHLOROPHENOL	87-86-5	ug/kg	4 : 11 : 22	36	1.00E+01	3.00E+02	5.24E+01	1.31E+08	2.29E-06	No
BENZENE	71-43-2	ug/kg	1 : 8 : 11	13	7.80E+02	7.80E+02	1.02E+02	4.73E+08	1.65E-06	No
ALPHA-CHLORDANE	5103-71-9	ug/kg	1 : 11 : 11	9	4.00E+01	4.00E+01	6.55E+00	3.92E+07	1.02E-06	No
ETHYLBENZENE	100-41-4	ug/kg	1 : 8 : 11	13	4.70E+02	4.70E+02	6.30E+01	1.27E+10	3.71E-08	No
							Cumulative Risk:		**8.53E-01**	

Table D-3
Cumulative Risk Screening
Using Part 201 Criteria Industrial Particulate Soil Inhalation Criteria for Ambient Air (PSIC)- Cancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial Cancer PSIC (g)	Ratio (h)	Constituent of Interest?

Notes:

CAS - Chemical Abstract Service.
(a) Only chemicals with at least one positively detected result are reported.
(b) Frequency of detection - Number of detected samples: Number of samples used to calculate statistics: Number of total samples.
(c) Percent of samples with detects out of samples used to calculate statistics.
(d) Minimum detected concentration for each chemical, after duplicates have been averaged.
(e) Maximum detected concentration for each chemical, after duplicates have been averaged.
(f) Arithmetic mean concentration for each chemical, after duplicates have been averaged and any non detected results with one-half the sample quantitation limit greater than the maximum detected concentration have been excluded.
(g) Industrial Particulate Soil Inhalation Criteria for Ambient Air (PSIC): Carcinogen (MDEQ, Dec. 2002).
(h) Ratio of the maximum detected concentration and the Part 201 criterion.

Table D-4
Cumulative Risk Screening
Using Part 201 Criteria Industrial Particulate Soil Inhalation Criteria for Ambient Air (PSIC)- NonCancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer PSIC (g)	Ratio (h)	Constituent of Interest?
AOC 1										
ETHYLBENZENE	100-41-4	ug/kg	1 : 42 : 53	2	3.00E+02	3.00E+02	5.56E+01	2.94E+10	1.02E-08	No
TOLUENE	108-88-3	ug/kg	2 : 15 : 53	13	3.40E+01	3.40E+01	2.37E+01	1.18E+10	2.89E-09	No
XYLENES	1330-20-7	ug/kg	1 : 22 : 53	5	3.50E+01	3.50E+01	2.34E+01	1.29E+11	2.70E-10	No
							Cumulative Risk:		**1.34E-08**	
AOC 2										
CHROMIUM	7440-47-3	ug/kg	8 : 8 : 8	100	5.30E+03	1.01E+05	3.36E+04	2.35E+05	4.29E-01	No
MERCURY	7439-97-6	ug/kg	5 : 8 : 8	63	1.50E+02	1.71E+04	2.40E+03	8.80E+06	1.94E-03	No
BARIUM	7440-39-3	ug/kg	8 : 8 : 8	100	4.50E+03	7.89E+04	4.37E+04	1.47E+08	5.36E-04	No
COPPER	7440-50-8	ug/kg	8 : 8 : 8	100	3.20E+03	2.44E+04	1.51E+04	5.88E+07	4.15E-04	No
PHENANTHRENE	85-01-8	ug/kg	6 : 8 : 8	75	9.70E+01	1.20E+03	5.10E+02	2.94E+06	4.08E-04	No
TOTAL CYANIDE	57-12-5	ug/kg	6 : 8 : 8	75	7.65E+02	4.60E+04	1.04E+04	1.47E+09	3.13E-05	No
NAPHTHALENE	91-20-3	ug/kg	4 : 8 : 8	50	4.75E+02	2.50E+03	6.69E+02	8.83E+07	2.83E-05	No
SELENIUM	7782-49-2	ug/kg	1 : 8 : 8	13	7.60E+02	7.60E+02	3.81E+02	5.88E+07	1.29E-05	No
BENZO(GHI)PERYLENE	191-24-2	ug/kg	5 : 8 : 8	63	6.10E+01	6.20E+02	2.43E+02	3.53E+08	1.76E-06	No
PYRENE	129-00-0	ug/kg	6 : 8 : 8	75	8.70E+01	2.60E+03	6.34E+02	2.94E+09	8.84E-07	No
FLUORANTHENE	206-44-0	ug/kg	6 : 8 : 8	75	9.00E+01	2.70E+03	6.69E+02	4.12E+09	6.55E-07	No
ACENAPHTHYLENE	208-96-8	ug/kg	3 : 5 : 8	60	8.20E+01	1.90E+02	1.58E+02	1.03E+09	1.84E-07	No
ACETOPHENONE	98-86-2	ug/kg	2 : 7 : 8	29	1.80E+02	2.90E+02	2.10E+02	1.44E+10	2.01E-08	No
ANTHRACENE	120-12-7	ug/kg	5 : 8 : 8	63	5.20E+01	5.90E+02	2.07E+02	2.94E+10	2.01E-08	No
TOLUENE	108-88-3	ug/kg	2 : 8 : 8	25	1.15E+01	4.30E+01	9.09E+00	1.18E+10	3.65E-09	No
ACETONE	67-64-1	ug/kg	2 : 8 : 8	25	3.00E+01	1.00E+02	3.91E+01	1.74E+11	5.76E-10	No
Total XYLENES	Total Xylenes	ug/kg	1 : 8 : 8	13	3.11E+01	3.11E+01	9.21E+00	1.29E+11	2.40E-10	No
ETHYLBENZENE	100-41-4	ug/kg	1 : 8 : 8	13	4.90E+00	4.90E+00	3.28E+00	2.94E+10	1.67E-10	No
							Cumulative Risk:		**4.32E-01**	

Table D-4
Cumulative Risk Screening
Using Part 201 Criteria Industrial Particulate Soil Inhalation Criteria for Ambient Air (PSIC)- NonCancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer PSIC (g)	Ratio (h)	Constituent of Interest?
AOC 4										
PHENANTHRENE	85-01-8	ug/kg	2 : 2 : 2	100	2.70E+06	2.30E+07	1.29E+07	2.94E+06	7.82E+00	Yes
NAPHTHALENE	91-20-3	ug/kg	2 : 2 : 2	100	6.00E+06	4.80E+07	2.70E+07	8.83E+07	5.44E-01	No
ACENAPHTHYLENE	208-96-8	ug/kg	2 : 2 : 2	100	1.00E+06	9.30E+06	5.15E+06	1.03E+09	9.03E-03	No
CHROMIUM	7440-47-3	ug/kg	2 : 2 : 2	100	7.30E+02	1.20E+03	9.65E+02	2.35E+05	5.10E-03	No
BENZO(GHI)PERYLENE	191-24-2	ug/kg	1 : 2 : 2	50	1.50E+06	1.50E+06	1.03E+06	3.53E+08	4.25E-03	No
FLUORANTHENE	206-44-0	ug/kg	2 : 2 : 2	100	1.60E+06	1.40E+07	7.80E+06	4.12E+09	3.40E-03	No
PYRENE	129-00-0	ug/kg	2 : 2 : 2	100	1.10E+06	9.90E+06	5.50E+06	2.94E+09	3.36E-03	No
Total METHYLPHENOL	otal MethylPh	ug/kg	2 : 2 : 2	100	1.01E+06	9.90E+06	5.46E+06	2.94E+09	3.36E-03	No
FLUORENE	86-73-7	ug/kg	2 : 2 : 2	100	1.20E+06	9.50E+06	5.35E+06	4.12E+09	2.31E-03	No
ANTHRACENE	120-12-7	ug/kg	2 : 2 : 2	100	8.70E+05	7.10E+06	3.99E+06	2.94E+10	2.41E-04	No
BARIUM	7440-39-3	ug/kg	2 : 2 : 2	100	1.25E+04	3.35E+04	2.30E+04	1.47E+08	2.28E-04	No
PHENOL	108-95-2	ug/kg	1 : 2 : 2	50	2.30E+06	2.30E+06	1.43E+06	1.77E+10	1.30E-04	No
MERCURY	7439-97-6	ug/kg	2 : 2 : 2	100	1.30E+02	6.20E+02	3.75E+02	8.80E+06	7.05E-05	No
COPPER	7440-50-8	ug/kg	2 : 2 : 2	100	3.40E+03	3.70E+03	3.55E+03	5.88E+07	6.29E-05	No
SELENIUM	7782-49-2	ug/kg	2 : 2 : 2	100	2.60E+03	3.60E+03	3.10E+03	5.88E+07	6.12E-05	No
TOLUENE	108-88-3	ug/kg	2 : 2 : 2	100	1.90E+05	5.90E+05	3.90E+05	1.18E+10	5.01E-05	No
TOTAL CYANIDE	57-12-5	ug/kg	2 : 2 : 2	100	1.10E+04	1.90E+04	1.50E+04	1.47E+09	1.29E-05	No
STYRENE	100-42-5	ug/kg	2 : 2 : 2	100	9.60E+04	2.40E+05	1.68E+05	2.94E+10	8.16E-06	No
Total XYLENES	Total Xylenes	ug/kg	2 : 2 : 2	100	2.55E+05	9.80E+05	6.18E+05	1.29E+11	7.57E-06	No
								Cumulative Risk:	**5.75E-01**	

Table D-4
Cumulative Risk Screening
Using Part 201 Criteria Industrial Particulate Soil Inhalation Criteria for Ambient Air (PSIC)- NonCancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer PSIC (g)	Ratio (h)	Constituent of Interest?
AOC 6										
CHROMIUM	7440-47-3	ug/kg	12 : 12 : 12	100	2.50E+03	5.32E+04	1.29E+04	2.35E+05	2.26E-01	No
PHENANTHRENE	85-01-8	ug/kg	9 : 12 : 12	75	5.20E+02	4.90E+05	6.33E+04	2.94E+06	1.67E-01	No
NAPHTHALENE	91-20-3	ug/kg	10 : 12 : 12	83	4.30E+01	2.70E+06	2.53E+05	8.83E+07	3.06E-02	No
BERYLLIUM	7440-41-7	ug/kg	1 : 12 : 12	8	8.90E+02	8.90E+02	3.95E+02	5.88E+05	1.51E-03	No
BARIUM	7440-39-3	ug/kg	12 : 12 : 12	100	8.50E+03	1.87E+05	7.72E+04	1.47E+08	1.27E-03	No
COPPER	7440-50-8	ug/kg	12 : 12 : 12	100	7.40E+03	4.94E+04	2.55E+04	5.88E+07	8.39E-04	No
SELENIUM	7782-49-2	ug/kg	7 : 12 : 12	58	1.00E+03	2.30E+04	5.09E+03	5.88E+07	3.91E-04	No
MERCURY	7439-97-6	ug/kg	8 : 12 : 12	67	1.40E+02	3.30E+03	7.83E+02	8.80E+06	3.75E-04	No
PYRENE	129-00-0	ug/kg	9 : 12 : 12	75	1.70E+02	2.80E+05	4.52E+04	2.94E+09	9.52E-05	No
BENZO(GHI)PERYLENE	191-24-2	ug/kg	9 : 11 : 12	82	8.70E+01	3.10E+04	6.83E+03	3.53E+08	8.78E-05	No
FLUORANTHENE	206-44-0	ug/kg	9 : 12 : 12	75	1.20E+02	3.50E+05	5.24E+04	4.12E+09	8.50E-05	No
ACENAPHTHYLENE	208-96-8	ug/kg	8 : 11 : 12	73	5.80E+01	6.00E+04	8.13E+03	1.03E+09	5.83E-05	No
FLUORENE	86-73-7	ug/kg	10 : 12 : 12	83	5.40E+01	2.10E+05	3.70E+04	4.12E+09	5.10E-05	No
ANTHRACENE	120-12-7	ug/kg	6 : 11 : 12	55	1.27E+02	1.20E+05	1.44E+04	2.94E+10	4.08E-06	No
ACENAPHTHENE	83-32-9	ug/kg	3 : 10 : 12	30	5.50E+01	1.20E+04	2.49E+03	6.18E+09	1.94E-06	No
TOTAL CYANIDE	57-12-5	ug/kg	8 : 12 : 12	67	2.70E+02	2.40E+03	7.76E+02	1.47E+09	1.63E-06	No
Total XYLENES	Total Xylenes	ug/kg	1 : 9 : 9	11	1.76E+05	1.76E+05	2.66E+04	1.29E+11	1.36E-06	No
ETHYLBENZENE	100-41-4	ug/kg	1 : 9 : 9	11	3.20E+04	3.20E+04	7.08E+03	2.94E+10	1.09E-06	No
ACETOPHENONE	98-86-2	ug/kg	5 : 9 : 12	56	3.00E+02	5.20E+03	1.24E+03	1.44E+10	3.61E-07	No
Total METHYLPHENOL	otal MethylPh	ug/kg	1 : 4 : 11	25	9.70E+02	9.70E+02	7.30E+02	2.94E+09	3.30E-07	No
1,2-DICHLOROPROPANE	78-87-5	ug/kg	2 : 9 : 12	22	5.20E+00	2.20E+01	5.51E+00	1.18E+08	1.87E-07	No
2,4-DIMETHYLPHENOL	105-67-9	ug/kg	1 : 1 : 12	100	1.70E+02	1.70E+02	1.70E+02	2.06E+09	8.25E-08	No
TOLUENE	108-88-3	ug/kg	1 : 1 : 9	100	2.40E+00	2.40E+00	2.40E+00	1.18E+10	2.04E-10	No
								Cumulative Risk:	**4.28E-01**	

Table D-4
Cumulative Risk Screening
Using Part 201 Criteria Industrial Particulate Soil Inhalation Criteria for Ambient Air (PSIC)- NonCancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer PSIC (g)	Ratio (h)	Constituent of Interest?
AOC 7A										
CHROMIUM	7440-47-3	ug/kg	14 : 14 : 14	100	7.30E+03	2.91E+04	1.61E+04	2.35E+05	1.24E-01	No
SILVER	7440-22-4	ug/kg	1 : 14 : 14	7	1.00E+04	1.00E+04	1.31E+03	2.94E+06	3.40E-03	No
COBALT	7440-48-4	ug/kg	2 : 14 : 14	14	4.80E+03	9.70E+03	3.77E+03	5.88E+06	1.65E-03	No
BERYLLIUM	7440-41-7	ug/kg	2 : 14 : 14	14	7.10E+02	9.30E+02	3.91E+02	5.88E+05	1.58E-03	No
BARIUM	7440-39-3	ug/kg	14 : 14 : 14	100	8.30E+03	1.48E+05	6.59E+04	1.47E+08	1.01E-03	No
COPPER	7440-50-8	ug/kg	14 : 14 : 14	100	2.70E+03	3.70E+04	2.13E+04	5.88E+07	6.29E-04	No
MERCURY	7439-97-6	ug/kg	11 : 14 : 14	79	1.30E+02	4.80E+03	1.27E+03	8.80E+06	5.45E-04	No
SELENIUM	7782-49-2	ug/kg	4 : 14 : 14	29	6.33E+02	1.70E+03	5.83E+02	5.88E+07	2.89E-05	No
TOTAL CYANIDE	57-12-5	ug/kg	15 : 19 : 19	79	3.20E+02	5.70E+03	1.66E+03	1.47E+09	3.87E-06	No
							Cumulative Risk:		**1.32E-01**	
AOC 7B										
CHROMIUM	7440-47-3	ug/kg	4 : 4 : 4	100	6.40E+03	2.69E+04	1.31E+04	2.35E+05	1.14E-01	No
BERYLLIUM	7440-41-7	ug/kg	1 : 4 : 4	25	7.80E+02	7.80E+02	4.20E+02	5.88E+05	1.33E-03	No
BARIUM	7440-39-3	ug/kg	4 : 4 : 4	100	1.26E+04	1.08E+05	5.25E+04	1.47E+08	7.34E-04	No
COPPER	7440-50-8	ug/kg	3 : 4 : 4	75	1.24E+04	1.65E+04	1.16E+04	5.88E+07	2.80E-04	No
MERCURY	7439-97-6	ug/kg	2 : 4 : 4	50	2.70E+02	5.70E+02	2.39E+02	8.80E+06	6.48E-05	No
							Cumulative Risk:		**1.17E-01**	
AOC 7C										
CHROMIUM	7440-47-3	ug/kg	4 : 4 : 4	100	6.00E+03	1.72E+04	9.13E+03	2.35E+05	7.31E-02	No
BERYLLIUM	7440-41-7	ug/kg	1 : 4 : 4	25	1.30E+03	1.30E+03	5.76E+02	5.88E+05	2.21E-03	No
BARIUM	7440-39-3	ug/kg	4 : 4 : 4	100	2.07E+04	1.47E+05	6.38E+04	1.47E+08	9.99E-04	No
COPPER	7440-50-8	ug/kg	4 : 4 : 4	100	2.00E+04	3.08E+04	2.36E+04	5.88E+07	5.23E-04	No
MERCURY	7439-97-6	ug/kg	2 : 4 : 4	50	1.60E+02	2.20E+03	6.25E+02	8.80E+06	2.50E-04	No
SELENIUM	7782-49-2	ug/kg	4 : 4 : 4	100	2.00E+03	2.40E+03	2.23E+03	5.88E+07	4.08E-05	No
							Cumulative Risk:		**7.71E-02**	

Table D-4
Cumulative Risk Screening
Using Part 201 Criteria Industrial Particulate Soil Inhalation Criteria for Ambient Air (PSIC)- NonCancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer PSIC (g)	Ratio (h)	Constituent of Interest?
RFIMW 07										
PHENANTHRENE	85-01-8	ug/kg	2 : 6 : 6	33	1.10E+03	2.42E+03	9.22E+02	2.94E+06	8.22E-04	No
NAPHTHALENE	91-20-3	ug/kg	2 : 6 : 6	33	5.80E+02	9.65E+02	5.93E+02	8.83E+07	1.09E-05	No
Total METHYLPHENOL	otal MethylPl	ug/kg	2 : 6 . 6	33	3.21E+03	4.30E+03	2.06E+03	2.94E+09	1.46E-06	No
BENZO(GHI)PERYLENE	191-24-2	ug/kg	1 : 5 : 6	20	4.78E+02	4.78E+02	4.14E+02	3.53E+08	1.35E-06	No
PYRENE	129-00-0	ug/kg	1 : 6 : 6	17	2.15E+03	2.15E+03	7.56E+02	2.94E+09	7.30E-07	No
PHENOL	108-95-2	ug/kg	2 : 6 : 6	33	7.40E+02	1.10E+04	2.23E+03	1.77E+10	6.23E-07	No
FLUORANTHENE	206-44-0	ug/kg	1 : 6 : 6	17	2.40E+03	2.40E+03	7.98E+02	4.12E+09	5.82E-07	No
2,4-DIMETHYLPHENOL	105-67-9	ug/kg	1 : 1 : 6	100	1.70E+02	1.70E+02	1.70E+02	2.06E+09	8.25E-08	No
FLUORENE	86-73-7	ug/kg	1 : 3 : 6	33	2.83E+02	2.83E+02	3.14E+02	4.12E+09	6.86E-08	No
ACENAPHTHENE	83-32-9	ug/kg	1 : 4 : 6	25	3.70E+02	3.70E+02	3.06E+02	6.18E+09	5.99E-08	No
ANTHRACENE	120-12-7	ug/kg	1 : 5 : 6	20	4.78E+02	4.78E+02	4.14E+02	2.94E+10	1.62E-08	No
1,1,1-TRICHLOROETHANE	71-55-6	ug/kg	2 : 6 : 6	33	3.03E+00	3.70E+01	1.42E+01	2.94E+10	1.26E-09	No
METHYL ETHYL KETONE	78-93-3	ug/kg	2 : 3 : 6	67	2.80E+01	3.40E+01	3.03E+01	2.94E+10	1.16E-09	No
ACETONE	67-64-1	ug/kg	5 : 6 : 6	83	3.60E+01	1.60E+02	7.91E+01	1.74E+11	9.22E-10	No
ETHYLBENZENE	100-41-4	ug/kg	2 : 6 : 6	33	2.10E+01	2.60E+01	1.10E+01	2.94E+10	8.84E-10	No
1,1-DICHLOROETHANE	75-34-3	ug/kg	1 : 5 : 6	20	1.20E+01	1.20E+01	6.20E+00	1.47E+10	8.16E-10	No
Total XYLENES	Total Xylenes	ug/kg	3 : 6 : 6	50	1.04E+01	9.80E+01	3.11E+01	1.29E+11	7.57E-10	No
TOLUENE	108-88-3	ug/kg	1 : 5 : 6	20	7.80E+00	7.80E+00	6.38E+00	1.18E+10	6.63E-10	No
							Cumulative Risk:		**8.38E-04**	
RFIMW 08										
PHENANTHRENE	85-01-8	ug/kg	3 : 10 : 10	30	6.10E+02	1.30E+03	4.20E+02	2.94E+06	4.42E-04	No
BENZO(GHI)PERYLENE	191-24-2	ug/kg	1 : 6 : 10	17	2.30E+02	2.30E+02	2.09E+02	3.53E+08	6.51E-07	No
PYRENE	129-00-0	ug/kg	3 : 10 : 10	30	3.30E+02	1.40E+03	4.54E+02	2.94E+09	4.76E-07	No
FLUORANTHENE	206-44-0	ug/kg	3 : 10 : 10	30	2.60E+02	1.70E+03	4.22E+02	4.12E+09	4.13E-07	No
FLUORENE	86-73-7	ug/kg	1 : 1 : 10	100	1.50E+02	1.50E+02	1.50E+02	4.12E+09	3.64E-08	No
ANTHRACENE	120-12-7	ug/kg	2 : 9 : 10	22	2.90E+02	3.00E+02	2.34E+02	2.94E+10	1.02E-08	No
METHYL ETHYL KETONE	78-93-3	ug/kg	5 : 5 : 10	100	7.70E+00	1.60E+01	1.27E+01	2.94E+10	5.44E-10	No
ACETONE	67-64-1	ug/kg	10 : 10 : 10	100	1.50E+01	5.20E+01	3.65E+01	1.74E+11	3.00E-10	No
TOLUENE	108-88-3	ug/kg	1 : 2 : 10	50	2.90E+00	2.90E+00	2.85E+00	1.18E+10	2.46E-10	No
CARBON DISULFIDE	75-15-0	ug/kg	1 : 6 : 10	17	3.30E+00	3.30E+00	3.06E+00	2.06E+10	1.60E-10	No
							Cumulative Risk:		**4.43E-04**	

Table D-4
Cumulative Risk Screening
Using Part 201 Criteria Industrial Particulate Soil Inhalation Criteria for Ambient Air (PSIC)- NonCancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer PSIC (g)	Ratio (h)	Constituent of Interest?
RFIMW 24										
CHROMIUM	7440-47-3	ug/kg	2 : 2 : 2	100	8.50E+03	8.41E+05	4.25E+05	2.35E+05	3.57E+00	Yes
BARIUM	7440-39-3	ug/kg	2 : 2 : 2	100	7.30E+03	9.70E+04	5.22E+04	1.47E+08	6.59E-04	No
COPPER	7440-50-8	ug/kg	2 : 2 : 2	100	3.30E+03	2.97E+04	1.65E+04	5.88E+07	5.05E-04	No
PHENANTHRENE	85-01-8	ug/kg	1 : 1 : 2	100	7.70E+01	7.70E+01	7.70E+01	2.94E+06	2.62E-05	No
TOTAL CYANIDE	57-12-5	ug/kg	2 : 2 : 2	100	3.90E+02	2.70E+03	1.55E+03	1.47E+09	1.84E-06	No
BENZO(GHI)PERYLENE	191-24-2	ug/kg	1 : 1 : 2	100	5.40E+01	5.40E+01	5.40E+01	3.53E+08	1.53E-07	No
PYRENE	129-00-0	ug/kg	1 : 1 : 2	100	1.10E+02	1.10E+02	1.10E+02	2.94E+09	3.74E-08	No
FLUORANTHENE	206-44-0	ug/kg	1 : 1 : 2	100	1.20E+02	1.20E+02	1.20E+02	4.12E+09	2.91E-08	No
							Cumulative Risk:		**1.19E-03**	
RFIMW 25										
CHROMIUM	7440-47-3	ug/kg	2 : 2 : 2	100	6.50E+03	9.00E+03	7.75E+03	2.35E+05	3.82E-02	No
BARIUM	7440-39-3	ug/kg	2 : 2 : 2	100	1.23E+04	1.01E+05	5.67E+04	1.47E+08	6.87E-04	No
PHENANTHRENE	85-01-8	ug/kg	2 : 2 : 2	100	2.10E+02	5.65E+02	3.88E+02	2.94E+06	1.92E-04	No
COPPER	7440-50-8	ug/kg	2 : 2 : 2	100	2.75E+03	8.10E+03	5.43E+03	5.88E+07	1.38E-04	No
MERCURY	7439-97-6	ug/kg	1 : 2 : 2	50	1.60E+02	1.60E+02	1.10E+02	8.80E+06	1.82E-05	No
TOTAL CYANIDE	57-12-5	ug/kg	2 : 2 : 2	100	1.50E+03	1.90E+03	1.70E+03	1.47E+09	1.29E-06	No
BENZO(GHI)PERYLENE	191-24-2	ug/kg	2 : 2 : 2	100	2.35E+02	3.60E+02	2.98E+02	3.53E+08	1.02E-06	No
PYRENE	129-00-0	ug/kg	2 : 2 : 2	100	6.50E+02	6.50E+02	6.50E+02	2.94E+09	2.21E-07	No
FLUORANTHENE	206-44-0	ug/kg	2 : 2 : 2	100	6.40E+02	7.50E+02	6.95E+02	4.12E+09	1.82E-07	No
ACENAPHTHENE	83-32-9	ug/kg	1 : 1 : 2	100	1.00E+02	1.00E+02	1.00E+02	6.18E+09	1.62E-08	No
ANTHRACENE	120-12-7	ug/kg	1 : 2 : 2	50	2.00E+02	2.00E+02	1.93E+02	2.94E+10	6.80E-09	No
							Cumulative Risk:		**3.93E-02**	

Table D-4
Cumulative Risk Screening
Using Part 201 Criteria Industrial Particulate Soil Inhalation Criteria for Ambient Air (PSIC)- NonCancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer PSIC (g)	Ratio (h)	Constituent of Interest?
RFIMW 26										
CHROMIUM	7440-47-3	ug/kg	2 : 2 : 2	100	4.50E+03	1.56E+04	1.01E+04	2.35E+05	6.63E-02	No
COBALT	7440-48-4	ug/kg	1 : 2 : 2	50	6.10E+03	6.10E+03	4.53E+03	5.88E+06	1.04E-03	No
COPPER	7440-50-8	ug/kg	2 : 2 : 2	100	3.40E+03	2.57E+04	1.46E+04	5.88E+07	4.37E-04	No
BARIUM	7440-39-3	ug/kg	2 : 2 : 2	100	1.24E+04	3.35E+04	2.30E+04	1.47E+08	2.28E-04	No
PHENANTHRENE	85-01-8	ug/kg	1 : 2 : 2	50	4.00E+02	4.00E+02	2.98E+02	2.94E+06	1.36E-04	No
MERCURY	7439-97-6	ug/kg	1 : 2 : 2	50	2.70E+02	2.70E+02	1.65E+02	8.80E+06	3.07E-05	No
SELENIUM	7782-49-2	ug/kg	1 : 2 : 2	50	1.20E+03	1.20E+03	7.48E+02	5.88E+07	2.04E-05	No
TOTAL CYANIDE	57-12-5	ug/kg	1 : 2 : 2	50	3.70E+03	3.70E+03	1.93E+03	1.47E+09	2.51E-06	No
NAPHTHALENE	91-20-3	ug/kg	1 : 1 : 2	100	1.50E+02	1.50E+02	1.50E+02	8.83E+07	1.70E-06	No
BENZO(GHI)PERYLENE	191-24-2	ug/kg	1 : 2 : 2	50	3.60E+02	3.60E+02	2.78E+02	3.53E+08	1.02E-06	No
PYRENE	129-00-0	ug/kg	2 : 2 : 2	100	7.00E+01	7.80E+02	4.25E+02	2.94E+09	2.65E-07	No
FLUORANTHENE	206-44-0	ug/kg	2 : 2 : 2	100	6.80E+01	7.90E+02	4.29E+02	4.12E+09	1.92E-07	No
DIETHYL PHTHALATE	84-66-2	ug/kg	1 : 2 : 2	50	2.40E+02	2.40E+02	2.18E+02	1.47E+09	1.63E-07	No
ANTHRACENE	120-12-7	ug/kg	1 : 1 : 2	100	6.90E+01	6.90E+01	6.90E+01	2.94E+10	2.35E-09	No
TOLUENE	108-88-3	ug/kg	1 : 2 : 2	50	3.00E+00	3.00E+00	2.98E+00	1.18E+10	2.55E-10	No
							Cumulative Risk:		**6.82E-02**	
RFIMW 27										
CHROMIUM	7440-47-3	ug/kg	2 : 2 : 2	100	9.00E+03	9.70E+03	9.35E+03	2.35E+05	4.12E-02	No
BARIUM	7440-39-3	ug/kg	2 : 2 : 2	100	1.81E+04	8.07E+04	4.94E+04	1.47E+08	5.49E-04	No
COPPER	7440-50-8	ug/kg	2 : 2 : 2	100	6.20E+03	1.24E+04	9.30E+03	5.88E+07	2.11E-04	No
MERCURY	7439-97-6	ug/kg	1 : 2 : 2	50	5.20E+02	5.20E+02	2.93E+02	8.80E+06	5.91E-05	No
TOTAL CYANIDE	57-12-5	ug/kg	1 : 2 : 2	50	7.80E+02	7.80E+02	4.70E+02	1.47E+09	5.30E-07	No
							Cumulative Risk:		**4.20E-02**	
RFIMW 28										
CHROMIUM	7440-47-3	ug/kg	2 : 2 : 2	100	5.40E+03	1.61E+04	1.08E+04	2.35E+05	6.84E-02	No
BERYLLIUM	7440-41-7	ug/kg	1 : 2 : 2	50	1.10E+03	1.10E+03	7.00E+02	5.88E+05	1.87E-03	No
BARIUM	7440-39-3	ug/kg	2 : 2 : 2	100	6.00E+03	1.79E+05	9.25E+04	1.47E+08	1.22E-03	No
COPPER	7440-50-8	ug/kg	2 : 2 : 2	100	6.90E+03	1.20E+04	9.45E+03	5.88E+07	2.04E-04	No
							Cumulative Risk:		**7.17E-02**	

Table D-4
Cumulative Risk Screening
Using Part 201 Criteria Industrial Particulate Soil Inhalation Criteria for Ambient Air (PSIC)- NonCancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer PSIC (g)	Ratio (h)	Constituent of Interest?
SWMU F										
CHROMIUM	7440-47-3	ug/kg	10 : 10 : 10	100	6.40E+03	1.30E+05	2.38E+04	2.35E+05	5.52E-01	No
COPPER	7440-50-8	ug/kg	10 : 10 : 10	100	1.05E+04	7.71E+06	7.93E+05	5.88E+07	1.31E-01	No
COBALT	7440-48-4	ug/kg	1 : 10 : 10	10	4.05E+04	4.05E+04	8.12E+03	5.88E+06	6.88E-03	No
SILVER	7440-22-4	ug/kg	1 : 10 : 10	10	1.05E+04	1.05E+04	1.86E+03	2.94E+06	3.57E-03	No
BARIUM	7440-39-3	ug/kg	10 : 10 : 10	100	1.88E+04	4.91E+05	1.08E+05	1.47E+08	3.34E-03	No
ANTIMONY	7440-36-0	ug/kg	3 : 10 : 10	30	7.10E+02	1.60E+04	2.08E+03	5.88E+06	2.72E-03	No
MERCURY	7439-97-6	ug/kg	6 : 10 : 10	60	3.30E+02	2.11E+04	2.90E+03	8.80E+06	2.40E-03	No
PHENANTHRENE	85-01-8	ug/kg	4 : 7 : 10	57	2.00E+02	6.00E+03	1.59E+03	2.94E+06	2.04E-03	No
1,2-DICHLOROPROPANE	78-87-5	ug/kg	5 : 10 : 10	50	4.20E+00	7.00E+04	9.60E+03	1.18E+08	5.95E-04	No
SELENIUM	7782-49-2	ug/kg	5 : 10 : 10	50	1.20E+03	6.30E+03	1.62E+03	5.88E+07	1.07E-04	No
Total METHYLPHENOL	otal MethylPh	ug/kg	4 : 10 : 10	40	6.85E+02	4.41E+04	1.33E+04	2.94E+09	1.50E-05	No
2,4-DIMETHYLPHENOL	105-67-9	ug/kg	1 : 10 : 10	10	2.20E+04	2.20E+04	5.14E+03	2.06E+09	1.07E-05	No
TOLUENE	108-88-3	ug/kg	7 : 10 : 10	70	1.10E+01	1.10E+05	2.42E+04	1.18E+10	9.35E-06	No
NAPHTHALENE	91-20-3	ug/kg	4 : 6 : 10	67	9.90E+01	4.50E+02	2.57E+02	8.83E+07	5.10E-06	No
TOTAL CYANIDE	57-12-5	ug/kg	8 : 10 : 10	80	1.10E+03	5.10E+03	2.20E+03	1.47E+09	3.47E-06	No
BENZO(GHI)PERYLENE	191-24-2	ug/kg	3 : 6 : 10	50	5.90E+01	8.50E+02	4.04E+02	3.53E+08	2.41E-06	No
PYRENE	129-00-0	ug/kg	4 : 7 : 10	57	4.00E+02	3.40E+03	1.44E+03	2.94E+09	1.16E-06	No
ACETONE	67-64-1	ug/kg	9 : 10 : 10	90	1.90E+02	1.90E+05	4.53E+04	1.74E+11	1.09E-06	No
FLUORANTHENE	206-44-0	ug/kg	5 : 7 : 10	71	6.30E+01	4.50E+03	1.42E+03	4.12E+09	1.09E-06	No
PHENOL	108-95-2	ug/kg	2 : 7 : 10	29	1.90E+03	6.40E+03	1.71E+03	1.77E+10	3.63E-07	No
FLUORENE	86-73-7	ug/kg	2 : 5 : 10	40	1.70E+02	7.80E+02	3.50E+02	4.12E+09	1.89E-07	No
BENZYL ALCOHOL	100-51-6	ug/kg	1 : 10 : 10	10	2.10E+04	2.10E+04	4.39E+03	1.47E+11	1.43E-07	No
ACENAPHTHENE	83-32-9	ug/kg	1 : 5 : 10	20	4.40E+02	4.40E+02	2.94E+02	6.18E+09	7.12E-08	No
ACENAPHTHYLENE	208-96-8	ug/kg	1 : 1 : 10	100	6.80E+01	6.80E+01	6.80E+01	1.03E+09	6.60E-08	No
BUTYL BENZYL PHTHALATE	85-68-7	ug/kg	1 : 6 : 10	17	1.00E+03	1.00E+03	4.80E+02	2.06E+10	4.86E-08	No
ANTHRACENE	120-12-7	ug/kg	2 : 6 : 10	33	1.10E+02	1.30E+03	5.43E+02	2.94E+10	4.42E-08	No
PENTACHLOROPHENOL	87-86-5	ug/kg	2 : 10 : 20	20	1.60E+01	6.40E+01	1.16E+01	2.94E+09	2.18E-08	No
METHYL ETHYL KETONE	78-93-3	ug/kg	1 : 1 : 10	100	1.70E+01	1.70E+01	1.70E+01	2.94E+10	5.78E-10	No
Total XYLENES	Total Xylenes	ug/kg	1 : 2 : 10	50	1.22E+01	1.22E+01	1.16E+01	1.29E+11	9.42E-11	No
								Cumulative Risk:	**7.05E-01**	

Table D-4
Cumulative Risk Screening
Using Part 201 Criteria Industrial Particulate Soil Inhalation Criteria for Ambient Air (PSIC)- NonCancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer PSIC (g)	Ratio (h)	Constituent of Interest?
SWMU G										
CHROMIUM	7440-47-3	ug/kg	10 : 10 : 10	100	4.80E+03	3.36E+04	1.55E+04	2.35E+05	1.43E-01	No
BERYLLIUM	7440-41-7	ug/kg	1 : 10 : 10	10	2.00E+03	2.00E+03	4.68E+02	5.88E+05	3.40E-03	No
COBALT	7440-48-4	ug/kg	1 : 10 : 10	10	1.01E+04	1.01E+04	3.68E+03	5.88E+06	1.72E-03	No
COPPER	7440-50-8	ug/kg	10 : 10 : 10	100	1.53E+04	9.53E+04	3.39E+04	5.88E+07	1.62E-03	No
BARIUM	7440-39-3	ug/kg	10 : 10 : 10	100	5.54E+04	1.66E+05	8.97E+04	1.47E+08	1.13E-03	No
PHENANTHRENE	85-01-8	ug/kg	10 : 10 : 10	100	8.70E+01	1.90E+03	8.07E+02	2.94E+06	6.46E-04	No
MERCURY	7439-97-6	ug/kg	8 : 10 : 10	80	1.40E+02	5.40E+03	7.69E+02	8.80E+06	6.14E-04	No
ANTIMONY	7440-36-0	ug/kg	1 : 10 : 10	10	2.60E+03	2.60E+03	6.17E+02	5.88E+06	4.42E-04	No
NAPHTHALENE	91-20-3	ug/kg	8 : 9 : 10	89	1.70E+02	8.10E+02	3.52E+02	8.83E+07	9.18E-06	No
SELENIUM	7782-49-2	ug/kg	1 : 10 : 10	10	4.40E+02	4.40E+02	3.14E+02	5.88E+07	7.48E-06	No
BENZO(GHI)PERYLENE	191-24-2	ug/kg	9 : 10 : 10	90	1.40E+02	2.10E+03	4.73E+02	3.53E+08	5.95E-06	No
PYRENE	129-00-0	ug/kg	10 : 10 : 10	100	8.20E+01	6.10E+03	1.22E+03	2.94E+09	2.07E-06	No
ACENAPHTHYLENE	208-96-8	ug/kg	9 : 10 : 10	90	4.40E+01	1.80E+03	3.28E+02	1.03E+09	1.75E-06	No
FLUORANTHENE	206-44-0	ug/kg	9 : 10 : 10	90	1.00E+02	3.80E+03	1.14E+03	4.12E+09	9.22E-07	No
TOTAL CYANIDE	57-12-5	ug/kg	1 : 10 : 10	10	6.60E+02	6.60E+02	1.99E+02	1.47E+09	4.49E-07	No
PENTACHLOROPHENOL	87-86-5	ug/kg	3 : 10 : 20	30	3.90E+01	6.20E+02	1.29E+02	2.94E+09	2.11E-07	No
Total METHYLPHENOL	otal MethylPh	ug/kg	1 : 7 : 10	14	5.88E+02	5.88E+02	5.83E+02	2.94E+09	2.00E-07	No
DIETHYL PHTHALATE	84-66-2	ug/kg	1 : 1 : 10	100	1.00E+02	1.00E+02	1.00E+02	1.47E+09	6.80E-08	No
FLUORENE	86-73-7	ug/kg	3 : 9 : 10	33	5.00E+01	2.50E+02	1.77E+02	4.12E+09	6.07E-08	No
2,4-DIMETHYLPHENOL	105-67-9	ug/kg	1 : 1 : 10	100	5.70E+01	5.70E+01	5.70E+01	2.06E+09	2.77E-08	No
ANTHRACENE	120-12-7	ug/kg	8 : 9 : 10	89	5.10E+01	7.00E+02	1.92E+02	2.94E+10	2.38E-08	No
ACENAPHTHENE	83-32-9	ug/kg	2 : 2 : 10	100	3.80E+01	4.30E+01	4.05E+01	6.18E+09	6.96E-09	No
							Cumulative Risk:		**1.52E-01**	

Table D-4
Cumulative Risk Screening
Using Part 201 Criteria Industrial Particulate Soil Inhalation Criteria for Ambient Air (PSIC)- NonCancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer PSIC (g)	Ratio (h)	Constituent of Interest?
SWMU H										
CHROMIUM	7440-47-3	ug/kg	11 : 11 : 11	100	6.70E+03	1.95E+05	4.52E+04	2.35E+05	8.28E-01	Yes
1,2-DICHLOROPROPANE	78-87-5	ug/kg	9 : 11 : 11	82	4.00E+00	5.00E+07	4.57E+06	1.18E+08	4.25E-01	No
SILVER	7440-22-4	ug/kg	1 : 11 : 11	9	2.17E+04	2.17E+04	2.62E+03	2.94E+06	7.38E-03	No
PHENANTHRENE	85-01-8	ug/kg	3 : 10 : 11	30	2.50E+02	2.00E+04	2.48E+03	2.94E+06	6.80E-03	No
MERCURY	7439-97-6	ug/kg	5 . 11 : 11	45	1.40E+02	5.29E+04	5.20E+03	8.80E+06	6.01E-03	No
COPPER	7440-50-8	ug/kg	11 : 11 : 11	100	2.90E+03	2.21E+05	4.09E+04	5.88E+07	3.76E-03	No
ANTIMONY	7440-36-0	ug/kg	4 : 11 : 11	36	8.20E+02	1.53E+04	1.90E+03	5.88E+06	2.60E-03	No
COBALT	7440-48-4	ug/kg	6 : 11 : 11	55	9.60E+03	1.37E+04	7.60E+03	5.88E+06	2.33E-03	No
BERYLLIUM	7440-41-7	ug/kg	1 : 11 : 11	9	9.10E+02	9.10E+02	4.11E+02	5.88E+05	1.55E-03	No
BARIUM	7440-39-3	ug/kg	11 : 11 : 11	100	8.00E+03	2.23E+05	8.38E+04	1.47E+08	1.52E-03	No
NAPHTHALENE	91-20-3	ug/kg	3 : 10 : 11	30	9.30E+01	1.60E+04	2.05E+03	8.83E+07	1.81E-04	No
SELENIUM	7782-49-2	ug/kg	2 : 11 : 11	18	1.10E+03	1.40E+03	5.14E+02	5.88E+07	2.38E-05	No
TOTAL CYANIDE	57-12-5	ug/kg	4 : 11 : 11	36	6.00E+02	1.60E+04	2.34E+03	1.47E+09	1.09E-05	No
Total METHYLPHENOL	otal MethylPh	ug/kg	2 : 10 : 11	20	5.05E+02	1.89E+04	3.30E+03	2.94E+09	6.42E-06	No
2,4-DIMETHYLPHENOL	105-67-9	ug/kg	1 : 10 : 11	10	8.30E+03	8.30E+03	1.30E+03	2.06E+09	4.03E-06	No
PYRENE	129-00-0	ug/kg	3 : 10 : 11	30	2.50E+02	8.60E+03	1.35E+03	2.94E+09	2.92E-06	No
FLUORANTHENE	206-44-0	ug/kg	3 : 10 : 11	30	2.20E+02	1.10E+04	1.58E+03	4.12E+09	2.67E-06	No
ALPHA-CHLORDANE	5103-71-9	ug/kg	1 : 11 : 11	9	4.00E+01	4.00E+01	6.55E+00	2.06E+07	1.94E-06	No
FLUORENE	86-73-7	ug/kg	1 : 10 : 11	10	5.40E+03	5.40E+03	1.01E+03	4.12E+09	1.31E-06	No
ACENAPHTHENE	83-32-9	ug/kg	1 : 10 : 11	10	6.70E+03	6.70E+03	1.14E+03	6.18E+09	1.08E-06	No
BENZO(GHI)PERYLENE	191-24-2	ug/kg	2 : 2 : 11	100	9.00E+01	1.80E+02	1.35E+02	3.53E+08	5.10E-07	No
TOLUENE	108-88-3	ug/kg	2 : 10 : 11	20	1.30E+01	5.80E+03	1.06E+03	1.18E+10	4.93E-07	No
CHLOROBENZENE	108-90-7	ug/kg	1 : 8 : 11	13	8.30E+02	8.30E+02	1.08E+02	2.06E+09	4.03E-07	No
ANTHRACENE	120-12-7	ug/kg	2 : 10 : 11	20	7.40E+01	5.30E+03	9.87E+02	2.94E+10	1.80E-07	No
PENTACHLOROPHENOL	87-86-5	ug/kg	4 : 11 : 22	36	1.00E+01	3.00E+02	5.24E+01	2.94E+09	1.02E-07	No
Total XYLENES	Total Xylenes	ug/kg	1 : 8 : 11	13	2.07E+03	2.07E+03	2.67E+02	1.29E+11	1.60E-08	No
ETHYLBENZENE	100-41-4	ug/kg	1 : 8 : 11	13	4.70E+02	4.70E+02	6.30E+01	2.94E+10	1.60E-08	No
1,2-DICHLOROBENZENE	95-50-1	ug/kg	1 : 8 : 11	13	6.80E+02	6.80E+02	8.93E+01	4.41E+10	1.54E-08	No
PHENOL	108-95-2	ug/kg	2 : 7 : 11	29	2.70E+02	2.70E+02	2.36E+02	1.77E+10	1.53E-08	No
ACETONE	67-64-1	ug/kg	7 : 8 : 11	88	2.00E+01	1.60E+03	3.18E+02	1.74E+11	9.22E-09	No
METHYL ETHYL KETONE	78-93-3	ug/kg	1 : 2 : 11	50	3.10E+01	3.10E+01	3.10E+01	2.94E+10	1.05E-09	No
							Cumulative Risk:		**4.57E-01**	

Table D-4
Cumulative Risk Screening
Using Part 201 Criteria Industrial Particulate Soil Inhalation Criteria for Ambient Air (PSIC)- NonCancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer PSIC (g)	Ratio (h)	Constituent of Interest?

Notes:

CAS - Chemical Abstract Service.
(a) Only chemicals with at least one positively detected result are reported.
(b) Frequency of detection - Number of detected samples: Number of samples used to calculate statistics: Number of total samples.
(c) Percent of samples with detects out of samples used to calculate statistics.
(d) Minimum detected concentration for each chemical, after duplicates have been averaged.
(e) Maximum detected concentration for each chemical, after duplicates have been averaged.
(f) Arithmetic mean concentration for each chemical, after duplicates have been averaged and any non detected results with one-half the sample quantitation limit greater than the maximum detected concentration have been excluded.
(g) Industrial Particulate Soil Inhalation Criteria for Ambient Air (PSIC): Carcinogen (MDEQ, Dec. 2002).
(h) Ratio of the maximum detected concentration and the Part 201 criterion.

Table D-5
Cumulative Risk Screening
Using Part 201 Criteria Industrial Soil Volatilization to Indoor Air Inhalation Criteria (SVIIC)- Cancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial Cancer SVIIC (g)	Ratio (h)	Constituent of Interest?
AOC 1										
BENZENE	71-43-2	ug/kg	1 : 43 : 52	2	3.80E+02	3.80E+02	6.65E+01	8.35E+03	4.55E-02	No
ETHYLBENZENE	100-41-4	ug/kg	1 . 42 : 53	2	3.00E+02	3.00E+02	5.56E+01	4.59E+05	6.54E-04	No
							Cumulative Risk:		**4.62E-02**	
AOC 2										
BENZENE	71-43-2	ug/kg	1 : 8 : 8	13	2.70E+01	2.70E+01	6.04E+00	8.35E+03	3.23E-03	No
NAPHTHALENE	91-20-3	ug/kg	4 : 8 : 8	50	4.75E+02	2.50E+03	6.69E+02	3.34E+06	7.49E-04	No
METHYLENE CHLORIDE	75-09-2	ug/kg	1 : 8 : 8	13	2.70E+01	2.70E+01	6.04E+00	2.38E+05	1.14E-04	No
ETHYLBENZENE	100-41-4	ug/kg	1 : 8 : 8	13	4.90E+00	4.90E+00	3.28E+00	4.59E+05	1.07E-05	No
BENZO(A)PYRENE	50-32-8	ug/kg	5 : 8 : 8	63	8.50E+01	1.70E+03	4.29E+02	8.73E+08	1.95E-06	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/kg	4 : 6 : 8	67	8.90E+01	2.38E+02	1.57E+02	2.93E+13	8.10E-12	No
							Cumulative Risk:		**4.11E-03**	
AOC 4										
BENZENE	71-43-2	ug/kg	2 : 2 : 2	100	2.50E+05	6.80E+05	4.65E+05	8.35E+03	8.14E+01	Yes
NAPHTHALENE	91-20-3	ug/kg	2 : 2 : 2	100	6.00E+06	4.80E+07	2.70E+07	3.34E+06	1.44E+01	Yes
STYRENE	100-42-5	ug/kg	2 : 2 : 2	100	9.60E+04	2.40E+05	1.68E+05	1.33E+06	1.81E-01	No
BENZO(A)PYRENE	50-32-8	ug/kg	2 : 2 : 2	100	3.30E+05	4.10E+06	2.22E+06	8.73E+08	4.70E-03	No
							Cumulative Risk:		**1.86E-01**	
AOC 6										
BENZENE	71-43-2	ug/kg	5 : 12 : 12	42	3.90E+00	1.40E+06	1.93E+05	8.35E+03	1.68E+02	Yes
NAPHTHALENE	91-20-3	ug/kg	10 : 12 : 12	83	4.30E+01	2.70E+06	2.53E+05	3.34E+06	8.09E-01	No
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/kg	5 : 10 : 12	50	1.30E+02	5.20E+03	1.91E+03	4.35E+04	1.19E-01	No
ETHYLBENZENE	100-41-4	ug/kg	1 : 9 : 9	11	3.20E+04	3.20E+04	7.08E+03	4.59E+05	6.98E-02	No
CHLOROFORM	67-66-3	ug/kg	1 : 9 : 12	11	1.00E+01	1.00E+01	3.93E+00	3.82E+04	2.62E-04	No
BENZO(A)PYRENE	50-32-8	ug/kg	9 : 11 : 12	82	1.20E+02	9.40E+04	1.39E+04	8.73E+08	1.08E-04	No
METHYLENE CHLORIDE	75-09-2	ug/kg	4 : 9 : 12	44	7.30E+00	1.00E+01	5.85E+00	2.38E+05	4.20E-05	No
							Cumulative Risk:		**9.99E-01**	

Table D-5
Cumulative Risk Screening
Using Part 201 Criteria Industrial Soil Volatilization to Indoor Air Inhalation Criteria (SVIIC)- Cancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial Cancer SVIIC (g)	Ratio (h)	Constituent of Interest?
RFIMW 07										
NAPHTHALENE	91-20-3	ug/kg	2 : 6 : 6	33	5.80E+02	9.65E+02	5.93E+02	3.34E+06	2.89E-04	No
ETHYLBENZENE	100-41-4	ug/kg	2 : 6 : 6	33	2.10E+01	2.60E+01	1.10E+01	4.59E+05	5.67E-05	No
METHYLENE CHLORIDE	75-09-2	ug/kg	1 : 3 : 6	33	4.25E+00	4.25E+00	4.78E+00	2.38E+05	1.79E-05	No
BENZO(A)PYRENE	50-32-8	ug/kg	2 : 6 : 6	33	2.00E+02	1.10E+03	5.64E+02	8.73E+08	1.26E-06	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/kg	2 : 2 : 6	100	2.38E+02	3.00E+02	2.69E+02	2.93E+13	1.02E-11	No
							Cumulative Risk:		**3.65E-04**	
RFIMW 08										
BENZO(A)PYRENE	50-32-8	ug/kg	2 : 10 : 10	20	5.00E+02	5.80E+02	2.95E+02	8.73E+08	6.64E-07	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/kg	3 : 7 : 10	43	1.30E+02	2.20E+02	1.86E+02	2.93E+13	7.50E-12	No
							Cumulative Risk:		**6.64E-07**	
RFIMW 24										
4,4'-DDE	72-55-9	ug/kg	1 : 2 : 2	50	2.20E+01	2.20E+01	1.21E+01	3.10E+08	7.10E-08	No
BENZO(A)PYRENE	50-32-8	ug/kg	1 : 1 : 2	100	4.70E+01	4.70E+01	4.70E+01	8.73E+08	5.38E-08	No
							Cumulative Risk:		**1.25E-07**	
RFIMW 25										
BENZO(A)PYRENE	50-32-8	ug/kg	2 : 2 : 2	100	3.10E+02	3.15E+02	3.13E+02	8.73E+08	3.61E-07	No
							Cumulative Risk:		**3.61E-07**	
RFIMW 26										
Total PCBs	Total PCBs	ug/kg	1 : 2 : 2	50	2.30E+03	2.30E+03	1.44E+03	2.86E+06	8.04E-04	No
NAPHTHALENE	91-20-3	ug/kg	1 : 1 : 2	100	1.50E+02	1.50E+02	1.50E+02	3.34E+06	4.50E-05	No
BENZO(A)PYRENE	50-32-8	ug/kg	1 : 2 : 2	50	5.70E+02	5.70E+02	3.83E+02	8.73E+08	6.53E-07	No
							Cumulative Risk:		**8.49E-04**	

Table D-5
Cumulative Risk Screening
Using Part 201 Criteria Industrial Soil Volatilization to Indoor Air Inhalation Criteria (SVIIC)- Cancer Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial Cancer SVIIC (g)	Ratio (h)	Constituent of Interest?
SWMU F										
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/kg	6 : 10 : 10	60	2.90E+02	2.80E+04	5.78E+03	4.35E+04	6.43E-01	No
BENZENE	71-43-2	ug/kg	1 : 9 : 10	11	2.00E+03	2.00E+03	7.86E+02	8.35E+03	2.40E-01	No
Total PCBs	Total PCBs	ug/kg	1 : 8 : 8	13	3.34E+03	3.34E+03	1.17E+03	2.86E+06	1.17E-03	No
NAPHTHALENE	91-20-3	ug/kg	4 : 6 : 10	67	9.90E+01	4.50E+02	2.57E+02	3.34E+06	1.35E-04	No
BENZO(A)PYRENE	50-32-8	ug/kg	3 : 6 : 10	50	1.20E+02	1.60E+03	5.16E+02	8.73E+08	1.83E-06	No
PENTACHLOROPHENOL	87-86-5	ug/kg	2 : 10 : 20	20	1.60E+01	6.40E+01	1.16E+01	1.46E+08	4.39E-07	No
4,4'-DDE	72-55-9	ug/kg	1 : 4 : 8	25	7.80E+00	7.80E+00	4.17E+00	3.10E+08	2.52E-08	No
							Cumulative Risk:		**8.84E-01**	
SWMU G										
Total PCBs	Total PCBs	ug/kg	5 : 10 : 10	50	5.12E+02	1.24E+03	5.58E+02	2.86E+06	4.34E-04	No
NAPHTHALENE	91-20-3	ug/kg	8 : 9 : 10	89	1.70E+02	8.10E+02	3.52E+02	3.34E+06	2.43E-04	No
PENTACHLOROPHENOL	87-86-5	ug/kg	3 : 10 : 20	30	3.90E+01	6.20E+02	1.29E+02	1.46E+08	4.25E-06	No
BENZO(A)PYRENE	50-32-8	ug/kg	9 : 10 : 10	90	3.10E+02	3.70E+03	8.10E+02	8.73E+08	4.24E-06	No
4,4'-DDT	50-29-3	ug/kg	1 : 10 : 10	10	1.55E+01	1.55E+01	9.75E+00	5.28E+08	2.94E-08	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/kg	1 : 1 : 10	100	4.10E+01	4.10E+01	4.10E+01	2.93E+13	1.40E-12	No
							Cumulative Risk:		**6.85E-04**	
SWMU H										
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/kg	8 : 11 : 11	73	1.30E+02	1.40E+06	1.42E+05	4.35E+04	3.22E+01	Yes
BIS(2-CHLOROETHYL) ETHER	111-44-4	ug/kg	2 : 10 : 11	20	8.20E+01	1.20E+04	1.66E+03	4.35E+04	2.76E-01	No
BENZENE	71-43-2	ug/kg	1 : 8 : 11	13	7.80E+02	7.80E+02	1.02E+02	8.35E+03	9.34E-02	No
NAPHTHALENE	91-20-3	ug/kg	3 : 10 : 11	30	9.30E+01	1.60E+04	2.05E+03	3.34E+06	4.80E-03	No
Total PCBs	Total PCBs	ug/kg	1 : 11 : 11	9	3.10E+03	3.10E+03	6.86E+02	2.86E+06	1.08E-03	No
ETHYLBENZENE	100-41-4	ug/kg	1 : 8 : 11	13	4.70E+02	4.70E+02	6.30E+01	4.59E+05	1.02E-03	No
BENZO(A)PYRENE	50-32-8	ug/kg	3 : 10 : 11	30	1.00E+02	3.10E+03	7.70E+02	8.73E+08	3.55E-06	No
PENTACHLOROPHENOL	87-86-5	ug/kg	4 : 11 : 22	36	1.00E+01	3.00E+02	5.24E+01	1.46E+08	2.06E-06	No
ALPHA-CHLORDANE	5103-71-9	ug/kg	1 : 11 : 11	9	4.00E+01	4.00E+01	6.55E+00	5.88E+07	6.80E-07	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/kg	2 : 10 : 11	20	1.90E+03	1.00E+04	1.64E+03	2.93E+13	3.41E-10	No
							Cumulative Risk:		**3.76E-01**	

Table D-5
Cumulative Risk Screening
Using Part 201 Criteria Industrial Soil Volatilization to Indoor Air Inhalation Criteria (SVIIC)- Cancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial Cancer SVIIC (g)	Ratio (h)	Constituent of Interest?

Notes:

CAS - Chemical Abstract Service.
(a) Only chemicals with at least one positively detected result are reported.
(b) Frequency of detection - Number of detected samples: Number of samples used to calculate statistics: Number of total samples.
(c) Percent of samples with detects out of samples used to calculate statistics.
(d) Minimum detected concentration for each chemical, after duplicates have been averaged.
(e) Maximum detected concentration for each chemical, after duplicates have been averaged.
(f) Arithmetic mean concentration for each chemical, after duplicates have been averaged and any non detected results with one-half the sample quantitation limit greater than the maximum detected concentration have been excluded.
(g) Industrial Soil Volatilization to Indoor Air Inhalation Criteria: Carcinogen (MDEQ, Dec. 2002).
(h) Ratio of the maximum detected concentration and the Part 201 criterion.

Table D-6
Cumulative Risk Screening
Using Part 201 Criteria Industrial Soil Volatilization to Indoor Air Inhalation Criteria (SVIIC)- NonCancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer SVIIC (g)	Ratio (h)	Constituent of Interest?
AOC 1										
ETHYLBENZENE	100-41-4	ug/kg	1 : 42 : 53	2	3.00E+02	3.00E+02	5.56E+01	2.13E+06	1.41E-04	No
TOLUENE	108-88-3	ug/kg	2 : 15 : 53	13	3.40E+01	3.40E+01	2.37E+01	6.09E+05	5.58E-05	No
XYLENES	1330-20-7	ug/kg	1 : 22 : 53	5	3.50E+01	3.50E+01	2.34E+01	2.72E+06	1.29E-05	No
							Cumulative Risk:		**2.09E-04**	
AOC 2										
MERCURY	7439-97-6	ug/kg	5 : 8 : 8	63	1.50E+02	1.71E+04	2.40E+03	8.90E+04	1.92E-01	No
NAPHTHALENE	91-20-3	ug/kg	4 : 8 : 8	50	4.75E+02	2.50E+03	6.69E+02	4.65E+05	5.37E-03	No
PHENANTHRENE	85-01-8	ug/kg	6 : 8 : 8	75	9.70E+01	1.20E+03	5.10E+02	5.08E+06	2.36E-04	No
TOLUENE	108-88-3	ug/kg	2 : 8 : 8	25	1.15E+01	4.30E+01	9.09E+00	6.09E+05	7.06E-05	No
ACENAPHTHYLENE	208-96-8	ug/kg	3 : 5 : 8	60	8.20E+01	1.90E+02	1.58E+02	2.98E+06	6.37E-05	No
Total XYLENES	Total Xylenes	ug/kg	1 : 8 : 8	13	3.11E+01	3.11E+01	9.21E+00	2.72E+06	1.14E-05	No
ETHYLBENZENE	100-41-4	ug/kg	1 : 8 : 8	13	4.90E+00	4.90E+00	3.28E+00	2.13E+06	2.30E-06	No
ACETOPHENONE	98-86-2	ug/kg	2 : 7 : 8	29	1.80E+02	2.90E+02	2.10E+02	2.14E+08	1.36E-06	No
ACETONE	67-64-1	ug/kg	2 : 8 : 8	25	3.00E+01	1.00E+02	3.91E+01	5.35E+08	1.87E-07	No
FLUORANTHENE	206-44-0	ug/kg	6 : 8 : 8	75	9.00E+01	2.70E+03	6.69E+02	3.29E+10	8.21E-08	No
PYRENE	129-00-0	ug/kg	6 : 8 : 8	75	8.70E+01	2.60E+03	6.34E+02	3.37E+10	7.72E-08	No
ANTHRACENE	120-12-7	ug/kg	5 : 8 : 8	63	5.20E+01	5.90E+02	2.07E+02	1.61E+10	3.65E-08	No
BENZO(GHI)PERYLENE	191-24-2	ug/kg	5 : 8 : 8	63	6.10E+01	6.20E+02	2.43E+02	3.27E+12	1.89E-10	No
							Cumulative Risk:		**1.98E-01**	

Table D-6
Cumulative Risk Screening
Using Part 201 Criteria Industrial Soil Volatilization to Indoor Air Inhalation Criteria (SVIIC)- NonCancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer SVIIC (g)	Ratio (h)	Constituent of Interest?
AOC 4										
NAPHTHALENE	91-20-3	ug/kg	2 : 2 : 2	100	6.00E+06	4.80E+07	2.70E+07	4.65E+05	1.03E+02	Yes
PHENANTHRENE	85-01-8	ug/kg	2 : 2 : 2	100	2.70E+06	2.30E+07	1.29E+07	5.08E+06	4.53E+00	Yes
ACENAPHTHYLENE	208-96-8	ug/kg	2 : 2 : 2	100	1.00E+06	9.30E+06	5.15E+06	2.98E+06	3.12E+00	Yes
TOLUENE	108-88-3	ug/kg	2 : 2 : 2	100	1.90E+05	5.90E+05	3.90E+05	6.09E+05	9.68E-01	Yes
Total XYLENES	Total Xylenes	ug/kg	2 : 2 : 2	100	2.55E+05	9.80E+05	6.18E+05	2.72E+06	3.61E-01	No
Total METHYLPHENOL	Total MethylPh	ug/kg	2 : 2 : 2	100	1.01E+06	9.90E+06	5.46E+06	3.04E+08	3.26E-02	No
STYRENE	100-42-5	ug/kg	2 : 2 : 2	100	9.60E+04	2.40E+05	1.68E+05	1.13E+07	2.11E-02	No
FLUORENE	86-73-7	ug/kg	2 : 2 : 2	100	1.20E+06	9.50E+06	5.35E+06	1.08E+09	8.82E-03	No
MERCURY	7439-97-6	ug/kg	2 : 2 : 2	100	1.30E+02	6.20E+02	3.75E+02	8.90E+04	6.97E-03	No
PHENOL	108-95-2	ug/kg	1 : 2 : 2	50	2.30E+06	2.30E+06	1.43E+06	3.26E+09	7.05E-04	No
ANTHRACENE	120-12-7	ug/kg	2 : 2 : 2	100	8.70E+05	7.10E+06	3.99E+06	1.61E+10	4.40E-04	No
FLUORANTHENE	206-44-0	ug/kg	2 : 2 : 2	100	1.60E+06	1.40E+07	7.80E+06	3.29E+10	4.26E-04	No
PYRENE	129-00-0	ug/kg	2 : 2 : 2	100	1.10E+06	9.90E+06	5.50E+06	3.37E+10	2.94E-04	No
BENZO(GHI)PERYLENE	191-24-2	ug/kg	1 : 2 : 2	50	1.50E+06	1.50E+06	1.03E+06	3.27E+12	4.58E-07	No
								Cumulative Risk:	**4.32E-01**	

Table D-6
Cumulative Risk Screening
Using Part 201 Criteria Industrial Soil Volatilization to Indoor Air Inhalation Criteria (SVIIC)- NonCancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer SVIIC (g)	Ratio (h)	Constituent of Interest?
AOC 6										
NAPHTHALENE	91-20-3	ug/kg	10 : 12 : 12	83	4.30E+01	2.70E+06	2.53E+05	4.65E+05	5.80E+00	Yes
PHENANTHRENE	85-01-8	ug/kg	9 : 12 : 12	75	5.20E+02	4.90E+05	6.33E+04	5.08E+06	9.65E-02	No
Total XYLENES	Total Xylenes	ug/kg	1 : 9 : 9	11	1.76E+05	1.76E+05	2.66E+04	2.72E+06	6.47E-02	No
MERCURY	7439-97-6	ug/kg	8 : 12 : 12	67	1.40E+02	3.30E+03	7.83E+02	8.90E+04	3.71E-02	No
ACENAPHTHYLENE	208-96-8	ug/kg	8 : 11 : 12	73	5.80E+01	6.00E+04	8.13E+03	2.98E+06	2.01E-02	No
ETHYLBENZENE	100-41-4	ug/kg	1 : 9 : 9	11	3.20E+04	3.20E+04	7.08E+03	2.13E+06	1.50E-02	No
1,2-DICHLOROPROPANE	78-87-5	ug/kg	2 : 9 : 12	22	5.20E+00	2.20E+01	5.51E+00	7.39E+03	2.98E-03	No
FLUORENE	86-73-7	ug/kg	10 : 12 : 12	83	5.40E+01	2.10E+05	3.70E+04	1.08E+09	1.95E-04	No
ACENAPHTHENE	83-32-9	ug/kg	3 : 10 : 12	30	5.50E+01	1.20E+04	2.49E+03	3.47E+08	3.45E-05	No
ACETOPHENONE	98-86-2	ug/kg	5 : 9 : 12	56	3.00E+02	5.20E+03	1.24E+03	2.14E+08	2.43E-05	No
FLUORANTHENE	206-44-0	ug/kg	9 : 12 : 12	75	1.20E+02	3.50E+05	5.24E+04	3.29E+10	1.06E-05	No
PYRENE	129-00-0	ug/kg	9 : 12 : 12	75	1.70E+02	2.80E+05	4.52E+04	3.37E+10	8.31E-06	No
ANTHRACENE	120-12-7	ug/kg	6 : 11 : 12	55	1.27E+02	1.20E+05	1.44E+04	1.61E+10	7.43E-06	No
TOLUENE	108-88-3	ug/kg	1 : 1 : 9	100	2.40E+00	2.40E+00	2.40E+00	6.09E+05	3.94E-06	No
Total METHYLPHENOL	Total MethylPh	ug/kg	1 : 4 : 11	25	9.70E+02	9.70E+02	7.30E+02	3.04E+08	3.19E-06	No
2,4-DIMETHYLPHENOL	105-67-9	ug/kg	1 : 1 : 12	100	1.70E+02	1.70E+02	1.70E+02	3.69E+08	4.60E-07	No
BENZO(GHI)PERYLENE	191-24-2	ug/kg	9 : 11 : 12	82	8.70E+01	3.10E+04	6.83E+03	3.27E+12	9.47E-09	No
								Cumulative Risk:	**2.37E-01**	
AOC 7A										
MERCURY	7439-97-6	ug/kg	11 . 14 : 14	79	1.30E+02	4.80E+03	1.27E+03	8.90E+04	5.39E-02	No
								Cumulative Risk:	**5.39E-02**	
AOC 7B										
MERCURY	7439-97-6	ug/kg	2 : 4 : 4	50	2.70E+02	5.70E+02	2.39E+02	8.90E+04	6.40E-03	No
								Cumulative Risk:	**6.40E-03**	
AOC 7C										
MERCURY	7439-97-6	ug/kg	2 : 4 : 4	50	1.60E+02	2.20E+03	6.25E+02	8.90E+04	2.47E-02	No
								Cumulative Risk:	**2.47E-02**	

Table D-6
Cumulative Risk Screening
Using Part 201 Criteria Industrial Soil Volatilization to Indoor Air Inhalation Criteria (SVIIC)- NonCancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer SVIIC (g)	Ratio (h)	Constituent of Interest?
RFIMW 07										
NAPHTHALENE	91-20-3	ug/kg	2 : 6 : 6	33	5.80E+02	9.65E+02	5 93E+02	4.65E+05	2.07E-03	No
PHENANTHRENE	85-01-8	ug/kg	2 : 6 : 6	33	1.10E+03	2.42E+03	9.22E+02	5.08E+06	4.77E-04	No
1,1,1-TRICHLOROETHANE	71-55-6	ug/kg	2 : 6 : 6	33	3.03E+00	3.70E+01	1.42E+01	4.64E+05	7.97E-05	No
Total XYLENES	Total Xylenes	ug/kg	3 : 6 : 6	50	1.04E+01	9.80E+01	3.11E+01	2.72E+06	3.61E-05	No
1,1-DICHLOROETHANE	75-34-3	ug/kg	1 : 5 : 6	20	1.20E+01	1.20E+01	6.20E+00	4.30E+05	2.79E-05	No
Total METHYLPHENOL	otal MethylPh	ug/kg	2 : 6 : 6	33	3.21E+03	4.30E+03	2.06E+03	3.04E+08	1.42E-05	No
TOLUENE	108-88-3	ug/kg	1 : 5 : 6	20	7.80E+00	7.80E+00	6.38E+00	6.09E+05	1.28E-05	No
ETHYLBENZENE	100-41-4	ug/kg	2 : 6 : 6	33	2.10E+01	2.60E+01	1.10E+01	2.13E+06	1.22E-05	No
PHENOL	108-95-2	ug/kg	2 : 6 : 6	33	7.40E+02	1.10E+04	2.23E+03	3.26E+09	3.37E-06	No
ACENAPHTHENE	83-32-9	ug/kg	1 : 4 : 6	25	3.70E+02	3.70E+02	3.06E+02	3.47E+08	1.06E-06	No
2,4-DIMETHYLPHENOL	105-67-9	ug/kg	1 : 1 : 6	100	1.70E+02	1.70E+02	1.70E+02	3.69E+08	4.60E-07	No
METHYL ETHYL KETONE	78-93-3	ug/kg	2 : 3 : 6	67	2.80E+01	3.40E+01	3.03E+01	9.92E+07	3.43E-07	No
ACETONE	67-64-1	ug/kg	5 : 6 : 6	83	3.60E+01	1.60E+02	7.91E+01	5.35E+08	2.99E-07	No
FLUORENE	86-73-7	ug/kg	1 : 3 : 6	33	2.83E+02	2.83E+02	3.14E+02	1.08E+09	2.62E-07	No
FLUORANTHENE	206-44-0	ug/kg	1 : 6 : 6	17	2.40E+03	2.40E+03	7.98E+02	3.29E+10	7.29E-08	No
PYRENE	129-00-0	ug/kg	1 : 6 : 6	17	2.15E+03	2.15E+03	7.56E+02	3.37E+10	6.37E-08	No
ANTHRACENE	120-12-7	ug/kg	1 : 5 : 6	20	4.78E+02	4.78E+02	4.14E+02	1.61E+10	2.96E-08	No
BENZO(GHI)PERYLENE	191-24-2	ug/kg	1 : 5 : 6	20	4.78E+02	4.78E+02	4.14E+02	3.27E+12	1.46E-10	No
								Cumulative Risk:	**2.74E-03**	

Table D-6
Cumulative Risk Screening
Using Part 201 Criteria Industrial Soil Volatilization to Indoor Air Inhalation Criteria (SVIIC)- NonCancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer SVIIC (g)	Ratio (h)	Constituent of Interest?
RFIMW 08										
PHENANTHRENE	85-01-8	ug/kg	3 : 10 : 10	30	6.10E+02	1.30E+03	4.20E+02	5.08E+06	2.56E-04	No
CARBON DISULFIDE	75-15-0	ug/kg	1 : 6 : 10	17	3.30E+00	3.30E+00	3.06E+00	1.41E+05	2.34E-05	No
TOLUENE	108-88-3	ug/kg	1 : 2 : 10	50	2.90E+00	2.90E+00	2.85E+00	6.09E+05	4.76E-06	No
METHYL ETHYL KETONE	78-93-3	ug/kg	5 : 5 : 10	100	7.70E+00	1.60E+01	1.27E+01	9.92E+07	1.61E-07	No
FLUORENE	86-73-7	ug/kg	1 : 1 : 10	100	1.50E+02	1.50E+02	1.50E+02	1.08E+09	1.39E-07	No
ACETONE	67-64-1	ug/kg	10 : 10 : 10	100	1.50E+01	5.20E+01	3.65E+01	5.35E+08	9.72E-08	No
FLUORANTHENE	206-44-0	ug/kg	3 : 10 : 10	30	2.60E+02	1.70E+03	4.22E+02	3.29E+10	5.17E-08	No
PYRENE	129-00-0	ug/kg	3 : 10 : 10	30	3.30E+02	1.40E+03	4.54E+02	3.37E+10	4.16E-08	No
ANTHRACENE	120-12-7	ug/kg	2 : 9 : 10	22	2.90E+02	3.00E+02	2.34E+02	1.61E+10	1.86E-08	No
BENZO(GHI)PERYLENE	191-24-2	ug/kg	1 : 6 : 10	17	2.30E+02	2.30E+02	2.09E+02	3.27E+12	7.03E-11	No
							Cumulative Risk:		**2.85E-04**	
RFIMW 24										
PHENANTHRENE	85-01-8	ug/kg	1 : 1 : 2	100	7.70E+01	7.70E+01	7.70E+01	5.08E+06	1.52E-05	No
FLUORANTHENE	206-44-0	ug/kg	1 : 1 : 2	100	1.20E+02	1.20E+02	1.20E+02	3.29E+10	3.65E-09	No
PYRENE	129-00-0	ug/kg	1 : 1 : 2	100	1.10E+02	1.10E+02	1.10E+02	3.37E+10	3.27E-09	No
BENZO(GHI)PERYLENE	191-24-2	ug/kg	1 : 1 : 2	100	5.40E+01	5.40E+01	5.40E+01	3.27E+12	1.65E-11	No
							Cumulative Risk:		**1.52E-05**	
RFIMW 25										
MERCURY	7439-97-6	ug/kg	1 : 2 : 2	50	1.60E+02	1.60E+02	1.10E+02	8.90E+04	1.80E-03	No
PHENANTHRENE	85-01-8	ug/kg	2 : 2 : 2	100	2.10E+02	5.65E+02	3.88E+02	5.08E+06	1.11E-04	No
ACENAPHTHENE	83-32-9	ug/kg	1 : 1 : 2	100	1.00E+02	1.00E+02	1.00E+02	3.47E+08	2.88E-07	No
FLUORANTHENE	206-44-0	ug/kg	2 : 2 : 2	100	6.40E+02	7.50E+02	6.95E+02	3.29E+10	2.28E-08	No
PYRENE	129-00-0	ug/kg	2 : 2 : 2	100	6.50E+02	6.50E+02	6.50E+02	3.37E+10	1.93E-08	No
ANTHRACENE	120-12-7	ug/kg	1 : 2 : 2	50	2.00E+02	2.00E+02	1.93E+02	1.61E+10	1.24E-08	No
BENZO(GHI)PERYLENE	191-24-2	ug/kg	2 : 2 : 2	100	2.35E+02	3.60E+02	2.98E+02	3.27E+12	1.10E-10	No
							Cumulative Risk:		**1.91E-03**	

Table D-6
Cumulative Risk Screening
Using Part 201 Criteria Industrial Soil Volatilization to Indoor Air Inhalation Criteria (SVIIC)- NonCancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer SVIIC (g)	Ratio (h)	Constituent of Interest?
RFIMW 26										
MERCURY	7439-97-6	ug/kg	1 : 2 : 2	50	2.70E+02	2.70E+02	1.65E+02	8.90E+04	3.03E-03	No
NAPHTHALENE	91-20-3	ug/kg	1 : 1 : 2	100	1.50E+02	1.50E+02	1.50E+02	4.65E+05	3.22E-04	No
PHENANTHRENE	85-01-8	ug/kg	1 : 2 : 2	50	4.00E+02	4.00E+02	2.98E+02	5.08E+06	7.88E-05	No
TOLUENE	108-88-3	ug/kg	1 : 2 : 2	50	3.00E+00	3.00E+00	2.98E+00	6.09E+05	4.92E-06	No
DIETHYL PHTHALATE	84-66-2	ug/kg	1 : 2 : 2	50	2.40E+02	2.40E+02	2.18E+02	1.05E+09	2.28E-07	No
FLUORANTHENE	206-44-0	ug/kg	2 : 2 : 2	100	6.80E+01	7.90E+02	4.29E+02	3.29E+10	2.40E-08	No
PYRENE	129-00-0	ug/kg	2 : 2 : 2	100	7.00E+01	7.80E+02	4.25E+02	3.37E+10	2.32E-08	No
ANTHRACENE	120-12-7	ug/kg	1 : 1 : 2	100	6.90E+01	6.90E+01	6.90E+01	1.61E+10	4.27E-09	No
BENZO(GHI)PERYLENE	191-24-2	ug/kg	1 : 2 : 2	50	3.60E+02	3.60E+02	2.78E+02	3.27E+12	1.10E-10	No
							Cumulative Risk:		**3.44E-03**	
RFIMW 27										
MERCURY	7439-97-6	ug/kg	1 : 2 : 2	50	5.20E+02	5.20E+02	2.93E+02	8.90E+04	5.84E-03	No
							Cumulative Risk:		**5.84E-03**	

Table D-6
Cumulative Risk Screening
Using Part 201 Criteria Industrial Soil Volatilization to Indoor Air Inhalation Criteria (SVIIC)- NonCancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer SVIIC (g)	Ratio (h)	Constituent of Interest?
SWMU F										
1,2-DICHLOROPROPANE	78-87-5	ug/kg	5 : 10 : 10	50	4.20E+00	7.00E+04	9.60E+03	7.39E+03	9.47E+00	Yes
MERCURY	7439-97-6	ug/kg	6 : 10 : 10	60	3.30E+02	2.11E+04	2.90E+03	8.90E+04	2.37E-01	No
TOLUENE	108-88-3	ug/kg	7 : 10 : 10	70	1.10E+01	1.10E+05	2.42E+04	6.09E+05	1.81E-01	No
PHENANTHRENE	85-01-8	ug/kg	4 : 7 : 10	57	2.00E+02	6.00E+03	1.59E+03	5.08E+06	1.18E-03	No
NAPHTHALENE	91-20-3	ug/kg	4 : 6 : 10	67	9.90E+01	4.50E+02	2.57E+02	4.65E+05	9.67E-04	No
ACETONE	67-64-1	ug/kg	9 : 10 : 10	90	1.90E+02	1.90E+05	4.53E+04	5.35E+08	3.55E-04	No
Total METHYLPHENOL	›tal MethylPl	ug/kg	4 : 10 : 10	40	6.85E+02	4.41E+04	1.33E+04	3.04E+08	1.45E-04	No
2,4-DIMETHYLPHENOL	105-67-9	ug/kg	1 : 10 : 10	10	2.20E+04	2.20E+04	5.14E+03	3.69E+08	5.96E-05	No
ACENAPHTHYLENE	208-96-8	ug/kg	1 : 1 : 10	100	6.80E+01	6.80E+01	6.80E+01	2.98E+06	2.28E-05	No
Total XYLENES	Total Xylene:	ug/kg	1 : 2 : 10	50	1.22E+01	1.22E+01	1.16E+01	2.72E+06	4.49E-06	No
PHENOL	108-95-2	ug/kg	2 : 7 : 10	29	1.90E+03	6.40E+03	1.71E+03	3.26E+09	1.96E-06	No
ACENAPHTHENE	83-32-9	ug/kg	1 : 5 : 10	20	4.40E+02	4.40E+02	2.94E+02	3.47E+08	1.27E-06	No
BENZYL ALCOHOL	100-51-6	ug/kg	1 : 10 : 10	10	2.10E+04	2.10E+04	4.39E+03	2.84E+10	7.40E-07	No
FLUORENE	86-73-7	ug/kg	2 : 5 : 10	40	1.70E+02	7.80E+02	3.50E+02	1.08E+09	7.24E-07	No
METHYL ETHYL KETONE	78-93-3	ug/kg	1 : 1 : 10	100	1.70E+01	1.70E+01	1.70E+01	9.92E+07	1.71E-07	No
FLUORANTHENE	206-44-0	ug/kg	5 : 7 : 10	71	6.30E+01	4.50E+03	1.42E+03	3.29E+10	1.37E-07	No
PYRENE	129-00-0	ug/kg	4 : 7 : 10	57	4.00E+02	3.40E+03	1.44E+03	3.37E+10	1.01E-07	No
ANTHRACENE	120-12-7	ug/kg	2 : 6 : 10	33	1.10E+02	1.30E+03	5.43E+02	1.61E+10	8.05E-08	No
PENTACHLOROPHENOL	87-86-5	ug/kg	2 : 10 : 20	20	1.60E+01	6.40E+01	1.16E+01	6.56E+09	9.75E-09	No
BUTYL BENZYL PHTHALATE	85-68-7	ug/kg	1 : 6 : 10	17	1.00E+03	1.00E+03	4.80E+02	1.10E+12	9.10E-10	No
BENZO(GHI)PERYLENE	191-24-2	ug/kg	3 : 6 : 10	50	5.90E+01	8.50E+02	4.04E+02	3.27E+12	2.60E-10	No
								Cumulative Risk:	**4.20E-01**	

Table D-6
Cumulative Risk Screening
Using Part 201 Criteria Industrial Soil Volatilization to Indoor Air Inhalation Criteria (SVIIC)- NonCancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer SVIIC (g)	Ratio (h)	Constituent of Interest?
SWMU G										
MERCURY	7439-97-6	ug/kg	8 : 10 : 10	80	1.40E+02	5.40E+03	7.69E+02	8.90E+04	6.07E-02	No
NAPHTHALENE	91-20-3	ug/kg	8 : 9 : 10	89	1.70E+02	8.10E+02	3.52E+02	4.65E+05	1.74E-03	No
ACENAPHTHYLENE	208-96-8	ug/kg	9 : 10 : 10	90	4.40E+01	1.80E+03	3.28E+02	2.98E+06	6.04E-04	No
PHENANTHRENE	85-01-8	ug/kg	10 : 10 : 10	100	8.70E+01	1.90E+03	8.07E+02	5.08E+06	3.74E-04	No
Total METHYLPHENOL	otal MethylPh	ug/kg	1 : 7 : 10	14	5.88E+02	5.88E+02	5.83E+02	3.04E+08	1.93E-06	No
FLUORENE	86-73-7	ug/kg	3 : 9 : 10	33	5.00E+01	2.50E+02	1.77E+02	1.08E+09	2.32E-07	No
PYRENE	129-00-0	ug/kg	10 : 10 : 10	100	8.20E+01	6.10E+03	1.22E+03	3.37E+10	1.81E-07	No
2,4-DIMETHYLPHENOL	105-67-9	ug/kg	1 : 1 : 10	100	5.70E+01	5.70E+01	5.70E+01	3.69E+08	1.54E-07	No
ACENAPHTHENE	83-32-9	ug/kg	2 : 2 : 10	100	3.80E+01	4.30E+01	4.05E+01	3.47E+08	1.24E-07	No
FLUORANTHENE	206-44-0	ug/kg	9 : 10 : 10	90	1.00E+02	3.80E+03	1.14E+03	3.29E+10	1.16E-07	No
DIETHYL PHTHALATE	84-66-2	ug/kg	1 : 1 : 10	100	1.00E+02	1.00E+02	1.00E+02	1.05E+09	9.49E-08	No
PENTACHLOROPHENOL	87-86-5	ug/kg	3 : 10 : 20	30	3.90E+01	6.20E+02	1.29E+02	6.56E+09	9.45E-08	No
ANTHRACENE	120-12-7	ug/kg	8 : 9 : 10	89	5.10E+01	7.00E+02	1.92E+02	1.61E+10	4.34E-08	No
BENZO(GHI)PERYLENE	191-24-2	ug/kg	9 : 10 : 10	90	1.40E+02	2.10E+03	4.73E+02	3.27E+12	6.42E-10	No
								Cumulative Risk:	**6.34E-02**	

Table D-6
Cumulative Risk Screening
Using Part 201 Criteria Industrial Soil Volatilization to Indoor Air Inhalation Criteria (SVIIC)- NonCancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer SVIIC (g)	Ratio (h)	Constituent of Interest?
SWMU H										
1,2-DICHLOROPROPANE	78-87-5	ug/kg	9 : 11 : 11	82	4.00E+00	5.00E+07	4.57E+06	7.39E+03	6.77E+03	Yes
MERCURY	7439-97-6	ug/kg	5 : 11 : 11	45	1.40E+02	5.29E+04	5.20E+03	8.90E+04	5.94E-01	No
NAPHTHALENE	91-20-3	ug/kg	3 : 10 : 11	30	9.30E+01	1.60E+04	2.05E+03	4.65E+05	3.44E-02	No
TOLUENE	108-88-3	ug/kg	2 : 10 : 11	20	1.30E+01	5.80E+03	1.06E+03	6.09E+05	9.52E-03	No
PHENANTHRENE	85-01-8	ug/kg	3 : 10 : 11	30	2.50E+02	2.00E+04	2.48E+03	5.08E+06	3.94E-03	No
CHLOROBENZENE	108-90-7	ug/kg	1 : 8 : 11	13	8.30E+02	8.30E+02	1.08E+02	2.17E+05	3.83E-03	No
Total XYLENES	Total Xylenes	ug/kg	1 : 8 : 11	13	2.07E+03	2.07E+03	2.67E+02	2.72E+06	7.62E-04	No
ETHYLBENZENE	100-41-4	ug/kg	1 : 8 : 11	13	4.70E+02	4.70E+02	6.30E+01	2.13E+06	2.20E-04	No
Total METHYLPHENOL	otal MethylPh	ug/kg	2 : 10 : 11	20	5.05E+02	1.89E+04	3.30E+03	3.04E+08	6.22E-05	No
1,2-DICHLOROBENZENE	95-50-1	ug/kg	1 : 8 : 11	13	6.80E+02	6.80E+02	8.93E+01	2.03E+07	3.35E-05	No
2,4-DIMETHYLPHENOL	105-67-9	ug/kg	1 : 10 : 11	10	8.30E+03	8.30E+03	1.30E+03	3.69E+08	2.25E-05	No
ACENAPHTHENE	83-32-9	ug/kg	1 : 10 : 11	10	6.70E+03	6.70E+03	1.14E+03	3.47E+08	1.93E-05	No
FLUORENE	86-73-7	ug/kg	1 : 10 : 11	10	5.40E+03	5.40E+03	1.01E+03	1.08E+09	5.01E-06	No
ACETONE	67-64-1	ug/kg	7 : 8 : 11	88	2.00E+01	1.60E+03	3.18E+02	5.35E+08	2.99E-06	No
ALPHA-CHLORDANE	5103-71-9	ug/kg	1 : 11 : 11	9	4.00E+01	4.00E+01	6.55E+00	6.18E+07	6.48E-07	No
FLUORANTHENE	206-44-0	ug/kg	3 : 10 : 11	30	2.20E+02	1.10E+04	1.58E+03	3.29E+10	3.35E-07	No
ANTHRACENE	120-12-7	ug/kg	2 : 10 : 11	20	7.40E+01	5.30E+03	9.87E+02	1.61E+10	3.28E-07	No
METHYL ETHYL KETONE	78-93-3	ug/kg	1 : 2 : 11	50	3.10E+01	3.10E+01	3.10E+01	9.92E+07	3.13E-07	No
PYRENE	129-00-0	ug/kg	3 : 10 : 11	30	2.50E+02	8.60E+03	1.35E+03	3.37E+10	2.55E-07	No
PHENOL	108-95-2	ug/kg	2 : 7 : 11	29	2.70E+02	2.70E+02	2.36E+02	3.26E+09	8.28E-08	No
PENTACHLOROPHENOL	87-86-5	ug/kg	4 : 11 : 22	36	1.00E+01	3.00E+02	5.24E+01	6.56E+09	4.57E-08	No
BENZO(GHI)PERYLENE	191-24-2	ug/kg	2 : 2 : 11	100	9.00E+01	1.80E+02	1.35E+02	3.27E+12	5.50E-11	No
								Cumulative Risk:	**6.47E-01**	

Table D-6
Cumulative Risk Screening
Using Part 201 Criteria Industrial Soil Volatilization to Indoor Air Inhalation Criteria (SVIIC)- NonCancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer SVIIC (g)	Ratio (h)	Constituent of Interest?

Notes:

CAS - Chemical Abstract Service.
(a) Only chemicals with at least one positively detected result are reported.
(b) Frequency of detection - Number of detected samples: Number of samples used to calculate statistics: Number of total samples.
(c) Percent of samples with detects out of samples used to calculate statistics.
(d) Minimum detected concentration for each chemical, after duplicates have been averaged.
(e) Maximum detected concentration for each chemical, after duplicates have been averaged.
(f) Arithmetic mean concentration for each chemical, after duplicates have been averaged and any non detected results with one-half the sample quantitation limit greater than the maximum detected concentration have been excluded.
(g) Industrial Soil Volatilization to Indoor Air Inhalation Criteria: NonCarcinogen (MDEQ, Dec. 2002).
(h) Ratio of the maximum detected concentration and the Part 201 criterion.

Table D-7
Cumulative Risk Screening
Using Part 201 Criteria Industrial Infinite Source Volatile Soil Inhalation Criteria for Ambient Air (VSIC)- Cancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial Cancer Inf. VSIC (g)	Ratio (h)	Constituent of Interest?
AOC 1										
BENZENE	71-43-2	ug/kg	1 : 43 : 52	2	3.80E+02	3.80E+02	6.65E+01	4.50E+04	8.44E-03	No
ETHYLBENZENE	100-41-4	ug/kg	1 : 42 : 53	2	3.00E+02	3.00E+02	5.56E+01	2.44E+06	1.23E-04	No
							Cumulative Risk:		**8.56E-03**	
AOC 2										
BENZO(A)PYRENE	50-32-8	ug/kg	5 : 8 : 8	63	8.50E+01	1.70E+03	4.29E+02	1.39E+06	1.23E-03	No
NAPHTHALENE	91-20-3	ug/kg	4 : 8 : 8	50	4.75E+02	2.50E+03	6.69E+02	2.54E+06	9.86E-04	No
BENZENE	71-43-2	ug/kg	1 : 8 : 8	13	2.70E+01	2.70E+01	6.04E+00	4.50E+04	6.00E-04	No
METHYLENE CHLORIDE	75-09-2	ug/kg	1 : 8 : 8	13	2.70E+01	2.70E+01	6.04E+00	6.99E+05	3.86E-05	No
ETHYLBENZENE	100-41-4	ug/kg	1 : 8 : 8	13	4.90E+00	4.90E+00	3.28E+00	2.44E+06	2.01E-06	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/kg	4 : 6 : 8	67	8.90E+01	2.38E+02	1.57E+02	5.07E+09	4.69E-08	No
							Cumulative Risk:		**2.85E-03**	
AOC 4										
NAPHTHALENE	91-20-3	ug/kg	2 : 2 : 2	100	6.00E+06	4.80E+07	2.70E+07	2.54E+06	1.89E+01	Yes
BENZENE	71-43-2	ug/kg	2 : 2 : 2	100	2.50E+05	6.80E+05	4.65E+05	4.50E+04	1.51E+01	Yes
BENZO(A)PYRENE	50-32-8	ug/kg	2 : 2 : 2	100	3.30E+05	4.10E+06	2.22E+06	1.39E+06	2.96E+00	Yes
STYRENE	100-42-5	ug/kg	2 : 2 : 2	100	9.60E+04	2.40E+05	1.68E+05	3.30E+06	7.27E-02	No
							Cumulative Risk:		**7.27E-02**	
AOC 6										
BENZENE	71-43-2	ug/kg	5 : 12 : 12	42	3.90E+00	1.40E+06	1.93E+05	4.50E+04	3.11E+01	Yes
NAPHTHALENE	91-20-3	ug/kg	10 : 12 : 12	83	4.30E+01	2.70E+06	2.53E+05	2.54E+06	1.06E+00	Yes
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/kg	5 : 10 : 12	50	1.30E+02	5.20E+03	1.91E+03	1.31E+04	3.98E-01	No
BENZO(A)PYRENE	50-32-8	ug/kg	9 : 11 : 12	82	1.20E+02	9.40E+04	1.39E+04	1.39E+06	6.78E-02	No
ETHYLBENZENE	100-41-4	ug/kg	1 : 9 : 9	11	3.20E+04	3.20E+04	7.08E+03	2.44E+06	1.31E-02	No
CHLOROFORM	67-66-3	ug/kg	1 : 9 : 12	11	1.00E+01	1.00E+01	3.93E+00	1.50E+05	6.67E-05	No
METHYLENE CHLORIDE	75-09-2	ug/kg	4 : 9 : 12	44	7.30E+00	1.00E+01	5.85E+00	6.99E+05	1.43E-05	No
							Cumulative Risk:		**4.79E-01**	

Table D-7
Cumulative Risk Screening
Using Part 201 Criteria Industrial Infinite Source Volatile Soil Inhalation Criteria for Ambient Air (VSIC)- Cancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial Cancer Inf. VSIC (g)	Ratio (h)	Constituent of Interest?
RFIMW 07										
BENZO(A)PYRENE	50-32-8	ug/kg	2 : 6 : 6	33	2.00E+02	1.10E+03	5.64E+02	1.39E+06	7.91E-04	No
NAPHTHALENE	91-20-3	ug/kg	2 : 6 : 6	33	5.80E+02	9.65E+02	5.93E+02	2.54E+06	3.81E-04	No
ETHYLBENZENE	100-41-4	ug/kg	2 : 6 : 6	33	2.10E+01	2.60E+01	1.10E+01	2.44E+06	1.07E-05	No
METHYLENE CHLORIDE	75-09-2	ug/kg	1 : 3 : 6	33	4.25E+00	4.25E+00	4.78E+00	6.99E+05	6.08E-06	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/kg	2 : 2 : 6	100	2.38E+02	3.00E+02	2.69E+02	5.07E+09	5.92E-08	No
							Cumulative Risk:		**1.19E-03**	
RFIMW 08										
BENZO(A)PYRENE	50-32-8	ug/kg	2 : 10 : 10	20	5.00E+02	5.80E+02	2.95E+02	1.39E+06	4.18E-04	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/kg	3 : 7 : 10	43	1.30E+02	2.20E+02	1.86E+02	5.07E+09	4.34E-08	No
							Cumulative Risk:		**4.18E-04**	
RFIMW 24										
BENZO(A)PYRENE	50-32-8	ug/kg	1 : 1 : 2	100	4.70E+01	4.70E+01	4.70E+01	1.39E+06	3.39E-05	No
4,4'-DDE	72-55-9	ug/kg	1 : 2 : 2	50	2.20E+01	2.20E+01	1.21E+01	8.59E+06	2.56E-06	No
							Cumulative Risk:		**3.64E-05**	
RFIMW 25										
BENZO(A)PYRENE	50-32-8	ug/kg	2 : 2 : 2	100	3.10E+02	3.15E+02	3.13E+02	1.39E+06	2.27E-04	No
							Cumulative Risk:		**2.27E-04**	
RFIMW 26										
Total PCBs	Total PCBs	ug/kg	1 : 2 : 2	50	2.30E+03	2.30E+03	1.44E+03	1.48E+05	1.55E-02	No
BENZO(A)PYRENE	50-32-8	ug/kg	1 : 2 : 2	50	5.70E+02	5.70E+02	3.83E+02	1.39E+06	4.11E-04	No
NAPHTHALENE	91-20-3	ug/kg	1 : 1 : 2	100	1.50E+02	1.50E+02	1.50E+02	2.54E+06	5.92E-05	No
							Cumulative Risk:		**1.60E-02**	

Table D-7
Cumulative Risk Screening
Using Part 201 Criteria Industrial Infinite Source Volatile Soil Inhalation Criteria for Ambient Air (VSIC)- Cancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial Cancer Inf. VSIC (g)	Ratio (h)	Constituent of Interest?
SWMU F										
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/kg	6 : 10 : 10	60	2.90E+02	2.80E+04	5.78E+03	1.31E+04	2.14E+00	Yes
BENZENE	71-43-2	ug/kg	1 : 9 : 10	11	2.00E+03	2.00E+03	7.86E+02	4.50E+04	4.44E-02	No
Total PCBs	Total PCBs	ug/kg	1 : 8 : 8	13	3.34E+03	3.34E+03	1.17E+03	1.48E+05	2.25E-02	No
BENZO(A)PYRENE	50-32-8	ug/kg	3 : 6 : 10	50	1.20E+02	1.60E+03	5.16E+02	1.39E+06	1.15E-03	No
NAPHTHALENE	91-20-3	ug/kg	4 : 6 : 10	67	9.90E+01	4.50E+02	2.57E+02	2.54E+06	1.77E-04	No
PENTACHLOROPHENOL	87-86-5	ug/kg	2 : 10 : 20	20	1.60E+01	6.40E+01	1.16E+01	3.90E+06	1.64E-05	No
4,4'-DDE	72-55-9	ug/kg	1 : 4 : 8	25	7.80E+00	7.80E+00	4.17E+00	8.59E+06	9.08E-07	No
							Cumulative Risk:		**6.83E-02**	
SWMU G										
Total PCBs	Total PCBs	ug/kg	5 : 10 : 10	50	5.12E+02	1.24E+03	5.58E+02	1.48E+05	8.38E-03	No
BENZO(A)PYRENE	50-32-8	ug/kg	9 : 10 : 10	90	3.10E+02	3.70E+03	8.10E+02	1.39E+06	2.67E-03	No
NAPHTHALENE	91-20-3	ug/kg	8 : 9 : 10	89	1.70E+02	8.10E+02	3.52E+02	2.54E+06	3.19E-04	No
PENTACHLOROPHENOL	87-86-5	ug/kg	3 : 10 : 20	30	3.90E+01	6.20E+02	1.29E+02	3.90E+06	1.59E-04	No
4,4'-DDT	50-29-3	ug/kg	1 : 10 : 10	10	1.55E+01	1.55E+01	9.75E+00	1.08E+07	1.44E-06	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/kg	1 : 1 : 10	100	4.10E+01	4.10E+01	4.10E+01	5.07E+09	8.09E-09	No
							Cumulative Risk:		**1.15E-02**	
SWMU H										
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/kg	8 : 11 : 11	73	1.30E+02	1.40E+06	1.42E+05	1.31E+04	1.07E+02	Yes
BIS(2-CHLOROETHYL) ETHER	111-44-4	ug/kg	2 : 10 : 11	20	8.20E+01	1.20E+04	1.66E+03	1.31E+04	9.19E-01	No
Total PCBs	Total PCBs	ug/kg	1 : 11 : 11	9	3.10E+03	3.10E+03	6.86E+02	1.48E+05	2.09E-02	No
BENZENE	71-43-2	ug/kg	1 : 8 : 11	13	7.80E+02	7.80E+02	1.02E+02	4.50E+04	1.73E-02	No
NAPHTHALENE	91-20-3	ug/kg	3 : 10 : 11	30	9.30E+01	1.60E+04	2.05E+03	2.54E+06	6.31E-03	No
BENZO(A)PYRENE	50-32-8	ug/kg	3 : 10 : 11	30	1.00E+02	3.10E+03	7.70E+02	1.39E+06	2.23E-03	No
ETHYLBENZENE	100-41-4	ug/kg	1 : 8 : 11	13	4.70E+02	4.70E+02	6.30E+01	2.44E+06	1.93E-04	No
PENTACHLOROPHENOL	87-86-5	ug/kg	4 : 11 : 22	36	1.00E+01	3.00E+02	5.24E+01	3.90E+06	7.68E-05	No
ALPHA-CHLORDANE	5103-71-9	ug/kg	1 : 11 : 11	9	4.00E+01	4.00E+01	6.55E+00	4.19E+06	9.55E-06	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/kg	2 : 10 : 11	20	1.90E+03	1.00E+04	1.64E+03	5.07E+09	1.97E-06	No
							Cumulative Risk:		**9.66E-01**	

Table D-7
Cumulative Risk Screening
Using Part 201 Criteria Industrial Infinite Source Volatile Soil Inhalation Criteria for Ambient Air (VSIC)- Cancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial Cancer Inf. VSIC (g)	Ratio (h)	Constituent of Interest?

Notes:

CAS - Chemical Abstract Service.
(a) Only chemicals with at least one positively detected result are reported.
(b) Frequency of detection - Number of detected samples: Number of samples used to calculate statistics: Number of total samples.
(c) Percent of samples with detects out of samples used to calculate statistics.
(d) Minimum detected concentration for each chemical, after duplicates have been averaged.
(e) Maximum detected concentration for each chemical, after duplicates have been averaged.
(f) Arithmetic mean concentration for each chemical, after duplicates have been averaged and any non detected results with one-half the sample quantitation limit greater than the maximum detected concentration have been excluded.
(g) Industrial Infinite Source Volatile Soil Inhalation Criteria for Ambient Air (VSIC): Carcinogen (MDEQ, Dec. 2002).
(h) Ratio of the maximum detected concentration and the Part 201 criterion.

Table D-8
Cumulative Risk Screening
Using Part 201 Criteria Industrial Infinite Source Volatile Soil Inhalation Criteria for Ambient Air (VSIC)- NonCancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer Inf. VSIC (g)	Ratio (h)	Constituent of Interest?
AOC 1										
ETHYLBENZENE	100-41-4	ug/kg	1 : 42 : 53	2	3.00E+02	3.00E+02	5.56E+01	1.13E+07	2.64E-05	No
TOLUENE	108-88-3	ug/kg	2 : 15 : 53	13	3.40E+01	3.40E+01	2.37E+01	3.30E+06	1.03E-05	No
XYLENES	1330-20-7	ug/kg	1 : 22 : 53	5	3.50E+01	3.50E+01	2.34E+01	5.40E+07	6.48E-07	No
								Cumulative Risk:	**3.74E-05**	
AOC 2										
MERCURY	7439-97-6	ug/kg	5 : 8 : 8	63	1.50E+02	1.71E+04	2.40E+03	6.20E+04	2.76E-01	No
NAPHTHALENE	91-20-3	ug/kg	4 : 8 : 8	50	4.75E+02	2.50E+03	6.69E+02	3.54E+05	7.07E-03	No
PHENANTHRENE	85-01-8	ug/kg	6 : 8 : 8	75	9.70E+01	1.20E+03	5.10E+02	1.86E+05	6.46E-03	No
ACENAPHTHYLENE	208-96-8	ug/kg	3 : 5 : 8	60	8.20E+01	1.90E+02	1.58E+02	2.65E+06	7.16E-05	No
TOLUENE	108-88-3	ug/kg	2 : 8 : 8	25	1.15E+01	4.30E+01	9.09E+00	3.30E+06	1.30E-05	No
ACETOPHENONE	98-86-2	ug/kg	2 : 7 : 8	29	1.80E+02	2.90E+02	2.10E+02	5.23E+07	5.54E-06	No
FLUORANTHENE	206-44-0	ug/kg	6 : 8 : 8	75	9.00E+01	2.70E+03	6.69E+02	8.88E+08	3.04E-06	No
ACETONE	67-64-1	ug/kg	2 : 8 : 8	25	3.00E+01	1.00E+02	3.91E+01	1.55E+08	6.44E-07	No
Total XYLENES	Total Xylenes	ug/kg	1 : 8 : 8	13	3.11E+01	3.11E+01	9.21E+00	5.40E+07	5.76E-07	No
BENZO(GHI)PERYLENE	191-24-2	ug/kg	5 : 8 : 8	63	6.10E+01	6.20E+02	2.43E+02	1.43E+09	4.33E-07	No
ETHYLBENZENE	100-41-4	ug/kg	1 : 8 : 8	13	4.90E+00	4.90E+00	3.28E+00	1.13E+07	4.32E-07	No
ANTHRACENE	120-12-7	ug/kg	5 : 8 : 8	63	5.20E+01	5.90E+02	2.07E+02	1.60E+09	3.69E-07	No
								Cumulative Risk:	**2.89E-01**	

Table D-8
Cumulative Risk Screening
Using Part 201 Criteria Industrial Infinite Source Volatile Soil Inhalation Criteria for Ambient Air (VSIC)- NonCancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer Inf. VSIC (g)	Ratio (h)	Constituent of Interest?
AOC 4										
NAPHTHALENE	91-20-3	ug/kg	2 : 2 : 2	100	6.00E+06	4.80E+07	2.70E+07	3.54E+05	1.36E+02	Yes
PHENANTHRENE	85-01-8	ug/kg	2 : 2 : 2	100	2.70E+06	2.30E+07	1.29E+07	1.86E+05	1.24E+02	Yes
ACENAPHTHYLENE	208-96-8	ug/kg	2 : 2 : 2	100	1.00E+06	9.30E+06	5.15E+06	2.65E+06	3.51E+00	Yes
Total METHYLPHENOL	otal MethylPh	ug/kg	2 : 2 : 2	100	1.01E+06	9.90E+06	5.46E+06	2.67E+07	3.70E-01	No
TOLUENE	108-88-3	ug/kg	2 : 2 : 2	100	1.90E+05	5.90E+05	3.90E+05	3.30E+06	1.79E-01	No
FLUORENE	86-73-7	ug/kg	2 : 2 : 2	100	1.20E+06	9.50E+06	5.35E+06	1.50E+08	6.33E-02	No
Total XYLENES	Total Xylenes	ug/kg	2 : 2 : 2	100	2.55E+05	9.80E+05	6.18E+05	5.40E+07	1.81E-02	No
FLUORANTHENE	206-44-0	ug/kg	2 : 2 : 2	100	1.60E+06	1.40E+07	7.80E+06	8.88E+08	1.58E-02	No
PHENOL	108-95-2	ug/kg	1 : 2 : 2	50	2.30E+06	2.30E+06	1.43E+06	1.66E+08	1.39E-02	No
MERCURY	7439-97-6	ug/kg	2 : 2 : 2	100	1.30E+02	6.20E+02	3.75E+02	6.20E+04	1.00E-02	No
STYRENE	100-42-5	ug/kg	2 : 2 : 2	100	9.60E+04	2.40E+05	1.68E+05	2.82E+07	8.50E-03	No
ANTHRACENE	120-12-7	ug/kg	2 : 2 : 2	100	8.70E+05	7.10E+06	3.99E+06	1.60E+09	4.44E-03	No
BENZO(GHI)PERYLENE	191-24-2	ug/kg	1 : 2 : 2	50	1.50E+06	1.50E+06	1.03E+06	1.43E+09	1.05E-03	No
								Cumulative Risk:	**6.84E-01**	

Table D-8
Cumulative Risk Screening
Using Part 201 Criteria Industrial Infinite Source Volatile Soil Inhalation Criteria for Ambient Air (VSIC)- NonCancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer Inf. VSIC (g)	Ratio (h)	Constituent of Interest?
AOC 6										
NAPHTHALENE	91-20-3	ug/kg	10 : 12 : 12	83	4.30E+01	2.70E+06	2.53E+05	3.54E+05	7.63E+00	Yes
PHENANTHRENE	85-01-8	ug/kg	9 : 12 : 12	75	5.20E+02	4.90E+05	6.33E+04	1.86E+05	2.64E+00	Yes
MERCURY	7439-97-6	ug/kg	8 : 12 : 12	67	1.40E+02	3.30E+03	7.83E+02	6.20E+04	5.32E-02	No
ACENAPHTHYLENE	208-96-8	ug/kg	8 : 11 : 12	73	5.80E+01	6.00E+04	8.13E+03	2.65E+06	2.26E-02	No
Total XYLENES	Total Xylenes	ug/kg	1 : 9 : 9	11	1.76E+05	1.76E+05	2.66E+04	5.40E+07	3.26E-03	No
ETHYLBENZENE	100-41-4	ug/kg	1 : 9 : 9	11	3.20E+04	3.20E+04	7.08E+03	1.13E+07	2.82E-03	No
FLUORENE	86-73-7	ug/kg	10 : 12 : 12	83	5.40E+01	2.10E+05	3.70E+04	1.50E+08	1.40E-03	No
1,2-DICHLOROPROPANE	78-87-5	ug/kg	2 : 9 : 12	22	5.20E+00	2.20E+01	5.51E+00	2.98E+04	7.39E-04	No
FLUORANTHENE	206-44-0	ug/kg	9 : 12 : 12	75	1.20E+02	3.50E+05	5.24E+04	8.88E+08	3.94E-04	No
ACENAPHTHENE	83-32-9	ug/kg	3 : 10 : 12	30	5.50E+01	1.20E+04	2.49E+03	9.70E+07	1.24E-04	No
ACETOPHENONE	98-86-2	ug/kg	5 : 9 : 12	56	3.00E+02	5.20E+03	1.24E+03	5.23E+07	9.94E-05	No
ANTHRACENE	120-12-7	ug/kg	6 : 11 : 12	55	1.27E+02	1.20E+05	1.44E+04	1.60E+09	7.50E-05	No
Total METHYLPHENOL	otal MethylPh	ug/kg	1 : 4 : 11	25	9.70E+02	9.70E+02	7.30E+02	2.67E+07	3.63E-05	No
BENZO(GHI)PERYLENE	191-24-2	ug/kg	9 : 11 : 12	82	8.70E+01	3.10E+04	6.83E+03	1.43E+09	2.17E-05	No
2,4-DIMETHYLPHENOL	105-67-9	ug/kg	1 : 1 : 12	100	1.70E+02	1.70E+02	1.70E+02	3.57E+07	4.76E-06	No
TOLUENE	108-88-3	ug/kg	1 : 1 : 9	100	2.40E+00	2.40E+00	2.40E+00	3.30E+06	7.27E-07	No
							Cumulative Risk:		**8.48E-02**	
AOC 7A										
MERCURY	7439-97-6	ug/kg	11 : 14 : 14	79	1.30E+02	4.80E+03	1.27E+03	6.20E+04	7.74E-02	No
							Cumulative Risk:		**7.74E-02**	
AOC 7B										
MERCURY	7439-97-6	ug/kg	2 : 4 : 4	50	2.70E+02	5.70E+02	2.39E+02	6.20E+04	9.19E-03	No
							Cumulative Risk:		**9.19E-03**	
AOC 7C										
MERCURY	7439-97-6	ug/kg	2 : 4 : 4	50	1.60E+02	2.20E+03	6.25E+02	6.20E+04	3.55E-02	No
							Cumulative Risk:		**3.55E-02**	

Table D-8
Cumulative Risk Screening
Using Part 201 Criteria Industrial Infinite Source Volatile Soil Inhalation Criteria for Ambient Air (VSIC)- NonCancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer Inf. VSIC (g)	Ratio (h)	Constituent of Interest?
RFIMW 07										
PHENANTHRENE	85-01-8	ug/kg	2 : 6 : 6	33	1.10E+03	2.42E+03	9.22E+02	1.86E+05	1.30E-02	No
NAPHTHALENE	91-20-3	ug/kg	2 : 6 : 6	33	5.80E+02	9.65E+02	5.93E+02	3.54E+05	2.73E-03	No
Total METHYLPHENOL	otal MethylPh	ug/kg	2 : 6 : 6	33	3.21E+03	4.30E+03	2.06E+03	2.67E+07	1.61E-04	No
PHENOL	108-95-2	ug/kg	2 : 6 : 6	33	7.40E+02	1.10E+04	2.23E+03	1.66E+08	6.62E-05	No
1,1,1-TRICHLOROETHANE	71-55-6	ug/kg	2 : 6 : 6	33	3.03E+00	3.70E+01	1.42E+01	4.48E+06	8.26E-06	No
1,1-DICHLOROETHANE	75-34-3	ug/kg	1 : 5 : 6	20	1.20E+01	1.20E+01	6.20E+00	2.46E+06	4.88E-06	No
2,4-DIMETHYLPHENOL	105-67-9	ug/kg	1 : 1 : 6	100	1.70E+02	1.70E+02	1.70E+02	3.57E+07	4.76E-06	No
ACENAPHTHENE	83-32-9	ug/kg	1 : 4 : 6	25	3.70E+02	3.70E+02	3.06E+02	9.70E+07	3.82E-06	No
FLUORANTHENE	206-44-0	ug/kg	1 : 6 : 6	17	2.40E+03	2.40E+03	7.98E+02	8.88E+08	2.70E-06	No
TOLUENE	108-88-3	ug/kg	1 : 5 : 6	20	7.80E+00	7.80E+00	6.38E+00	3.30E+06	2.36E-06	No
ETHYLBENZENE	100-41-4	ug/kg	2 : 6 : 6	33	2.10E+01	2.60E+01	1.10E+01	1.13E+07	2.29E-06	No
FLUORENE	86-73-7	ug/kg	1 : 3 : 6	33	2.83E+02	2.83E+02	3.14E+02	1.50E+08	1.88E-06	No
Total XYLENES	Total Xylenes	ug/kg	3 : 6 : 6	50	1.04E+01	9.80E+01	3.11E+01	5.40E+07	1.81E-06	No
ACETONE	67-64-1	ug/kg	5 : 6 : 6	83	3.60E+01	1.60E+02	7.91E+01	1.55E+08	1.03E-06	No
BENZO(GHI)PERYLENE	191-24-2	ug/kg	1 : 5 : 6	20	4.78E+02	4.78E+02	4.14E+02	1.43E+09	3.34E-07	No
ANTHRACENE	120-12-7	ug/kg	1 : 5 : 6	20	4.78E+02	4.78E+02	4.14E+02	1.60E+09	2.98E-07	No
								Cumulative Risk:	**1.60E-02**	
RFIMW 08										
PHENANTHRENE	85-01-8	ug/kg	3 : 10 : 10	30	6.10E+02	1.30E+03	4.20E+02	1.86E+05	7.00E-03	No
CARBON DISULFIDE	75-15-0	ug/kg	1 : 6 : 10	17	3.30E+00	3.30E+00	3.06E+00	1.58E+06	2.09E-06	No
FLUORANTHENE	206-44-0	ug/kg	3 : 10 : 10	30	2.60E+02	1.70E+03	4.22E+02	8.88E+08	1.91E-06	No
FLUORENE	86-73-7	ug/kg	1 : 1 : 10	100	1.50E+02	1.50E+02	1.50E+02	1.50E+08	1.00E-06	No
TOLUENE	108-88-3	ug/kg	1 : 2 : 10	50	2.90E+00	2.90E+00	2.85E+00	3.30E+06	8.79E-07	No
ACETONE	67-64-1	ug/kg	10 : 10 : 10	100	1.50E+01	5.20E+01	3.65E+01	1.55E+08	3.35E-07	No
ANTHRACENE	120-12-7	ug/kg	2 : 9 : 10	22	2.90E+02	3.00E+02	2.34E+02	1.60E+09	1.88E-07	No
BENZO(GHI)PERYLENE	191-24-2	ug/kg	1 : 6 : 10	17	2.30E+02	2.30E+02	2.09E+02	1.43E+09	1.61E-07	No
								Cumulative Risk:	**7.00E-03**	

Table D-8
Cumulative Risk Screening
Using Part 201 Criteria Industrial Infinite Source Volatile Soil Inhalation Criteria for Ambient Air (VSIC)- NonCancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer Inf. VSIC (g)	Ratio (h)	Constituent of Interest?
RFIMW 24										
PHENANTHRENE	85-01-8	ug/kg	1 : 1 : 2	100	7.70E+01	7.70E+01	7.70E+01	1.86E+05	4.14E-04	No
FLUORANTHENE	206-44-0	ug/kg	1 : 1 : 2	100	1.20E+02	1.20E+02	1.20E+02	8.88E+08	1.35E-07	No
BENZO(GHI)PERYLENE	191-24-2	ug/kg	1 : 1 : 2	100	5.40E+01	5.40E+01	5.40E+01	1.43E+09	3.77E-08	No
							Cumulative Risk:		**4.15E-04**	
RFIMW 25										
PHENANTHRENE	85-01-8	ug/kg	2 : 2 : 2	100	2.10E+02	5.65E+02	3.88E+02	1.86E+05	3.04E-03	No
MERCURY	7439-97-6	ug/kg	1 : 2 : 2	50	1.60E+02	1.60E+02	1.10E+02	6.20E+04	2.58E-03	No
ACENAPHTHENE	83-32-9	ug/kg	1 : 1 : 2	100	1.00E+02	1.00E+02	1.00E+02	9.70E+07	1.03E-06	No
FLUORANTHENE	206-44-0	ug/kg	2 : 2 : 2	100	6.40E+02	7.50E+02	6.95E+02	8.88E+08	8.44E-07	No
BENZO(GHI)PERYLENE	191-24-2	ug/kg	2 : 2 : 2	100	2.35E+02	3.60E+02	2.98E+02	1.43E+09	2.51E-07	No
ANTHRACENE	120-12-7	ug/kg	1 : 2 : 2	50	2.00E+02	2.00E+02	1.93E+02	1.60E+09	1.25E-07	No
							Cumulative Risk:		**5.62E-03**	
RFIMW 26										
MERCURY	7439-97-6	ug/kg	1 : 2 : 2	50	2.70E+02	2.70E+02	1.65E+02	6.20E+04	4.35E-03	No
PHENANTHRENE	85-01-8	ug/kg	1 : 2 : 2	50	4.00E+02	4.00E+02	2.98E+02	1.86E+05	2.15E-03	No
NAPHTHALENE	91-20-3	ug/kg	1 : 1 : 2	100	1.50E+02	1.50E+02	1.50E+02	3.54E+05	4.24E-04	No
DIETHYL PHTHALATE	84-66-2	ug/kg	1 : 2 : 2	50	2.40E+02	2.40E+02	2.18E+02	5.44E+07	4.41E-06	No
TOLUENE	108-88-3	ug/kg	1 : 2 : 2	50	3.00E+00	3.00E+00	2.98E+00	3.30E+06	9.09E-07	No
FLUORANTHENE	206-44-0	ug/kg	2 : 2 : 2	100	6.80E+01	7.90E+02	4.29E+02	8.88E+08	8.89E-07	No
BENZO(GHI)PERYLENE	191-24-2	ug/kg	1 : 2 : 2	50	3.60E+02	3.60E+02	2.78E+02	1.43E+09	2.51E-07	No
ANTHRACENE	120-12-7	ug/kg	1 : 1 : 2	100	6.90E+01	6.90E+01	6.90E+01	1.60E+09	4.31E-08	No
							Cumulative Risk:		**6.94E-03**	
RFIMW 27										
MERCURY	7439-97-6	ug/kg	1 : 2 : 2	50	5.20E+02	5.20E+02	2.93E+02	6.20E+04	8.39E-03	No
							Cumulative Risk:		**8.39E-03**	

Table D-8
Cumulative Risk Screening
Using Part 201 Criteria Industrial Infinite Source Volatile Soil Inhalation Criteria for Ambient Air (VSIC)- NonCancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer Inf. VSIC (g)	Ratio (h)	Constituent of Interest?
SWMU F										
1,2-DICHLOROPROPANE	78-87-5	ug/kg	5 : 10 : 10	50	4.20E+00	7.00E+04	9.60E+03	2.98E+04	2.35E+00	Yes
MERCURY	7439-97-6	ug/kg	6 : 10 : 10	60	3.30E+02	2.11E+04	2.90E+03	6.20E+04	3.40E-01	No
TOLUENE	108-88-3	ug/kg	7 : 10 : 10	70	1.10E+01	1.10E+05	2.42E+04	3.30E+06	3.33E-02	No
PHENANTHRENE	85-01-8	ug/kg	4 : 7 : 10	57	2.00E+02	6.00E+03	1.59E+03	1.86E+05	3.23E-02	No
Total METHYLPHENOL	otal MethylPh	ug/kg	4 : 10 : 10	40	6.85E+02	4.41E+04	1.33E+04	2.67E+07	1.65E-03	No
NAPHTHALENE	91-20-3	ug/kg	4 : 6 : 10	67	9.90E+01	4.50E+02	2.57E+02	3.54E+05	1.27E-03	No
ACETONE	67-64-1	ug/kg	9 : 10 : 10	90	1.90E+02	1.90E+05	4.53E+04	1.55E+08	1.22E-03	No
2,4-DIMETHYLPHENOL	105-67-9	ug/kg	1 : 10 : 10	10	2.20E+04	2.20E+04	5.14E+03	3.57E+07	6.16E-04	No
PHENOL	108-95-2	ug/kg	2 : 7 : 10	29	1.90E+03	6.40E+03	1.71E+03	1.66E+08	3.85E-05	No
ACENAPHTHYLENE	208-96-8	ug/kg	1 : 1 : 10	100	6.80E+01	6.80E+01	6.80E+01	2.65E+06	2.56E-05	No
FLUORENE	86-73-7	ug/kg	2 : 5 : 10	40	1.70E+02	7.80E+02	3.50E+02	1.50E+08	5.20E-06	No
FLUORANTHENE	206-44-0	ug/kg	5 : 7 : 10	71	6.30E+01	4.50E+03	1.42E+03	8.88E+08	5.06E-06	No
ACENAPHTHENE	83-32-9	ug/kg	1 : 5 : 10	20	4.40E+02	4.40E+02	2.94E+02	9.70E+07	4.54E-06	No
ANTHRACENE	120-12-7	ug/kg	2 : 6 : 10	33	1.10E+02	1.30E+03	5.43E+02	1.60E+09	8.12E-07	No
BENZO(GHI)PERYLENE	191-24-2	ug/kg	3 : 6 : 10	50	5.90E+01	8.50E+02	4.04E+02	1.43E+09	5.94E-07	No
PENTACHLOROPHENOL	87-86-5	ug/kg	2 : 10 : 20	20	1.60E+01	6.40E+01	1.16E+01	1.76E+08	3.64E-07	No
Total XYLENES	Total Xylenes	ug/kg	1 : 2 : 10	50	1.22E+01	1.22E+01	1.16E+01	5.40E+07	2.26E-07	No
BUTYL BENZYL PHTHALATE	85-68-7	ug/kg	1 : 6 : 10	17	1.00E+03	1.00E+03	4.80E+02	1.03E+10	9.67E-08	No
							Cumulative Risk:		4.11E-01	

Table D-8
Cumulative Risk Screening
Using Part 201 Criteria Industrial Infinite Source Volatile Soil Inhalation Criteria for Ambient Air (VSIC)- NonCancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer Inf. VSIC (g)	Ratio (h)	Constituent of Interest?
SWMU G										
MERCURY	7439-97-6	ug/kg	8 : 10 : 10	80	1.40E+02	5.40E+03	7.69E+02	6.20E+04	8.71E-02	No
PHENANTHRENE	85-01-8	ug/kg	10 : 10 : 10	100	8.70E+01	1.90E+03	8.07E+02	1.86E+05	1.02E-02	No
NAPHTHALENE	91-20-3	ug/kg	8 : 9 : 10	89	1.70E+02	8.10E+02	3.52E+02	3.54E+05	2.29E-03	No
ACENAPHTHYLENE	208-96-8	ug/kg	9 : 10 : 10	90	4.40E+01	1.80E+03	3.28E+02	2.65E+06	6.78E-04	No
Total METHYLPHENOL	)tal MethylPh	ug/kg	1 : 7 : 10	14	5.88E+02	5.88E+02	5.83E+02	2.67E+07	2.20E-05	No
FLUORANTHENE	206-44-0	ug/kg	9 : 10 : 10	90	1.00E+02	3.80E+03	1.14E+03	8.88E+08	4.28E-06	No
PENTACHLOROPHENOL	87-86-5	ug/kg	3 : 10 : 20	30	3.90E+01	6.20E+02	1.29E+02	1.76E+08	3.53E-06	No
DIETHYL PHTHALATE	84-66-2	ug/kg	1 : 1 : 10	100	1.00E+02	1.00E+02	1.00E+02	5.44E+07	1.84E-06	No
FLUORENE	86-73-7	ug/kg	3 : 9 : 10	33	5.00E+01	2.50E+02	1.77E+02	1.50E+08	1.67E-06	No
2,4-DIMETHYLPHENOL	105-67-9	ug/kg	1 : 1 : 10	100	5.70E+01	5.70E+01	5.70E+01	3.57E+07	1.60E-06	No
BENZO(GHI)PERYLENE	191-24-2	ug/kg	9 : 10 : 10	90	1.40E+02	2.10E+03	4.73E+02	1.43E+09	1.47E-06	No
ACENAPHTHENE	83-32-9	ug/kg	2 : 2 : 10	100	3.80E+01	4.30E+01	4.05E+01	9.70E+07	4.44E-07	No
ANTHRACENE	120-12-7	ug/kg	8 : 9 : 10	89	5.10E+01	7.00E+02	1.92E+02	1.60E+09	4.37E-07	No
								Cumulative Risk:	**1.00E-01**	

Table D-8
Cumulative Risk Screening
Using Part 201 Criteria Industrial Infinite Source Volatile Soil Inhalation Criteria for Ambient Air (VSIC)- NonCancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer Inf. VSIC (g)	Ratio (h)	Constituent of Interest?
SWMU H										
1,2-DICHLOROPROPANE	78-87-5	ug/kg	9 : 11 : 11	82	4.00E+00	5.00E+07	4.57E+06	2.98E+04	1.68E+03	Yes
MERCURY	7439-97-6	ug/kg	5 : 11 : 11	45	1.40E+02	5.29E+04	5.20E+03	6.20E+04	8.53E-01	Yes
PHENANTHRENE	85-01-8	ug/kg	3 : 10 : 11	30	2.50E+02	2.00E+04	2.48E+03	1.86E+05	1.08E-01	No
NAPHTHALENE	91-20-3	ug/kg	3 : 10 : 11	30	9.30E+01	1.60E+04	2.05E+03	3.54E+05	4.52E-02	No
TOLUENE	108-88-3	ug/kg	2 : 10 : 11	20	1.30E+01	5.80E+03	1.06E+03	3.30E+06	1.76E-03	No
CHLOROBENZENE	108-90-7	ug/kg	1 : 8 : 11	13	8.30E+02	8.30E+02	1.08E+02	9.21E+05	9.01E-04	No
Total METHYLPHENOL	otal MethylPh	ug/kg	2 : 10 : 11	20	5.05E+02	1.89E+04	3.30E+03	2.67E+07	7.07E-04	No
2,4-DIMETHYLPHENOL	105-67-9	ug/kg	1 : 10 : 11	10	8.30E+03	8.30E+03	1.30E+03	3.57E+07	2.32E-04	No
ACENAPHTHENE	83-32-9	ug/kg	1 : 10 : 11	10	6.70E+03	6.70E+03	1.14E+03	9.70E+07	6.91E-05	No
ETHYLBENZENE	100-41-4	ug/kg	1 : 8 : 11	13	4.70E+02	4.70E+02	6.30E+01	1.13E+07	4.14E-05	No
Total XYLENES	Total Xylenes	ug/kg	1 : 8 : 11	13	2.07E+03	2.07E+03	2.67E+02	5.40E+07	3.83E-05	No
FLUORENE	86-73-7	ug/kg	1 : 10 : 11	10	5.40E+03	5.40E+03	1.01E+03	1.50E+08	3.60E-05	No
1,2-DICHLOROBENZENE	95-50-1	ug/kg	1 : 8 : 11	13	6.80E+02	6.80E+02	8.93E+01	4.64E+07	1.47E-05	No
FLUORANTHENE	206-44-0	ug/kg	3 : 10 : 11	30	2.20E+02	1.10E+04	1.58E+03	8.88E+08	1.24E-05	No
ACETONE	67-64-1	ug/kg	7 : 8 : 11	88	2.00E+01	1.60E+03	3.18E+02	1.55E+08	1.03E-05	No
ALPHA-CHLORDANE	5103-71-9	ug/kg	1 : 11 : 11	9	4.00E+01	4.00E+01	6.55E+00	4.40E+06	9.10E-06	No
ANTHRACENE	120-12-7	ug/kg	2 : 10 : 11	20	7.40E+01	5.30E+03	9.87E+02	1.60E+09	3.31E-06	No
PENTACHLOROPHENOL	87-86-5	ug/kg	4 : 11 : 22	36	1.00E+01	3.00E+02	5.24E+01	1.76E+08	1.71E-06	No
PHENOL	108-95-2	ug/kg	2 : 7 : 11	29	2.70E+02	2.70E+02	2.36E+02	1.66E+08	1.63E-06	No
BENZO(GHI)PERYLENE	191-24-2	ug/kg	2 : 2 : 11	100	9.00E+01	1.80E+02	1.35E+02	1.43E+09	1.26E-07	No
							Cumulative Risk:		**1.57E-01**	

Table D-8
Cumulative Risk Screening
Using Part 201 Criteria Industrial Infinite Source Volatile Soil Inhalation Criteria for Ambient Air (VSIC)- NonCancer
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer Inf. VSIC (g)	Ratio (h)	Constituent of Interest?

Notes:

CAS - Chemical Abstract Service.
(a) Only chemicals with at least one positively detected result are reported.
(b) Frequency of detection - Number of detected samples: Number of samples used to calculate statistics: Number of total samples.
(c) Percent of samples with detects out of samples used to calculate statistics.
(d) Minimum detected concentration for each chemical, after duplicates have been averaged.
(e) Maximum detected concentration for each chemical, after duplicates have been averaged.
(f) Arithmetic mean concentration for each chemical, after duplicates have been averaged and any non detected results with one-half the sample quantitation limit greater than the maximum detected concentration have been excluded.
(g) Industrial Infinite Source Volatile Soil Inhalation Criteria for Ambient Air (VSIC): NonCarcinogen (MDEQ, Dec. 2002).
(h) Ratio of the maximum detected concentration and the Part 201 criterion.

Table D-9
Risk Screening
Using Part 201 Criteria Groundwater Surface Water Interface (GSI) Protection Criteria
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	GSI Protection (g)	Exceeds? (h)
AOC 1									
BENZENE	71-43-2	ug/kg	1 : 43 : 52	2	3.80E+02	3.80E+02	6.65E+01	2.40E+02	Yes
ETHYLBENZENE	100-41-4	ug/kg	1 : 42 : 53	2	3.00E+02	3.00E+02	5.56E+01	3.60E+02	No
TOLUENE	108-88-3	ug/kg	2 : 15 : 53	13	3.40E+01	3.40E+01	2.37E+01	2.80E+03	No
XYLENES	1330-20-7	ug/kg	1 : 22 : 53	5	3.50E+01	3.50E+01	2.34E+01	7.00E+02	No
AOC 2									
ACETONE	67-64-1	ug/kg	2 : 8 : 8	25	3.00E+01	1.00E+02	3.91E+01	3.40E+04	No
ARSENIC	7440-38-2	ug/kg	8 : 8 : 8	100	7.30E+02	4.11E+04	1.61E+04	2.30E+04	Yes
BARIUM	7440-39-3	ug/kg	8 : 8 : 8	100	4.50E+03	7.89E+04	4.37E+04	2.90E+05	No
BENZENE	71-43-2	ug/kg	1 : 8 : 8	13	2.70E+01	2.70E+01	6.04E+00	2.40E+02	No
CADMIUM	7440-43-9	ug/kg	8 : 8 : 8	100	1.40E+02	3.50E+03	7.44E+02	2.70E+03	Yes
CHROMIUM	7440-47-3	ug/kg	8 : 8 : 8	100	5.30E+03	1.01E+05	3.36E+04	3.30E+03	Yes
COPPER	7440-50-8	ug/kg	8 : 8 : 8	100	3.20E+03	2.44E+04	1.51E+04	5.20E+04	No
DIBENZOFURAN	132-64-9	ug/kg	4 : 8 : 8	50	1.40E+02	7.80E+02	2.66E+02	1.70E+03	No
ETHYLBENZENE	100-41-4	ug/kg	1 : 8 : 8	13	4.90E+00	4.90E+00	3.28E+00	3.60E+02	No
FLUORANTHENE	206-44-0	ug/kg	6 : 8 : 8	75	9.00E+01	2.70E+03	6.69E+02	5.50E+03	No
LEAD	7439-92-1	ug/kg	8 : 8 : 8	100	2.40E+03	9.01E+04	2.22E+04	1.80E+06	No
MERCURY	7439-97-6	ug/kg	5 : 8 : 8	63	1.50E+02	1.71E+04	2.40E+03	1.00E+02	Yes
METHYLENE CHLORIDE	75-09-2	ug/kg	1 : 8 : 8	13	2.70E+01	2.70E+01	6.04E+00	9.40E+02	No
NAPHTHALENE	91-20-3	ug/kg	4 : 8 : 8	50	4.75E+02	2.50E+03	6.69E+02	8.70E+02	Yes
NICKEL	7440-02-0	ug/kg	8 : 8 : 8	100	4.80E+03	1.33E+04	9.82E+03	5.40E+04	No
PHENANTHRENE	85-01-8	ug/kg	6 : 8 : 8	75	9.70E+01	1.20E+03	5.10E+02	5.30E+03	No
SELENIUM	7782-49-2	ug/kg	1 : 8 : 8	13	7.60E+02	7.60E+02	3.81E+02	4.00E+02	Yes
TOLUENE	108-88-3	ug/kg	2 : 8 : 8	25	1.15E+01	4.30E+01	9.09E+00	2.80E+03	No
TOTAL CYANIDE	57-12-5	ug/kg	6 : 8 : 8	75	7.65E+02	4.60E+04	1.04E+04	2.00E+02	Yes
Total XYLENES	Total Xylenes	ug/kg	1 : 8 : 8	13	3.11E+01	3.11E+01	9.21E+00	7.00E+02	No
VANADIUM	7440-62-2	ug/kg	7 : 8 : 8	88	1.02E+04	5.34E+04	1.74E+04	1.90E+05	No
ZINC	7440-66-6	ug/kg	8 : 8 : 8	100	1.85E+04	9.66E+05	1.80E+05	1.20E+05	Yes
AOC 4									
ARSENIC	7440-38-2	ug/kg	2 : 2 : 2	100	1.45E+04	2.05E+04	1.75E+04	2.30E+04	No
BARIUM	7440-39-3	ug/kg	2 : 2 : 2	100	1.25E+04	3.35E+04	2.30E+04	2.90E+05	No
BENZENE	71-43-2	ug/kg	2 : 2 : 2	100	2.50E+05	6.80E+05	4.65E+05	2.40E+02	Yes

Table D-9
Risk Screening
Using Part 201 Criteria Groundwater Surface Water Interface (GSI) Protection Criteria
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	GSI Protection (g)	Exceeds? (h)
CADMIUM	7440-43-9	ug/kg	2 : 2 : 2	100	1.40E+03	1.40E+03	1.40E+03	2.70E+03	No
CHROMIUM	7440-47-3	ug/kg	2 : 2 : 2	100	7.30E+02	1.20E+03	9.65E+02	3.30E+03	No
COPPER	7440-50-8	ug/kg	2 : 2 : 2	100	3.40E+03	3.70E+03	3.55E+03	5.20E+04	No
DIBENZOFURAN	132-64-9	ug/kg	2 : 2 : 2	100	7.40E+05	5.90E+06	3.32E+06	1.70E+03	Yes
FLUORANTHENE	206-44-0	ug/kg	2 : 2 : 2	100	1.60E+06	1.40E+07	7.80E+06	5.50E+03	Yes
FLUORENE	86-73-7	ug/kg	2 : 2 : 2	100	1.20E+06	9.50E+06	5.35E+06	5.30E+03	Yes
LEAD	7439-92-1	ug/kg	2 : 2 : 2	100	4.90E+04	8.28E+04	6.59E+04	1.80E+06	No
MERCURY	7439-97-6	ug/kg	2 : 2 : 2	100	1.30E+02	6.20E+02	3.75E+02	1.00E+02	Yes
NAPHTHALENE	91-20-3	ug/kg	2 : 2 : 2	100	6.00E+06	4.80E+07	2.70E+07	8.70E+02	Yes
PHENANTHRENE	85-01-8	ug/kg	2 : 2 : 2	100	2.70E+06	2.30E+07	1.29E+07	5.30E+03	Yes
PHENOL	108-95-2	ug/kg	1 : 2 : 2	50	2.30E+06	2.30E+06	1.43E+06	4.20E+03	Yes
SELENIUM	7782-49-2	ug/kg	2 : 2 : 2	100	2.60E+03	3.60E+03	3.10E+03	4.00E+02	Yes
STYRENE	100-42-5	ug/kg	2 : 2 : 2	100	9.60E+04	2.40E+05	1.68E+05	2.20E+03	Yes
THALLIUM	7440-28-0	ug/kg	2 : 2 : 2	100	7.20E+03	1.40E+04	1.06E+04	1.40E+03	Yes
TOLUENE	108-88-3	ug/kg	2 : 2 : 2	100	1.90E+05	5.90E+05	3.90E+05	2.80E+03	Yes
TOTAL CYANIDE	57-12-5	ug/kg	2 : 2 : 2	100	1.10E+04	1.90E+04	1.50E+04	2.00E+02	Yes
Total METHYLPHENOL	otal MethylPh	ug/kg	2 : 2 : 2	100	1.01E+06	9.90E+06	5.46E+06	1.40E+03	Yes
Total XYLENES	Total Xylenes	ug/kg	2 : 2 : 2	100	2.55E+05	9.80E+05	6.18E+05	7.00E+02	Yes
ZINC	7440-66-6	ug/kg	2 : 2 : 2	100	1.01E+05	1.14E+05	1.08E+05	1.20E+05	No
AOC 6									
1,2-DICHLOROPROPANE	78-87-5	ug/kg	2 : 9 : 12	22	5.20E+00	2.20E+01	5.51E+00	1.80E+02	No
2,4-DIMETHYLPHENOL	105-67-9	ug/kg	1 : 1 : 12	100	1.70E+02	1.70E+02	1.70E+02	7.60E+03	No
ACENAPHTHENE	83-32-9	ug/kg	3 : 10 : 12	30	5.50E+01	1.20E+04	2.49E+03	4.40E+03	Yes
ARSENIC	7440-38-2	ug/kg	12 : 12 : 12	100	3.90E+03	2.00E+05	3.88E+04	2.30E+04	Yes
BARIUM	7440-39-3	ug/kg	12 : 12 : 12	100	8.50E+03	1.87E+05	7.72E+04	2.90E+05	No
BENZENE	71-43-2	ug/kg	5 : 12 : 12	42	3.90E+00	1.40E+06	1.93E+05	2.40E+02	Yes
BERYLLIUM	7440-41-7	ug/kg	1 : 12 : 12	8	8.90E+02	8.90E+02	3.95E+02	3.00E+04	No
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/kg	5 : 10 : 12	50	1.30E+02	5.20E+03	1.91E+03	3.00E+02	Yes
CADMIUM	7440-43-9	ug/kg	9 : 12 : 12	75	1.40E+02	2.00E+03	5.23E+02	2.70E+03	No
CHLOROFORM	67-66-3	ug/kg	1 : 9 : 12	11	1.00E+01	1.00E+01	3.93E+00	1.50E+03	No
CHROMIUM	7440-47-3	ug/kg	12 : 12 : 12	100	2.50E+03	5.32E+04	1.29E+04	3.30E+03	Yes
COPPER	7440-50-8	ug/kg	12 : 12 : 12	100	7.40E+03	4.94E+04	2.55E+04	5.20E+04	No

Table D-9
Risk Screening
Using Part 201 Criteria Groundwater Surface Water Interface (GSI) Protection Criteria
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	GSI Protection (g)	Exceeds? (h)
DIBENZOFURAN	132-64-9	ug/kg	9 : 11 : 12	82	5.70E+01	9.90E+04	1.03E+04	1.70E+03	Yes
ETHYLBENZENE	100-41-4	ug/kg	1 : 9 : 9	11	3.20E+04	3.20E+04	7.08E+03	3.60E+02	Yes
FLUORANTHENE	206-44-0	ug/kg	9 : 12 : 12	75	1.20E+02	3.50E+05	5.24E+04	5.50E+03	Yes
FLUORENE	86-73-7	ug/kg	10 : 12 : 12	83	5.40E+01	2.10E+05	3.70E+04	5.30E+03	Yes
LEAD	7439-92-1	ug/kg	12 : 12 : 12	100	6.00E+03	3.08E+05	5.77E+04	1.80E+06	No
MERCURY	7439-97-6	ug/kg	8 : 12 : 12	67	1.40E+02	3.30E+03	7.83E+02	1.00E+02	Yes
METHYLENE CHLORIDE	75-09-2	ug/kg	4 : 9 : 12	44	7.30E+00	1.00E+01	5.85E+00	9.40E+02	No
NAPHTHALENE	91-20-3	ug/kg	10 : 12 : 12	83	4.30E+01	2.70E+06	2.53E+05	8.70E+02	Yes
NICKEL	7440-02-0	ug/kg	8 : 12 : 12	67	5.30E+03	3.39E+04	1.16E+04	5.40E+04	No
PHENANTHRENE	85-01-8	ug/kg	9 : 12 : 12	75	5.20E+02	4.90E+05	6.33E+04	5.30E+03	Yes
SELENIUM	7782-49-2	ug/kg	7 : 12 : 12	58	1.00E+03	2.30E+04	5.09E+03	4.00E+02	Yes
TOLUENE	108-88-3	ug/kg	1 : 1 : 9	100	2.40E+00	2.40E+00	2.40E+00	2.80E+03	No
TOTAL CYANIDE	57-12-5	ug/kg	8 : 12 : 12	67	2.70E+02	2.40E+03	7.76E+02	2.00E+02	Yes
Total METHYLPHENOL	otal MethylPl	ug/kg	1 : 4 : 11	25	9.70E+02	9.70E+02	7.30E+02	1.40E+03	No
Total XYLENES	Total Xylene:	ug/kg	1 : 9 : 9	11	1.76E+05	1.76E+05	2.66E+04	7.00E+02	Yes
VANADIUM	7440-62-2	ug/kg	9 : 12 : 12	75	7.30E+03	1.95E+04	1.05E+04	1.90E+05	No
ZINC	7440-66-6	ug/kg	12 : 12 : 12	100	1.03E+04	2.52E+05	6.55E+04	1.20E+05	Yes
AOC 7A									
ARSENIC	7440-38-2	ug/kg	14 : 14 : 14	100	2.50E+03	6.24E+04	1.77E+04	2.30E+04	Yes
BARIUM	7440-39-3	ug/kg	14 : 14 : 14	100	8.30E+03	1.48E+05	6.59E+04	2.90E+05	No
BERYLLIUM	7440-41-7	ug/kg	2 : 14 : 14	14	7.10E+02	9.30E+02	3.91E+02	3.00E+04	No
CADMIUM	7440-43-9	ug/kg	12 : 14 : 14	86	1.40E+02	7.50E+02	3.37E+02	2.70E+03	No
CHROMIUM	7440-47-3	ug/kg	14 : 14 : 14	100	7.30E+03	2.91E+04	1.61E+04	3.30E+03	Yes
COBALT	7440-48-4	ug/kg	2 : 14 : 14	14	4.80E+03	9.70E+03	3.77E+03	2.00E+03	Yes
COPPER	7440-50-8	ug/kg	14 : 14 : 14	100	2.70E+03	3.70E+04	2.13E+04	5.20E+04	No
LEAD	7439-92-1	ug/kg	14 : 14 : 14	100	2.80E+03	3.35E+05	7.15E+04	1.80E+06	No
MERCURY	7439-97-6	ug/kg	11 : 14 : 14	79	1.30E+02	4.80E+03	1.27E+03	1.00E+02	Yes
NICKEL	7440-02-0	ug/kg	13 : 14 : 14	93	8.10E+03	3.18E+04	1.44E+04	5.40E+04	No
SELENIUM	7782-49-2	ug/kg	4 : 14 : 14	29	6.33E+02	1.70E+03	5.83E+02	4.00E+02	Yes
SILVER	7440-22-4	ug/kg	1 : 14 : 14	7	1.00E+04	1.00E+04	1.31E+03	5.00E+02	Yes
TOTAL CYANIDE	57-12-5	ug/kg	15 : 19 : 19	79	3.20E+02	5.70E+03	1.66E+03	2.00E+02	Yes
VANADIUM	7440-62-2	ug/kg	14 : 14 : 14	100	1.10E+04	4.13E+04	2.25E+04	1.90E+05	No

Table D-9
Risk Screening
Using Part 201 Criteria Groundwater Surface Water Interface (GSI) Protection Criteria
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	GSI Protection (g)	Exceeds? (h)
ZINC	7440-66-6	ug/kg	14 : 14 : 14	100	1.26E+04	1.90E+05	6.66E+04	1.20E+05	Yes
AOC 7B									
ARSENIC	7440-38-2	ug/kg	4 : 4 : 4	100	1.70E+03	1.17E+04	7.45E+03	2.30E+04	No
BARIUM	7440-39-3	ug/kg	4 : 4 : 4	100	1.26E+04	1.08E+05	5.25E+04	2.90E+05	No
BERYLLIUM	7440-41-7	ug/kg	1 : 4 : 4	25	7.80E+02	7.80E+02	4.20E+02	3.00E+04	No
CADMIUM	7440-43-9	ug/kg	2 : 4 : 4	50	4.10E+02	5.10E+02	2.59E+02	2.70E+03	No
CHROMIUM	7440-47-3	ug/kg	4 : 4 : 4	100	6.40E+03	2.69E+04	1.31E+04	3.30E+03	Yes
COPPER	7440-50-8	ug/kg	3 : 4 : 4	75	1.24E+04	1.65E+04	1.16E+04	5.20E+04	No
LEAD	7439-92-1	ug/kg	4 : 4 : 4	100	3.40E+03	3.06E+04	1.53E+04	1.80E+06	No
MERCURY	7439-97-6	ug/kg	2 : 4 : 4	50	2.70E+02	5.70E+02	2.39E+02	1.00E+02	Yes
NICKEL	7440-02-0	ug/kg	4 : 4 : 4	100	6.40E+03	1.38E+04	1.06E+04	5.40E+04	No
VANADIUM	7440-62-2	ug/kg	4 : 4 : 4	100	1.01E+04	1.89E+04	1.42E+04	1.90E+05	No
ZINC	7440-66-6	ug/kg	4 : 4 : 4	100	1.46E+04	1.51E+05	6.45E+04	1.20E+05	Yes
AOC 7C									
ARSENIC	7440-38-2	ug/kg	4 : 4 : 4	100	1.92E+04	3.45E+04	2.67E+04	2.30E+04	Yes
BARIUM	7440-39-3	ug/kg	4 : 4 : 4	100	2.07E+04	1.47E+05	6.38E+04	2.90E+05	No
BERYLLIUM	7440-41-7	ug/kg	1 : 4 : 4	25	1.30E+03	1.30E+03	5.76E+02	3.00E+04	No
CADMIUM	7440-43-9	ug/kg	1 : 4 : 4	25	6.70E+02	6.70E+02	2.19E+02	2.70E+03	No
CHROMIUM	7440-47-3	ug/kg	4 : 4 : 4	100	6.00E+03	1.72E+04	9.13E+03	3.30E+03	Yes
COPPER	7440-50-8	ug/kg	4 : 4 : 4	100	2.00E+04	3.08E+04	2.36E+04	5.20E+04	No
LEAD	7439-92-1	ug/kg	4 : 4 : 4	100	7.30E+03	1.13E+05	4.14E+04	1.80E+06	No
MERCURY	7439-97-6	ug/kg	2 : 4 : 4	50	1.60E+02	2.20E+03	6.25E+02	1.00E+02	Yes
NICKEL	7440-02-0	ug/kg	4 : 4 : 4	100	1.01E+04	8.99E+04	3.36E+04	5.40E+04	Yes
SELENIUM	7782-49-2	ug/kg	4 : 4 : 4	100	2.00E+03	2.40E+03	2.23E+03	4.00E+02	Yes
VANADIUM	7440-62-2	ug/kg	4 : 4 : 4	100	1.19E+04	1.95E+04	1.58E+04	1.90E+05	No
ZINC	7440-66-6	ug/kg	4 : 4 : 4	100	1.83E+04	6.03E+05	1.72E+05	1.20E+05	Yes
RFIMW 07									
1,1,1-TRICHLOROETHANE	71-55-6	ug/kg	2 : 6 : 6	33	3.03E+00	3.70E+01	1.42E+01	4.00E+03	No
1,1-DICHLOROETHANE	75-34-3	ug/kg	1 : 5 : 6	20	1.20E+01	1.20E+01	6.20E+00	1.50E+04	No
2,4-DIMETHYLPHENOL	105-67-9	ug/kg	1 : 1 : 6	100	1.70E+02	1.70E+02	1.70E+02	7.60E+03	No
ACENAPHTHENE	83-32-9	ug/kg	1 : 4 : 6	25	3.70E+02	3.70E+02	3.06E+02	4.40E+03	No
ACETONE	67-64-1	ug/kg	5 : 6 : 6	83	3.60E+01	1.60E+02	7.91E+01	3.40E+04	No

Table D-9
Risk Screening
Using Part 201 Criteria Groundwater Surface Water Interface (GSI) Protection Criteria
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	GSI Protection (g)	Exceeds? (h)
DIBENZOFURAN	132-64-9	ug/kg	1 : 6 : 6	17	4.90E+02	4.90E+02	4.80E+02	1.70E+03	No
ETHYLBENZENE	100-41-4	ug/kg	2 : 6 : 6	33	2.10E+01	2.60E+01	1.10E+01	3.60E+02	No
FLUORANTHENE	206-44-0	ug/kg	1 : 6 : 6	17	2.40E+03	2.40E+03	7.98E+02	5.50E+03	No
FLUORENE	86-73-7	ug/kg	1 : 3 : 6	33	2.83E+02	2.83E+02	3.14E+02	5.30E+03	No
METHYL ETHYL KETONE	78-93-3	ug/kg	2 : 3 : 6	67	2.80E+01	3.40E+01	3.03E+01	4.40E+04	No
METHYLENE CHLORIDE	75-09-2	ug/kg	1 : 3 : 6	33	4.25E+00	4.25E+00	4.78E+00	9.40E+02	No
NAPHTHALENE	91-20-3	ug/kg	2 : 6 : 6	33	5.80E+02	9.65E+02	5.93E+02	8.70E+02	Yes
PHENANTHRENE	85-01-8	ug/kg	2 : 6 : 6	33	1.10E+03	2.42E+03	9.22E+02	5.30E+03	No
PHENOL	108-95-2	ug/kg	2 : 6 : 6	33	7.40E+02	1.10E+04	2.23E+03	4.20E+03	Yes
TOLUENE	108-88-3	ug/kg	1 : 5 : 6	20	7.80E+00	7.80E+00	6.38E+00	2.80E+03	No
Total METHYLPHENOL	otal MethylPh	ug/kg	2 : 6 : 6	33	3.21E+03	4.30E+03	2.06E+03	1.40E+03	Yes
Total XYLENES	Total Xylenes	ug/kg	3 : 6 : 6	50	1.04E+01	9.80E+01	3.11E+01	7.00E+02	No
RFIMW 08									
ACETONE	67-64-1	ug/kg	10 : 10 : 10	100	1.50E+01	5.20E+01	3.65E+01	3.40E+04	No
FLUORANTHENE	206-44-0	ug/kg	3 : 10 : 10	30	2.60E+02	1.70E+03	4.22E+02	5.50E+03	No
FLUORENE	86-73-7	ug/kg	1 : 1 : 10	100	1.50E+02	1.50E+02	1.50E+02	5.30E+03	No
METHYL ETHYL KETONE	78-93-3	ug/kg	5 : 5 : 10	100	7.70E+00	1.60E+01	1.27E+01	4.40E+04	No
PHENANTHRENE	85-01-8	ug/kg	3 : 10 : 10	30	6.10E+02	1.30E+03	4.20E+02	5.30E+03	No
TOLUENE	108-88-3	ug/kg	1 : 2 : 10	50	2.90E+00	2.90E+00	2.85E+00	2.80E+03	No
RFIMW 24									
ARSENIC	7440-38-2	ug/kg	2 : 2 : 2	100	1.40E+03	8.00E+03	4.70E+03	2.30E+04	No
BARIUM	7440-39-3	ug/kg	2 : 2 : 2	100	7.30E+03	9.70E+04	5.22E+04	2.90E+05	No
CADMIUM	7440-43-9	ug/kg	1 : 2 : 2	50	1.40E+03	1.40E+03	7.33E+02	2.70E+03	No
CHROMIUM	7440-47-3	ug/kg	2 : 2 : 2	100	8.50E+03	8.41E+05	4.25E+05	3.30E+03	Yes
COPPER	7440-50-8	ug/kg	2 : 2 : 2	100	3.30E+03	2.97E+04	1.65E+04	5.20E+04	No
FLUORANTHENE	206-44-0	ug/kg	1 : 1 : 2	100	1.20E+02	1.20E+02	1.20E+02	5.50E+03	No
LEAD	7439-92-1	ug/kg	2 : 2 : 2	100	2.70E+03	3.34E+04	1.81E+04	1.80E+06	No
NICKEL	7440-02-0	ug/kg	1 : 2 : 2	50	1.39E+04	1.39E+04	8.25E+03	5.40E+04	No
PHENANTHRENE	85-01-8	ug/kg	1 : 1 : 2	100	7.70E+01	7.70E+01	7.70E+01	5.30E+03	No
TOTAL CYANIDE	57-12-5	ug/kg	2 : 2 : 2	100	3.90E+02	2.70E+03	1.55E+03	2.00E+02	Yes
VANADIUM	7440-62-2	ug/kg	2 : 2 : 2	100	1.32E+04	2.22E+05	1.18E+05	1.90E+05	Yes
ZINC	7440-66-6	ug/kg	2 : 2 : 2	100	1.02E+04	1.16E+05	6.31E+04	1.20E+05	No

Table D-9
Risk Screening
Using Part 201 Criteria Groundwater Surface Water Interface (GSI) Protection Criteria
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	GSI Protection (g)	Exceeds? (h)
RFIMW 25									
ACENAPHTHENE	83-32-9	ug/kg	1 : 1 : 2	100	1.00E+02	1.00E+02	1.00E+02	4.40E+03	No
ARSENIC	7440-38-2	ug/kg	2 : 2 : 2	100	1.80E+03	6.00E+03	3.90E+03	2.30E+04	No
BARIUM	7440-39-3	ug/kg	2 : 2 : 2	100	1.23E+04	1.01E+05	5.67E+04	2.90E+05	No
CADMIUM	7440-43-9	ug/kg	1 : 2 : 2	50	2.80E+02	2.80E+02	1.70E+02	2.70E+03	No
CHROMIUM	7440-47-3	ug/kg	2 : 2 : 2	100	6.50E+03	9.00E+03	7.75E+03	3.30E+03	Yes
COPPER	7440-50-8	ug/kg	2 : 2 : 2	100	2.75E+03	8.10E+03	5.43E+03	5.20E+04	No
FLUORANTHENE	206-44-0	ug/kg	2 : 2 : 2	100	6.40E+02	7.50E+02	6.95E+02	5.50E+03	No
LEAD	7439-92-1	ug/kg	2 : 2 : 2	100	2.15E+03	1.28E+04	7.48E+03	1.80E+06	No
MERCURY	7439-97-6	ug/kg	1 : 2 : 2	50	1.60E+02	1.60E+02	1.10E+02	1.00E+02	Yes
NICKEL	7440-02-0	ug/kg	1 : 2 : 2	50	6.80E+03	6.80E+03	4.61E+03	5.40E+04	No
PHENANTHRENE	85-01-8	ug/kg	2 : 2 : 2	100	2.10E+02	5.65E+02	3.88E+02	5.30E+03	No
TOTAL CYANIDE	57-12-5	ug/kg	2 : 2 : 2	100	1.50E+03	1.90E+03	1.70E+03	2.00E+02	Yes
VANADIUM	7440-62-2	ug/kg	2 : 2 : 2	100	9.05E+03	1.21E+04	1.06E+04	1.90E+05	No
ZINC	7440-66-6	ug/kg	2 : 2 : 2	100	1.33E+04	4.00E+04	2.67E+04	1.20E+05	No
RFIMW 26									
ARSENIC	7440-38-2	ug/kg	2 : 2 : 2	100	5.10E+03	9.50E+03	7.30E+03	2.30E+04	No
BARIUM	7440-39-3	ug/kg	2 : 2 : 2	100	1.24E+04	3.35E+04	2.30E+04	2.90E+05	No
CADMIUM	7440-43-9	ug/kg	1 : 2 : 2	50	6.20E+02	6.20E+02	3.40E+02	2.70E+03	No
CHROMIUM	7440-47-3	ug/kg	2 : 2 : 2	100	4.50E+03	1.56E+04	1.01E+04	3.30E+03	Yes
COBALT	7440-48-4	ug/kg	1 : 2 : 2	50	6.10E+03	6.10E+03	4.53E+03	2.00E+03	Yes
COPPER	7440-50-8	ug/kg	2 : 2 : 2	100	3.40E+03	2.57E+04	1.46E+04	5.20E+04	No
DIBENZOFURAN	132-64-9	ug/kg	1 : 1 : 2	100	7.40E+01	7.40E+01	7.40E+01	1.70E+03	No
DIETHYL PHTHALATE	84-66-2	ug/kg	1 : 2 : 2	50	2.40E+02	2.40E+02	2.18E+02	2.20E+03	No
FLUORANTHENE	206-44-0	ug/kg	2 : 2 : 2	100	6.80E+01	7.90E+02	4.29E+02	5.50E+03	No
LEAD	7439-92-1	ug/kg	2 : 2 : 2	100	2.30E+03	3.20E+04	1.72E+04	1.80E+06	No
MERCURY	7439-97-6	ug/kg	1 : 2 : 2	50	2.70E+02	2.70E+02	1.65E+02	1.00E+02	Yes
NAPHTHALENE	91-20-3	ug/kg	1 : 1 : 2	100	1.50E+02	1.50E+02	1.50E+02	8.70E+02	No
NICKEL	7440-02-0	ug/kg	1 : 2 : 2	50	1.42E+04	1.42E+04	8.30E+03	5.40E+04	No
PHENANTHRENE	85-01-8	ug/kg	1 : 2 : 2	50	4.00E+02	4.00E+02	2.98E+02	5.30E+03	No
SELENIUM	7782-49-2	ug/kg	1 : 2 : 2	50	1.20E+03	1.20E+03	7.48E+02	4.00E+02	Yes
TOLUENE	108-88-3	ug/kg	1 : 2 : 2	50	3.00E+00	3.00E+00	2.98E+00	2.80E+03	No

Table D-9
Risk Screening
Using Part 201 Criteria Groundwater Surface Water Interface (GSI) Protection Criteria
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	GSI Protection (g)	Exceeds? (h)
TOTAL CYANIDE	57-12-5	ug/kg	1 : 2 : 2	50	3.70E+03	3.70E+03	1.93E+03	2.00E+02	Yes
VANADIUM	7440-62-2	ug/kg	2 : 2 : 2	100	5.90E+03	1.70E+04	1.15E+04	1.90E+05	No
ZINC	7440-66-6	ug/kg	2 : 2 : 2	100	9.60E+03	5.81E+04	3.39E+04	1.20E+05	No
RFIMW 27									
ARSENIC	7440-38-2	ug/kg	2 : 2 : 2	100	2.50E+03	7.40E+03	4.95E+03	2.30E+04	No
BARIUM	7440-39-3	ug/kg	2 : 2 : 2	100	1.81E+04	8.07E+04	4.94E+04	2.90E+05	No
CADMIUM	7440-43-9	ug/kg	1 : 2 : 2	50	2.90E+02	2.90E+02	1.78E+02	2.70E+03	No
CHROMIUM	7440-47-3	ug/kg	2 : 2 : 2	100	9.00E+03	9.70E+03	9.35E+03	3.30E+03	Yes
COPPER	7440-50-8	ug/kg	2 : 2 : 2	100	6.20E+03	1.24E+04	9.30E+03	5.20E+04	No
LEAD	7439-92-1	ug/kg	2 : 2 : 2	100	2.20E+03	3.10E+03	2.65E+03	1.80E+06	No
MERCURY	7439-97-6	ug/kg	1 : 2 : 2	50	5.20E+02	5.20E+02	2.93E+02	1.00E+02	Yes
NICKEL	7440-02-0	ug/kg	2 : 2 : 2	100	6.40E+03	1.28E+04	9.60E+03	5.40E+04	No
TOTAL CYANIDE	57-12-5	ug/kg	1 : 2 : 2	50	7.80E+02	7.80E+02	4.70E+02	2.00E+02	Yes
VANADIUM	7440-62-2	ug/kg	2 : 2 : 2	100	2.02E+04	2.35E+04	2.19E+04	1.90E+05	No
ZINC	7440-66-6	ug/kg	2 : 2 : 2	100	1.25E+04	1.34E+05	7.33E+04	1.20E+05	Yes
RFIMW 28									
ARSENIC	7440-38-2	ug/kg	2 : 2 : 2	100	1.80E+03	8.90E+03	5.35E+03	2.30E+04	No
BARIUM	7440-39-3	ug/kg	2 : 2 : 2	100	6.00E+03	1.79E+05	9.25E+04	2.90E+05	No
BERYLLIUM	7440-41-7	ug/kg	1 : 2 : 2	50	1.10E+03	1.10E+03	7.00E+02	3.00E+04	No
CHROMIUM	7440-47-3	ug/kg	2 : 2 : 2	100	5.40E+03	1.61E+04	1.08E+04	3.30E+03	Yes
COPPER	7440-50-8	ug/kg	2 : 2 : 2	100	6.90E+03	1.20E+04	9.45E+03	5.20E+04	No
LEAD	7439-92-1	ug/kg	2 : 2 : 2	100	1.10E+03	2.50E+03	1.80E+03	1.80E+06	No
NICKEL	7440-02-0	ug/kg	2 : 2 : 2	100	5.70E+03	1.48E+04	1.03E+04	5.40E+04	No
VANADIUM	7440-62-2	ug/kg	2 : 2 : 2	100	1.24E+04	2.79E+04	2.02E+04	1.90E+05	No
ZINC	7440-66-6	ug/kg	2 : 2 : 2	100	1.54E+04	1.17E+05	6.62E+04	1.20E+05	No
SWMU F									
1,2-DICHLOROPROPANE	78-87-5	ug/kg	5 : 10 : 10	50	4.20E+00	7.00E+04	9.60E+03	1.80E+02	Yes
2,4-DIMETHYLPHENOL	105-67-9	ug/kg	1 : 10 : 10	10	2.20E+04	2.20E+04	5.14E+03	7.60E+03	Yes
ACENAPHTHENE	83-32-9	ug/kg	1 : 5 : 10	20	4.40E+02	4.40E+02	2.94E+02	4.40E+03	No
ACETONE	67-64-1	ug/kg	9 : 10 : 10	90	1.90E+02	1.90E+05	4.53E+04	3.40E+04	Yes
ANTIMONY	7440-36-0	ug/kg	3 : 10 : 10	30	7.10E+02	1.60E+04	2.08E+03	1.40E+03	Yes
ARSENIC	7440-38-2	ug/kg	10 : 10 : 10	100	4.40E+03	6.39E+04	2.32E+04	2.30E+04	Yes

Table D-9
Risk Screening
Using Part 201 Criteria Groundwater Surface Water Interface (GSI) Protection Criteria
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	GSI Protection (g)	Exceeds? (h)
BARIUM	7440-39-3	ug/kg	10 : 10 : 10	100	1.88E+04	4.91E+05	1.06E+05	2.90E+05	Yes
BENZENE	71-43-2	ug/kg	1 : 9 : 10	11	2.00E+03	2.00E+03	7.86E+02	2.40E+02	Yes
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/kg	6 : 10 : 10	60	2.90E+02	2.80E+04	5.78E+03	3.00E+02	Yes
BUTYL BENZYL PHTHALATE	85-68-7	ug/kg	1 : 6 : 10	17	1.00E+03	1.00E+03	4.80E+02	1.30E+04	No
CADMIUM	7440-43-9	ug/kg	10 : 10 : 10	100	2.70E+02	7.30E+03	1.20E+03	2.70E+03	Yes
CHROMIUM	7440-47-3	ug/kg	10 : 10 : 10	100	6.40E+03	1.30E+05	2.38E+04	3.30E+03	Yes
COBALT	7440-48-4	ug/kg	1 : 10 : 10	10	4.05E+04	4.05E+04	8.12E+03	2.00E+03	Yes
COPPER	7440-50-8	ug/kg	10 : 10 : 10	100	1.05E+04	7.71E+06	7.93E+05	5.20E+04	Yes
DIBENZOFURAN	132-64-9	ug/kg	2 : 5 : 10	40	1.20E+02	3.70E+02	2.58E+02	1.70E+03	No
FLUORANTHENE	206-44-0	ug/kg	5 : 7 : 10	71	6.30E+01	4.50E+03	1.42E+03	5.50E+03	No
FLUORENE	86-73-7	ug/kg	2 : 5 : 10	40	1.70E+02	7.80E+02	3.50E+02	5.30E+03	No
LEAD	7439-92-1	ug/kg	10 : 10 : 10	100	1.50E+03	8.76E+05	1.09E+05	1.80E+06	No
MERCURY	7439-97-6	ug/kg	6 : 10 : 10	60	3.30E+02	2.11E+04	2.90E+03	1.00E+02	Yes
METHYL ETHYL KETONE	78-93-3	ug/kg	1 : 1 : 10	100	1.70E+01	1.70E+01	1.70E+01	4.40E+04	No
NAPHTHALENE	91-20-3	ug/kg	4 : 6 : 10	67	9.90E+01	4.50E+02	2.57E+02	8.70E+02	No
NICKEL	7440-02-0	ug/kg	9 : 10 : 10	90	6.40E+03	1.70E+05	2.82E+04	5.40E+04	Yes
PENTACHLOROPHENOL	87-86-5	ug/kg	2 : 10 : 20	20	1.60E+01	6.40E+01	1.16E+01	1.70E+04	No
PHENANTHRENE	85-01-8	ug/kg	4 : 7 : 10	57	2.00E+02	6.00E+03	1.59E+03	5.30E+03	Yes
PHENOL	108-95-2	ug/kg	2 : 7 : 10	29	1.90E+03	6.40E+03	1.71E+03	4.20E+03	Yes
SELENIUM	7782-49-2	ug/kg	5 : 10 : 10	50	1.20E+03	6.30E+03	1.62E+03	4.00E+02	Yes
SILVER	7440-22-4	ug/kg	1 : 10 : 10	10	1.05E+04	1.05E+04	1.86E+03	5.00E+02	Yes
TOLUENE	108-88-3	ug/kg	7 : 10 : 10	70	1.10E+01	1.10E+05	2.42E+04	2.80E+03	Yes
TOTAL CYANIDE	57-12-5	ug/kg	8 : 10 : 10	80	1.10E+03	5.10E+03	2.20E+03	2.00E+02	Yes
Total METHYLPHENOL	xtal MethylPh	ug/kg	4 : 10 : 10	40	6.85E+02	4.41E+04	1.33E+04	1.40E+03	Yes
Total XYLENES	Total Xylenes	ug/kg	1 : 2 : 10	50	1.22E+01	1.22E+01	1.16E+01	7.00E+02	No
VANADIUM	7440-62-2	ug/kg	9 : 10 : 10	90	9.30E+03	2.33E+04	1.60E+04	1.90E+05	No
ZINC	7440-66-6	ug/kg	9 : 10 : 10	90	3.47E+04	1.00E+06	1.63E+05	1.20E+05	Yes
SWMU G									
2,4-DIMETHYLPHENOL	105-67-9	ug/kg	1 : 1 : 10	100	5.70E+01	5.70E+01	5.70E+01	7.60E+03	No
ACENAPHTHENE	83-32-9	ug/kg	2 : 2 : 10	100	3.80E+01	4.30E+01	4.05E+01	4.40E+03	No
ANTIMONY	7440-36-0	ug/kg	1 : 10 : 10	10	2.60E+03	2.60E+03	6.17E+02	1.40E+03	Yes
ARSENIC	7440-38-2	ug/kg	10 : 10 : 10	100	4.80E+03	1.01E+05	2.67E+04	2.30E+04	Yes

Table D-9
Risk Screening
Using Part 201 Criteria Groundwater Surface Water Interface (GSI) Protection Criteria
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	GSI Protection (g)	Exceeds? (h)
BARIUM	7440-39-3	ug/kg	10 : 10 : 10	100	5.54E+04	1.66E+05	8.97E+04	2.90E+05	No
BERYLLIUM	7440-41-7	ug/kg	1 : 10 : 10	10	2.00E+03	2.00E+03	4.68E+02	3.00E+04	No
CADMIUM	7440-43-9	ug/kg	10 : 10 : 10	100	3.00E+02	2.30E+03	7.90E+02	2.70E+03	No
CHROMIUM	7440-47-3	ug/kg	10 : 10 : 10	100	4.80E+03	3.36E+04	1.55E+04	3.30E+03	Yes
COBALT	7440-48-4	ug/kg	1 : 10 : 10	10	1.01E+04	1.01E+04	3.68E+03	2.00E+03	Yes
COPPER	7440-50-8	ug/kg	10 : 10 : 10	100	1.53E+04	9.53E+04	3.39E+04	5.20E+04	Yes
DIBENZOFURAN	132-64-9	ug/kg	8 : 9 : 10	89	8.60E+01	4.30E+02	1.93E+02	1.70E+03	No
DIETHYL PHTHALATE	84-66-2	ug/kg	1 : 1 : 10	100	1.00E+02	1.00E+02	1.00E+02	2.20E+03	No
FLUORANTHENE	206-44-0	ug/kg	9 : 10 : 10	90	1.00E+02	3.80E+03	1.14E+03	5.50E+03	No
FLUORENE	86-73-7	ug/kg	3 : 9 : 10	33	5.00E+01	2.50E+02	1.77E+02	5.30E+03	No
LEAD	7439-92-1	ug/kg	10 : 10 : 10	100	1.10E+04	2.38E+05	7.33E+04	1.80E+06	No
MERCURY	7439-97-6	ug/kg	8 : 10 : 10	80	1.40E+02	5.40E+03	7.69E+02	1.00E+02	Yes
NAPHTHALENE	91-20-3	ug/kg	8 : 9 : 10	89	1.70E+02	8.10E+02	3.52E+02	8.70E+02	No
NICKEL	7440-02-0	ug/kg	10 : 10 : 10	100	7.60E+03	2.56E+04	1.34E+04	5.40E+04	No
PENTACHLOROPHENOL	87-86-5	ug/kg	3 : 10 : 20	30	3.90E+01	6.20E+02	1.29E+02	1.70E+04	No
PHENANTHRENE	85-01-8	ug/kg	10 : 10 : 10	100	8.70E+01	1.90E+03	8.07E+02	5.30E+03	No
SELENIUM	7782-49-2	ug/kg	1 : 10 : 10	10	4.40E+02	4.40E+02	3.14E+02	4.00E+02	Yes
TOTAL CYANIDE	57-12-5	ug/kg	1 : 10 : 10	10	6.60E+02	6.60E+02	1.99E+02	2.00E+02	Yes
Total METHYLPHENOL	otal MethylPl	ug/kg	1 : 7 : 10	14	5.88E+02	5.88E+02	5.83E+02	1.40E+03	No
VANADIUM	7440-62-2	ug/kg	10 : 10 : 10	100	7.20E+03	2.97E+04	1.30E+04	1.90E+05	No
ZINC	7440-66-6	ug/kg	10 : 10 : 10	100	3.52E+04	3.35E+05	1.09E+05	1.20E+05	Yes
SWMU H									
1,2-DICHLOROBENZENE	95-50-1	ug/kg	1 : 8 : 11	13	6.80E+02	6.80E+02	8.93E+01	3.60E+02	Yes
1,2-DICHLOROPROPANE	78-87-5	ug/kg	9 : 11 : 11	82	4.00E+00	5.00E+07	4.57E+06	1.80E+02	Yes
2,4-DIMETHYLPHENOL	105-67-9	ug/kg	1 : 10 : 11	10	8.30E+03	8.30E+03	1.30E+03	7.60E+03	Yes
ACENAPHTHENE	83-32-9	ug/kg	1 : 10 : 11	10	6.70E+03	6.70E+03	1.14E+03	4.40E+03	Yes
ACETONE	67-64-1	ug/kg	7 : 8 : 11	88	2.00E+01	1.60E+03	3.18E+02	3.40E+04	No
ANTIMONY	7440-36-0	ug/kg	4 : 11 : 11	36	8.20E+02	1.53E+04	1.90E+03	1.40E+03	Yes
ARSENIC	7440-38-2	ug/kg	11 : 11 : 11	100	1.90E+03	1.16E+05	2.28E+04	2.30E+04	Yes
BARIUM	7440-39-3	ug/kg	11 : 11 : 11	100	8.00E+03	2.23E+05	8.38E+04	2.90E+05	No
BENZENE	71-43-2	ug/kg	1 : 8 : 11	13	7.80E+02	7.80E+02	1.02E+02	2.40E+02	Yes
BERYLLIUM	7440-41-7	ug/kg	1 : 11 : 11	9	9.10E+02	9.10E+02	4.11E+02	3.00E+04	No

Table D-9
Risk Screening
Using Part 201 Criteria Groundwater Surface Water Interface (GSI) Protection Criteria
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	GSI Protection (g)	Exceeds? (h)
BIS(2-CHLOROETHYL) ETHER	111-44-4	ug/kg	2 : 10 : 11	20	8.20E+01	1.20E+04	1.66E+03	3.00E+02	Yes
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/kg	8 : 11 : 11	73	1.30E+02	1.40E+06	1.42E+05	3.00E+02	Yes
CADMIUM	7440-43-9	ug/kg	10 : 11 : 11	91	2.60E+02	4.20E+03	9.02E+02	2.70E+03	Yes
CHLOROBENZENE	108-90-7	ug/kg	1 : 8 : 11	13	8.30E+02	8.30E+02	1.08E+02	9.40E+02	No
CHROMIUM	7440-47-3	ug/kg	11 : 11 : 11	100	6.70E+03	1.95E+05	4.52E+04	3.30E+03	Yes
COBALT	7440-48-4	ug/kg	6 : 11 : 11	55	9.60E+03	1.37E+04	7.60E+03	2.00E+03	Yes
COPPER	7440-50-8	ug/kg	11 : 11 : 11	100	2.90E+03	2.21E+05	4.09E+04	5.20E+04	Yes
DIBENZOFURAN	132-64-9	ug/kg	2 : 10 : 11	20	5.30E+01	4.20E+03	8.78E+02	1.70E+03	Yes
ETHYLBENZENE	100-41-4	ug/kg	1 : 8 : 11	13	4.70E+02	4.70E+02	6.30E+01	3.60E+02	Yes
FLUORANTHENE	206-44-0	ug/kg	3 : 10 : 11	30	2.20E+02	1.10E+04	1.58E+03	5.50E+03	Yes
FLUORENE	86-73-7	ug/kg	1 : 10 : 11	10	5.40E+03	5.40E+03	1.01E+03	5.30E+03	Yes
LEAD	7439-92-1	ug/kg	11 : 11 : 11	100	2.70E+03	4.33E+05	5.96E+04	1.80E+06	No
MERCURY	7439-97-6	ug/kg	5 : 11 : 11	45	1.40E+02	5.29E+04	5.20E+03	1.00E+02	Yes
METHYL ETHYL KETONE	78-93-3	ug/kg	1 : 2 : 11	50	3.10E+01	3.10E+01	3.10E+01	4.40E+04	No
NAPHTHALENE	91-20-3	ug/kg	3 : 10 : 11	30	9.30E+01	1.60E+04	2.05E+03	8.70E+02	Yes
NICKEL	7440-02-0	ug/kg	11 : 11 : 11	100	5.70E+03	9.34E+04	3.04E+04	5.40E+04	Yes
PENTACHLOROPHENOL	87-86-5	ug/kg	4 : 11 : 22	36	1.00E+01	3.00E+02	5.24E+01	1.70E+04	No
PHENANTHRENE	85-01-8	ug/kg	3 : 10 : 11	30	2.50E+02	2.00E+04	2.48E+03	5.30E+03	Yes
PHENOL	108-95-2	ug/kg	2 : 7 : 11	29	2.70E+02	2.70E+02	2.36E+02	4.20E+03	No
SELENIUM	7782-49-2	ug/kg	2 : 11 : 11	18	1.10E+03	1.40E+03	5.14E+02	4.00E+02	Yes
SILVER	7440-22-4	ug/kg	1 : 11 : 11	9	2.17E+04	2.17E+04	2.62E+03	5.00E+02	Yes
TOLUENE	108-88-3	ug/kg	2 : 10 : 11	20	1.30E+01	5.80E+03	1.06E+03	2.80E+03	Yes
TOTAL CYANIDE	57-12-5	ug/kg	4 : 11 : 11	36	6.00E+02	1.60E+04	2.34E+03	2.00E+02	Yes
Total METHYLPHENOL	otal MethylPh	ug/kg	2 : 10 : 11	20	5.05E+02	1.89E+04	3.30E+03	1.40E+03	Yes
Total XYLENES	Total Xylenes	ug/kg	1 : 8 : 11	13	2.07E+03	2.07E+03	2.67E+02	7.00E+02	Yes
VANADIUM	7440-62-2	ug/kg	11 : 11 : 11	100	8.70E+03	5.09E+04	2.85E+04	1.90E+05	No
ZINC	7440-66-6	ug/kg	11 : 11 : 11	100	1.32E+04	6.28E+05	1.25E+05	1.20E+05	Yes

Table D-9
Risk Screening
Using Part 201 Criteria Groundwater Surface Water Interface (GSI) Protection Criteria
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	GSI Protection (g)	Exceeds? (h)

Notes:

CAS - Chemical Abstract Service.
(a) Only chemicals with at least one positively detected result are reported.
(b) Frequency of detection - Number of detected samples: Number of samples used to calculate statistics: Number of total samples.
(c) Percent of samples with detects out of samples used to calculate statistics.
(d) Minimum detected concentration for each chemical, after duplicates have been averaged.
(e) Maximum detected concentration for each chemical, after duplicates have been averaged.
(f) Arithmetic mean concentration for each chemical, after duplicates have been averaged and any non detected results with one-half the sample quantitation limit greater than the maximum detected concentration have been excluded.
(g) Groundwater Surface Water Interface (GSI) Protection Criteria (MDEQ, Dec. 2002). Only chemicals with Part 201 Groundwater Surface Water Interface (GSI) Protection Criteria reported.
(h) Chemicals where maximum detected concentration exceeds criterion.

Table D-10
Risk Screening
Using Part 201 Criteria Groundwater Contact Protection Criteria
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Groundwater Contact Protection (g)	Exceeds? (h)
AOC 1									
BENZENE	71-43-2	ug/kg	1 : 43 : 52	2	3.80E+02	3.80E+02	6.65E+01	2.20E+05	No
ETHYLBENZENE	100-41-4	ug/kg	1 : 42 : 53	2	3.00E+02	3.00E+02	5.56E+01	1.40E+05	No
TOLUENE	108-88-3	ug/kg	2 : 15 : 53	13	3.40E+01	3.40E+01	2.37E+01	2.50E+05	No
XYLENES	1330-20-7	ug/kg	1 : 22 : 53	5	3.50E+01	3.50E+01	2.34E+01	1.50E+05	No
AOC 2									
2-METHYLNAPHTHALENE	91-57-6	ug/kg	4 : 8 : 8	50	2.45E+02	3.40E+03	6.97E+02	5.50E+06	No
ACENAPHTHYLENE	208-96-8	ug/kg	3 : 5 : 8	60	8.20E+01	1.90E+02	1.58E+02	4.40E+05	No
ACETONE	67-64-1	ug/kg	2 : 8 : 8	25	3.00E+01	1.00E+02	3.91E+01	1.10E+08	No
ACETOPHENONE	98-86-2	ug/kg	2 : 7 : 8	29	1.80E+02	2.90E+02	2.10E+02	1.10E+06	No
ANTHRACENE	120-12-7	ug/kg	5 : 8 : 8	63	5.20E+01	5.90E+02	2.07E+02	4.10E+04	No
ARSENIC	7440-38-2	ug/kg	8 : 8 : 8	100	7.30E+02	4.11E+04	1.81E+04	2.00E+06	No
BARIUM	7440-39-3	ug/kg	8 : 8 : 8	100	4.50E+03	7.89E+04	4.37E+04	1.00E+09	No
BENZENE	71-43-2	ug/kg	1 : 8 : 8	13	2.70E+01	2.70E+01	6.04E+00	2.20E+05	No
CADMIUM	7440-43-9	ug/kg	8 : 8 : 8	100	1.40E+02	3.50E+03	7.44E+02	2.30E+08	No
CHROMIUM	7440-47-3	ug/kg	8 : 8 : 8	100	5.30E+03	1.01E+05	3.36E+04	1.40E+08	No
COPPER	7440-50-8	ug/kg	8 : 8 : 8	100	3.20E+03	2.44E+04	1.51E+04	1.00E+09	No
ETHYLBENZENE	100-41-4	ug/kg	1 : 8 : 8	13	4.90E+00	4.90E+00	3.28E+00	1.40E+05	No
FLUORANTHENE	206-44-0	ug/kg	6 : 8 : 8	75	9.00E+01	2.70E+03	6.69E+02	7.30E+05	No
MERCURY	7439-97-6	ug/kg	5 : 8 : 8	63	1.50E+02	1.71E+04	2.40E+03	4.70E+04	No
METHYLENE CHLORIDE	75-09-2	ug/kg	1 : 8 : 8	13	2.70E+01	2.70E+01	6.04E+00	2.30E+06	No
NAPHTHALENE	91-20-3	ug/kg	4 : 8 : 8	50	4.75E+02	2.50E+03	6.69E+02	2.10E+06	No
NICKEL	7440-02-0	ug/kg	8 : 8 : 8	100	4.80E+03	1.33E+04	9.82E+03	1.00E+09	No
PHENANTHRENE	85-01-8	ug/kg	6 : 8 : 8	75	9.70E+01	1.20E+03	5.10E+02	1.10E+06	No
PYRENE	129-00-0	ug/kg	6 : 8 : 8	75	8.70E+01	2.60E+03	6.34E+02	4.80E+05	No
SELENIUM	7782-49-2	ug/kg	1 : 8 : 8	13	7.60E+02	7.60E+02	3.81E+02	7.80E+07	No
TOLUENE	108-88-3	ug/kg	2 : 8 : 8	25	1.15E+01	4.30E+01	9.09E+00	2.50E+05	No
TOTAL CYANIDE	57-12-5	ug/kg	6 : 8 : 8	75	7.65E+02	4.60E+04	1.04E+04	2.50E+05	No
Total XYLENES	Total Xylenes	ug/kg	1 : 8 : 8	13	3.11E+01	3.11E+01	9.21E+00	1.50E+05	No
VANADIUM	7440-62-2	ug/kg	7 : 8 : 8	88	1.02E+04	5.34E+04	1.74E+04	1.00E+09	No
ZINC	7440-66-6	ug/kg	8 : 8 : 8	100	1.85E+04	9.66E+05	1.80E+05	1.00E+09	No

Table D-10
Risk Screening
Using Part 201 Criteria Groundwater Contact Protection Criteria
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Groundwater Contact Protection (g)	Exceeds? (h)
AOC 4									
2-METHYLNAPHTHALENE	91-57-6	ug/kg	2 : 2 : 2	100	9.40E+05	9.00E+06	4.97E+06	5.50E+06	Yes
ACENAPHTHYLENE	208-96-8	ug/kg	2 : 2 : 2	100	1.00E+06	9.30E+06	5.15E+06	4.40E+05	Yes
ANTHRACENE	120-12-7	ug/kg	2 : 2 : 2	100	8.70E+05	7.10E+06	3.99E+06	4.10E+04	Yes
ARSENIC	7440-38-2	ug/kg	2 : 2 : 2	100	1.45E+04	2.05E+04	1.75E+04	2.00E+06	No
BARIUM	7440-39-3	ug/kg	2 : 2 : 2	100	1.25E+04	3.35E+04	2.30E+04	1.00E+09	No
BENZENE	71-43-2	ug/kg	2 : 2 : 2	100	2.50E+05	6.80E+05	4.65E+05	2.20E+05	Yes
CADMIUM	7440-43-9	ug/kg	2 : 2 : 2	100	1.40E+03	1.40E+03	1.40E+03	2.30E+08	No
CHROMIUM	7440-47-3	ug/kg	2 : 2 : 2	100	7.30E+02	1.20E+03	9.65E+02	1.40E+08	No
COPPER	7440-50-8	ug/kg	2 : 2 : 2	100	3.40E+03	3.70E+03	3.55E+03	1.00E+09	No
FLUORANTHENE	206-44-0	ug/kg	2 : 2 : 2	100	1.60E+06	1.40E+07	7.80E+06	7.30E+05	Yes
FLUORENE	86-73-7	ug/kg	2 : 2 : 2	100	1.20E+06	9.50E+06	5.35E+06	8.90E+05	Yes
MERCURY	7439-97-6	ug/kg	2 : 2 : 2	100	1.30E+02	6.20E+02	3.75E+02	4.70E+04	No
NAPHTHALENE	91-20-3	ug/kg	2 : 2 : 2	100	6.00E+06	4.80E+07	2.70E+07	2.10E+06	Yes
PHENANTHRENE	85-01-8	ug/kg	2 : 2 : 2	100	2.70E+06	2.30E+07	1.29E+07	1.10E+06	Yes
PHENOL	108-95-2	ug/kg	1 : 2 : 2	50	2.30E+06	2.30E+06	1.43E+06	1.20E+07	No
PYRENE	129-00-0	ug/kg	2 : 2 : 2	100	1.10E+06	9.90E+06	5.50E+06	4.80E+05	Yes
SELENIUM	7782-49-2	ug/kg	2 : 2 : 2	100	2.60E+03	3.60E+03	3.10E+03	7.80E+07	No
STYRENE	100-42-5	ug/kg	2 : 2 : 2	100	9.60E+04	2.40E+05	1.68E+05	2.70E+05	No
THALLIUM	7440-28-0	ug/kg	2 : 2 : 2	100	7.20E+03	1.40E+04	1.06E+04	1.50E+07	No
TOLUENE	108-88-3	ug/kg	2 : 2 : 2	100	1.90E+05	5.90E+05	3.90E+05	2.50E+05	Yes
TOTAL CYANIDE	57-12-5	ug/kg	2 : 2 : 2	100	1.10E+04	1.90E+04	1.50E+04	2.50E+05	No
Total METHYLPHENOL	otal MethylPh	ug/kg	2 : 2 : 2	100	1.01E+06	9.90E+06	5.46E+06	1.60E+07	No
Total XYLENES	Total Xylenes	ug/kg	2 : 2 : 2	100	2.55E+05	9.80E+05	6.18E+05	1.50E+05	Yes
ZINC	7440-66-6	ug/kg	2 : 2 : 2	100	1.01E+05	1.14E+05	1.08E+05	1.00E+09	No
AOC 6									
1,2,3-TRICHLOROPROPANE	96-18-4	ug/kg	1 : 6 : 9	17	9.00E+00	9.00E+00	4.17E+00	8.30E+05	No
1,2-DICHLOROPROPANE	78-87-5	ug/kg	2 : 9 : 12	22	5.20E+00	2.20E+01	5.51E+00	3.20E+05	No
2,4-DIMETHYLPHENOL	105-67-9	ug/kg	1 : 1 : 12	100	1.70E+02	1.70E+02	1.70E+02	1.00E+07	No
2-METHYLNAPHTHALENE	91-57-6	ug/kg	8 : 12 : 12	67	4.90E+01	9.90E+04	1.67E+04	5.50E+06	No
ACENAPHTHENE	83-32-9	ug/kg	3 : 10 : 12	30	5.50E+01	1.20E+04	2.49E+03	9.70E+05	No
ACENAPHTHYLENE	208-96-8	ug/kg	8 : 11 : 12	73	5.80E+01	6.00E+04	8.13E+03	4.40E+05	No

Table D-10
Risk Screening
Using Part 201 Criteria Groundwater Contact Protection Criteria
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Groundwater Contact Protection (g)	Exceeds? (h)
ACETOPHENONE	98-86-2	ug/kg	5 : 9 : 12	56	3.00E+02	5.20E+03	1.24E+03	1.10E+06	No
ANTHRACENE	120-12-7	ug/kg	6 : 11 : 12	55	1.27E+02	1.20E+05	1.44E+04	4.10E+04	Yes
ARSENIC	7440-38-2	ug/kg	12 : 12 : 12	100	3.90E+03	2.00E+05	3.88E+04	2.00E+06	No
BARIUM	7440-39-3	ug/kg	12 : 12 : 12	100	8.50E+03	1.87E+05	7.72E+04	1.00E+09	No
BENZENE	71-43-2	ug/kg	5 : 12 : 12	42	3.90E+00	1.40E+06	1.93E+05	2.20E+05	Yes
BERYLLIUM	7440-41-7	ug/kg	1 : 12 : 12	8	8.90E+02	8.90E+02	3.95E+02	1.00E+09	No
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/kg	5 : 10 : 12	50	1.30E+02	5.20E+03	1.91E+03	1.10E+05	No
CADMIUM	7440-43-9	ug/kg	9 : 12 : 12	75	1.40E+02	2.00E+03	5.23E+02	2.30E+08	No
CHLOROFORM	67-66-3	ug/kg	1 : 9 : 12	11	1.00E+01	1.00E+01	3.93E+00	1.50E+06	No
CHROMIUM	7440-47-3	ug/kg	12 : 12 : 12	100	2.50E+03	5.32E+04	1.29E+04	1.40E+08	No
COPPER	7440-50-8	ug/kg	12 : 12 : 12	100	7.40E+03	4.94E+04	2.55E+04	1.00E+09	No
ETHYLBENZENE	100-41-4	ug/kg	1 : 9 : 9	11	3.20E+04	3.20E+04	7.08E+03	1.40E+05	No
FLUORANTHENE	206-44-0	ug/kg	9 : 12 : 12	75	1.20E+02	3.50E+05	5.24E+04	7.30E+05	No
FLUORENE	86-73-7	ug/kg	10 : 12 : 12	83	5.40E+01	2.10E+05	3.70E+04	8.90E+05	No
MERCURY	7439-97-6	ug/kg	8 : 12 : 12	67	1.40E+02	3.30E+03	7.83E+02	4.70E+04	No
METHYLENE CHLORIDE	75-09-2	ug/kg	4 : 9 : 12	44	7.30E+00	1.00E+01	5.85E+00	2.30E+06	No
NAPHTHALENE	91-20-3	ug/kg	10 : 12 : 12	83	4.30E+01	2.70E+06	2.53E+05	2.10E+06	Yes
NICKEL	7440-02-0	ug/kg	8 : 12 : 12	67	5.30E+03	3.39E+04	1.16E+04	1.00E+09	No
PHENANTHRENE	85-01-8	ug/kg	9 : 12 : 12	75	5.20E+02	4.90E+05	6.33E+04	1.10E+06	No
PYRENE	129-00-0	ug/kg	9 : 12 : 12	75	1.70E+02	2.80E+05	4.52E+04	4.80E+05	No
SELENIUM	7782-49-2	ug/kg	7 : 12 : 12	58	1.00E+03	2.30E+04	5.09E+03	7.80E+07	No
TOLUENE	108-88-3	ug/kg	1 : 1 : 9	100	2.40E+00	2.40E+00	2.40E+00	2.50E+05	No
TOTAL CYANIDE	57-12-5	ug/kg	8 : 12 : 12	67	2.70E+02	2.40E+03	7.76E+02	2.50E+05	No
Total METHYLPHENOL	otal MethylPh	ug/kg	1 : 4 : 11	25	9.70E+02	9.70E+02	7.30E+02	1.60E+07	No
Total XYLENES	Total Xylenes	ug/kg	1 : 9 : 9	11	1.76E+05	1.76E+05	2.66E+04	1.50E+05	Yes
VANADIUM	7440-62-2	ug/kg	9 : 12 : 12	75	7.30E+03	1.95E+04	1.05E+04	1.00E+09	No
ZINC	7440-66-6	ug/kg	12 : 12 : 12	100	1.03E+04	2.52E+05	6.55E+04	1.00E+09	No
AOC 7A									
ARSENIC	7440-38-2	ug/kg	14 : 14 : 14	100	2.50E+03	6.24E+04	1.77E+04	2.00E+06	No
BARIUM	7440-39-3	ug/kg	14 : 14 : 14	100	8.30E+03	1.48E+05	6.59E+04	1.00E+09	No
BERYLLIUM	7440-41-7	ug/kg	2 : 14 : 14	14	7.10E+02	9.30E+02	3.91E+02	1.00E+09	No
CADMIUM	7440-43-9	ug/kg	12 : 14 : 14	86	1.40E+02	7.50E+02	3.37E+02	2.30E+08	No

Table D-10
Risk Screening
Using Part 201 Criteria Groundwater Contact Protection Criteria
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Groundwater Contact Protection (g)	Exceeds? (h)
CHROMIUM	7440-47-3	ug/kg	14 : 14 : 14	100	7.30E+03	2.91E+04	1.61E+04	1.40E+08	No
COBALT	7440-48-4	ug/kg	2 : 14 : 14	14	4.80E+03	9.70E+03	3.77E+03	4.80E+07	No
COPPER	7440-50-8	ug/kg	14 : 14 : 14	100	2.70E+03	3.70E+04	2.13E+04	1.00E+09	No
MERCURY	7439-97-6	ug/kg	11 : 14 : 14	79	1.30E+02	4.80E+03	1.27E+03	4.70E+04	No
NICKEL	7440-02-0	ug/kg	13 : 14 : 14	93	8.10E+03	3.18E+04	1.44E+04	1.00E+09	No
SELENIUM	7782-49-2	ug/kg	4 : 14 : 14	29	6.33E+02	1.70E+03	5.83E+02	7.80E+07	No
SILVER	7440-22-4	ug/kg	1 : 14 : 14	7	1.00E+04	1.00E+04	1.31E+03	2.00E+08	No
TOTAL CYANIDE	57-12-5	ug/kg	15 : 19 : 19	79	3.20E+02	5.70E+03	1.66E+03	2.50E+05	No
VANADIUM	7440-62-2	ug/kg	14 : 14 : 14	100	1.10E+04	4.13E+04	2.25E+04	1.00E+09	No
ZINC	7440-66-6	ug/kg	14 : 14 : 14	100	1.26E+04	1.90E+05	6.66E+04	1.00E+09	No
AOC 7B									
ARSENIC	7440-38-2	ug/kg	4 : 4 : 4	100	1.70E+03	1.17E+04	7.45E+03	2.00E+06	No
BARIUM	7440-39-3	ug/kg	4 : 4 : 4	100	1.26E+04	1.08E+05	5.25E+04	1.00E+09	No
BERYLLIUM	7440-41-7	ug/kg	1 : 4 : 4	25	7.80E+02	7.80E+02	4.20E+02	1.00E+09	No
CADMIUM	7440-43-9	ug/kg	2 : 4 : 4	50	4.10E+02	5.10E+02	2.59E+02	2.30E+08	No
CHROMIUM	7440-47-3	ug/kg	4 : 4 : 4	100	6.40E+03	2.69E+04	1.31E+04	1.40E+08	No
COPPER	7440-50-8	ug/kg	3 : 4 : 4	75	1.24E+04	1.65E+04	1.16E+04	1.00E+09	No
MERCURY	7439-97-6	ug/kg	2 : 4 : 4	50	2.70E+02	5.70E+02	2.39E+02	4.70E+04	No
NICKEL	7440-02-0	ug/kg	4 : 4 : 4	100	6.40E+03	1.38E+04	1.06E+04	1.00E+09	No
VANADIUM	7440-62-2	ug/kg	4 : 4 : 4	100	1.01E+04	1.89E+04	1.42E+04	1.00E+09	No
ZINC	7440-66-6	ug/kg	4 : 4 : 4	100	1.46E+04	1.51E+05	6.45E+04	1.00E+09	No
AOC 7C									
ARSENIC	7440-38-2	ug/kg	4 : 4 : 4	100	1.92E+04	3.45E+04	2.67E+04	2.00E+06	No
BARIUM	7440-39-3	ug/kg	4 : 4 : 4	100	2.07E+04	1.47E+05	6.38E+04	1.00E+09	No
BERYLLIUM	7440-41-7	ug/kg	1 : 4 : 4	25	1.30E+03	1.30E+03	5.76E+02	1.00E+09	No
CADMIUM	7440-43-9	ug/kg	1 : 4 : 4	25	6.70E+02	6.70E+02	2.19E+02	2.30E+08	No
CHROMIUM	7440-47-3	ug/kg	4 : 4 : 4	100	6.00E+03	1.72E+04	9.13E+03	1.40E+08	No
COPPER	7440-50-8	ug/kg	4 : 4 : 4	100	2.00E+04	3.08E+04	2.36E+04	1.00E+09	No
MERCURY	7439-97-6	ug/kg	2 : 4 : 4	50	1.60E+02	2.20E+03	6.25E+02	4.70E+04	No
NICKEL	7440-02-0	ug/kg	4 : 4 : 4	100	1.01E+04	8.99E+04	3.36E+04	1.00E+09	No
SELENIUM	7782-49-2	ug/kg	4 : 4 : 4	100	2.00E+03	2.40E+03	2.23E+03	7.80E+07	No
VANADIUM	7440-62-2	ug/kg	4 : 4 : 4	100	1.19E+04	1.95E+04	1.58E+04	1.00E+09	No

Table D-10
Risk Screening
Using Part 201 Criteria Groundwater Contact Protection Criteria
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Groundwater Contact Protection (g)	Exceeds? (h)
ZINC	7440-66-6	ug/kg	4 : 4 : 4	100	1.83E+04	6.03E+05	1.72E+05	1.00E+09	No
RFIMW 07									
1,1,1-TRICHLOROETHANE	71-55-6	ug/kg	2 : 6 : 6	33	3.03E+00	3.70E+01	1.42E+01	4.60E+05	No
1,1-DICHLOROETHANE	75-34-3	ug/kg	1 : 5 : 6	20	1.20E+01	1.20E+01	6.20E+00	8.90E+05	No
2,4-DIMETHYLPHENOL	105-67-9	ug/kg	1 : 1 : 6	100	1.70E+02	1.70E+02	1.70E+02	1.00E+07	No
2-METHYLNAPHTHALENE	91-57-6	ug/kg	3 : 6 : 6	50	6.90E+02	5.50E+03	1.50E+03	5.50E+06	No
ACENAPHTHENE	83-32-9	ug/kg	1 : 4 : 6	25	3.70E+02	3.70E+02	3.06E+02	9.70E+05	No
ACETONE	67-64-1	ug/kg	5 : 6 : 6	83	3.60E+01	1.60E+02	7.91E+01	1.10E+08	No
ANTHRACENE	120-12-7	ug/kg	1 : 5 : 6	20	4.78E+02	4.78E+02	4.14E+02	4.10E+04	No
ETHYLBENZENE	100-41-4	ug/kg	2 : 6 : 6	33	2.10E+01	2.60E+01	1.10E+01	1.40E+05	No
FLUORANTHENE	206-44-0	ug/kg	1 : 6 : 6	17	2.40E+03	2.40E+03	7.98E+02	7.30E+05	No
FLUORENE	86-73-7	ug/kg	1 : 3 : 6	33	2.83E+02	2.83E+02	3.14E+02	8.90E+05	No
METHYL ETHYL KETONE	78-93-3	ug/kg	2 : 3 : 6	67	2.80E+01	3.40E+01	3.03E+01	2.70E+07	No
METHYLENE CHLORIDE	75-09-2	ug/kg	1 : 3 : 6	33	4.25E+00	4.25E+00	4.78E+00	2.30E+06	No
NAPHTHALENE	91-20-3	ug/kg	2 : 6 : 6	33	5.80E+02	9.65E+02	5.93E+02	2.10E+06	No
PHENANTHRENE	85-01-8	ug/kg	2 : 6 : 6	33	1.10E+03	2.42E+03	9.22E+02	1.10E+06	No
PHENOL	108-95-2	ug/kg	2 : 6 : 6	33	7.40E+02	1.10E+04	2.23E+03	1.20E+07	No
PYRENE	129-00-0	ug/kg	1 : 6 : 6	17	2.15E+03	2.15E+03	7.56E+02	4.80E+05	No
TOLUENE	108-88-3	ug/kg	1 : 5 : 6	20	7.80E+00	7.80E+00	6.38E+00	2.50E+05	No
Total METHYLPHENOL	otal MethylPl	ug/kg	2 : 6 : 6	33	3.21E+03	4.30E+03	2.06E+03	1.60E+07	No
Total XYLENES	Total Xylenes	ug/kg	3 : 6 : 6	50	1.04E+01	9.80E+01	3.11E+01	1.50E+05	No
RFIMW 08									
ACETONE	67-64-1	ug/kg	10 : 10 : 10	100	1.50E+01	5.20E+01	3.65E+01	1.10E+08	No
ANTHRACENE	120-12-7	ug/kg	2 : 9 : 10	22	2.90E+02	3.00E+02	2.34E+02	4.10E+04	No
CARBON DISULFIDE	75-15-0	ug/kg	1 : 6 : 10	17	3.30E+00	3.30E+00	3.06E+00	2.80E+05	No
DI-N-OCTYL PHTHALATE	117-84-0	ug/kg	1 : 8 : 10	13	2.60E+02	2.60E+02	2.22E+02	1.40E+08	No
FLUORANTHENE	206-44-0	ug/kg	3 : 10 : 10	30	2.60E+02	1.70E+03	4.22E+02	7.30E+05	No
FLUORENE	86-73-7	ug/kg	1 : 1 : 10	100	1.50E+02	1.50E+02	1.50E+02	8.90E+05	No
METHYL ETHYL KETONE	78-93-3	ug/kg	5 : 5 : 10	100	7.70E+00	1.60E+01	1.27E+01	2.70E+07	No
PHENANTHRENE	85-01-8	ug/kg	3 : 10 : 10	30	6.10E+02	1.30E+03	4.20E+02	1.10E+06	No
PYRENE	129-00-0	ug/kg	3 : 10 : 10	30	3.30E+02	1.40E+03	4.54E+02	4.80E+05	No
TOLUENE	108-88-3	ug/kg	1 : 2 : 10	50	2.90E+00	2.90E+00	2.85E+00	2.50E+05	No

Table D-10
Risk Screening
Using Part 201 Criteria Groundwater Contact Protection Criteria
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Groundwater Contact Protection (g)	Exceeds? (h)
RFIMW 24									
2-METHYLNAPHTHALENE	91-57-6	ug/kg	1 : 1 : 2	100	8.30E+01	8.30E+01	8.30E+01	5.50E+06	No
ARSENIC	7440-38-2	ug/kg	2 : 2 : 2	100	1.40E+03	8.00E+03	4.70E+03	2.00E+06	No
BARIUM	7440-39-3	ug/kg	2 : 2 : 2	100	7.30E+03	9.70E+04	5.22E+04	1.00E+09	No
CADMIUM	7440-43-9	ug/kg	1 : 2 : 2	50	1.40E+03	1.40E+03	7.33E+02	2.30E+08	No
CHROMIUM	7440-47-3	ug/kg	2 : 2 : 2	100	8.50E+03	8.41E+05	4.25E+05	1.40E+08	No
COPPER	7440-50-8	ug/kg	2 : 2 : 2	100	3.30E+03	2.97E+04	1.65E+04	1.00E+09	No
FLUORANTHENE	206-44-0	ug/kg	1 : 1 : 2	100	1.20E+02	1.20E+02	1.20E+02	7.30E+05	No
NICKEL	7440-02-0	ug/kg	1 : 2 : 2	50	1.39E+04	1.39E+04	8.25E+03	1.00E+09	No
PHENANTHRENE	85-01-8	ug/kg	1 : 1 : 2	100	7.70E+01	7.70E+01	7.70E+01	1.10E+06	No
PYRENE	129-00-0	ug/kg	1 : 1 : 2	100	1.10E+02	1.10E+02	1.10E+02	4.80E+05	No
TOTAL CYANIDE	57-12-5	ug/kg	2 : 2 : 2	100	3.90E+02	2.70E+03	1.55E+03	2.50E+05	No
VANADIUM	7440-62-2	ug/kg	2 : 2 : 2	100	1.32E+04	2.22E+05	1.18E+05	1.00E+09	No
ZINC	7440-66-6	ug/kg	2 : 2 : 2	100	1.02E+04	1.16E+05	6.31E+04	1.00E+09	No
RFIMW 25									
ACENAPHTHENE	83-32-9	ug/kg	1 : 1 : 2	100	1.00E+02	1.00E+02	1.00E+02	9.70E+05	No
ANTHRACENE	120-12-7	ug/kg	1 : 2 : 2	50	2.00E+02	2.00E+02	1.93E+02	4.10E+04	No
ARSENIC	7440-38-2	ug/kg	2 : 2 : 2	100	1.80E+03	6.00E+03	3.90E+03	2.00E+06	No
BARIUM	7440-39-3	ug/kg	2 : 2 : 2	100	1.23E+04	1.01E+05	5.67E+04	1.00E+09	No
CADMIUM	7440-43-9	ug/kg	1 : 2 : 2	50	2.80E+02	2.80E+02	1.70E+02	2.30E+08	No
CHROMIUM	7440-47-3	ug/kg	2 : 2 : 2	100	6.50E+03	9.00E+03	7.75E+03	1.40E+08	No
COPPER	7440-50-8	ug/kg	2 : 2 : 2	100	2.75E+03	8.10E+03	5.43E+03	1.00E+09	No
FLUORANTHENE	206-44-0	ug/kg	2 : 2 : 2	100	6.40E+02	7.50E+02	6.95E+02	7.30E+05	No
MERCURY	7439-97-6	ug/kg	1 : 2 : 2	50	1.60E+02	1.60E+02	1.10E+02	4.70E+04	No
NICKEL	7440-02-0	ug/kg	1 : 2 : 2	50	6.80E+03	6.80E+03	4.61E+03	1.00E+09	No
PHENANTHRENE	85-01-8	ug/kg	2 : 2 : 2	100	2.10E+02	5.65E+02	3.88E+02	1.10E+06	No
PYRENE	129-00-0	ug/kg	2 : 2 : 2	100	6.50E+02	6.50E+02	6.50E+02	4.80E+05	No
TOTAL CYANIDE	57-12-5	ug/kg	2 : 2 : 2	100	1.50E+03	1.90E+03	1.70E+03	2.50E+05	No
VANADIUM	7440-62-2	ug/kg	2 : 2 : 2	100	9.05E+03	1.21E+04	1.06E+04	1.00E+09	No
ZINC	7440-66-6	ug/kg	2 : 2 : 2	100	1.33E+04	4.00E+04	2.67E+04	1.00E+09	No
RFIMW 26									
2-METHYLNAPHTHALENE	91-57-6	ug/kg	1 : 2 : 2	50	2.20E+02	2.20E+02	2.08E+02	5.50E+06	No

Table D-10
Risk Screening
Using Part 201 Criteria Groundwater Contact Protection Criteria
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Groundwater Contact Protection (g)	Exceeds? (h)
ANTHRACENE	120-12-7	ug/kg	1:1:2	100	6.90E+01	6.90E+01	6.90E+01	4.10E+04	No
ARSENIC	7440-38-2	ug/kg	2:2:2	100	5.10E+03	9.50E+03	7.30E+03	2.00E+06	No
BARIUM	7440-39-3	ug/kg	2:2:2	100	1.24E+04	3.35E+04	2.30E+04	1.00E+09	No
CADMIUM	7440-43-9	ug/kg	1:2:2	50	6.20E+02	6.20E+02	3.40E+02	2.30E+08	No
CHROMIUM	7440-47-3	ug/kg	2:2:2	100	4.50E+03	1.56E+04	1.01E+04	1.40E+08	No
COBALT	7440-48-4	ug/kg	1:2:2	50	6.10E+03	6.10E+03	4.53E+03	4.80E+07	No
COPPER	7440-50-8	ug/kg	2:2:2	100	3.40E+03	2.57E+04	1.46E+04	1.00E+09	No
DIETHYL PHTHALATE	84-66-2	ug/kg	1:2:2	50	2.40E+02	2.40E+02	2.18E+02	7.40E+05	No
FLUORANTHENE	206-44-0	ug/kg	2:2:2	100	6.80E+01	7.90E+02	4.29E+02	7.30E+05	No
MERCURY	7439-97-6	ug/kg	1:2:2	50	2.70E+02	2.70E+02	1.65E+02	4.70E+04	No
NAPHTHALENE	91-20-3	ug/kg	1:1:2	100	1.50E+02	1.50E+02	1.50E+02	2.10E+06	No
NICKEL	7440-02-0	ug/kg	1:2:2	50	1.42E+04	1.42E+04	8.30E+03	1.00E+09	No
PHENANTHRENE	85-01-8	ug/kg	1:2:2	50	4.00E+02	4.00E+02	2.98E+02	1.10E+06	No
PYRENE	129-00-0	ug/kg	2:2:2	100	7.00E+01	7.80E+02	4.25E+02	4.80E+05	No
SELENIUM	7782-49-2	ug/kg	1:2:2	50	1.20E+03	1.20E+03	7.48E+02	7.80E+07	No
TOLUENE	108-88-3	ug/kg	1:2:2	50	3.00E+00	3.00E+00	2.98E+00	2.50E+05	No
TOTAL CYANIDE	57-12-5	ug/kg	1:2:2	50	3.70E+03	3.70E+03	1.93E+03	2.50E+05	No
VANADIUM	7440-62-2	ug/kg	2:2:2	100	5.90E+03	1.70E+04	1.15E+04	1.00E+09	No
ZINC	7440-66-6	ug/kg	2:2:2	100	9.60E+03	5.81E+04	3.39E+04	1.00E+09	No
RFIMW 27									
ARSENIC	7440-38-2	ug/kg	2:2:2	100	2.50E+03	7.40E+03	4.95E+03	2.00E+06	No
BARIUM	7440-39-3	ug/kg	2:2:2	100	1.81E+04	8.07E+04	4.94E+04	1.00E+09	No
CADMIUM	7440-43-9	ug/kg	1:2:2	50	2.90E+02	2.90E+02	1.78E+02	2.30E+08	No
CHROMIUM	7440-47-3	ug/kg	2:2:2	100	9.00E+03	9.70E+03	9.35E+03	1.40E+08	No
COPPER	7440-50-8	ug/kg	2:2:2	100	6.20E+03	1.24E+04	9.30E+03	1.00E+09	No
MERCURY	7439-97-6	ug/kg	1:2:2	50	5.20E+02	5.20E+02	2.93E+02	4.70E+04	No
NICKEL	7440-02-0	ug/kg	2:2:2	100	6.40E+03	1.28E+04	9.60E+03	1.00E+09	No
TOTAL CYANIDE	57-12-5	ug/kg	1:2:2	50	7.80E+02	7.80E+02	4.70E+02	2.50E+05	No
VANADIUM	7440-62-2	ug/kg	2:2:2	100	2.02E+04	2.35E+04	2.19E+04	1.00E+09	No
ZINC	7440-66-6	ug/kg	2:2:2	100	1.25E+04	1.34E+05	7.33E+04	1.00E+09	No
RFIMW 28									
ARSENIC	7440-38-2	ug/kg	2:2:2	100	1.80E+03	8.90E+03	5.35E+03	2.00E+06	No

Table D-10
Risk Screening
Using Part 201 Criteria Groundwater Contact Protection Criteria
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Groundwater Contact Protection (g)	Exceeds? (h)
BARIUM	7440-39-3	ug/kg	2 : 2 : 2	100	6.00E+03	1.79E+05	9.25E+04	1.00E+09	No
BERYLLIUM	7440-41-7	ug/kg	1 : 2 : 2	50	1.10E+03	1.10E+03	7.00E+02	1.00E+09	No
CHROMIUM	7440-47-3	ug/kg	2 : 2 : 2	100	5.40E+03	1.61E+04	1.08E+04	1.40E+08	No
COPPER	7440-50-8	ug/kg	2 : 2 : 2	100	6.90E+03	1.20E+04	9.45E+03	1.00E+09	No
NICKEL	7440-02-0	ug/kg	2 : 2 : 2	100	5.70E+03	1.48E+04	1.03E+04	1.00E+09	No
VANADIUM	7440-62-2	ug/kg	2 : 2 : 2	100	1.24E+04	2.79E+04	2.02E+04	1.00E+09	No
ZINC	7440-66-6	ug/kg	2 : 2 : 2	100	1.54E+04	1.17E+05	6.62E+04	1.00E+09	No
SWMU F									
1,2-DICHLOROPROPANE	78-87-5	ug/kg	5 : 10 : 10	50	4.20E+00	7.00E+04	9.60E+03	3.20E+05	No
2,4-DIMETHYLPHENOL	105-67-9	ug/kg	1 : 10 : 10	10	2.20E+04	2.20E+04	5.14E+03	1.00E+07	No
2-METHYLNAPHTHALENE	91-57-6	ug/kg	3 : 5 : 10	60	1.30E+02	7.30E+02	3.05E+02	5.50E+06	No
ACENAPHTHENE	83-32-9	ug/kg	1 : 5 : 10	20	4.40E+02	4.40E+02	2.94E+02	9.70E+05	No
ACENAPHTHYLENE	208-96-8	ug/kg	1 : 1 : 10	100	6.80E+01	6.80E+01	6.80E+01	4.40E+05	No
ACETONE	67-64-1	ug/kg	9 : 10 : 10	90	1.90E+02	1.90E+05	4.53E+04	1.10E+08	No
ANTHRACENE	120-12-7	ug/kg	2 : 6 : 10	33	1.10E+02	1.30E+03	5.43E+02	4.10E+04	No
ANTIMONY	7440-36-0	ug/kg	3 : 10 : 10	30	7.10E+02	1.60E+04	2.08E+03	4.90E+07	No
ARSENIC	7440-38-2	ug/kg	10 : 10 : 10	100	4.40E+03	6.39E+04	2.32E+04	2.00E+06	No
BARIUM	7440-39-3	ug/kg	10 : 10 : 10	100	1.88E+04	4.91E+05	1.08E+05	1.00E+09	No
BENZENE	71-43-2	ug/kg	1 : 9 : 10	11	2.00E+03	2.00E+03	7.86E+02	2.20E+05	No
BENZYL ALCOHOL	100-51-6	ug/kg	1 : 10 : 10	10	2.10E+04	2.10E+04	4.39E+03	5.80E+06	No
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/kg	6 : 10 : 10	60	2.90E+02	2.80E+04	5.78E+03	1.10E+05	No
BUTYL BENZYL PHTHALATE	85-68-7	ug/kg	1 : 6 : 10	17	1.00E+03	1.00E+03	4.80E+02	3.10E+05	No
CADMIUM	7440-43-9	ug/kg	10 : 10 : 10	100	2.70E+02	7.30E+03	1.20E+03	2.30E+08	No
CHROMIUM	7440-47-3	ug/kg	10 : 10 : 10	100	6.40E+03	1.30E+05	2.38E+04	1.40E+08	No
COBALT	7440-48-4	ug/kg	1 : 10 : 10	10	4.05E+04	4.05E+04	8.12E+03	4.80E+07	No
COPPER	7440-50-8	ug/kg	10 : 10 : 10	100	1.05E+04	7.71E+06	7.93E+05	1.00E+09	No
DI-N-OCTYL PHTHALATE	117-84-0	ug/kg	1 : 10 : 10	10	1.50E+04	1.50E+04	3.79E+03	1.40E+08	No
FLUORANTHENE	206-44-0	ug/kg	5 : 7 : 10	71	6.30E+01	4.50E+03	1.42E+03	7.30E+05	No
FLUORENE	86-73-7	ug/kg	2 : 5 : 10	40	1.70E+02	7.80E+02	3.50E+02	8.90E+05	No
MERCURY	7439-97-6	ug/kg	6 : 10 : 10	60	3.30E+02	2.11E+04	2.90E+03	4.70E+04	No
METHYL ETHYL KETONE	78-93-3	ug/kg	1 : 1 : 10	100	1.70E+01	1.70E+01	1.70E+01	2.70E+07	No
NAPHTHALENE	91-20-3	ug/kg	4 : 6 : 10	67	9.90E+01	4.50E+02	2.57E+02	2.10E+06	No

Table D-10
Risk Screening
Using Part 201 Criteria Groundwater Contact Protection Criteria
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Groundwater Contact Protection (g)	Exceeds? (h)
NICKEL	7440-02-0	ug/kg	9 : 10 : 10	90	6.40E+03	1.70E+05	2.82E+04	1.00E+09	No
PENTACHLOROPHENOL	87-86-5	ug/kg	2 : 10 : 20	20	1.60E+01	6.40E+01	1.16E+01	4.30E+03	No
PHENANTHRENE	85-01-8	ug/kg	4 : 7 : 10	57	2.00E+02	6.00E+03	1.59E+03	1.10E+06	No
PHENOL	108-95-2	ug/kg	2 : 7 : 10	29	1.90E+03	6.40E+03	1.71E+03	1.20E+07	No
PYRENE	129-00-0	ug/kg	4 : 7 : 10	57	4.00E+02	3.40E+03	1.44E+03	4.80E+05	No
SELENIUM	7782-49-2	ug/kg	5 : 10 : 10	50	1.20E+03	6.30E+03	1.62E+03	7.80E+07	No
SILVER	7440-22-4	ug/kg	1 : 10 : 10	10	1.05E+04	1.05E+04	1.86E+03	2.00E+08	No
TOLUENE	108-88-3	ug/kg	7 : 10 : 10	70	1.10E+01	1.10E+05	2.42E+04	2.50E+05	No
TOTAL CYANIDE	57-12-5	ug/kg	8 : 10 : 10	80	1.10E+03	5.10E+03	2.20E+03	2.50E+05	No
Total METHYLPHENOL	otal MethylPh	ug/kg	4 : 10 : 10	40	6.85E+02	4.41E+04	1.33E+04	1.60E+07	No
Total XYLENES	Total Xylenes	ug/kg	1 : 2 : 10	50	1.22E+01	1.22E+01	1.16E+01	1.50E+05	No
VANADIUM	7440-62-2	ug/kg	9 : 10 : 10	90	9.30E+03	2.33E+04	1.60E+04	1.00E+09	No
ZINC	7440-66-6	ug/kg	9 : 10 : 10	90	3.47E+04	1.00E+06	1.63E+05	1.00E+09	No
SWMU G									
2,4-DIMETHYLPHENOL	105-67-9	ug/kg	1 : 1 : 10	100	5.70E+01	5.70E+01	5.70E+01	1.00E+07	No
2-METHYLNAPHTHALENE	91-57-6	ug/kg	9 : 10 : 10	90	2.50E+02	1.30E+03	5.63E+02	5.50E+06	No
ACENAPHTHENE	83-32-9	ug/kg	2 : 2 : 10	100	3.80E+01	4.30E+01	4.05E+01	9.70E+05	No
ACENAPHTHYLENE	208-96-8	ug/kg	9 : 10 : 10	90	4.40E+01	1.80E+03	3.28E+02	4.40E+05	No
ANTHRACENE	120-12-7	ug/kg	8 : 9 : 10	89	5.10E+01	7.00E+02	1.92E+02	4.10E+04	No
ANTIMONY	7440-36-0	ug/kg	1 : 10 : 10	10	2.60E+03	2.60E+03	6.17E+02	4.90E+07	No
ARSENIC	7440-38-2	ug/kg	10 : 10 : 10	100	4.80E+03	1.01E+05	2.67E+04	2.00E+06	No
BARIUM	7440-39-3	ug/kg	10 : 10 : 10	100	5.54E+04	1.66E+05	8.97E+04	1.00E+09	No
BERYLLIUM	7440-41-7	ug/kg	1 : 10 : 10	10	2.00E+03	2.00E+03	4.68E+02	1.00E+09	No
CADMIUM	7440-43-9	ug/kg	10 : 10 : 10	100	3.00E+02	2.30E+03	7.90E+02	2.30E+08	No
CHROMIUM	7440-47-3	ug/kg	10 : 10 : 10	100	4.80E+03	3.36E+04	1.55E+04	1.40E+08	No
COBALT	7440-48-4	ug/kg	1 : 10 : 10	10	1.01E+04	1.01E+04	3.68E+03	4.80E+07	No
COPPER	7440-50-8	ug/kg	10 : 10 : 10	100	1.53E+04	9.53E+04	3.39E+04	1.00E+09	No
DIETHYL PHTHALATE	84-66-2	ug/kg	1 : 1 : 10	100	1.00E+02	1.00E+02	1.00E+02	7.40E+05	No
FLUORANTHENE	206-44-0	ug/kg	9 : 10 : 10	90	1.00E+02	3.80E+03	1.14E+03	7.30E+05	No
FLUORENE	86-73-7	ug/kg	3 : 9 : 10	33	5.00E+01	2.50E+02	1.77E+02	8.90E+05	No
MERCURY	7439-97-6	ug/kg	8 : 10 : 10	80	1.40E+02	5.40E+03	7.69E+02	4.70E+04	No
NAPHTHALENE	91-20-3	ug/kg	8 : 9 : 10	89	1.70E+02	8.10E+02	3.52E+02	2.10E+06	No

Table D-10
Risk Screening
Using Part 201 Criteria Groundwater Contact Protection Criteria
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Groundwater Contact Protection (g)	Exceeds? (h)
NICKEL	7440-02-0	ug/kg	10 : 10 : 10	100	7.60E+03	2.56E+04	1.34E+04	1.00E+09	No
PENTACHLOROPHENOL	87-86-5	ug/kg	3 : 10 : 20	30	3.90E+01	6.20E+02	1.29E+02	4.30E+03	No
PHENANTHRENE	85-01-8	ug/kg	10 : 10 : 10	100	8.70E+01	1.90E+03	8.07E+02	1.10E+06	No
PYRENE	129-00-0	ug/kg	10 : 10 : 10	100	8.20E+01	6.10E+03	1.22E+03	4.80E+05	No
SELENIUM	7782-49-2	ug/kg	1 : 10 : 10	10	4.40E+02	4.40E+02	3.14E+02	7.80E+07	No
TOTAL CYANIDE	57-12-5	ug/kg	1 : 10 : 10	10	6.60E+02	6.60E+02	1.99E+02	2.50E+05	No
Total METHYLPHENOL	otal MethylPh	ug/kg	1 : 7 : 10	14	5.88E+02	5.88E+02	5.83E+02	1.60E+07	No
VANADIUM	7440-62-2	ug/kg	10 : 10 : 10	100	7.20E+03	2.97E+04	1.30E+04	1.00E+09	No
ZINC	7440-66-6	ug/kg	10 : 10 : 10	100	3.52E+04	3.35E+05	1.09E+05	1.00E+09	No
SWMU H									
1,2,3-TRICHLOROPROPANE	96-18-4	ug/kg	2 : 10 : 11	20	3.90E+03	1.70E+04	2.15E+03	8.30E+05	No
1,2-DICHLOROBENZENE	95-50-1	ug/kg	1 : 8 : 11	13	6.80E+02	6.80E+02	8.93E+01	2.10E+05	No
1,2-DICHLOROPROPANE	78-87-5	ug/kg	9 : 11 : 11	82	4.00E+00	5.00E+07	4.57E+06	3.20E+05	Yes
2,4-DIMETHYLPHENOL	105-67-9	ug/kg	1 : 10 : 11	10	8.30E+03	8.30E+03	1.30E+03	1.00E+07	No
2-METHYLNAPHTHALENE	91-57-6	ug/kg	3 : 10 : 11	30	1.20E+02	6.40E+03	1.09E+03	5.50E+06	No
ACENAPHTHENE	83-32-9	ug/kg	1 : 10 : 11	10	6.70E+03	6.70E+03	1.14E+03	9.70E+05	No
ACETONE	67-64-1	ug/kg	7 : 8 : 11	88	2.00E+01	1.60E+03	3.18E+02	1.10E+08	No
ANTHRACENE	120-12-7	ug/kg	2 : 10 : 11	20	7.40E+01	5.30E+03	9.87E+02	4.10E+04	No
ANTIMONY	7440-36-0	ug/kg	4 : 11 : 11	36	8.20E+02	1.53E+04	1.90E+03	4.90E+07	No
ARSENIC	7440-38-2	ug/kg	11 : 11 : 11	100	1.90E+03	1.16E+05	2.28E+04	2.00E+06	No
BARIUM	7440-39-3	ug/kg	11 : 11 : 11	100	8.00E+03	2.23E+05	8.38E+04	1.00E+09	No
BENZENE	71-43-2	ug/kg	1 : 8 : 11	13	7.80E+02	7.80E+02	1.02E+02	2.20E+05	No
BERYLLIUM	7440-41-7	ug/kg	1 : 11 : 11	9	9.10E+02	9.10E+02	4.11E+02	1.00E+09	No
BIS(2-CHLOROETHYL) ETHER	111-44-4	ug/kg	2 : 10 : 11	20	8.20E+01	1.20E+04	1.66E+03	1.10E+05	No
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/kg	8 : 11 : 11	73	1.30E+02	1.40E+06	1.42E+05	1.10E+05	Yes
CADMIUM	7440-43-9	ug/kg	10 : 11 : 11	91	2.60E+02	4.20E+03	9.02E+02	2.30E+08	No
CHLOROBENZENE	108-90-7	ug/kg	1 : 8 : 11	13	8.30E+02	8.30E+02	1.08E+02	2.60E+05	No
CHROMIUM	7440-47-3	ug/kg	11 : 11 : 11	100	6.70E+03	1.95E+05	4.52E+04	1.40E+08	No
COBALT	7440-48-4	ug/kg	6 : 11 : 11	55	9.60E+03	1.37E+04	7.60E+03	4.80E+07	No
COPPER	7440-50-8	ug/kg	11 : 11 : 11	100	2.90E+03	2.21E+05	4.09E+04	1.00E+09	No
ETHYLBENZENE	100-41-4	ug/kg	1 : 8 : 11	13	4.70E+02	4.70E+02	6.30E+01	1.40E+05	No
FLUORANTHENE	206-44-0	ug/kg	3 : 10 : 11	30	2.20E+02	1.10E+04	1.58E+03	7.30E+05	No

Table D-10
Risk Screening
Using Part 201 Criteria Groundwater Contact Protection Criteria
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Groundwater Contact Protection (g)	Exceeds? (h)
FLUORENE	86-73-7	ug/kg	1 : 10 : 11	10	5.40E+03	5.40E+03	1.01E+03	8.90E+05	No
MERCURY	7439-97-6	ug/kg	5 : 11 : 11	45	1.40E+02	5.29E+04	5.20E+03	4.70E+04	Yes
METHYL ETHYL KETONE	78-93-3	ug/kg	1 : 2 : 11	50	3.10E+01	3.10E+01	3.10E+01	2.70E+07	No
NAPHTHALENE	91-20-3	ug/kg	3 : 10 : 11	30	9.30E+01	1.60E+04	2.05E+03	2.10E+06	No
NICKEL	7440-02-0	ug/kg	11 : 11 : 11	100	5.70E+03	9.34E+04	3.04E+04	1.00E+09	No
PENTACHLOROPHENOL	87-86-5	ug/kg	4 : 11 : 22	36	1.00E+01	3.00E+02	5.24E+01	4.30E+03	No
PHENANTHRENE	85-01-8	ug/kg	3 : 10 : 11	30	2.50E+02	2.00E+04	2.48E+03	1.10E+06	No
PHENOL	108-95-2	ug/kg	2 : 7 : 11	29	2.70E+02	2.70E+02	2.36E+02	1.20E+07	No
PYRENE	129-00-0	ug/kg	3 : 10 : 11	30	2.50E+02	8.60E+03	1.35E+03	4.80E+05	No
SELENIUM	7782-49-2	ug/kg	2 : 11 : 11	18	1.10E+03	1.40E+03	5.14E+02	7.80E+07	No
SILVER	7440-22-4	ug/kg	1 : 11 : 11	9	2.17E+04	2.17E+04	2.62E+03	2.00E+08	No
TOLUENE	108-88-3	ug/kg	2 : 10 : 11	20	1.30E+01	5.80E+03	1.06E+03	2.50E+05	No
TOTAL CYANIDE	57-12-5	ug/kg	4 : 11 : 11	36	6.00E+02	1.60E+04	2.34E+03	2.50E+05	No
Total METHYLPHENOL	otal MethylPh	ug/kg	2 : 10 : 11	20	5.05E+02	1.89E+04	3.30E+03	1.60E+07	No
Total XYLENES	Total Xylenes	ug/kg	1 : 8 : 11	13	2.07E+03	2.07E+03	2.67E+02	1.50E+05	No
VANADIUM	7440-62-2	ug/kg	11 : 11 : 11	100	8.70E+03	5.09E+04	2.85E+04	1.00E+09	No
ZINC	7440-66-6	ug/kg	11 : 11 : 11	100	1.32E+04	6.28E+05	1.25E+05	1.00E+09	No

Table D-10
Risk Screening
Using Part 201 Criteria Groundwater Contact Protection Criteria
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Groundwater Contact Protection (g)	Exceeds? (h)

Notes:

CAS - Chemical Abstract Service.
(a) Only chemicals with at least one positively detected result are reported.
(b) Frequency of detection - Number of detected samples: Number of samples used to calculate statistics: Number of total samples.
(c) Percent of samples with detects out of samples used to calculate statistics.
(d) Minimum detected concentration for each chemical, after duplicates have been averaged.
(e) Maximum detected concentration for each chemical, after duplicates have been averaged.
(f) Arithmetic mean concentration for each chemical, after duplicates have been averaged and any non detected results with one-half the sample quantitation limit greater than the maximum detected concentration have been excluded.
(g) Groundwater Contact Protection Criteria (MDEQ, Dec. 2002). Only chemicals with Part 201 Groundwater Contact Protection Criteria reported.
(h) Chemicals where maximum detected concentration exceeds criterion.

Table D-11
Risk Screening
Using Part 201 Criteria Soil Saturation Screening Level
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Soil Saturation Screening Level (g)	Exceeds? (h)
AOC 1									
BENZENE	71-43-2	ug/kg	1 : 43 : 52	2	3.80E+02	3.80E+02	6.65E+01	4.00E+05	No
ETHYLBENZENE	100-41-4	ug/kg	1 : 42 : 53	2	3.00E+02	3.00E+02	5.56E+01	1.40E+05	No
TOLUENE	108-88-3	ug/kg	2 : 15 : 53	13	3.40E+01	3.40E+01	2.37E+01	2.50E+05	No
XYLENES	1330-20-7	ug/kg	1 : 22 : 53	5	3.50E+01	3.50E+01	2.34E+01	1.50E+05	No
AOC 2									
ACETONE	67-64-1	ug/kg	2 : 8 : 8	25	3.00E+01	1.00E+02	3.91E+01	1.10E+08	No
ACETOPHENONE	98-86-2	ug/kg	2 : 7 : 8	29	1.80E+02	2.90E+02	2.10E+02	1.10E+06	No
BENZENE	71-43-2	ug/kg	1 : 8 : 8	13	2.70E+01	2.70E+01	6.04E+00	4.00E+05	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/kg	4 : 6 : 8	67	8.90E+01	2.38E+02	1.57E+02	1.00E+07	No
ETHYLBENZENE	100-41-4	ug/kg	1 : 8 : 8	13	4.90E+00	4.90E+00	3.28E+00	1.40E+05	No
METHYLENE CHLORIDE	75-09-2	ug/kg	1 : 8 : 8	13	2.70E+01	2.70E+01	6.04E+00	2.30E+06	No
TOLUENE	108-88-3	ug/kg	2 : 8 : 8	25	1.15E+01	4.30E+01	9.09E+00	2.50E+05	No
Total XYLENES	Total Xylenes	ug/kg	1 : 8 : 8	13	3.11E+01	3.11E+01	9.21E+00	1.50E+05	No
AOC 4									
BENZENE	71-43-2	ug/kg	2 : 2 : 2	100	2.50E+05	6.80E+05	4.65E+05	4.00E+05	Yes
PHENOL	108-95-2	ug/kg	1 : 2 : 2	50	2.30E+06	2.30E+06	1.43E+06	1.20E+07	No
STYRENE	100-42-5	ug/kg	2 : 2 : 2	100	9.60E+04	2.40E+05	1.68E+05	5.20E+05	No
TOLUENE	108-88-3	ug/kg	2 : 2 : 2	100	1.90E+05	5.90E+05	3.90E+05	2.50E+05	Yes
Total XYLENES	Total Xylenes	ug/kg	2 : 2 : 2	100	2.55E+05	9.80E+05	6.18E+05	1.50E+05	Yes
AOC 6									
1,2,3-TRICHLOROPROPANE	96-18-4	ug/kg	1 : 6 : 9	17	9.00E+00	9.00E+00	4.17E+00	8.30E+05	No
1,2-DICHLOROPROPANE	78-87-5	ug/kg	2 : 9 : 12	22	5.20E+00	2.20E+01	5.51E+00	5.50E+05	No
ACETOPHENONE	98-86-2	ug/kg	5 : 9 : 12	56	3.00E+02	5.20E+03	1.24E+03	1.10E+06	No
BENZENE	71-43-2	ug/kg	5 : 12 : 12	42	3.90E+00	1.40E+06	1.93E+05	4.00E+05	Yes
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/kg	5 : 10 : 12	50	1.30E+02	5.20E+03	1.91E+03	2.20E+06	No
CHLOROFORM	67-66-3	ug/kg	1 : 9 : 12	11	1.00E+01	1.00E+01	3.93E+00	1.50E+06	No
ETHYLBENZENE	100-41-4	ug/kg	1 : 9 : 9	11	3.20E+04	3.20E+04	7.08E+03	1.40E+05	No
METHYLENE CHLORIDE	75-09-2	ug/kg	4 : 9 : 12	44	7.30E+00	1.00E+01	5.85E+00	2.30E+06	No
TOLUENE	108-88-3	ug/kg	1 : 1 : 9	100	2.40E+00	2.40E+00	2.40E+00	2.50E+05	No
Total XYLENES	Total Xylenes	ug/kg	1 : 9 : 9	11	1.76E+05	1.76E+05	2.66E+04	1.50E+05	Yes

Table D-11
Risk Screening
Using Part 201 Criteria Soil Saturation Screening Level
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Soil Saturation Screening Level (g)	Exceeds? (h)
RFIMW 07									
1,1,1-TRICHLOROETHANE	71-55-6	ug/kg	2 : 6 : 6	33	3.03E+00	3.70E+01	1.42E+01	4.60E+05	No
1,1-DICHLOROETHANE	75-34-3	ug/kg	1 : 5 : 6	20	1.20E+01	1.20E+01	6.20E+00	8.90E+05	No
ACETONE	67-64-1	ug/kg	5 : 6 : 6	83	3.60E+01	1.60E+02	7.91E+01	1.10E+08	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/kg	2 : 2 : 6	100	2.38E+02	3.00E+02	2.69E+02	1.00E+07	No
ETHYLBENZENE	100-41-4	ug/kg	2 : 6 : 6	33	2.10E+01	2.60E+01	1.10E+01	1.40E+05	No
METHYL ETHYL KETONE	78-93-3	ug/kg	2 : 3 : 6	67	2.80E+01	3.40E+01	3.03E+01	2.70E+07	No
METHYLENE CHLORIDE	75-09-2	ug/kg	1 : 3 : 6	33	4.25E+00	4.25E+00	4.78E+00	2.30E+06	No
PHENOL	108-95-2	ug/kg	2 : 6 : 6	33	7.40E+02	1.10E+04	2.23E+03	1.20E+07	No
TOLUENE	108-88-3	ug/kg	1 : 5 : 6	20	7.80E+00	7.80E+00	6.38E+00	2.50E+05	No
Total XYLENES	Total Xylenes	ug/kg	3 : 6 : 6	50	1.04E+01	9.80E+01	3.11E+01	1.50E+05	No
RFIMW 08									
ACETONE	67-64-1	ug/kg	10 : 10 : 10	100	1.50E+01	5.20E+01	3.65E+01	1.10E+08	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/kg	3 : 7 : 10	43	1.30E+02	2.20E+02	1.86E+02	1.00E+07	No
CARBON DISULFIDE	75-15-0	ug/kg	1 : 6 : 10	17	3.30E+00	3.30E+00	3.06E+00	2.80E+05	No
DI-N-OCTYL PHTHALATE	117-84-0	ug/kg	1 : 8 : 10	13	2.60E+02	2.60E+02	2.22E+02	1.40E+08	No
METHYL ETHYL KETONE	78-93-3	ug/kg	5 : 5 : 10	100	7.70E+00	1.60E+01	1.27E+01	2.70E+07	No
TOLUENE	108-88-3	ug/kg	1 : 2 : 10	50	2.90E+00	2.90E+00	2.85E+00	2.50E+05	No
RFIMW 26									
DIETHYL PHTHALATE	84-66-2	ug/kg	1 : 2 . 2	50	2.40E+02	2.40E+02	2.18E+02	7.40E+05	No
TOLUENE	108-88-3	ug/kg	1 : 2 : 2	50	3.00E+00	3.00E+00	2.98E+00	2.50E+05	No
SWMU F									
1,2-DICHLOROPROPANE	78-87-5	ug/kg	5 : 10 : 10	50	4.20E+00	7.00E+04	9.60E+03	5.50E+05	No
ACETONE	67-64-1	ug/kg	9 : 10 : 10	90	1.90E+02	1.90E+05	4.53E+04	1.10E+08	No
BENZENE	71-43-2	ug/kg	1 : 9 : 10	11	2.00E+03	2.00E+03	7.86E+02	4.00E+05	No
BENZYL ALCOHOL	100-51-6	ug/kg	1 : 10 : 10	10	2.10E+04	2.10E+04	4.39E+03	5.80E+06	No
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/kg	6 : 10 : 10	60	2.90E+02	2.80E+04	5.78E+03	2.20E+06	No
BUTYL BENZYL PHTHALATE	85-68-7	ug/kg	1 : 6 : 10	17	1.00E+03	1.00E+03	4.80E+02	3.10E+05	No
DI-N-OCTYL PHTHALATE	117-84-0	ug/kg	1 : 10 : 10	10	1.50E+04	1.50E+04	3.79E+03	1.40E+08	No
METHYL ETHYL KETONE	78-93-3	ug/kg	1 : 1 : 10	100	1.70E+01	1.70E+01	1.70E+01	2.70E+07	No
PHENOL	108-95-2	ug/kg	2 : 7 : 10	29	1.90E+03	6.40E+03	1.71E+03	1.20E+07	No

Table D-11
Risk Screening
Using Part 201 Criteria Soil Saturation Screening Level
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Soil Saturation Screening Level (g)	Exceeds? (h)
TOLUENE	108-88-3	ug/kg	7 : 10 : 10	70	1.10E+01	1.10E+05	2.42E+04	2.50E+05	No
Total XYLENES	Total Xylenes	ug/kg	1 : 2 : 10	50	1.22E+01	1.22E+01	1.16E+01	1.50E+05	No
SWMU G									
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/kg	1 : 1 : 10	100	4.10E+01	4.10E+01	4.10E+01	1.00E+07	No
DIETHYL PHTHALATE	84-66-2	ug/kg	1 : 1 : 10	100	1.00E+02	1.00E+02	1.00E+02	7.40E+05	No
SWMU H									
1,2,3-TRICHLOROPROPANE	96-18-4	ug/kg	2 : 10 : 11	20	3.90E+03	1.70E+04	2.15E+03	8.30E+05	No
1,2-DICHLOROBENZENE	95-50-1	ug/kg	1 : 8 : 11	13	6.80E+02	6.80E+02	8.93E+01	2.10E+05	No
1,2-DICHLOROPROPANE	78-87-5	ug/kg	9 : 11 : 11	82	4.00E+00	5.00E+07	4.57E+06	5.50E+05	Yes
ACETONE	67-64-1	ug/kg	7 : 8 : 11	88	2.00E+01	1.60E+03	3.18E+02	1.10E+08	No
BENZENE	71-43-2	ug/kg	1 : 8 : 11	13	7.80E+02	7.80E+02	1.02E+02	4.00E+05	No
BIS(2-CHLOROETHYL) ETHER	111-44-4	ug/kg	2 : 10 : 11	20	8.20E+01	1.20E+04	1.66E+03	2.20E+06	No
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/kg	8 : 11 : 11	73	1.30E+02	1.40E+06	1.42E+05	2.20E+06	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/kg	2 : 10 : 11	20	1.90E+03	1.00E+04	1.64E+03	1.00E+07	No
CHLOROBENZENE	108-90-7	ug/kg	1 : 8 : 11	13	8.30E+02	8.30E+02	1.08E+02	2.60E+05	No
ETHYLBENZENE	100-41-4	ug/kg	1 : 8 : 11	13	4.70E+02	4.70E+02	6.30E+01	1.40E+05	No
METHYL ETHYL KETONE	78-93-3	ug/kg	1 : 2 : 11	50	3.10E+01	3.10E+01	3.10E+01	2.70E+07	No
PHENOL	108-95-2	ug/kg	2 : 7 : 11	29	2.70E+02	2.70E+02	2.36E+02	1.20E+07	No
TOLUENE	108-88-3	ug/kg	2 : 10 : 11	20	1.30E+01	5.80E+03	1.06E+03	2.50E+05	No
Total XYLENES	Total Xylenes	ug/kg	1 : 8 : 11	13	2.07E+03	2.07E+03	2.67E+02	1.50E+05	No

Table D-11
Risk Screening
Using Part 201 Criteria Soil Saturation Screening Level
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Soil Saturation Screening Level (g)	Exceeds? (h)

Notes:

CAS - Chemical Abstract Service.
(a) Only chemicals with at least one positively detected result are reported.
(b) Frequency of detection - Number of detected samples: Number of samples used to calculate statistics: Number of total samples.
(c) Percent of samples with detects out of samples used to calculate statistics.
(d) Minimum detected concentration for each chemical, after duplicates have been averaged.
(e) Maximum detected concentration for each chemical, after duplicates have been averaged.
(f) Arithmetic mean concentration for each chemical, after duplicates have been averaged and any non detected results with one-half the sample quantitation limit greater than the maximum detected concentration have been excluded.
(g) Soil Saturation Level (MDEQ, Dec. 2002). Only chemicals with Part 201 soil saturation levels reported.
(h) Chemicals where maximum detected concentration exceeds criterion.

Table D-12
Risk Screening
Using Part 201 Criteria State Default Background
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	State Default Background (g)	Exceeds? (h)
AOC 2									
ARSENIC	7440-38-2	ug/kg	8 : 8 : 8	100	7.30E+02	4.11E+04	1.81E+04	5.80E+03	Yes
BARIUM	7440-39-3	ug/kg	8 : 8 : 8	100	4.50E+03	7.89E+04	4.37E+04	7.50E+04	Yes
CADMIUM	7440-43-9	ug/kg	8 : 8 : 8	100	1.40E+02	3.50E+03	7.44E+02	1.20E+03	Yes
COPPER	7440-50-8	ug/kg	8 : 8 : 8	100	3.20E+03	2.44E+04	1.51E+04	3.20E+04	No
LEAD	7439-92-1	ug/kg	8 : 8 : 8	100	2.40E+03	9.01E+04	2.22E+04	2.10E+04	Yes
MERCURY	7439-97-6	ug/kg	5 : 8 : 8	63	1.50E+02	1.71E+04	2.40E+03	1.30E+02	Yes
NICKEL	7440-02-0	ug/kg	8 : 8 : 8	100	4.80E+03	1.33E+04	9.82E+03	2.00E+04	No
SELENIUM	7782-49-2	ug/kg	1 : 8 : 8	13	7.60E+02	7.60E+02	3.81E+02	4.10E+02	Yes
TOTAL CYANIDE	57-12-5	ug/kg	6 : 8 : 8	75	7.65E+02	4.60E+04	1.04E+04	3.90E+02	Yes
ZINC	7440-66-6	ug/kg	8 : 8 : 8	100	1.85E+04	9.66E+05	1.80E+05	4.70E+04	Yes
AOC 4									
ARSENIC	7440-38-2	ug/kg	2 : 2 : 2	100	1.45E+04	2.05E+04	1.75E+04	5.80E+03	Yes
BARIUM	7440-39-3	ug/kg	2 : 2 : 2	100	1.25E+04	3.35E+04	2.30E+04	7.50E+04	No
CADMIUM	7440-43-9	ug/kg	2 : 2 : 2	100	1.40E+03	1.40E+03	1.40E+03	1.20E+03	Yes
COPPER	7440-50-8	ug/kg	2 : 2 : 2	100	3.40E+03	3.70E+03	3.55E+03	3.20E+04	No
LEAD	7439-92-1	ug/kg	2 : 2 : 2	100	4.90E+04	8.28E+04	6.59E+04	2.10E+04	Yes
MERCURY	7439-97-6	ug/kg	2 : 2 : 2	100	1.30E+02	6.20E+02	3.75E+02	1.30E+02	Yes
SELENIUM	7782-49-2	ug/kg	2 : 2 : 2	100	2.60E+03	3.60E+03	3.10E+03	4.10E+02	Yes
TOTAL CYANIDE	57-12-5	ug/kg	2 : 2 : 2	100	1.10E+04	1.90E+04	1.50E+04	3.90E+02	Yes
ZINC	7440-66-6	ug/kg	2 : 2 : 2	100	1.01E+05	1.14E+05	1.08E+05	4.70E+04	Yes
AOC 6									
ARSENIC	7440-38-2	ug/kg	12 : 12 : 12	100	3.90E+03	2.00E+05	3.88E+04	5.80E+03	Yes
BARIUM	7440-39-3	ug/kg	12 : 12 : 12	100	8.50E+03	1.87E+05	7.72E+04	7.50E+04	Yes
CADMIUM	7440-43-9	ug/kg	9 : 12 : 12	75	1.40E+02	2.00E+03	5.23E+02	1.20E+03	Yes
COPPER	7440-50-8	ug/kg	12 : 12 : 12	100	7.40E+03	4.94E+04	2.55E+04	3.20E+04	Yes
LEAD	7439-92-1	ug/kg	12 : 12 : 12	100	6.00E+03	3.08E+05	5.77E+04	2.10E+04	Yes
MERCURY	7439-97-6	ug/kg	8 : 12 : 12	67	1.40E+02	3.30E+03	7.83E+02	1.30E+02	Yes
NICKEL	7440-02-0	ug/kg	8 : 12 : 12	67	5.30E+03	3.39E+04	1.16E+04	2.00E+04	Yes
SELENIUM	7782-49-2	ug/kg	7 : 12 : 12	58	1.00E+03	2.30E+04	5.09E+03	4.10E+02	Yes
TOTAL CYANIDE	57-12-5	ug/kg	8 : 12 : 12	67	2.70E+02	2.40E+03	7.76E+02	3.90E+02	Yes
ZINC	7440-66-6	ug/kg	12 : 12 : 12	100	1.03E+04	2.52E+05	6.55E+04	4.70E+04	Yes

Table D-12
Risk Screening
Using Part 201 Criteria State Default Background
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	State Default Background (g)	Exceeds? (h)
AOC 7A									
ARSENIC	7440-38-2	ug/kg	14 : 14 : 14	100	2.50E+03	6.24E+04	1.77E+04	5.80E+03	Yes
BARIUM	7440-39-3	ug/kg	14 : 14 : 14	100	8.30E+03	1.48E+05	6.59E+04	7.50E+04	Yes
CADMIUM	7440-43-9	ug/kg	12 : 14 : 14	86	1.40E+02	7.50E+02	3.37E+02	1.20E+03	No
COBALT	7440-48-4	ug/kg	2 : 14 : 14	14	4.80E+03	9.70E+03	3.77E+03	6.80E+03	Yes
COPPER	7440-50-8	ug/kg	14 : 14 : 14	100	2.70E+03	3.70E+04	2.13E+04	3.20E+04	Yes
LEAD	7439-92-1	ug/kg	14 : 14 : 14	100	2.80E+03	3.35E+05	7.15E+04	2.10E+04	Yes
MERCURY	7439-97-6	ug/kg	11 : 14 : 14	79	1.30E+02	4.80E+03	1.27E+03	1.30E+02	Yes
NICKEL	7440-02-0	ug/kg	13 : 14 : 14	93	8.10E+03	3.18E+04	1.44E+04	2.00E+04	Yes
SELENIUM	7782-49-2	ug/kg	4 : 14 : 14	29	6.33E+02	1.70E+03	5.83E+02	4.10E+02	Yes
SILVER	7440-22-4	ug/kg	1 : 14 : 14	7	1.00E+04	1.00E+04	1.31E+03	1.00E+03	Yes
TOTAL CYANIDE	57-12-5	ug/kg	15 : 19 : 19	79	3.20E+02	5.70E+03	1.66E+03	3.90E+02	Yes
ZINC	7440-66-6	ug/kg	14 : 14 : 14	100	1.26E+04	1.90E+05	6.66E+04	4.70E+04	Yes
AOC 7B									
ARSENIC	7440-38-2	ug/kg	4 : 4 : 4	100	1.70E+03	1.17E+04	7.45E+03	5.80E+03	Yes
BARIUM	7440-39-3	ug/kg	4 : 4 : 4	100	1.26E+04	1.08E+05	5.25E+04	7.50E+04	Yes
CADMIUM	7440-43-9	ug/kg	2 : 4 : 4	50	4.10E+02	5.10E+02	2.59E+02	1.20E+03	No
COPPER	7440-50-8	ug/kg	3 : 4 : 4	75	1.24E+04	1.65E+04	1.16E+04	3.20E+04	No
LEAD	7439-92-1	ug/kg	4 : 4 : 4	100	3.40E+03	3.06E+04	1.53E+04	2.10E+04	Yes
MERCURY	7439-97-6	ug/kg	2 : 4 : 4	50	2.70E+02	5.70E+02	2.39E+02	1.30E+02	Yes
NICKEL	7440-02-0	ug/kg	4 : 4 : 4	100	6.40E+03	1.38E+04	1.06E+04	2.00E+04	No
ZINC	7440-66-6	ug/kg	4 : 4 : 4	100	1.46E+04	1.51E+05	6.45E+04	4.70E+04	Yes
AOC 7C									
ARSENIC	7440-38-2	ug/kg	4 : 4 : 4	100	1.92E+04	3.45E+04	2.67E+04	5.80E+03	Yes
BARIUM	7440-39-3	ug/kg	4 : 4 : 4	100	2.07E+04	1.47E+05	6.38E+04	7.50E+04	Yes
CADMIUM	7440-43-9	ug/kg	1 : 4 : 4	25	6.70E+02	6.70E+02	2.19E+02	1.20E+03	No
COPPER	7440-50-8	ug/kg	4 : 4 : 4	100	2.00E+04	3.08E+04	2.36E+04	3.20E+04	No
LEAD	7439-92-1	ug/kg	4 : 4 : 4	100	7.30E+03	1.13E+05	4.14E+04	2.10E+04	Yes
MERCURY	7439-97-6	ug/kg	2 : 4 : 4	50	1.60E+02	2.20E+03	6.25E+02	1.30E+02	Yes
NICKEL	7440-02-0	ug/kg	4 : 4 : 4	100	1.01E+04	8.99E+04	3.36E+04	2.00E+04	Yes
SELENIUM	7782-49-2	ug/kg	4 : 4 : 4	100	2.00E+03	2.40E+03	2.23E+03	4.10E+02	Yes
ZINC	7440-66-6	ug/kg	4 : 4 : 4	100	1.83E+04	6.03E+05	1.72E+05	4.70E+04	Yes

Table D-12
Risk Screening
Using Part 201 Criteria State Default Background
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	State Default Background (g)	Exceeds? (h)
RFIMW 24									
ARSENIC	7440-38-2	ug/kg	2:2:2	100	1.40E+03	8.00E+03	4.70E+03	5.80E+03	Yes
BARIUM	7440-39-3	ug/kg	2:2:2	100	7.30E+03	9.70E+04	5.22E+04	7.50E+04	Yes
CADMIUM	7440-43-9	ug/kg	1:2:2	50	1.40E+03	1.40E+03	7.33E+02	1.20E+03	Yes
COPPER	7440-50-8	ug/kg	2:2:2	100	3.30E+03	2.97E+04	1.65E+04	3.20E+04	No
LEAD	7439-92-1	ug/kg	2:2:2	100	2.70E+03	3.34E+04	1.81E+04	2.10E+04	Yes
NICKEL	7440-02-0	ug/kg	1:2:2	50	1.39E+04	1.39E+04	8.25E+03	2.00E+04	No
TOTAL CYANIDE	57-12-5	ug/kg	2:2:2	100	3.90E+02	2.70E+03	1.55E+03	3.90E+02	Yes
ZINC	7440-66-6	ug/kg	2:2:2	100	1.02E+04	1.16E+05	6.31E+04	4.70E+04	Yes
RFIMW 25									
ARSENIC	7440-38-2	ug/kg	2:2:2	100	1.80E+03	6.00E+03	3.90E+03	5.80E+03	Yes
BARIUM	7440-39-3	ug/kg	2:2:2	100	1.23E+04	1.01E+05	5.67E+04	7.50E+04	Yes
CADMIUM	7440-43-9	ug/kg	1:2:2	50	2.80E+02	2.80E+02	1.70E+02	1.20E+03	No
COPPER	7440-50-8	ug/kg	2:2:2	100	2.75E+03	8.10E+03	5.43E+03	3.20E+04	No
LEAD	7439-92-1	ug/kg	2:2:2	100	2.15E+03	1.28E+04	7.48E+03	2.10E+04	No
MERCURY	7439-97-6	ug/kg	1:2:2	50	1.60E+02	1.60E+02	1.10E+02	1.30E+02	Yes
NICKEL	7440-02-0	ug/kg	1:2:2	50	6.80E+03	6.80E+03	4.61E+03	2.00E+04	No
TOTAL CYANIDE	57-12-5	ug/kg	2:2:2	100	1.50E+03	1.90E+03	1.70E+03	3.90E+02	Yes
ZINC	7440-66-6	ug/kg	2:2:2	100	1.33E+04	4.00E+04	2.67E+04	4.70E+04	No
RFIMW 26									
ARSENIC	7440-38-2	ug/kg	2:2:2	100	5.10E+03	9.50E+03	7.30E+03	5.80E+03	Yes
BARIUM	7440-39-3	ug/kg	2:2:2	100	1.24E+04	3.35E+04	2.30E+04	7.50E+04	No
CADMIUM	7440-43-9	ug/kg	1:2:2	50	6.20E+02	6.20E+02	3.40E+02	1.20E+03	No
COBALT	7440-48-4	ug/kg	1:2:2	50	6.10E+03	6.10E+03	4.53E+03	6.80E+03	No
COPPER	7440-50-8	ug/kg	2:2:2	100	3.40E+03	2.57E+04	1.46E+04	3.20E+04	No
LEAD	7439-92-1	ug/kg	2:2:2	100	2.30E+03	3.20E+04	1.72E+04	2.10E+04	Yes
MERCURY	7439-97-6	ug/kg	1:2:2	50	2.70E+02	2.70E+02	1.65E+02	1.30E+02	Yes
NICKEL	7440-02-0	ug/kg	1:2:2	50	1.42E+04	1.42E+04	8.30E+03	2.00E+04	No
SELENIUM	7782-49-2	ug/kg	1:2:2	50	1.20E+03	1.20E+03	7.48E+02	4.10E+02	Yes
TOTAL CYANIDE	57-12-5	ug/kg	1:2:2	50	3.70E+03	3.70E+03	1.93E+03	3.90E+02	Yes
ZINC	7440-66-6	ug/kg	2:2:2	100	9.60E+03	5.81E+04	3.39E+04	4.70E+04	Yes

Table D-12
Risk Screening
Using Part 201 Criteria State Default Background
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	State Default Background (g)	Exceeds? (h)
RFIMW 27									
ARSENIC	7440-38-2	ug/kg	2 : 2 : 2	100	2.50E+03	7.40E+03	4.95E+03	5.80E+03	Yes
BARIUM	7440-39-3	ug/kg	2 : 2 : 2	100	1.81E+04	8.07E+04	4.94E+04	7.50E+04	Yes
CADMIUM	7440-43-9	ug/kg	1 : 2 : 2	50	2.90E+02	2.90E+02	1.78E+02	1.20E+03	No
COPPER	7440-50-8	ug/kg	2 : 2 : 2	100	6.20E+03	1.24E+04	9.30E+03	3.20E+04	No
LEAD	7439-92-1	ug/kg	2 : 2 : 2	100	2.20E+03	3.10E+03	2.65E+03	2.10E+04	No
MERCURY	7439-97-6	ug/kg	1 : 2 : 2	50	5.20E+02	5.20E+02	2.93E+02	1.30E+02	Yes
NICKEL	7440-02-0	ug/kg	2 : 2 : 2	100	6.40E+03	1.28E+04	9.60E+03	2.00E+04	No
TOTAL CYANIDE	57-12-5	ug/kg	1 : 2 : 2	50	7.80E+02	7.80E+02	4.70E+02	3.90E+02	Yes
ZINC	7440-66-6	ug/kg	2 : 2 : 2	100	1.25E+04	1.34E+05	7.33E+04	4.70E+04	Yes
RFIMW 28									
ARSENIC	7440-38-2	ug/kg	2 : 2 : 2	100	1.80E+03	8.90E+03	5.35E+03	5.80E+03	Yes
BARIUM	7440-39-3	ug/kg	2 : 2 : 2	100	6.00E+03	1.79E+05	9.25E+04	7.50E+04	Yes
COPPER	7440-50-8	ug/kg	2 : 2 : 2	100	6.90E+03	1.20E+04	9.45E+03	3.20E+04	No
LEAD	7439-92-1	ug/kg	2 : 2 : 2	100	1.10E+03	2.50E+03	1.80E+03	2.10E+04	No
NICKEL	7440-02-0	ug/kg	2 : 2 : 2	100	5.70E+03	1.48E+04	1.03E+04	2.00E+04	No
ZINC	7440-66-6	ug/kg	2 : 2 : 2	100	1.54E+04	1.17E+05	6.62E+04	4.70E+04	Yes
SWMU F									
ARSENIC	7440-38-2	ug/kg	10 : 10 : 10	100	4.40E+03	6.39E+04	2.32E+04	5.80E+03	Yes
BARIUM	7440-39-3	ug/kg	10 : 10 : 10	100	1.88E+04	4.91E+05	1.08E+05	7.50E+04	Yes
CADMIUM	7440-43-9	ug/kg	10 : 10 : 10	100	2.70E+02	7.30E+03	1.20E+03	1.20E+03	Yes
COBALT	7440-48-4	ug/kg	1 : 10 : 10	10	4.05E+04	4.05E+04	8.12E+03	6.80E+03	Yes
COPPER	7440-50-8	ug/kg	10 : 10 : 10	100	1.05E+04	7.71E+06	7.93E+05	3.20E+04	Yes
LEAD	7439-92-1	ug/kg	10 : 10 : 10	100	1.50E+03	8.76E+05	1.09E+05	2.10E+04	Yes
MERCURY	7439-97-6	ug/kg	6 : 10 : 10	60	3.30E+02	2.11E+04	2.90E+03	1.30E+02	Yes
NICKEL	7440-02-0	ug/kg	9 : 10 : 10	90	6.40E+03	1.70E+05	2.82E+04	2.00E+04	Yes
SELENIUM	7782-49-2	ug/kg	5 : 10 : 10	50	1.20E+03	6.30E+03	1.62E+03	4.10E+02	Yes
SILVER	7440-22-4	ug/kg	1 : 10 : 10	10	1.05E+04	1.05E+04	1.86E+03	1.00E+03	Yes
TOTAL CYANIDE	57-12-5	ug/kg	8 : 10 : 10	80	1.10E+03	5.10E+03	2.20E+03	3.90E+02	Yes
ZINC	7440-66-6	ug/kg	9 : 10 : 10	90	3.47E+04	1.00E+06	1.63E+05	4.70E+04	Yes

Table D-12
Risk Screening
Using Part 201 Criteria State Default Background
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	State Default Background (g)	Exceeds? (h)
SWMU G									
ARSENIC	7440-38-2	ug/kg	10 : 10 : 10	100	4.80E+03	1.01E+05	2.67E+04	5.80E+03	Yes
BARIUM	7440-39-3	ug/kg	10 : 10 : 10	100	5.54E+04	1.66E+05	8.97E+04	7.50E+04	Yes
CADMIUM	7440-43-9	ug/kg	10 : 10 : 10	100	3.00E+02	2.30E+03	7.90E+02	1.20E+03	Yes
COBALT	7440-48-4	ug/kg	1 : 10 : 10	10	1.01E+04	1.01E+04	3.68E+03	6.80E+03	Yes
COPPER	7440-50-8	ug/kg	10 : 10 : 10	100	1.53E+04	9.53E+04	3.39E+04	3.20E+04	Yes
LEAD	7439-92-1	ug/kg	10 : 10 : 10	100	1.10E+04	2.38E+05	7.33E+04	2.10E+04	Yes
MERCURY	7439-97-6	ug/kg	8 : 10 : 10	80	1.40E+02	5.40E+03	7.69E+02	1.30E+02	Yes
NICKEL	7440-02-0	ug/kg	10 : 10 : 10	100	7.60E+03	2.56E+04	1.34E+04	2.00E+04	Yes
SELENIUM	7782-49-2	ug/kg	1 : 10 : 10	10	4.40E+02	4.40E+02	3.14E+02	4.10E+02	Yes
TOTAL CYANIDE	57-12-5	ug/kg	1 : 10 : 10	10	6.60E+02	6.60E+02	1.99E+02	3.90E+02	Yes
ZINC	7440-66-6	ug/kg	10 : 10 : 10	100	3.52E+04	3.35E+05	1.09E+05	4.70E+04	Yes
SWMU H									
ARSENIC	7440-38-2	ug/kg	11 : 11 : 11	100	1.90E+03	1.16E+05	2.28E+04	5.80E+03	Yes
BARIUM	7440-39-3	ug/kg	11 : 11 : 11	100	8.00E+03	2.23E+05	8.38E+04	7.50E+04	Yes
CADMIUM	7440-43-9	ug/kg	10 : 11 : 11	91	2.60E+02	4.20E+03	9.02E+02	1.20E+03	Yes
COBALT	7440-48-4	ug/kg	6 : 11 : 11	55	9.60E+03	1.37E+04	7.60E+03	6.80E+03	Yes
COPPER	7440-50-8	ug/kg	11 : 11 : 11	100	2.90E+03	2.21E+05	4.09E+04	3.20E+04	Yes
LEAD	7439-92-1	ug/kg	11 : 11 : 11	100	2.70E+03	4.33E+05	5.96E+04	2.10E+04	Yes
MERCURY	7439-97-6	ug/kg	5 : 11 : 11	45	1.40E+02	5.29E+04	5.20E+03	1.30E+02	Yes
NICKEL	7440-02-0	ug/kg	11 : 11 : 11	100	5.70E+03	9.34E+04	3.04E+04	2.00E+04	Yes
SELENIUM	7782-49-2	ug/kg	2 : 11 : 11	18	1.10E+03	1.40E+03	5.14E+02	4.10E+02	Yes
SILVER	7440-22-4	ug/kg	1 : 11 : 11	9	2.17E+04	2.17E+04	2.62E+03	1.00E+03	Yes
TOTAL CYANIDE	57-12-5	ug/kg	4 : 11 : 11	36	6.00E+02	1.60E+04	2.34E+03	3.90E+02	Yes
ZINC	7440-66-6	ug/kg	11 : 11 : 11	100	1.32E+04	6.28E+05	1.25E+05	4.70E+04	Yes

Table D-12
Risk Screening
Using Part 201 Criteria State Default Background
Soil
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	State Default Background (g)	Exceeds? (h)

Notes:

CAS - Chemical Abstract Service.
(a) Only chemicals with at least one positively detected result are reported.
(b) Frequency of detection - Number of detected samples: Number of samples used to calculate statistics: Number of total samples.
(c) Percent of samples with detects out of samples used to calculate statistics.
(d) Minimum detected concentration for each chemical, after duplicates have been averaged.
(e) Maximum detected concentration for each chemical, after duplicates have been averaged.
(f) Arithmetic mean concentration for each chemical, after duplicates have been averaged and any non detected results with one-half the sample quantitation limit greater than the maximum detected concentration have been excluded.
(g) State Default Background (MDEQ, Dec. 2002). Only chemicals with Part 201 State Default Background levels reported.
(h) Chemicals where maximum detected concentration exceeds criterion.

APPENDIX E

GROUNDWATER SCREENING TABLES

Table E-1
Cumulative Risk Screening
Using Part 201 Criteria Groundwater Contact Criteria (GCC)- Cancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Cancer GCC (g)	Ratio (h)	Constituent of Interest?
AOC 6										
TETRACHLOROETHENE	127-18-4	ug/l	1 : 1 : 1	100	4.70E-01	4.70E-01	4.70E-01	1.17E+04	4.02E-05	No
TRICHLOROETHENE	79-01-6	ug/l	1 : 1 : 1	100	4.20E-01	4.20E-01	4.20E-01	2.20E+04	1.91E-05	No
							Cumulative Risk:		**5.93E-05**	
CMSMW-13S										
BENZENE	71-43-2	ug/l	1 : 1 : 1	100	6.60E+01	6.60E+01	6.60E+01	1.15E+04	5.75E-03	No
							Cumulative Risk:		**5.75E-03**	
CMSMW-14S										
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/l	1 : 1 : 1	100	5.90E+00	5.90E+00	5.90E+00	5.70E+03	1.04E-03	No
1,2-DICHLOROPROPANE	78-87-5	ug/l	1 : 1 : 1	100	5.20E-01	5.20E-01	5.20E-01	1.58E+04	3.30E-05	No
							Cumulative Risk:		**1.07E-03**	
CMSMW-15										
STYRENE	100-42-5	ug/l	1 : 1 : 1	100	3.60E+00	3.60E+00	3.60E+00	9.66E+03	3.73E-04	No
1,4-DIOXANE	123-91-1	ug/l	1 : 1 : 1	100	4.80E+00	4.80E+00	4.80E+00	1.74E+06	2.75E-06	No
							Cumulative Risk:		**3.75E-04**	
CMSMW-2										
BENZENE	71-43-2	ug/l	1 : 1 : 1	100	5.10E+00	5.10E+00	5.10E+00	1.15E+04	4.45E-04	No
CHLOROMETHANE	74-87-3	ug/l	1 : 1 : 1	100	5.90E-01	5.90E-01	5.90E-01	4.86E+05	1.21E-06	No
							Cumulative Risk:		**4.46E-04**	
ENSR BG-MW-1										
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	3.50E+00	3.50E+00	3.50E+00	4.30E+03	8.14E-04	No
							Cumulative Risk:		**8.14E-04**	

Table E-1
Cumulative Risk Screening
Using Part 201 Criteria Groundwater Contact Criteria (GCC)- Cancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Cancer GCC (g)	Ratio (h)	Constituent of Interest?
ERB-1										
CHLOROFORM	67-66-3	ug/l	1 : 1 : 1	100	3.80E+01	3.80E+01	3.80E+01	1.51E+05	2.52E-04	No
BROMODICHLOROMETHANE	75-27-4	ug/l	1 : 1 : 1	100	1.20E+00	1.20E+00	1.20E+00	1.45E+04	8.29E-05	No
METHYLENE CHLORIDE	75-09-2	ug/l	1 : 1 : 1	100	1.30E+01	1.30E+01	1.30E+01	2.24E+05	5.81E-05	No
STYRENE	100-42-5	ug/l	1 : 1 : 1	100	2.80E-01	2.80E-01	2.80E-01	9.66E+03	2.90E-05	No
BENZENE	71-43-2	ug/l	1 : 1 : 1	100	2.50E-01	2.50E-01	2.50E-01	1.15E+04	2.18E-05	No
							Cumulative Risk:		**4.43E-04**	
GTI SB-11										
BENZENE	71-43-2	ug/l	1 : 1 : 1	100	2.00E+00	2.00E+00	2.00E+00	1.15E+04	1.74E-04	No
							Cumulative Risk:		**1.74E-04**	
GTI SB-16										
BENZENE	71-43-2	ug/l	1 : 1 : 1	100	6.80E+01	6.80E+01	6.80E+01	1.15E+04	5.93E-03	No
							Cumulative Risk:		**5.93E-03**	
GTI SB-3										
STYRENE	100-42-5	ug/l	1 : 1 : 1	100	1.90E+00	1.90E+00	1.90E+00	9.66E+03	1.97E-04	No
BENZENE	71-43-2	ug/l	1 : 1 : 1	100	1.60E+00	1.60E+00	1.60E+00	1.15E+04	1.39E-04	No
							Cumulative Risk:		**3.36E-04**	
GTI-TPW-1										
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	6.00E+00	6.00E+00	6.00E+00	4.30E+03	1.39E-03	No
							Cumulative Risk:		**1.39E-03**	
P-15-N										
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	3.30E+01	3.30E+01	3.30E+01	4.30E+03	7.67E-03	No
1,2-DICHLOROPROPANE	78-87-5	ug/l	1 : 1 : 1	100	6.63E+01	6.63E+01	6.63E+01	1.58E+04	4.21E-03	No
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/l	1 : 1 : 1	100	1.04E+01	1.04E+01	1.04E+01	5.70E+03	1.82E-03	No
							Cumulative Risk:		**1.37E-02**	

Table E-1
Cumulative Risk Screening
Using Part 201 Criteria Groundwater Contact Criteria (GCC)- Cancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Cancer GCC (g)	Ratio (h)	Constituent of Interest?
P-34-N										
ARSENIC	7440-38-2	ug/L	6 : 6 : 6	100	1.60E+01	2.70E+02	8.98E+01	4.30E+03	6.28E-02	No
1,4-DIOXANE	123-91-1	ug/l	3 : 3 : 5	100	3.00E+00	3.60E+00	3.20E+00	1.74E+06	2.06E-06	No
							Cumulative Risk:		**6.28E-02**	
P-36-N										
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	100	1.02E+02	1.02E+02	1.02E+02	3.20E+02	3.19E-01	No
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	7.70E+01	7.70E+01	7.70E+01	4.30E+03	1.79E-02	No
							Cumulative Risk:		**3.37E-01**	
PM1NA										
ARSENIC	7440-38-2	ug/L	4 : 4 : 4	100	3.10E+01	6.60E+02	4.43E+02	4.30E+03	1.53E-01	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 2 : 2	50	1.90E+01	1.90E+01	1.08E+01	3.20E+02	5.94E-02	No
BENZENE	71-43-2	ug/l	1 : 2 : 4	50	1.90E+00	1.90E+00	1.20E+00	1.15E+04	1.66E-04	No
							Cumulative Risk:		**2.13E-01**	
PM3NB										
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/l	1 : 1 : 1	100	3.90E+01	3.90E+01	3.90E+01	5.70E+03	6.84E-03	No
1,4-DIOXANE	123-91-1	ug/l	1 : 1 : 1	100	3.20E+00	3.20E+00	3.20E+00	1.74E+06	1.83E-06	No
							Cumulative Risk:		**6.84E-03**	
PM4NA										
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	3.00E+02	3.00E+02	3.00E+02	4.30E+03	6.97E-02	No
BENZENE	71-43-2	ug/l	1 : 1 : 1	100	1.10E+00	1.10E+00	1.10E+00	1.15E+04	9.59E-05	No
							Cumulative Risk:		**6.98E-02**	
RFIMW 01										
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	3.50E+00	3.50E+00	3.50E+00	4.30E+03	8.14E-04	No
1,4-DIOXANE	123-91-1	ug/l	1 : 1 : 1	100	1.20E+02	1.20E+02	1.20E+02	1.74E+06	6.88E-05	No
							Cumulative Risk:		**8.82E-04**	

Table E-1
Cumulative Risk Screening
Using Part 201 Criteria Groundwater Contact Criteria (GCC)- Cancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Cancer GCC (g)	Ratio (h)	Constituent of Interest?
RFIMW 02										
ARSENIC	7440-38-2	ug/L	4 : 4 : 4	100	7.50E+00	4.40E+01	2.06E+01	4.30E+03	1.02E-02	No
BIS(2-CHLOROETHYL) ETHER	111-44-4	ug/l	4 : 4 : 4	100	2.40E+01	4.50E+01	3.30E+01	5.70E+03	7.89E-03	No
BENZENE	71-43-2	ug/l	2 : 4 : 4	50	2.80E-01	7.70E-01	5.12E-01	1.15E+04	6.71E-05	No
1,4-DIOXANE	123-91-1	ug/l	1 : 1 : 3	100	4.00E+00	4.00E+00	4.00E+00	1.74E+06	2.29E-06	No
							Cumulative Risk:		**1.82E-02**	
RFIMW 03										
ARSENIC	7440-38-2	ug/L	4 : 4 : 4	100	1.90E+01	5.00E+01	3.00E+01	4.30E+03	1.16E-02	No
BIS(2-CHLOROETHYL) ETHER	111-44-4	ug/l	4 : 4 : 4	100	6.40E+00	1.50E+01	1.19E+01	5.70E+03	2.63E-03	No
							Cumulative Risk:		**1.43E-02**	
RFIMW 04										
ARSENIC	7440-38-2	ug/L	4 : 4 : 4	100	1.90E+02	5.70E+02	3.85E+02	4.30E+03	1.33E-01	No
1,4-DIOXANE	123-91-1	ug/l	4 : 4 : 4	100	1.10E+01	1.90E+01	1.58E+01	1.74E+06	1.09E-05	No
							Cumulative Risk:		**1.33E-01**	
RFIMW 05										
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	2 : 3 : 3	67	1.90E+00	3.00E+00	2.47E+00	3.20E+02	9.37E-03	No
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/l	3 : 3 : 4	100	1.60E+00	1.80E+00	1.73E+00	5.70E+03	3.16E-04	No
1,2-DICHLOROPROPANE	78-87-5	ug/l	4 : 4 : 4	100	3.90E-01	1.10E+00	7.32E-01	1.58E+04	6.98E-05	No
BENZENE	71-43-2	ug/l	3 : 4 : 4	75	4.50E-01	6.80E-01	5.55E-01	1.15E+04	5.93E-05	No
							Cumulative Risk:		**9.82E-03**	
RFIMW 06										
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/l	4 : 4 : 4	100	1.40E+01	1.80E+01	1.63E+01	5.70E+03	3.16E-03	No
1,2-DICHLOROPROPANE	78-87-5	ug/l	4 : 4 : 4	100	2.20E+01	3.50E+01	2.90E+01	1.58E+04	2.22E-03	No
ARSENIC	7440-38-2	ug/L	2 : 4 : 4	50	5.60E+00	7.50E+00	4.53E+00	4.30E+03	1.74E-03	No
1,2-DICHLOROETHANE	107-06-2	ug/l	2 : 4 : 4	50	4.70E-01	5.80E-01	5.12E-01	1.90E+04	3.04E-05	No
							Cumulative Risk:		**7.15E-03**	

Table E-1
Cumulative Risk Screening
Using Part 201 Criteria Groundwater Contact Criteria (GCC)- Cancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Cancer GCC (g)	Ratio (h)	Constituent of Interest?
RFIMW 07										
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 3 : 3	33	1.30E+01	1.30E+01	7.67E+00	3.20E+02	4.06E-02	No
BENZENE	71-43-2	ug/l	1 : 1 : 1	100	8.30E-01	8.30E-01	8.30E-01	1.15E+04	7.23E-05	No
1,4-DIOXANE	123-91-1	ug/l	4 : 4 : 4	100	2.40E+01	4.40E+01	3.21E+01	1.74E+06	2.52E-05	No
							Cumulative Risk:		**4.07E-02**	
RFIMW 08										
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 4	100	1.80E+00	1.80E+00	1.80E+00	3.20E+02	5.62E-03	No
CHLOROFORM	67-66-3	ug/l	1 : 4 : 4	25	1.20E+01	1.20E+01	3.38E+00	1.51E+05	7.95E-05	No
							Cumulative Risk:		**5.70E-03**	
RFIMW 09										
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 4	100	2.40E+00	2.40E+00	2.40E+00	3.20E+02	7.50E-03	No
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	2.30E+01	2.30E+01	2.30E+01	4.30E+03	5.35E-03	No
							Cumulative Risk:		**1.28E-02**	
RFIMW 10										
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 3	100	1.50E+00	1.50E+00	1.50E+00	3.20E+02	4.69E-03	No
ARSENIC	7440-38-2	ug/L	4 : 4 : 4	100	1.50E+01	1.90E+01	1.64E+01	4.30E+03	4.42E-03	No
							Cumulative Risk:		**9.10E-03**	
RFIMW 11										
ARSENIC	7440-38-2	ug/L	4 : 4 : 4	100	1.70E+01	1.40E+02	9.68E+01	4.30E+03	3.25E-02	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	2 : 2 : 2	100	2.80E+00	3.50E+00	3.15E+00	3.20E+02	1.09E-02	No
							Cumulative Risk:		**4.35E-02**	
RFIMW 12										
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	3.80E+01	3.80E+01	3.80E+01	4.30E+03	8.83E-03	No
							Cumulative Risk:		**8.83E-03**	

Table E-1
Cumulative Risk Screening
Using Part 201 Criteria Groundwater Contact Criteria (GCC)- Cancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Cancer GCC (g)	Ratio (h)	Constituent of Interest?
RFIMW 13										
1,2-DICHLOROETHANE	107-06-2	ug/l	1 : 1 : 1	100	2.20E+01	2.20E+01	2.20E+01	1.90E+04	1.15E-03	No
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	4.80E+00	4.80E+00	4.80E+00	4.30E+03	1.12E-03	No
1,4-DIOXANE	123-91-1	ug/l	1 : 1 : 1	100	2.40E+02	2.40E+02	2.40E+02	1.74E+06	1.38E-04	No
							Cumulative Risk:		**2.41E-03**	
RFIMW 16										
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	3.90E+01	3.90E+01	3.90E+01	4.30E+03	9.07E-03	No
1,4-DIOXANE	123-91-1	ug/l	1 : 1 : 1	100	3.90E+01	3.90E+01	3.90E+01	1.74E+06	2.24E-05	No
							Cumulative Risk:		**9.09E-03**	
RFIMW 18										
1,4-DIOXANE	123-91-1	ug/l	1 : 1 : 1	100	3.80E+00	3.80E+00	3.80E+00	1.74E+06	2.18E-06	No
							Cumulative Risk:		**2.18E-06**	
RFIMW 22										
VINYL CHLORIDE	75-01-4	ug/l	1 : 1 : 1	100	2.80E+02	2.80E+02	2.80E+02	1.00E+03	2.80E-01	No
BENZENE	71-43-2	ug/l	1 : 1 : 1	100	2.30E+03	2.30E+03	2.30E+03	1.15E+04	2.00E-01	No
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	1.90E+02	1.90E+02	1.90E+02	4.30E+03	4.42E-02	No
1,4-DIOXANE	123-91-1	ug/l	1 : 1 : 1	100	8.70E+01	8.70E+01	8.70E+01	1.74E+06	4.99E-05	No
							Cumulative Risk:		**5.25E-01**	
RFIMW 23										
BENZO(A)ANTHRACENE	56-55-3	ug/l	1 : 1 : 1	100	3.30E+00	3.30E+00	3.30E+00	1.04E+01	3.19E-01	No
ARSENIC	7440-38-2	ug/L	4 : 4 : 4	100	6.30E+00	1.20E+01	9.57E+00	4.30E+03	2.79E-03	No
							Cumulative Risk:		**3.21E-01**	

Table E-1
Cumulative Risk Screening
Using Part 201 Criteria Groundwater Contact Criteria (GCC)- Cancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Cancer GCC (g)	Ratio (h)	Constituent of Interest?
RFIMW 24										
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	3 : 5 : 5	60	2.00E+00	4.10E+00	2.84E+00	3.20E+02	1.28E-02	No
ARSENIC	7440-38-2	ug/L	1 : 6 : 6	17	1.10E+01	1.10E+01	4.66E+00	4.30E+03	2.56E-03	No
BENZENE	71-43-2	ug/l	1 : 1 : 6	100	1.10E-01	1.10E-01	1.10E-01	1.15E+04	9.59E-06	No
METHYLENE CHLORIDE	75-09-2	ug/l	1 : 1 : 6	100	4.50E-01	4.50E-01	4.50E-01	2.24E+05	2.01E-06	No
							Cumulative Risk:		**1.54E-02**	
RFIMW 25										
ARSENIC	7440-38-2	ug/L	4 : 6 : 6	67	7.80E+00	2.60E+01	1.30E+01	4.30E+03	6.04E-03	No
							Cumulative Risk:		**6.04E-03**	
RFIMW 26										
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	100	1.80E+01	1.80E+01	1.80E+01	3.20E+02	5.62E-02	No
ARSENIC	7440-38-2	ug/L	2 : 2 : 2	100	4.30E+00	7.00E+00	5.65E+00	4.30E+03	1.63E-03	No
							Cumulative Risk:		**5.79E-02**	
RFIMW 27										
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 4 : 4	25	4.10E+00	4.10E+00	2.90E+00	3.20E+02	1.28E-02	No
ARSENIC	7440-38-2	ug/L	1 : 6 : 6	17	5.90E+00	5.90E+00	4.40E+00	4.30E+03	1.37E-03	No
BENZENE	71-43-2	ug/l	1 : 1 : 6	100	1.10E-01	1.10E-01	1.10E-01	1.15E+04	9.59E-06	No
							Cumulative Risk:		**1.42E-02**	
RFIMW 28										
ARSENIC	7440-38-2	ug/L	6 : 6 : 6	100	4.00E+01	6.90E+01	5.07E+01	4.30E+03	1.60E-02	No
BENZENE	71-43-2	ug/l	5 : 5 : 6	100	1.20E+00	2.30E+00	1.70E+00	1.15E+04	2.00E-04	No
							Cumulative Risk:		**1.62E-02**	
RFIMW 29										
ARSENIC	7440-38-2	ug/L	4 : 6 : 6	67	8.50E+00	3.05E+01	1.33E+01	4.30E+03	7.09E-03	No
							Cumulative Risk:		**7.09E-03**	

Table E-1
Cumulative Risk Screening
Using Part 201 Criteria Groundwater Contact Criteria (GCC)- Cancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Cancer GCC (g)	Ratio (h)	Constituent of Interest?
WHI1-3S										
BENZENE	71-43-2	ug/l	1 : 1 : 1	100	6.81E+02	6.81E+02	6.81E+02	1.15E+04	5.94E-02	No
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	8.80E+01	8.80E+01	8.80E+01	4.30E+03	2.05E-02	No
							Cumulative Risk:		**7.98E-02**	
WHI2-1S										
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	100	8.10E+02	8.10E+02	8.10E+02	3.20E+02	2.53E+00	Yes
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	3.80E+01	3.80E+01	3.80E+01	4.30E+03	8.83E-03	No
							Cumulative Risk:		**8.83E-03**	
WHI2-2S										
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	100	8.40E+00	8.40E+00	8.40E+00	3.20E+02	2.62E-02	No
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	3.80E+01	3.80E+01	3.80E+01	4.30E+03	8.83E-03	No
							Cumulative Risk:		**3.51E-02**	
WHI2-3S										
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	100	1.21E+02	1.21E+02	1.21E+02	3.20E+02	3.78E-01	No
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	4.20E+01	4.20E+01	4.20E+01	4.30E+03	9.76E-03	No
							Cumulative Risk:		**3.88E-01**	
WHI3-1S										
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	100	8.23E+01	8.23E+01	8.23E+01	3.20E+02	2.57E-01	No
ARSENIC	7440-38-2	ug/L	2 : 2 : 2	100	1.60E+01	1.42E+02	7.90E+01	4.30E+03	3.30E-02	No
							Cumulative Risk:		**2.90E-01**	
WHI3-2S										
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	100	1.60E+01	1.60E+01	1.60E+01	3.20E+02	5.00E-02	No
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	4.40E+01	4.40E+01	4.40E+01	4.30E+03	1.02E-02	No
							Cumulative Risk:		**6.02E-02**	

Table E-1
Cumulative Risk Screening
Using Part 201 Criteria Groundwater Contact Criteria (GCC)- Cancer Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Cancer GCC (g)	Ratio (h)	Constituent of Interest?
WHI3-3S										
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	100	6.38E+01	6.38E+01	6.38E+01	3.20E+02	1.99E-01	No
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	4.00E+00	4.00E+00	4.00E+00	4.30E+03	9.30E-04	No
							Cumulative Risk:		**2.00E-01**	
WHI4-1S										
ARSENIC	7440-38-2	ug/L	1 : 2 : 2	50	1.03E+02	1.03E+02	5.40E+01	4.30E+03	2.39E-02	No
							Cumulative Risk:		**2.39E-02**	
WHI4-2S										
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	100	2.68E+01	2.68E+01	2.68E+01	3.20E+02	8.37E-02	No
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	3.00E+01	3.00E+01	3.00E+01	4.30E+03	6.97E-03	No
							Cumulative Risk:		**9.07E-02**	
WHI9-2F										
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	100	2.38E+01	2.38E+01	2.38E+01	3.20E+02	7.44E-02	No
ARSENIC	7440-38-2	ug/L	2 : 2 : 2	100	3.30E+01	4.10E+01	3.70E+01	4.30E+03	9.53E-03	No
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/l	1 : 1 : 1	100	3.29E+00	3.29E+00	3.29E+00	5.70E+03	5.77E-04	No
1,2-DICHLOROPROPANE	78-87-5	ug/l	1 : 1 : 2	100	1.74E+00	1.74E+00	1.74E+00	1.58E+04	1.10E-04	No
							Cumulative Risk:		**9.46E-02**	
WHI9-2S										
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	100	1.13E+00	1.13E+00	1.13E+00	3.20E+02	3.53E-03	No
							Cumulative Risk:		**3.53E-03**	

Table E-1
Cumulative Risk Screening
Using Part 201 Criteria Groundwater Contact Criteria (GCC)- Cancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Cancer GCC (g)	Ratio (h)	Constituent of Interest?

Notes:

CAS - Chemical Abstract Service.
(a) Only chemicals with at least one positively detected result are reported.
(b) Frequency of detection - Number of detected samples: Number of samples used to calculate statistics: Number of total samples.
(c) Percent of samples with detects out of samples used to calculate statistics.
(d) Minimum detected concentration for each chemical, after duplicates have been averaged.
(e) Maximum detected concentration for each chemical, after duplicates have been averaged.
(f) Arithmetic mean concentration for each chemical, after duplicates have been averaged and any non detected results with one-half the sample quantitation limit greater than the maximum detected concentration have been excluded.
(g) Groundwater Contact Criteria (GCC): Carcinogen (MDEQ, Dec. 2002).
(h) Ratio of the maximum detected concentration and the Part 201 criterion.

Table E-2
Cumulative Risk Screening
Using Part 201 Criteria Groundwater Contact Criteria (GCC)- NonCancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	NonCancer GCC (g)	Ratio (h)	Constituent of Interest?
AOC 6										
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	100	9.50E+00	9.50E+00	9.50E+00	4.65E+05	2.05E-05	No
TETRACHLOROETHENE	127-18-4	ug/l	1 : 1 : 1	100	4.70E-01	4.70E-01	4.70E-01	9.13E+04	5.15E-06	No
							Cumulative Risk:		**2.56E-05**	
CMSMW-1										
ACETONE	67-64-1	ug/l	1 : 1 : 1	100	9.40E+02	9.40E+02	9.40E+02	3.06E+07	3.07E-05	No
							Cumulative Risk:		**3.07E-05**	
CMSMW-12										
CARBON DISULFIDE	75-15-0	ug/l	1 : 1 : 1	100	1.50E+00	1.50E+00	1.50E+00	1.31E+06	1.14E-06	No
							Cumulative Risk:		**1.14E-06**	
CMSMW-13F										
NAPHTHALENE	91-20-3	ug/l	1 : 1 : 1	100	1.90E+01	1.90E+01	1.90E+01	1.71E+05	1.11E-04	No
							Cumulative Risk:		**1.11E-04**	
CMSMW-13S										
2-PICOLINE	109-06-8	ug/l	1 : 1 : 1	100	2.90E+01	2.90E+01	2.90E+01	9.36E+04	3.10E-04	No
PYRIDINE	110-86-1	ug/l	1 : 1 : 1	100	3.60E+00	3.60E+00	3.60E+00	9.36E+04	3.85E-05	No
2,4-DIMETHYLPHENOL	105-67-9	ug/l	1 : 1 : 1	100	5.50E+00	5.50E+00	5.50E+00	5.21E+05	1.06E-05	No
ACETONE	67-64-1	ug/l	1 : 1 : 1	100	8.30E+01	8.30E+01	8.30E+01	3.06E+07	2.71E-06	No
TOTAL XYLENES	Total Xylenes	ug/L	1 : 1 : 1	100	3.18E+00	3.18E+00	3.18E+00	5.36E+06	5.93E-07	No
							Cumulative Risk:		**3.62E-04**	
CMSMW-14S										
NAPHTHALENE	91-20-3	ug/l	1 : 1 : 1	100	5.65E+00	5.65E+00	5.65E+00	1.71E+05	3.30E-05	No
ACETONE	67-64-1	ug/l	1 : 1 : 1	100	4.65E+02	4.65E+02	4.65E+02	3.06E+07	1.52E-05	No
1,2-DICHLOROPROPANE	78-87-5	ug/l	1 : 1 : 1	100	5.20E-01	5.20E-01	5.20E-01	7.70E+06	6.76E-08	No
							Cumulative Risk:		**4.83E-05**	

Table E-2
Cumulative Risk Screening
Using Part 201 Criteria Groundwater Contact Criteria (GCC)- NonCancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	NonCancer GCC (g)	Ratio (h)	Constituent of Interest?
CMSMW-15										
ETHYLBENZENE	100-41-4	ug/l	1 : 1 : 1	100	2.80E+00	2.80E+00	2.80E+00	2.77E+05	1.01E-05	No
STYRENE	100-42-5	ug/l	1 : 1 : 1	100	3.60E+00	3.60E+00	3.60E+00	7.53E+05	4.78E-06	No
							Cumulative Risk:		**1.49E-05**	
CMSMW-2										
NITRITE	14797-65-0	ug/L	1 : 1 : 1	100	8.20E+03	8.20E+03	8.20E+03	1.94E+07	4.24E-04	No
TOLUENE	108-88-3	ug/l	1 : 1 : 1	100	2.90E+01	2.90E+01	2.90E+01	9.92E+05	2.92E-05	No
BARIUM	7440-39-3	ug/L	1 : 1 : 1	100	2.30E+02	2.30E+02	2.30E+02	1.35E+07	1.70E-05	No
CHLOROBENZENE	108-90-7	ug/l	1 : 1 : 1	100	9.40E-01	9.40E-01	9.40E-01	8.62E+04	1.09E-05	No
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	4.34E-01	4.34E-01	4.34E-01	5.81E+04	7.47E-06	No
1,2-DICHLOROBENZENE	95-50-1	ug/l	1 : 1 : 1	100	1.10E+00	1.10E+00	1.10E+00	2.11E+05	5.22E-06	No
VANADIUM	7440-62-2	ug/L	1 : 1 : 1	100	3.30E+00	3.30E+00	3.30E+00	9.68E+05	3.41E-06	No
ACETONE	67-64-1	ug/l	1 : 1 : 1	100	4.80E+01	4.80E+01	4.80E+01	3.06E+07	1.57E-06	No
PHENOL	108-95-2	ug/l	1 : 1 : 1	100	2.40E+01	2.40E+01	2.40E+01	2.93E+07	8.19E-07	No
ZINC	7440-66-6	ug/L	1 : 1 : 1	100	4.90E+01	4.90E+01	4.90E+01	1.06E+08	4.60E-07	No
NICKEL	7440-02-0	ug/L	1 : 1 : 1	100	4.20E+00	4.20E+00	4.20E+00	7.36E+07	5.71E-08	No
							Cumulative Risk:		**5.00E-04**	
CMSMW-8										
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	3.90E+00	3.90E+00	3.90E+00	5.81E+04	6.71E-05	No
							Cumulative Risk:		**6.71E-05**	

Table E-2
Cumulative Risk Screening
Using Part 201 Criteria Groundwater Contact Criteria (GCC)- NonCancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	NonCancer GCC (g)	Ratio (h)	Constituent of Interest?
ENSR BG-MW-1										
THALLIUM	7440-28-0	ug/L	1 : 1 : 1	100	1.00E+01	1.00E+01	1.00E+01	1.30E+04	7.71E-04	No
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	3.50E+00	3.50E+00	3.50E+00	5.23E+04	6.70E-05	No
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	100	2.10E+00	2.10E+00	2.10E+00	4.65E+05	4.52E-06	No
BARIUM	7440-39-3	ug/L	1 : 1 : 1	100	4.90E+01	4.90E+01	4.90E+01	1.35E+07	3.62E-06	No
COBALT	7440-48-4	ug/L	1 : 1 : 1	100	3.10E+00	3.10E+00	3.10E+00	2.42E+06	1.28E-06	No
NICKEL	7440-02-0	ug/L	1 : 1 : 1	100	4.40E+01	4.40E+01	4.40E+01	7.36E+07	5.98E-07	No
COPPER	7440-50-8	ug/L	1 : 1 : 1	100	4.10E+00	4.10E+00	4.10E+00	7.36E+06	5.57E-07	No
MERCURY	7439-97-6	ug/l	2 : 2 : 2	100	3.53E-03	1.62E-02	9.86E-03	5.81E+04	2.79E-07	No
ZINC	7440-66-6	ug/L	1 : 1 : 1	100	2.40E+01	2.40E+01	2.40E+01	1.06E+08	2.25E-07	No
							Cumulative Risk:		**8.49E-04**	
ERB-1										
CHLOROFORM	67-66-3	ug/l	1 : 1 : 1	100	3.80E+01	3.80E+01	3.80E+01	2.59E+05	1.47E-04	No
METHYLENE CHLORIDE	75-09-2	ug/l	1 : 1 : 1	100	1.30E+01	1.30E+01	1.30E+01	1.64E+06	7.95E-06	No
CHLOROBENZENE	108-90-7	ug/l	1 : 1 : 1	100	3.40E-01	3.40E-01	3.40E-01	8.62E+04	3.94E-06	No
BROMODICHLOROMETHANE	75-27-4	ug/l	1 : 1 : 1	100	1.20E+00	1.20E+00	1.20E+00	3.91E+05	3.07E-06	No
TOLUENE	108-88-3	ug/l	1 : 1 : 1	100	6.00E-01	6.00E-01	6.00E-01	9.92E+05	6.05E-07	No
STYRENE	100-42-5	ug/l	1 : 1 : 1	100	2.80E-01	2.80E-01	2.80E-01	7.53E+05	3.72E-07	No
							Cumulative Risk:		**1.63E-04**	
GTI SB-3										
STYRENE	100-42-5	ug/l	1 : 1 : 1	100	1.90E+00	1.90E+00	1.90E+00	7.53E+05	2.52E-06	No
							Cumulative Risk:		**2.52E-06**	

Table E-2
Cumulative Risk Screening
Using Part 201 Criteria Groundwater Contact Criteria (GCC)- NonCancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	NonCancer GCC (g)	Ratio (h)	Constituent of Interest?
GTI-TPW-1										
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	6.00E+00	6.00E+00	6.00E+00	5.23E+04	1.15E-04	No
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	100	4.00E+00	4.00E+00	4.00E+00	4.65E+05	8.61E-06	No
TOTAL XYLENES	Total Xylenes	ug/L	1 : 1 : 1	100	3.69E+01	3.69E+01	3.69E+01	5.36E+06	6.88E-06	No
BARIUM	7440-39-3	ug/L	1 : 1 : 1	100	6.70E+01	6.70E+01	6.70E+01	1.35E+07	4.94E-06	No
IRON	7439-89-6	ug/L	1 : 1 : 1	100	1.32E+02	1.32E+02	1.32E+02	5.81E+07	2.27E-06	No
MAGNESIUM	7439-95-4	ug/L	1 : 1 : 1	100	4.30E+03	4.30E+03	4.30E+03	2.13E+09	2.02E-06	No
ACETOPHENONE	98-86-2	ug/l	1 : 1 : 1	100	2.99E+00	2.99E+00	2.99E+00	6.88E+06	4.34E-07	No
							Cumulative Risk:		**1.40E-04**	
P-15-N										
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	3.30E+01	3.30E+01	3.30E+01	5.23E+04	6.31E-04	No
NAPHTHALENE	91-20-3	ug/l	1 : 1 : 1	100	3.76E+00	3.76E+00	3.76E+00	1.71E+05	2.20E-05	No
VANADIUM	7440-62-2	ug/L	1 : 1 : 1	100	1.30E+01	1.30E+01	1.30E+01	9.68E+05	1.34E-05	No
1,2-DICHLOROPROPANE	78-87-5	ug/l	1 : 1 : 1	100	6.63E+01	6.63E+01	6.63E+01	7.70E+06	8.62E-06	No
BARIUM	7440-39-3	ug/L	1 : 1 : 1	100	9.50E+01	9.50E+01	9.50E+01	1.35E+07	7.01E-06	No
NICKEL	7440-02-0	ug/L	1 : 1 : 1	100	5.00E+00	5.00E+00	5.00E+00	7.36E+07	6.80E-08	No
							Cumulative Risk:		**6.83E-04**	
P-34-N										
ARSENIC	7440-38-2	ug/L	6 : 6 : 6	100	1.60E+01	2.70E+02	8.98E+01	5.23E+04	5.17E-03	No
CHROMIUM	7440-47-3	ug/L	5 : 6 : 6	83	8.00E+00	5.00E+01	2.56E+01	4.65E+05	1.08E-04	No
VANADIUM	7440-62-2	ug/L	4 : 6 : 6	67	2.60E+01	8.70E+01	4.35E+01	9.68E+05	8.99E-05	No
BARIUM	7440-39-3	ug/L	6 : 6 : 6	100	9.50E+01	2.70E+02	1.84E+02	1.35E+07	1.99E-05	No
CADMIUM	7440-43-9	ug/L	3 : 6 : 6	50	1.30E+00	1.90E+00	1.05E+00	1.94E+05	9.82E-06	No
COPPER	7440-50-8	ug/L	4 : 6 : 6	67	1.80E+01	5.70E+01	2.90E+01	7.36E+06	7.75E-06	No
ZINC	7440-66-6	ug/L	4 : 6 : 6	67	7.00E+01	3.30E+02	1.46E+02	1.06E+08	3.10E-06	No
NICKEL	7440-02-0	ug/L	3 : 6 : 6	50	4.80E+01	9.40E+01	4.28E+01	7.36E+07	1.28E-06	No
DIETHYL PHTHALATE	84-66-2	ug/l	1 : 1 : 4	100	1.70E+00	1.70E+00	1.70E+00	1.28E+07	1.33E-07	No
							Cumulative Risk:		**5.41E-03**	

Table E-2
Cumulative Risk Screening
Using Part 201 Criteria Groundwater Contact Criteria (GCC)- NonCancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	NonCancer GCC (g)	Ratio (h)	Constituent of Interest?
P-36-N										
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	100	1.02E+02	1.02E+02	1.02E+02	5.84E+02	1.75E-01	No
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	7.70E+01	7.70E+01	7.70E+01	5.23E+04	1.47E-03	No
BARIUM	7440-39-3	ug/L	1 : 1 : 1	100	3.32E+02	3.32E+02	3.32E+02	1.35E+07	2.45E-05	No
IRON	7439-89-6	ug/L	1 : 1 : 1	100	1.00E+03	1.00E+03	1.00E+03	5.81E+07	1.72E-05	No
MAGNESIUM	7439-95-4	ug/L	1 : 1 : 1	100	1.61E+04	1.61E+04	1.61E+04	2.13E+09	7.56E-06	No
DIETHYL PHTHALATE	84-66-2	ug/l	1 : 1 : 1	100	2.66E+00	2.66E+00	2.66E+00	1.28E+07	2.08E-07	No
							Cumulative Risk:		**1.76E-01**	
PM1NA										
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 2 : 2	50	1.90E+01	1.90E+01	1.08E+01	5.84E+02	3.25E-02	No
ARSENIC	7440-38-2	ug/L	4 : 4 : 4	100	3.10E+01	6.60E+02	4.43E+02	5.23E+04	1.26E-02	No
CHROMIUM	7440-47-3	ug/L	4 : 4 : 4	100	2.80E+01	1.40E+02	8.20E+01	4.65E+05	3.01E-04	No
ANTIMONY	7440-36-0	ug/L	1 : 4 : 4	25	2.00E+01	2.00E+01	9.50E+00	6.77E+04	2.95E-04	No
CADMIUM	7440-43-9	ug/L	2 : 4 : 4	50	2.10E+00	2.00E+01	5.78E+00	1.94E+05	1.03E-04	No
VANADIUM	7440-62-2	ug/L	4 : 4 : 4	100	3.50E+01	8.50E+01	6.08E+01	9.68E+05	6.76E-05	No
2,6-DICHLOROPHENOL	87-65-0	ug/l	3 : 3 : 4	100	2.40E+00	2.90E+00	2.70E+00	4.76E+04	6.09E-05	No
BARIUM	7440-39-3	ug/L	4 : 4 : 4	100	6.90E+01	3.00E+02	1.61E+02	1.35E+07	2.21E-05	No
MERCURY	7439-97-6	ug/L	2 : 4 : 4	50	3.60E-01	1.00E+00	3.90E-01	5.81E+04	1.72E-05	No
COPPER	7440-50-8	ug/L	3 : 4 : 4	75	1.80E+01	1.10E+02	5.25E+01	7.36E+06	1.50E-05	No
TOTAL METHYLPHENOL	otal Methylpl	ug/L	3 : 3 : 4	100	4.00E+00	8.40E+00	4.43E+00	8.13E+05	1.03E-05	No
ZINC	7440-66-6	ug/L	2 : 4 : 4	50	6.20E+01	4.50E+02	1.67E+02	1.06E+08	4.23E-06	No
CARBON DISULFIDE	75-15-0	ug/l	4 : 4 : 4	100	1.50E+00	3.50E+00	2.40E+00	1.31E+06	2.67E-06	No
NICKEL	7440-02-0	ug/L	3 : 4 : 4	75	5.40E+01	1.50E+02	8.60E+01	7.36E+07	2.04E-06	No
ACETONE	67-64-1	ug/l	1 : 1 : 2	100	9.00E+00	9.00E+00	9.00E+00	3.06E+07	2.94E-07	No
							Cumulative Risk:		**4.61E-02**	
PM1NB										
CARBON DISULFIDE	75-15-0	ug/l	1 : 1 : 1	100	3.10E+00	3.10E+00	3.10E+00	1.31E+06	2.37E-06	No
							Cumulative Risk:		**2.37E-06**	

Table E-2
Cumulative Risk Screening
Using Part 201 Criteria Groundwater Contact Criteria (GCC)- NonCancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	NonCancer GCC (g)	Ratio (h)	Constituent of Interest?
PM3NB										
CARBON DISULFIDE	75-15-0	ug/l	1:1:1	100	6.30E-01	6.30E-01	6.30E-01	1.31E+06	4.81E-07	No
							Cumulative Risk:		**4.81E-07**	
PM4NA										
ARSENIC	7440-38-2	ug/L	1:1:1	100	3.00E+02	3.00E+02	3.00E+02	5.23E+04	5.74E-03	No
ANTIMONY	7440-36-0	ug/L	1:1:1	100	1.30E+01	1.30E+01	1.30E+01	6.77E+04	1.92E-04	No
CHROMIUM	7440-47-3	ug/L	1:1:1	100	4.10E+01	4.10E+01	4.10E+01	4.65E+05	8.83E-05	No
VANADIUM	7440-62-2	ug/L	1:1:1	100	6.60E+01	6.60E+01	6.60E+01	9.68E+05	6.82E-05	No
TOLUENE	108-88-3	ug/l	1:1:1	100	1.30E+01	1.30E+01	1.30E+01	9.92E+05	1.31E-05	No
BARIUM	7440-39-3	ug/L	1:1:1	100	1.00E+02	1.00E+02	1.00E+02	1.35E+07	7.38E-06	No
COBALT	7440-48-4	ug/L	1:1:1	100	3.30E+00	3.30E+00	3.30E+00	2.42E+06	1.36E-06	No
CARBON DISULFIDE	75-15-0	ug/l	1:1:1	100	1.40E+00	1.40E+00	1.40E+00	1.31E+06	1.07E-06	No
MERCURY	7439-97-6	ug/l	1:1:1	100	5.26E-02	5.26E-02	5.26E-02	5.81E+04	9.05E-07	No
NICKEL	7440-02-0	ug/L	1:1:1	100	5.30E+01	5.30E+01	5.30E+01	7.36E+07	7.21E-07	No
COPPER	7440-50-8	ug/L	1:1:1	100	4.70E+00	4.70E+00	4.70E+00	7.36E+06	6.39E-07	No
ZINC	7440-66-6	ug/L	1:1:1	100	3.30E+01	3.30E+01	3.30E+01	1.06E+08	3.10E-07	No
							Cumulative Risk:		**6.11E-03**	
RFIMW 01										
THALLIUM	7440-28-0	ug/L	1:1:1	100	7.65E+00	7.65E+00	7.65E+00	1.30E+04	5.90E-04	No
TOLUENE	108-88-3	ug/l	1:1:1	100	1.20E+02	1.20E+02	1.20E+02	9.92E+05	1.21E-04	No
ARSENIC	7440-38-2	ug/L	1:1:1	100	3.50E+00	3.50E+00	3.50E+00	5.23E+04	6.70E-05	No
BARIUM	7440-39-3	ug/L	1:1:1	100	1.85E+02	1.85E+02	1.85E+02	1.35E+07	1.37E-05	No
VANADIUM	7440-62-2	ug/L	1:1:1	100	5.50E+00	5.50E+00	5.50E+00	9.68E+05	5.68E-06	No
CHROMIUM	7440-47-3	ug/L	1:1:1	100	1.80E+00	1.80E+00	1.80E+00	4.65E+05	3.87E-06	No
CADMIUM	7440-43-9	ug/L	1:1:1	100	4.30E-01	4.30E-01	4.30E-01	1.94E+05	2.22E-06	No
COBALT	7440-48-4	ug/L	1:1:1	100	1.25E+00	1.25E+00	1.25E+00	2.42E+06	5.17E-07	No
MERCURY	7439-97-6	ug/l	1:1:1	100	2.83E-02	2.83E-02	2.83E-02	5.81E+04	4.87E-07	No
ZINC	7440-66-6	ug/L	1:1:1	100	1.70E+01	1.70E+01	1.70E+01	1.06E+08	1.60E-07	No
NICKEL	7440-02-0	ug/L	1:1:1	100	3.90E+00	3.90E+00	3.90E+00	7.36E+07	5.30E-08	No
							Cumulative Risk:		**8.04E-04**	

Table E-2
Cumulative Risk Screening
Using Part 201 Criteria Groundwater Contact Criteria (GCC)- NonCancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	NonCancer GCC (g)	Ratio (h)	Constituent of Interest?
RFIMW 02										
ARSENIC	7440-38-2	ug/L	4 : 4 : 4	100	7.50E+00	4.40E+01	2.06E+01	5.23E+04	8.42E-04	No
CHROMIUM	7440-47-3	ug/L	4 : 4 : 4	100	3.00E+01	1.80E+02	8.00E+01	4.65E+05	3.87E-04	No
TOTAL METHYLPHENOL	otal Methylpl	ug/L	3 : 3 : 3	100	3.85E+01	1.95E+02	1.15E+02	8.13E+05	2.40E-04	No
VANADIUM	7440-62-2	ug/L	3 : 4 : 4	75	2.40E+01	1.30E+02	4.85E+01	9.68E+05	1.34E-04	No
BARIUM	7440-39-3	ug/L	4 : 4 : 4	100	4.40E+02	7.70E+02	5.55E+02	1.35E+07	5.68E-05	No
CADMIUM	7440-43-9	ug/L	2 : 4 : 4	50	2.10E+00	6.80E+00	2.60E+00	1.94E+05	3.51E-05	No
COPPER	7440-50-8	ug/L	3 : 4 : 4	75	4.20E+01	1.40E+02	6.28E+01	7.36E+06	1.90E-05	No
ZINC	7440-66-6	ug/L	2 : 4 : 4	50	7.60E+01	3.10E+02	1.17E+02	1.06E+08	2.91E-06	No
NICKEL	7440-02-0	ug/L	3 : 4 : 4	75	4.40E+01	1.70E+02	7.13E+01	7.36E+07	2.31E-06	No
ACETONE	67-64-1	ug/l	1 : 2 : 2	50	2.70E+01	2.70E+01	1.60E+01	3.06E+07	8.82E-07	No
CARBON DISULFIDE	75-15-0	ug/l	3 : 4 : 4	75	1.20E-01	5.90E-01	3.38E-01	1.31E+06	4.50E-07	No
PHENOL	108-95-2	ug/l	1 : 3 : 3	33	5.30E+00	5.30E+00	3.43E+00	2.93E+07	1.81E-07	No
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	4.16E-03	4.16E-03	4.16E-03	5.81E+04	7.16E-08	No
							Cumulative Risk:		**1.72E-03**	

Table E-2
Cumulative Risk Screening
Using Part 201 Criteria Groundwater Contact Criteria (GCC)- NonCancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	NonCancer GCC (g)	Ratio (h)	Constituent of Interest?
RFIMW 03										
ARSENIC	7440-38-2	ug/L	4 : 4 : 4	100	1.90E+01	5.00E+01	3.00E+01	5.23E+04	9.57E-04	No
CHROMIUM	7440-47-3	ug/L	4 : 4 : 4	100	3.00E+01	1.50E+02	6.33E+01	4.65E+05	3.23E-04	No
VANADIUM	7440-62-2	ug/L	4 : 4 : 4	100	3.50E+01	1.30E+02	6.25E+01	9.68E+05	1.34E-04	No
BARIUM	7440-39-3	ug/L	4 : 4 : 4	100	1.20E+03	1.70E+03	1.50E+03	1.35E+07	1.25E-04	No
TOTAL METHYLPHENOL	otal Methylpl	ug/L	3 : 4 : 4	75	1.40E+01	7.80E+01	3.12E+01	8.13E+05	9.59E-05	No
CADMIUM	7440-43-9	ug/L	1 : 4 : 4	25	3.30E+00	3.30E+00	1.20E+00	1.94E+05	1.70E-05	No
COPPER	7440-50-8	ug/L	3 : 4 : 4	75	3.20E+01	1.20E+02	5.40E+01	7.36E+06	1.63E-05	No
ZINC	7440-66-6	ug/L	3 : 4 : 4	75	9.10E+01	3.40E+02	1.49E+02	1.06E+08	3.19E-06	No
NICKEL	7440-02-0	ug/L	4 : 4 : 4	100	4.70E+01	1.80E+02	8.55E+01	7.36E+07	2.45E-06	No
ACETONE	67-64-1	ug/l	2 : 3 : 3	67	1.70E+01	2.20E+01	1.58E+01	3.06E+07	7.18E-07	No
TOLUENE	108-88-3	ug/l	2 : 2 : 4	100	1.60E-01	3.10E-01	2.35E-01	9.92E+05	3.12E-07	No
ACETOPHENONE	98-86-2	ug/l	1 : 1 : 3	100	1.90E+00	1.90E+00	1.90E+00	6.88E+06	2.76E-07	No
CARBON DISULFIDE	75-15-0	ug/l	1 : 1 : 4	100	1.20E-01	1.20E-01	1.20E-01	1.31E+06	9.16E-08	No
PHENOL	108-95-2	ug/l	1 : 1 : 2	100	1.50E+00	1.50E+00	1.50E+00	2.93E+07	5.12E-08	No
METHYL ETHYL KETONE	78-93-3	ug/l	2 : 2 : 2	100	5.60E+00	6.40E+00	6.00E+00	2.86E+08	2.23E-08	No
							Cumulative Risk:		**1.68E-03**	
RFIMW 04										
ARSENIC	7440-38-2	ug/L	4 : 4 : 4	100	1.90E+02	5.70E+02	3.85E+02	5.23E+04	1.09E-02	No
CHROMIUM	7440-47-3	ug/L	3 : 4 : 4	75	5.80E+00	2.20E+01	1.13E+01	4.65E+05	4.74E-05	No
BARIUM	7440-39-3	ug/L	4 : 4 : 4	100	3.60E+01	1.00E+02	7.38E+01	1.35E+07	7.38E-06	No
COPPER	7440-50-8	ug/L	1 : 4 : 4	25	1.80E+01	1.80E+01	9.25E+00	7.36E+06	2.45E-06	No
ZINC	7440-66-6	ug/L	2 : 4 : 4	50	5.00E+01	5.20E+01	3.33E+01	1.06E+08	4.88E-07	No
CARBON DISULFIDE	75-15-0	ug/l	2 : 2 : 4	100	1.00E-01	2.00E-01	1.50E-01	1.31E+06	1.53E-07	No
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	7.45E-03	7.45E-03	7.45E-03	5.81E+04	1.28E-07	No
							Cumulative Risk:		**1.10E-02**	

Table E-2
Cumulative Risk Screening
Using Part 201 Criteria Groundwater Contact Criteria (GCC)- NonCancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	NonCancer GCC (g)	Ratio (h)	Constituent of Interest?
RFIMW 05										
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	2 : 3 : 3	67	1.90E+00	3.00E+00	2.47E+00	5.84E+02	5.14E-03	No
TOTAL METHYLPHENOL	otal Methylpl	ug/L	4 : 4 : 4	100	6.07E+01	9.33E+01	7.43E+01	8.13E+05	1.15E-04	No
BARIUM	7440-39-3	ug/L	4 : 4 : 4	100	8.60E+02	1.40E+03	1.10E+03	1.35E+07	1.03E-04	No
CHROMIUM	7440-47-3	ug/L	2 : 4 : 4	50	6.60E+00	3.00E+01	1.04E+01	4.65E+05	6.46E-05	No
2-METHYLNAPHTHALENE	91-57-6	ug/l	1 : 1 : 2	100	1.20E+00	1.20E+00	1.20E+00	4.15E+04	2.89E-05	No
NAPHTHALENE	91-20-3	ug/l	4 : 4 : 4	100	2.90E+00	3.90E+00	3.35E+00	1.71E+05	2.28E-05	No
SELENIUM	7782-49-2	ug/L	3 : 4 : 4	75	5.40E+00	9.90E+00	6.76E+00	9.68E+05	1.02E-05	No
ACETONE	67-64-1	ug/l	3 : 4 : 4	75	6.90E+01	1.40E+02	8.35E+01	3.06E+07	4.57E-06	No
COPPER	7440-50-8	ug/L	1 : 4 : 4	25	2.20E+01	2.20E+01	1.00E+01	7.36E+06	2.99E-06	No
PHENOL	108-95-2	ug/l	3 : 4 : 4	75	1.40E+01	4.10E+01	2.35E+01	2.93E+07	1.40E-06	No
ZINC	7440-66-6	ug/L	1 : 4 : 4	25	7.60E+01	7.60E+01	2.75E+01	1.06E+08	7.14E-07	No
TOLUENE	108-88-3	ug/l	3 : 4 : 4	75	2.80E-01	6.10E-01	4.22E-01	9.92E+05	6.15E-07	No
1,2-DICHLOROPROPANE	78-87-5	ug/l	4 : 4 : 4	100	3.90E-01	1.10E+00	7.32E-01	7.70E+06	1.43E-07	No
METHYL ETHYL KETONE	78-93-3	ug/l	3 : 4 : 4	75	9.10E+00	9.90E+00	8.45E+00	2.86E+08	3.46E-08	No
							Cumulative Risk:		**5.49E-03**	

Table E-2
Cumulative Risk Screening
Using Part 201 *Criteria Groundwater Contact Criteria* (GCC)- NonCancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	NonCancer GCC (g)	Ratio (h)	Constituent of Interest?
RFIMW 06										
PHENANTHRENE	85-01-8	ug/l	1 : 1 : 3	100	1.40E+00	1.40E+00	1.40E+00	3.57E+03	3.92E-04	No
ARSENIC	7440-38-2	ug/L	2 : 4 : 4	50	5.60E+00	7.50E+00	4.53E+00	5.23E+04	1.44E-04	No
CHROMIUM	7440-47-3	ug/L	4 : 4 : 4	100	1.10E+01	3.30E+01	1.80E+01	4.65E+05	7.10E-05	No
TOTAL METHYLPHENOL	otal Methylph	ug/L	4 : 4 : 4	100	1.35E+01	2.45E+01	1.94E+01	8.13E+05	3.01E-05	No
BARIUM	7440-39-3	ug/L	4 : 4 : 4	100	9.20E+01	1.30E+02	1.13E+02	1.35E+07	9.59E-06	No
NAPHTHALENE	91-20-3	ug/l	3 : 3 : 3	100	1.30E+00	1.60E+00	1.47E+00	1.71E+05	9.35E-06	No
SELENIUM	7782-49-2	ug/L	1 : 4 : 4	25	6.00E+00	6.00E+00	3.38E+00	9.68E+05	6.20E-06	No
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	3.24E-01	3.24E-01	3.24E-01	5.81E+04	5.58E-06	No
1,2-DICHLOROPROPANE	78-87-5	ug/l	4 : 4 : 4	100	2.20E+01	3.50E+01	2.90E+01	7.70E+06	4.55E-06	No
COPPER	7440-50-8	ug/L	2 : 4 : 4	50	1.30E+01	2.20E+01	1.14E+01	7.36E+06	2.99E-06	No
ZINC	7440-66-6	ug/L	1 : 4 : 4	25	7.70E+01	7.70E+01	3.65E+01	1.06E+08	7.23E-07	No
ACETONE	67-64-1	ug/l	2 : 3 : 3	67	1.40E+01	1.90E+01	1.27E+01	3.06E+07	6.20E-07	No
PHENOL	108-95-2	ug/l	3 : 4 : 4	75	1.00E+01	1.40E+01	1.08E+01	2.93E+07	4.78E-07	No
CARBON DISULFIDE	75-15-0	ug/l	1 : 1 : 4	100	3.20E-01	3.20E-01	3.20E-01	1.31E+06	2.44E-07	No
TOLUENE	108-88-3	ug/l	2 : 2 : 4	100	1.60E-01	2.00E-01	1.80E-01	9.92E+05	2.02E-07	No
							Cumulative Risk:		**6.77E-04**	

Table E-2
Cumulative Risk Screening
Using Part 201 Criteria Groundwater Contact Criteria (GCC)- NonCancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	NonCancer GCC (g)	Ratio (h)	Constituent of Interest?
RFIMW 07										
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 3 : 3	33	1.30E+01	1.30E+01	7.67E+00	5.84E+02	2.23E-02	No
2-METHYLNAPHTHALENE	91-57-6	ug/l	4 : 4 : 4	100	4.20E+01	1.10E+02	8.60E+01	4.15E+04	2.65E-03	No
PHENANTHRENE	85-01-8	ug/l	3 : 3 : 4	100	2.20E+00	3.05E+00	2.75E+00	3.57E+03	8.53E-04	No
NAPHTHALENE	91-20-3	ug/l	4 : 4 : 4	100	3.40E+01	6.55E+01	5.46E+01	1.71E+05	3.83E-04	No
TOTAL METHYLPHENOL	otal Methylph	ug/L	4 : 4 : 4	100	1.87E+01	1.37E+02	5.61E+01	8.13E+05	1.68E-04	No
1,1-DICHLOROETHENE	75-35-4	ug/l	1 : 1 : 1	100	1.70E+00	1.70E+00	1.70E+00	1.07E+04	1.59E-04	No
ETHYLBENZENE	100-41-4	ug/l	1 : 1 : 1	100	1.10E+01	1.10E+01	1.10E+01	2.77E+05	3.98E-05	No
CUMENE	98-82-8	ug/l	1 : 1 : 1	100	4.80E+00	4.80E+00	4.80E+00	1.78E+05	2.70E-05	No
TOLUENE	108-88-3	ug/l	1 : 1 : 1	100	1.70E+01	1.70E+01	1.70E+01	9.92E+05	1.71E-05	No
ACENAPHTHENE	83-32-9	ug/l	2 : 2 : 4	100	2.70E+00	2.80E+00	2.75E+00	2.15E+05	1.30E-05	No
PHENOL	108-95-2	ug/l	3 : 4 : 4	75	4.55E+01	3.10E+02	1.24E+02	2.93E+07	1.06E-05	No
BARIUM	7440-39-3	ug/L	1 : 1 : 1	100	8.60E+01	8.60E+01	8.60E+01	1.35E+07	6.35E-06	No
SELENIUM	7782-49-2	ug/L	1 : 1 : 1	100	4.80E+00	4.80E+00	4.80E+00	9.68E+05	4.96E-06	No
1,1-DICHLOROETHANE	75-34-3	ug/l	1 : 1 : 1	100	1.20E+01	1.20E+01	1.20E+01	2.44E+06	4.92E-06	No
TOTAL XYLENES	Total Xylenes	ug/l	1 : 1 : 1	100	2.20E+01	2.20E+01	2.20E+01	5.36E+06	4.10E-06	No
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	100	1.10E+00	1.10E+00	1.10E+00	4.65E+05	2.37E-06	No
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	1.21E-01	1.21E-01	1.21E-01	5.81E+04	2.08E-06	No
ACETONE	67-64-1	ug/l	1 : 1 : 1	100	4.40E+01	4.40E+01	4.40E+01	3.06E+07	1.44E-06	No
VANADIUM	7440-62-2	ug/L	1 : 1 : 1	100	1.30E+00	1.30E+00	1.30E+00	9.68E+05	1.34E-06	No
1,1,1-TRICHLOROETHANE	71-55-6	ug/l	1 : 1 : 1	100	1.30E+01	1.30E+01	1.30E+01	2.09E+07	6.23E-07	No
2-HEXANONE	591-78-6	ug/l	1 : 1 : 1	100	1.30E+00	1.30E+00	1.30E+00	5.22E+06	2.49E-07	No
4-METHYL-2-PENTANONE (MIBK)	108-10-1	ug/l	1 : 1 : 1	100	9.10E-01	9.10E-01	9.10E-01	1.31E+07	6.96E-08	No
NICKEL	7440-02-0	ug/L	1 : 1 : 1	100	3.60E+00	3.60E+00	3.60E+00	7.36E+07	4.89E-08	No
							Cumulative Risk:		**2.66E-02**	

Table E-2
Cumulative Risk Screening
Using Part 201 Criteria Groundwater Contact Criteria (GCC)- NonCancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	NonCancer GCC (g)	Ratio (h)	Constituent of Interest?
RFIMW 08										
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 4	100	1.80E+00	1.80E+00	1.80E+00	5.84E+02	3.08E-03	No
BARIUM	7440-39-3	ug/L	3 : 3 : 3	100	8.70E+02	1.10E+03	9.90E+02	1.35E+07	8.12E-05	No
CHROMIUM	7440-47-3	ug/L	1 : 4 : 4	25	3.20E+01	3.20E+01	9.88E+00	4.65E+05	6.89E-05	No
CHLOROFORM	67-66-3	ug/l	1 : 4 : 4	25	1.20E+01	1.20E+01	3.38E+00	2.59E+05	4.63E-05	No
CADMIUM	7440-43-9	ug/L	1 : 4 : 4	25	1.20E+00	1.20E+00	6.75E-01	1.94E+05	6.20E-06	No
COPPER	7440-50-8	ug/L	1 : 4 : 4	25	3.30E+01	3.30E+01	1.25E+01	7.36E+06	4.49E-06	No
ZINC	7440-66-6	ug/L	1 : 4 : 4	25	2.40E+02	2.40E+02	7.68E+01	1.06E+08	2.25E-06	No
CARBON DISULFIDE	75-15-0	ug/l	2 : 4 : 4	50	1.50E-01	1.10E+00	5.63E-01	1.31E+06	8.40E-07	No
PHENOL	108-95-2	ug/l	1 : 4 : 4	25	4.80E+00	4.80E+00	3.08E+00	2.93E+07	1.64E-07	No
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	5.32E-03	5.32E-03	5.32E-03	5.81E+04	9.16E-08	No
							Cumulative Risk:		**3.29E-03**	
RFIMW 09										
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 4	100	2.40E+00	2.40E+00	2.40E+00	5.84E+02	4.11E-03	No
THALLIUM	7440-28-0	ug/L	1 : 1 : 1	100	9.40E+00	9.40E+00	9.40E+00	1.30E+04	7.25E-04	No
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	2.30E+01	2.30E+01	2.30E+01	5.23E+04	4.40E-04	No
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	100	8.80E+01	8.80E+01	8.80E+01	4.65E+05	1.89E-04	No
BARIUM	7440-39-3	ug/L	1 : 1 : 1	100	1.60E+02	1.60E+02	1.60E+02	1.35E+07	1.18E-05	No
NICKEL	7440-02-0	ug/L	1 : 1 : 1	100	4.80E+01	4.80E+01	4.80E+01	7.36E+07	6.53E-07	No
COBALT	7440-48-4	ug/L	1 : 1 : 1	100	1.50E+00	1.50E+00	1.50E+00	2.42E+06	6.20E-07	No
PHENOL	108-95-2	ug/l	1 : 4 : 4	25	5.60E+00	5.60E+00	3.27E+00	2.93E+07	1.91E-07	No
ZINC	7440-66-6	ug/L	1 : 1 : 1	100	1.40E+01	1.40E+01	1.40E+01	1.06E+08	1.32E-07	No
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	1.37E-03	1.37E-03	1.37E-03	5.81E+04	2.36E-08	No
							Cumulative Risk:		**5.48E-03**	
RFIMW 10										
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 3	100	1.50E+00	1.50E+00	1.50E+00	5.84E+02	2.57E-03	No
ARSENIC	7440-38-2	ug/L	4 : 4 : 4	100	1.50E+01	1.90E+01	1.64E+01	5.23E+04	3.64E-04	No
BARIUM	7440-39-3	ug/L	4 : 4 : 4	100	7.50E+02	8.60E+02	8.10E+02	1.35E+07	6.35E-05	No
CHROMIUM	7440-47-3	ug/L	1 : 4 : 4	25	1.40E+01	1.40E+01	5.38E+00	4.65E+05	3.01E-05	No
							Cumulative Risk:		**3.03E-03**	

Table E-2
Cumulative Risk Screening
Using Part 201 Criteria Groundwater Contact Criteria (GCC)- NonCancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	NonCancer GCC (g)	Ratio (h)	Constituent of Interest?
RFIMW 11										
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	2 : 2 : 2	100	2.80E+00	3.50E+00	3.15E+00	5.84E+02	6.00E-03	No
ARSENIC	7440-38-2	ug/L	4 : 4 : 4	100	1.70E+01	1.40E+02	9.68E+01	5.23E+04	2.68E-03	No
CHROMIUM	7440-47-3	ug/L	4 : 4 : 4	100	1.90E+01	1.10E+02	7.90E+01	4.65E+05	2.37E-04	No
ANTIMONY	7440-36-0	ug/L	2 : 4 : 4	50	8.50E+00	1.00E+01	6.34E+00	6.77E+04	1.48E-04	No
VANADIUM	7440-62-2	ug/L	3 : 4 : 4	75	7.20E+01	7.90E+01	5.85E+01	9.68E+05	8.16E-05	No
COPPER	7440-50-8	ug/L	3 : 4 : 4	75	3.20E+02	4.20E+02	2.83E+02	7.36E+06	5.71E-05	No
BARIUM	7440-39-3	ug/L	4 : 4 : 4	100	1.00E+02	3.40E+02	2.50E+02	1.35E+07	2.51E-05	No
CADMIUM	7440-43-9	ug/L	3 : 4 : 4	75	2.80E+00	4.30E+00	2.90E+00	1.94E+05	2.22E-05	No
ZINC	7440-66-6	ug/L	3 : 4 : 4	75	6.90E+01	6.00E+02	3.56E+02	1.06E+08	5.64E-06	No
NICKEL	7440-02-0	ug/L	3 : 4 : 4	75	1.00E+02	1.30E+02	9.50E+01	7.36E+07	1.77E-06	No
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	1.62E-03	1.62E-03	1.62E-03	5.81E+04	2.79E-08	No
							Cumulative Risk:		**9.25E-03**	
RFIMW 12										
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	3.80E+01	3.80E+01	3.80E+01	5.23E+04	7.27E-04	No
TOTAL METHYLPHENOL	otal Methylpl	ug/L	4 : 4 : 4	100	1.93E+02	4.70E+02	2.83E+02	8.13E+05	5.78E-04	No
THALLIUM	7440-28-0	ug/L	1 : 1 : 1	100	5.90E+00	5.90E+00	5.90E+00	1.30E+04	4.55E-04	No
VANADIUM	7440-62-2	ug/L	1 : 1 : 1	100	4.20E+01	4.20E+01	4.20E+01	9.68E+05	4.34E-05	No
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	100	1.90E+01	1.90E+01	1.90E+01	4.65E+05	4.09E-05	No
PHENOL	108-95-2	ug/l	3 : 4 : 4	75	7.90E+02	1.10E+03	7.94E+02	2.93E+07	3.75E-05	No
TOLUENE	108-88-3	ug/l	1 : 1 : 1	100	1.60E+01	1.60E+01	1.60E+01	9.92E+05	1.61E-05	No
BARIUM	7440-39-3	ug/L	1 : 1 : 1	100	7.80E+01	7.80E+01	7.80E+01	1.35E+07	5.76E-06	No
CADMIUM	7440-43-9	ug/L	1 : 1 : 1	100	6.40E-01	6.40E-01	6.40E-01	1.94E+05	3.31E-06	No
CARBON DISULFIDE	75-15-0	ug/l	1 : 1 : 1	100	1.30E+00	1.30E+00	1.30E+00	1.31E+06	9.92E-07	No
NICKEL	7440-02-0	ug/L	1 : 1 : 1	100	4.60E+01	4.60E+01	4.60E+01	7.36E+07	6.25E-07	No
COPPER	7440-50-8	ug/L	1 : 1 : 1	100	3.30E+00	3.30E+00	3.30E+00	7.36E+06	4.49E-07	No
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	1.45E-02	1.45E-02	1.45E-02	5.81E+04	2.50E-07	No
							Cumulative Risk:		**1.91E-03**	

Table E-2
Cumulative Risk Screening
Using Part 201 Criteria Groundwater Contact Criteria (GCC)- NonCancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	NonCancer GCC (g)	Ratio (h)	Constituent of Interest?
RFIMW 13										
THALLIUM	7440-28-0	ug/L	1 : 1 : 1	100	7.80E+00	7.80E+00	7.80E+00	1.30E+04	6.01E-04	No
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	100	5.40E+01	5.40E+01	5.40E+01	4.65E+05	1.16E-04	No
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	4.80E+00	4.80E+00	4.80E+00	5.23E+04	9.18E-05	No
TOLUENE	108-88-3	ug/l	1 : 1 : 1	100	7.60E+01	7.60E+01	7.60E+01	9.92E+05	7.66E-05	No
BARIUM	7440-39-3	ug/L	1 : 1 : 1	100	1.30E+02	1.30E+02	1.30E+02	1.35E+07	9.59E-06	No
VANADIUM	7440-62-2	ug/L	1 : 1 : 1	100	7.20E+00	7.20E+00	7.20E+00	9.68E+05	7.44E-06	No
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	5.54E-02	5.54E-02	5.54E-02	5.81E+04	9.54E-07	No
COPPER	7440-50-8	ug/L	1 : 1 : 1	100	5.70E+00	5.70E+00	5.70E+00	7.36E+06	7.75E-07	No
ZINC	7440-66-6	ug/L	1 : 1 : 1	100	3.50E+01	3.50E+01	3.50E+01	1.06E+08	3.29E-07	No
NICKEL	7440-02-0	ug/L	1 : 1 : 1	100	8.40E+00	8.40E+00	8.40E+00	7.36E+07	1.14E-07	No
							Cumulative Risk:		**9.05E-04**	
RFIMW 15										
THALLIUM	7440-28-0	ug/L	1 : 1 : 1	100	9.60E+00	9.60E+00	9.60E+00	1.30E+04	7.40E-04	No
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	100	2.50E+02	2.50E+02	2.50E+02	4.65E+05	5.38E-04	No
NICKEL	7440-02-0	ug/L	1 : 1 : 1	100	1.50E+03	1.50E+03	1.50E+03	7.36E+07	2.04E-05	No
TOLUENE	108-88-3	ug/l	1 : 1 : 1	100	1.80E+01	1.80E+01	1.80E+01	9.92E+05	1.81E-05	No
BARIUM	7440-39-3	ug/L	1 : 1 : 1	100	1.40E+02	1.40E+02	1.40E+02	1.35E+07	1.03E-05	No
COBALT	7440-48-4	ug/L	1 : 1 : 1	100	1.80E+01	1.80E+01	1.80E+01	2.42E+06	7.44E-06	No
COPPER	7440-50-8	ug/L	1 : 1 : 1	100	1.90E+01	1.90E+01	1.90E+01	7.36E+06	2.58E-06	No
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	3.06E-03	3.06E-03	3.06E-03	5.81E+04	5.27E-08	No
							Cumulative Risk:		**1.34E-03**	

Table E-2
Cumulative Risk Screening
Using Part 201 Criteria Groundwater Contact Criteria (GCC)- NonCancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	NonCancer GCC (g)	Ratio (h)	Constituent of Interest?
RFIMW 16										
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	3.90E+01	3.90E+01	3.90E+01	5.23E+04	7.46E-04	No
VANADIUM	7440-62-2	ug/L	1 : 1 : 1	100	2.00E+02	2.00E+02	2.00E+02	9.68E+05	2.07E-04	No
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	100	4.00E+01	4.00E+01	4.00E+01	4.65E+05	8.61E-05	No
BARIUM	7440-39-3	ug/L	1 : 1 : 1	100	2.40E+02	2.40E+02	2.40E+02	1.35E+07	1.77E-05	No
ACETONE	67-64-1	ug/l	1 : 1 : 1	100	5.40E+02	5.40E+02	5.40E+02	3.06E+07	1.76E-05	No
PHENOL	108-95-2	ug/l	1 : 1 : 1	100	3.50E+02	3.50E+02	3.50E+02	2.93E+07	1.19E-05	No
SELENIUM	7782-49-2	ug/L	1 : 1 : 1	100	6.50E+00	6.50E+00	6.50E+00	9.68E+05	6.72E-06	No
CARBON DISULFIDE	75-15-0	ug/l	1 : 1 : 1	100	3.40E+00	3.40E+00	3.40E+00	1.31E+06	2.60E-06	No
COPPER	7440-50-8	ug/L	1 : 1 : 1	100	1.80E+01	1.80E+01	1.80E+01	7.36E+06	2.45E-06	No
TOLUENE	108-88-3	ug/l	1 : 1 : 1	100	2.00E+00	2.00E+00	2.00E+00	9.92E+05	2.02E-06	No
NICKEL	7440-02-0	ug/L	1 : 1 : 1	100	4.40E+01	4.40E+01	4.40E+01	7.36E+07	5.98E-07	No
METHYL ETHYL KETONE	78-93-3	ug/l	1 : 1 : 1	100	4.30E+01	4.30E+01	4.30E+01	2.86E+08	1.50E-07	No
							Cumulative Risk:		**1.10E-03**	
RFIMW 21										
ACETONE	67-64-1	ug/l	1 : 1 : 1	100	2.10E+03	2.10E+03	2.10E+03	3.06E+07	6.86E-05	No
PHENOL	108-95-2	ug/l	1 : 1 : 1	100	1.80E+01	1.80E+01	1.80E+01	2.93E+07	6.14E-07	No
							Cumulative Risk:		**6.92E-05**	

Table E-2
Cumulative Risk Screening
Using Part 201 Criteria Groundwater Contact Criteria (GCC)- NonCancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	NonCancer GCC (g)	Ratio (h)	Constituent of Interest?
RFIMW 22										
CHLOROBENZENE	108-90-7	ug/l	1 : 1 : 1	100	6.40E+02	6.40E+02	6.40E+02	8.62E+04	7.42E-03	No
VINYL CHLORIDE	75-01-4	ug/l	1 : 1 : 1	100	2.80E+02	2.80E+02	2.80E+02	6.65E+04	4.21E-03	No
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	1.90E+02	1.90E+02	1.90E+02	5.23E+04	3.64E-03	No
VANADIUM	7440-62-2	ug/L	1 : 1 : 1	100	5.00E+02	5.00E+02	5.00E+02	9.68E+05	5.17E-04	No
ETHYLBENZENE	100-41-4	ug/l	1 : 1 : 1	100	5.30E+01	5.30E+01	5.30E+01	2.77E+05	1.92E-04	No
ACETONE	67-64-1	ug/l	1 : 1 : 1	100	5.20E+03	5.20E+03	5.20E+03	3.06E+07	1.70E-04	No
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	100	6.10E+01	6.10E+01	6.10E+01	4.65E+05	1.31E-04	No
2,4,5-TP (SILVEX)	93-72-1	ug/l	1 : 1 : 4	100	8.60E-01	8.60E-01	8.60E-01	4.33E+04	1.99E-05	No
BARIUM	7440-39-3	ug/L	1 : 1 : 1	100	1.10E+02	1.10E+02	1.10E+02	1.35E+07	8.12E-06	No
PHENOL	108-95-2	ug/l	1 : 1 : 1	100	2.20E+02	2.20E+02	2.20E+02	2.93E+07	7.51E-06	No
BERYLLIUM	7440-41-7	ug/L	1 : 1 : 1	100	1.20E+00	1.20E+00	1.20E+00	2.90E+05	4.13E-06	No
COPPER	7440-50-8	ug/L	1 : 1 : 1	100	1.70E+01	1.70E+01	1.70E+01	7.36E+06	2.31E-06	No
COBALT	7440-48-4	ug/L	1 : 1 : 1	100	3.80E+00	3.80E+00	3.80E+00	2.42E+06	1.57E-06	No
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	3.33E-02	3.33E-02	3.33E-02	5.81E+04	5.73E-07	No
NICKEL	7440-02-0	ug/L	1 : 1 : 1	100	4.20E+01	4.20E+01	4.20E+01	7.36E+07	5.71E-07	No
METHYL ETHYL KETONE	78-93-3	ug/l	1 : 1 : 1	100	8.00E+01	8.00E+01	8.00E+01	2.86E+08	2.79E-07	No
ZINC	7440-66-6	ug/L	1 : 1 : 1	100	2.20E+01	2.20E+01	2.20E+01	1.06E+08	2.07E-07	No
							Cumulative Risk:		**1.63E-02**	
RFIMW 23										
PYRENE	129-00-0	ug/l	1 : 1 : 1	100	9.60E+00	9.60E+00	9.60E+00	2.01E+04	4.78E-04	No
ARSENIC	7440-38-2	ug/L	4 : 4 : 4	100	6.30E+00	1.20E+01	9.57E+00	5.23E+04	2.30E-04	No
FLUORANTHENE	206-44-0	ug/l	1 : 1 : 1	100	4.50E+00	4.50E+00	4.50E+00	3.16E+04	1.42E-04	No
CHROMIUM	7440-47-3	ug/L	3 : 4 : 4	75	7.20E+00	3.50E+01	1.42E+01	4.65E+05	7.53E-05	No
BARIUM	7440-39-3	ug/L	4 : 4 : 4	100	9.90E+01	1.30E+02	1.12E+02	1.35E+07	9.59E-06	No
COPPER	7440-50-8	ug/L	1 : 4 : 4	25	2.30E+01	2.30E+01	1.01E+01	7.36E+06	3.13E-06	No
ZINC	7440-66-6	ug/L	1 : 4 : 4	25	1.20E+02	1.20E+02	5.90E+01	1.06E+08	1.13E-06	No
							Cumulative Risk:		**9.39E-04**	

Table E-2
Cumulative Risk Screening
Using Part 201 Criteria Groundwater Contact Criteria (GCC)- NonCancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	NonCancer GCC (g)	Ratio (h)	Constituent of Interest?
RFIMW 24										
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	3 : 5 : 5	60	2.00E+00	4.10E+00	2.84E+00	5.84E+02	7.02E-03	No
CHROMIUM	7440-47-3	ug/L	6 : 6 : 6	100	1.70E+01	6.20E+02	2.72E+02	4.65E+05	1.33E-03	No
ARSENIC	7440-38-2	ug/L	1 : 6 : 6	17	1.10E+01	1.10E+01	4.66E+00	5.23E+04	2.10E-04	No
VANADIUM	7440-62-2	ug/L	1 : 6 : 6	17	2.30E+01	2.30E+01	1.22E+01	9.68E+05	2.38E-05	No
BARIUM	7440-39-3	ug/L	6 : 6 : 6	100	5.40E+01	1.20E+02	8.33E+01	1.35E+07	8.86E-06	No
SELENIUM	7782-49-2	ug/L	1 : 6 : 6	17	6.90E+00	6.90E+00	3.82E+00	9.68E+05	7.13E-06	No
COPPER	7440-50-8	ug/L	3 : 6 : 6	50	1.80E+01	2.10E+01	1.44E+01	7.36E+06	2.86E-06	No
NICKEL	7440-02-0	ug/L	3 : 5 : 5	60	4.20E+01	1.60E+02	6.20E+01	7.36E+07	2.18E-06	No
ZINC	7440-66-6	ug/L	2 : 6 : 6	33	4.60E+01	5.10E+01	3.46E+01	1.06E+08	4.79E-07	No
METHYLENE CHLORIDE	75-09-2	ug/l	1 : 1 : 6	100	4.50E-01	4.50E-01	4.50E-01	1.64E+06	2.75E-07	No
							Cumulative Risk:		**8.61E-03**	
RFIMW 25										
CHROMIUM	7440-47-3	ug/L	6 : 6 : 6	100	1.90E+02	1.40E+03	6.78E+02	4.65E+05	3.01E-03	No
ARSENIC	7440-38-2	ug/L	4 : 6 : 6	67	7.80E+00	2.60E+01	1.30E+01	5.23E+04	4.97E-04	No
VANADIUM	7440-62-2	ug/L	3 : 6 : 6	50	5.70E+01	9.10E+01	3.98E+01	9.68E+05	9.40E-05	No
BARIUM	7440-39-3	ug/L	6 : 6 : 6	100	1.35E+02	2.70E+02	2.13E+02	1.35E+07	1.99E-05	No
COPPER	7440-50-8	ug/L	5 : 6 : 6	83	1.45E+01	6.10E+01	3.27E+01	7.36E+06	8.29E-06	No
CADMIUM	7440-43-9	ug/L	2 : 6 : 6	33	1.10E+00	1.60E+00	7.83E-01	1.94E+05	8.27E-06	No
NICKEL	7440-02-0	ug/L	6 : 6 : 6	100	5.70E+01	2.90E+02	1.52E+02	7.36E+07	3.94E-06	No
ZINC	7440-66-6	ug/L	4 : 6 : 6	67	5.70E+01	1.90E+02	1.04E+02	1.06E+08	1.78E-06	No
							Cumulative Risk:		**3.65E-03**	

Table E-2
Cumulative Risk Screening
Using Part 201 Criteria Groundwater Contact Criteria (GCC)- NonCancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	NonCancer GCC (g)	Ratio (h)	Constituent of Interest?
RFIMW 26										
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	100	1.80E+01	1.80E+01	1.80E+01	5.84E+02	3.08E-02	No
CHROMIUM	7440-47-3	ug/L	2 : 2 : 2	100	9.15E+01	5.17E+03	2.63E+03	4.65E+05	1.11E-02	No
THALLIUM	7440-28-0	ug/L	1 : 2 : 2	50	1.01E+01	1.01E+01	7.55E+00	1.30E+04	7.79E-04	No
IRON	7439-89-6	ug/L	1 : 1 : 1	100	2.34E+04	2.34E+04	2.34E+04	5.81E+07	4.03E-04	No
ARSENIC	7440-38-2	ug/L	2 : 2 : 2	100	4.30E+00	7.00E+00	5.65E+00	5.23E+04	1.34E-04	No
NICKEL	7440-02-0	ug/L	2 : 2 : 2	100	4.85E+01	2.46E+03	1.25E+03	7.36E+07	3.34E-05	No
NITRATE	14797-55-8	ug/L	1 : 1 : 1	100	8.90E+03	8.90E+03	8.90E+03	3.10E+08	2.87E-05	No
TOLUENE	108-88-3	ug/l	1 : 2 : 2	50	2.70E+01	2.70E+01	1.38E+01	9.92E+05	2.72E-05	No
VANADIUM	7440-62-2	ug/L	2 : 2 : 2	100	2.90E+00	2.00E+01	1.14E+01	9.68E+05	2.07E-05	No
BARIUM	7440-39-3	ug/L	2 : 2 : 2	100	5.65E+01	2.74E+02	1.65E+02	1.35E+07	2.02E-05	No
COPPER	7440-50-8	ug/L	2 : 2 : 2	100	8.15E+00	1.40E+02	7.41E+01	7.36E+06	1.90E-05	No
MAGNESIUM	7439-95-4	ug/L	1 : 1 : 1	100	2.02E+04	2.02E+04	2.02E+04	2.13E+09	9.49E-06	No
SELENIUM	7782-49-2	ug/L	1 : 2 : 2	50	3.52E+00	3.52E+00	2.76E+00	9.68E+05	3.64E-06	No
ZINC	7440-66-6	ug/L	1 : 2 : 2	50	2.20E+02	2.20E+02	1.13E+02	1.06E+08	2.07E-06	No
DIETHYL PHTHALATE	84-66-2	ug/l	1 : 1 : 1	100	2.29E+01	2.29E+01	2.29E+01	1.28E+07	1.79E-06	No
COBALT	7440-48-4	ug/L	1 : 1 : 1	100	1.50E+00	1.50E+00	1.50E+00	2.42E+06	6.20E-07	No
MERCURY	7439-97-6	ug/l	1 : 1 : 2	100	1.97E-02	1.97E-02	1.97E-02	5.81E+04	3.39E-07	No
							Cumulative Risk:		**4.34E-02**	
RFIMW 27										
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 4 : 4	25	4.10E+00	4.10E+00	2.90E+00	5.84E+02	7.02E-03	No
ARSENIC	7440-38-2	ug/L	1 : 6 : 6	17	5.90E+00	5.90E+00	4.40E+00	5.23E+04	1.13E-04	No
CHROMIUM	7440-47-3	ug/L	6 : 6 : 6	100	6.50E+00	3.50E+01	1.88E+01	4.65E+05	7.53E-05	No
VANADIUM	7440-62-2	ug/L	1 : 6 : 6	17	2.30E+01	2.30E+01	1.22E+01	9.68E+05	2.38E-05	No
BARIUM	7440-39-3	ug/L	6 : 6 : 6	100	1.80E+02	2.60E+02	2.20E+02	1.35E+07	1.92E-05	No
SILVER	7440-22-4	ug/L	1 : 6 : 6	17	1.50E+01	1.50E+01	6.67E+00	1.52E+06	9.89E-06	No
COPPER	7440-50-8	ug/L	3 : 6 : 6	50	1.50E+01	5.20E+01	1.83E+01	7.36E+06	7.07E-06	No
CADMIUM	7440-43-9	ug/L	1 : 6 : 6	17	1.10E+00	1.10E+00	7.67E-01	1.94E+05	5.68E-06	No
ZINC	7440-66-6	ug/L	2 : 6 : 6	33	5.90E+01	3.40E+02	7.91E+01	1.06E+08	3.19E-06	No
							Cumulative Risk:		**7.28E-03**	

Table E-2
Cumulative Risk Screening
Using Part 201 Criteria Groundwater Contact Criteria (GCC)- NonCancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	NonCancer GCC (g)	Ratio (h)	Constituent of Interest?
RFIMW 28										
ARSENIC	7440-38-2	ug/L	6 : 6 : 6	100	4.00E+01	6.90E+01	5.07E+01	5.23E+04	1.32E-03	No
CHROMIUM	7440-47-3	ug/L	6 : 6 : 6	100	5.20E+00	5.00E+01	1.92E+01	4.65E+05	1.08E-04	No
VANADIUM	7440-62-2	ug/L	5 : 6 : 6	83	2.30E+01	8.05E+01	3.41E+01	9.68E+05	8.32E-05	No
2,4-DIMETHYLPHENOL	105-67-9	ug/l	6 : 6 : 6	100	6.70E+00	3.50E+01	2.05E+01	5.21E+05	6.71E-05	No
TOTAL METHYLPHENOL	otal Methylpl	ug/L	5 : 6 : 6	83	2.93E+01	4.53E+01	3.38E+01	8.13E+05	5.57E-05	No
PYRIDINE	110-86-1	ug/l	3 : 3 : 6	100	2.70E+00	4.10E+00	3.63E+00	9.36E+04	4.38E-05	No
CADMIUM	7440-43-9	ug/L	5 : 6 : 6	83	1.00E+00	2.80E+00	1.57E+00	1.94E+05	1.45E-05	No
BARIUM	7440-39-3	ug/L	6 : 6 : 6	100	5.20E+01	1.35E+02	8.17E+01	1.35E+07	9.96E-06	No
COPPER	7440-50-8	ug/L	4 : 6 : 6	67	2.40E+01	6.35E+01	2.90E+01	7.36E+06	8.63E-06	No
ZINC	7440-66-6	ug/L	4 : 6 : 6	67	5.00E+01	1.45E+02	7.49E+01	1.06E+08	1.36E-06	No
NICKEL	7440-02-0	ug/L	2 : 6 : 6	33	4.10E+01	4.30E+01	2.73E+01	7.36E+07	5.85E-07	No
ACETONE	67-64-1	ug/l	1 : 2 : 1	50	1.40E+01	1.40E+01	1.05E+01	3.06E+07	4.57E-07	No
CARBON DISULFIDE	75-15-0	ug/l	1 : 1 : 6	100	2.70E-01	2.70E-01	2.70E-01	1.31E+06	2.06E-07	No
MERCURY	7439-97-6	ug/l	2 : 2 : 2	100	3.13E-03	4.31E-03	3.72E-03	5.81E+04	7.42E-08	No
							Cumulative Risk:		**1.71E-03**	
RFIMW 29										
CHROMIUM	7440-47-3	ug/L	6 : 6 : 6	100	5.50E+01	2.75E+02	1.32E+02	4.65E+05	5.92E-04	No
ARSENIC	7440-38-2	ug/L	4 : 6 : 6	67	8.50E+00	3.05E+01	1.33E+01	5.23E+04	5.84E-04	No
ANTIMONY	7440-36-0	ug/L	2 : 6 : 6	33	7.00E+00	7.95E+00	5.33E+00	6.77E+04	1.17E-04	No
VANADIUM	7440-62-2	ug/L	5 : 6 : 6	83	2.00E+01	5.85E+01	3.01E+01	9.68E+05	6.04E-05	No
BARIUM	7440-39-3	ug/L	6 : 6 : 6	100	6.60E+01	2.30E+02	1.56E+02	1.35E+07	1.70E-05	No
NICKEL	7440-02-0	ug/L	5 : 6 : 6	83	5.00E+01	1.10E+03	3.16E+02	7.36E+07	1.50E-05	No
CADMIUM	7440-43-9	ug/L	2 : 6 : 6	33	1.10E+00	1.40E+00	7.50E-01	1.94E+05	7.23E-06	No
COPPER	7440-50-8	ug/L	4 : 6 : 6	67	1.50E+01	5.00E+01	2.80E+01	7.36E+06	6.80E-06	No
ZINC	7440-66-6	ug/L	3 : 6 : 6	50	4.65E+01	1.25E+02	5.81E+01	1.06E+08	1.17E-06	No
							Cumulative Risk:		**1.40E-03**	

Table E-2
Cumulative Risk Screening
Using Part 201 Criteria Groundwater Contact Criteria (GCC)- NonCancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	NonCancer GCC (g)	Ratio (h)	Constituent of Interest?
WHI1-3S										
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	8.80E+01	8.80E+01	8.80E+01	5.23E+04	1.68E-03	No
VANADIUM	7440-62-2	ug/L	1 : 1 : 1	100	4.77E+02	4.77E+02	4.77E+02	9.68E+05	4.93E-04	No
IRON	7439-89-6	ug/L	1 : 1 : 1	100	2.32E+04	2.32E+04	2.32E+04	5.81E+07	4.00E-04	No
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	100	1.22E+02	1.22E+02	1.22E+02	4.65E+05	2.63E-04	No
ACETONE	67-64-1	ug/l	1 : 1 : 1	100	1.70E+03	1.70E+03	1.70E+03	3.06E+07	5.55E-05	No
BARIUM	7440-39-3	ug/L	1 : 1 : 1	100	1.28E+02	1.28E+02	1.28E+02	1.35E+07	9.45E-06	No
SELENIUM	7782-49-2	ug/L	1 : 1 : 1	100	7.00E+00	7.00E+00	7.00E+00	9.68E+05	7.23E-06	No
COPPER	7440-50-8	ug/L	1 : 1 : 1	100	3.80E+01	3.80E+01	3.80E+01	7.36E+06	5.17E-06	No
MAGNESIUM	7439-95-4	ug/L	1 : 1 : 1	100	9.10E+03	9.10E+03	9.10E+03	2.13E+09	4.27E-06	No
PHENOL	108-95-2	ug/l	1 : 1 : 1	100	1.99E+01	1.99E+01	1.99E+01	2.93E+07	6.79E-07	No
NICKEL	7440-02-0	ug/L	1 : 1 : 1	100	4.70E+01	4.70E+01	4.70E+01	7.36E+07	6.39E-07	No
ZINC	7440-66-6	ug/L	1 : 1 : 1	100	6.10E+01	6.10E+01	6.10E+01	1.06E+08	5.73E-07	No
ACETOPHENONE	98-86-2	ug/l	1 : 1 : 1	100	1.93E+00	1.93E+00	1.93E+00	6.88E+06	2.80E-07	No
DIETHYL PHTHALATE	84-66-2	ug/l	1 : 1 : 1	100	1.09E+00	1.09E+00	1.09E+00	1.28E+07	8.52E-08	No
							Cumulative Risk:		**2.92E-03**	
WHI2-1S										
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	100	8.10E+02	8.10E+02	8.10E+02	5.84E+02	1.39E+00	Yes
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	3.80E+01	3.80E+01	3.80E+01	5.23E+04	7.27E-04	No
IRON	7439-89-6	ug/L	1 : 1 : 1	100	2.01E+04	2.01E+04	2.01E+04	5.81E+07	3.46E-04	No
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	100	4.50E+01	4.50E+01	4.50E+01	4.65E+05	9.69E-05	No
VANADIUM	7440-62-2	ug/L	1 : 1 : 1	100	2.60E+01	2.60E+01	2.60E+01	9.68E+05	2.69E-05	No
MAGNESIUM	7439-95-4	ug/L	1 : 1 : 1	100	4.19E+04	4.19E+04	4.19E+04	2.13E+09	1.97E-05	No
BARIUM	7440-39-3	ug/L	1 : 1 : 1	100	1.09E+02	1.09E+02	1.09E+02	1.35E+07	8.04E-06	No
COPPER	7440-50-8	ug/L	1 : 1 : 1	100	2.20E+01	2.20E+01	2.20E+01	7.36E+06	2.99E-06	No
ZINC	7440-66-6	ug/L	1 : 1 : 1	100	4.90E+01	4.90E+01	4.90E+01	1.06E+08	4.60E-07	No
NICKEL	7440-02-0	ug/L	1 : 1 : 1	100	2.00E+01	2.00E+01	2.00E+01	7.36E+07	2.72E-07	No
MERCURY	7439-97-6	ug/l	1 : 1 : 2	100	3.71E-03	3.71E-03	3.71E-03	5.81E+04	6.39E-08	No
							Cumulative Risk:		**1.23E-03**	

Table E-2
Cumulative Risk Screening
Using Part 201 Criteria Groundwater Contact Criteria (GCC)- NonCancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	NonCancer GCC (g)	Ratio (h)	Constituent of Interest?
WHI2-2S										
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	100	8.40E+00	8.40E+00	8.40E+00	5.84E+02	1.44E-02	No
IRON	7439-89-6	ug/L	1 : 1 : 1	100	1.44E+05	1.44E+05	1.44E+05	5.81E+07	2.48E-03	No
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	3.80E+01	3.80E+01	3.80E+01	5.23E+04	7.27E-04	No
MERCURY	7439-97-6	ug/L	1 : 1 : 1	100	3.34E+01	3.34E+01	3.34E+01	5.81E+04	5.75E-04	No
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	100	6.20E+01	6.20E+01	6.20E+01	4.65E+05	1.33E-04	No
MAGNESIUM	7439-95-4	ug/L	1 : 1 : 1	100	2.07E+05	2.07E+05	2.07E+05	2.13E+09	9.72E-05	No
VANADIUM	7440-62-2	ug/L	1 : 1 : 1	100	7.70E+01	7.70E+01	7.70E+01	9.68E+05	7.96E-05	No
CADMIUM	7440-43-9	ug/L	1 : 1 : 1	100	8.00E+00	8.00E+00	8.00E+00	1.94E+05	4.13E-05	No
BARIUM	7440-39-3	ug/L	1 : 1 : 1	100	4.32E+02	4.32E+02	4.32E+02	1.35E+07	3.19E-05	No
COPPER	7440-50-8	ug/L	1 : 1 : 1	100	1.18E+02	1.18E+02	1.18E+02	7.36E+06	1.60E-05	No
ZINC	7440-66-6	ug/L	1 : 1 : 1	100	6.66E+02	6.66E+02	6.66E+02	1.06E+08	6.26E-06	No
NICKEL	7440-02-0	ug/L	1 : 1 : 1	100	4.00E+01	4.00E+01	4.00E+01	7.36E+07	5.44E-07	No
DIETHYL PHTHALATE	84-66-2	ug/l	1 : 1 : 1	100	4.35E+00	4.35E+00	4.35E+00	1.28E+07	3.40E-07	No
ACETOPHENONE	98-86-2	ug/l	1 : 1 : 1	100	1.13E+00	1.13E+00	1.13E+00	6.88E+06	1.64E-07	No
							Cumulative Risk:		**1.86E-02**	
WHI2-3S										
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	100	1.21E+02	1.21E+02	1.21E+02	5.84E+02	2.07E-01	No
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	4.20E+01	4.20E+01	4.20E+01	5.23E+04	8.04E-04	No
IRON	7439-89-6	ug/L	1 : 1 : 1	100	2.68E+03	2.68E+03	2.68E+03	5.81E+07	4.62E-05	No
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	100	6.00E+00	6.00E+00	6.00E+00	4.65E+05	1.29E-05	No
BARIUM	7440-39-3	ug/L	1 : 1 : 1	100	1.43E+02	1.43E+02	1.43E+02	1.35E+07	1.06E-05	No
MAGNESIUM	7439-95-4	ug/L	1 : 1 : 1	100	2.11E+04	2.11E+04	2.11E+04	2.13E+09	9.91E-06	No
VANADIUM	7440-62-2	ug/L	1 : 1 : 1	100	6.00E+00	6.00E+00	6.00E+00	9.68E+05	6.20E-06	No
COPPER	7440-50-8	ug/L	1 : 1 : 1	100	8.00E+00	8.00E+00	8.00E+00	7.36E+06	1.09E-06	No
ZINC	7440-66-6	ug/L	1 : 1 : 1	100	4.30E+01	4.30E+01	4.30E+01	1.06E+08	4.04E-07	No
DIETHYL PHTHALATE	84-66-2	ug/l	1 : 1 : 1	100	2.20E+00	2.20E+00	2.20E+00	1.28E+07	1.72E-07	No
NICKEL	7440-02-0	ug/L	1 : 1 : 1	100	9.00E+00	9.00E+00	9.00E+00	7.36E+07	1.22E-07	No
							Cumulative Risk:		**2.08E-01**	

Table E-2
Cumulative Risk Screening
Using Part 201 Criteria Groundwater Contact Criteria (GCC)- NonCancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	NonCancer GCC (g)	Ratio (h)	Constituent of Interest?
WHI3-1S										
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1:1:1	100	8.23E+01	8.23E+01	8.23E+01	5.84E+02	1.41E-01	No
IRON	7439-89-6	ug/L	1:1:1	100	1.63E+05	1.63E+05	1.63E+05	5.81E+07	2.81E-03	No
ARSENIC	7440-38-2	ug/L	2:2:2	100	1.60E+01	1.42E+02	7.90E+01	5.23E+04	2.72E-03	No
CHROMIUM	7440-47-3	ug/L	2:2:2	100	1.00E+01	1.31E+02	7.05E+01	4.65E+05	2.82E-04	No
VANADIUM	7440-62-2	ug/L	2:2:2	100	1.70E+01	2.40E+02	1.29E+02	9.68E+05	2.48E-04	No
NITRITE	14797-65-0	ug/L	1:1:1	100	2.80E+03	2.80E+03	2.80E+03	1.94E+07	1.45E-04	No
NITRATE	14797-55-8	ug/L	1:1:1	100	2.20E+04	2.20E+04	2.20E+04	3.10E+08	7.10E-05	No
TOLUENE	108-88-3	ug/l	1:2:2	50	3.50E+01	3.50E+01	1.78E+01	9.92E+05	3.53E-05	No
BARIUM	7440-39-3	ug/L	2:2:2	100	1.10E+02	2.91E+02	2.01E+02	1.35E+07	2.15E-05	No
COPPER	7440-50-8	ug/L	2:2:2	100	1.10E+01	1.48E+02	7.95E+01	7.36E+06	2.01E-05	No
MAGNESIUM	7439-95-4	ug/L	1:1:1	100	2.30E+04	2.30E+04	2.30E+04	2.13E+09	1.08E-05	No
MERCURY	7439-97-6	ug/L	2:2:2	100	1.05E-02	6.00E-01	3.05E-01	5.81E+04	1.03E-05	No
CADMIUM	7440-43-9	ug/L	2:2:2	100	4.10E-01	1.00E+00	7.05E-01	1.94E+05	5.17E-06	No
ZINC	7440-66-6	ug/L	2:2:2	100	4.60E+01	4.65E+02	2.56E+02	1.06E+08	4.37E-06	No
NICKEL	7440-02-0	ug/L	2:2:2	100	9.20E+00	1.08E+02	5.86E+01	7.36E+07	1.47E-06	No
DIETHYL PHTHALATE	84-66-2	ug/l	1:1:1	100	2.41E+00	2.41E+00	2.41E+00	1.28E+07	1.88E-07	No
ACETOPHENONE	98-86-2	ug/l	1:1:1	100	1.01E+00	1.01E+00	1.01E+00	6.88E+06	1.47E-07	No
							Cumulative Risk:		1.47E-01	

Table E-2
Cumulative Risk Screening
Using Part 201 Criteria Groundwater Contact Criteria (GCC)- NonCancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	NonCancer GCC (g)	Ratio (h)	Constituent of Interest?
WHI3-2S										
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1:1:1	100	1.60E+01	1.60E+01	1.60E+01	5.84E+02	2.74E-02	No
ARSENIC	7440-38-2	ug/L	1:1:1	100	4.40E+01	4.40E+01	4.40E+01	5.23E+04	8.42E-04	No
DINOSEB	88-85-7	ug/l	1:1:1	100	3.44E+00	3.44E+00	3.44E+00	7.03E+03	4.89E-04	No
IRON	7439-89-6	ug/L	1:1:1	100	1.94E+04	1.94E+04	1.94E+04	5.81E+07	3.34E-04	No
CHROMIUM	7440-47-3	ug/L	1:1:1	100	4.20E+01	4.20E+01	4.20E+01	4.65E+05	9.04E-05	No
VANADIUM	7440-62-2	ug/L	1:1:1	100	4.20E+01	4.20E+01	4.20E+01	9.68E+05	4.34E-05	No
BARIUM	7440-39-3	ug/L	1:1:1	100	1.91E+02	1.91E+02	1.91E+02	1.35E+07	1.41E-05	No
MAGNESIUM	7439-95-4	ug/L	1:1:1	100	1.04E+04	1.04E+04	1.04E+04	2.13E+09	4.88E-06	No
COPPER	7440-50-8	ug/L	1:1:1	100	2.60E+01	2.60E+01	2.60E+01	7.36E+06	3.53E-06	No
MERCURY	7439-97-6	ug/L	2:2:2	100	6.44E-02	2.00E-01	1.32E-01	5.81E+04	3.44E-06	No
ZINC	7440-66-6	ug/L	1:1:1	100	1.79E+02	1.79E+02	1.79E+02	1.06E+08	1.68E-06	No
NICKEL	7440-02-0	ug/L	1:1:1	100	2.10E+01	2.10E+01	2.10E+01	7.36E+07	2.86E-07	No
							Cumulative Risk:		**2.92E-02**	
WHI3-3S										
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1:1:1	100	6.38E+01	6.38E+01	6.38E+01	5.84E+02	1.09E-01	No
ARSENIC	7440-38-2	ug/L	1:1:1	100	4.00E+00	4.00E+00	4.00E+00	5.23E+04	7.65E-05	No
IRON	7439-89-6	ug/L	1:1:1	100	3.39E+03	3.39E+03	3.39E+03	5.81E+07	5.84E-05	No
MAGNESIUM	7439-95-4	ug/L	1:1:1	100	5.24E+04	5.24E+04	5.24E+04	2.13E+09	2.46E-05	No
BARIUM	7440-39-3	ug/L	1:1:1	100	1.98E+02	1.98E+02	1.98E+02	1.35E+07	1.46E-05	No
CHROMIUM	7440-47-3	ug/L	1:1:1	100	6.00E+00	6.00E+00	6.00E+00	4.65E+05	1.29E-05	No
BUTYL BENZYL PHTHALATE	85-68-7	ug/l	1:1:1	100	1.56E+00	1.56E+00	1.56E+00	1.32E+05	1.18E-05	No
VANADIUM	7440-62-2	ug/L	1:1:1	100	6.00E+00	6.00E+00	6.00E+00	9.68E+05	6.20E-06	No
COPPER	7440-50-8	ug/L	1:1:1	100	8.00E+00	8.00E+00	8.00E+00	7.36E+06	1.09E-06	No
ZINC	7440-66-6	ug/L	1:1:1	100	2.00E+01	2.00E+01	2.00E+01	1.06E+08	1.88E-07	No
DIETHYL PHTHALATE	84-66-2	ug/l	1:1:1	100	1.91E+00	1.91E+00	1.91E+00	1.28E+07	1.49E-07	No
NICKEL	7440-02-0	ug/L	1:1:1	100	7.00E+00	7.00E+00	7.00E+00	7.36E+07	9.52E-08	No
							Cumulative Risk:		**1.10E-01**	

Table E-2
Cumulative Risk Screening
Using Part 201 Criteria Groundwater Contact Criteria (GCC)- NonCancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	NonCancer GCC (g)	Ratio (h)	Constituent of Interest?
WHI4-1S										
ANTIMONY	7440-36-0	ug/L	1:2:2	50	5.54E+02	5.54E+02	2.78E+02	6.77E+04	8.18E-03	No
IRON	7439-89-6	ug/L	1:1:1	100	3.54E+05	3.54E+05	3.54E+05	5.81E+07	6.10E-03	No
ARSENIC	7440-38-2	ug/L	1:2:2	50	1.03E+02	1.03E+02	5.40E+01	5.23E+04	1.97E-03	No
COPPER	7440-50-8	ug/L	2:2:2	100	1.90E+01	8.69E+03	4.35E+03	7.36E+06	1.18E-03	No
CHROMIUM	7440-47-3	ug/L	1:2:2	50	1.46E+02	1.46E+02	7.33E+01	4.65E+05	3.14E-04	No
VANADIUM	7440-62-2	ug/L	1:2:2	50	1.71E+02	1.71E+02	8.57E+01	9.68E+05	1.77E-04	No
MERCURY	7439-97-6	ug/L	2:2:2	100	6.73E-02	1.02E+01	5.13E+00	5.81E+04	1.76E-04	No
BARIUM	7440-39-3	ug/L	2:2:2	100	2.60E+01	7.08E+02	3.67E+02	1.35E+07	5.23E-05	No
TOLUENE	108-88-3	ug/l	1:2:2	50	1.40E+01	1.40E+01	7.25E+00	9.92E+05	1.41E-05	No
ZINC	7440-66-6	ug/L	1:2:2	50	8.11E+02	8.11E+02	4.09E+02	1.06E+08	7.62E-06	No
MAGNESIUM	7439-95-4	ug/L	1:1:1	100	1.13E+04	1.13E+04	1.13E+04	2.13E+09	5.31E-06	No
NICKEL	7440-02-0	ug/L	1:2:2	50	8.10E+01	8.10E+01	4.11E+01	7.36E+07	1.10E-06	No
							Cumulative Risk:		1.82E-02	
WHI4-2S										
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1:1:1	100	2.68E+01	2.68E+01	2.68E+01	5.84E+02	4.59E-02	No
ARSENIC	7440-38-2	ug/L	1:1:1	100	3.00E+01	3.00E+01	3.00E+01	5.23E+04	5.74E-04	No
IRON	7439-89-6	ug/L	1:1:1	100	2.04E+04	2.04E+04	2.04E+04	5.81E+07	3.51E-04	No
CHROMIUM	7440-47-3	ug/L	1:1:1	100	3.00E+01	3.00E+01	3.00E+01	4.65E+05	6.46E-05	No
VANADIUM	7440-62-2	ug/L	1:1:1	100	4.20E+01	4.20E+01	4.20E+01	9.68E+05	4.34E-05	No
MAGNESIUM	7439-95-4	ug/L	1:1:1	100	5.66E+04	5.66E+04	5.66E+04	2.13E+09	2.66E-05	No
BARIUM	7440-39-3	ug/L	1:1:1	100	2.94E+02	2.94E+02	2.94E+02	1.35E+07	2.17E-05	No
MERCURY	7439-97-6	ug/L	2:2:2	100	7.67E-01	8.00E-01	7.84E-01	5.81E+04	1.38E-05	No
CADMIUM	7440-43-9	ug/L	1:1:1	100	2.00E+00	2.00E+00	2.00E+00	1.94E+05	1.03E-05	No
BUTYL BENZYL PHTHALATE	85-68-7	ug/l	1:1:1	100	1.01E+00	1.01E+00	1.01E+00	1.32E+05	7.65E-06	No
COPPER	7440-50-8	ug/L	1:1:1	100	5.40E+01	5.40E+01	5.40E+01	7.36E+06	7.34E-06	No
ZINC	7440-66-6	ug/L	1:1:1	100	2.24E+02	2.24E+02	2.24E+02	1.06E+08	2.10E-06	No
NICKEL	7440-02-0	ug/L	1:1:1	100	2.20E+01	2.20E+01	2.20E+01	7.36E+07	2.99E-07	No
ACETOPHENONE	98-86-2	ug/l	1:1:1	100	1.29E+00	1.29E+00	1.29E+00	6.88E+06	1.87E-07	No
DIETHYL PHTHALATE	84-66-2	ug/l	1:1:1	100	2.05E+00	2.05E+00	2.05E+00	1.28E+07	1.60E-07	No
							Cumulative Risk:		4.70E-02	

Table E-2
Cumulative Risk Screening
Using Part 201 Criteria Groundwater Contact Criteria (GCC)- NonCancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	NonCancer GCC (g)	Ratio (h)	Constituent of Interest?
WHI9-2F										
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1:1:1	100	2.38E+01	2.38E+01	2.38E+01	5.84E+02	4.08E-02	No
ARSENIC	7440-38-2	ug/L	2:2:2	100	3.30E+01	4.10E+01	3.70E+01	5.23E+04	7.85E-04	No
PHENANTHRENE	85-01-8	ug/l	1:1:1	100	1.23E+00	1.23E+00	1.23E+00	3.57E+03	3.44E-04	No
IRON	7439-89-6	ug/L	1:1:1	100	1.68E+04	1.68E+04	1.68E+04	5.81E+07	2.89E-04	No
NAPHTHALENE	91-20-3	ug/l	1:1:1	100	1.79E+01	1.79E+01	1.79E+01	1.71E+05	1.05E-04	No
VANADIUM	7440-62-2	ug/L	2:2:2	100	5.20E+01	8.30E+01	6.75E+01	9.68E+05	8.58E-05	No
2-METHYLNAPHTHALENE	91-57-6	ug/l	1:1:1	100	2.63E+00	2.63E+00	2.63E+00	4.15E+04	6.34E-05	No
CHROMIUM	7440-47-3	ug/L	2:2:2	100	6.20E+00	2.70E+01	1.66E+01	4.65E+05	5.81E-05	No
COPPER	7440-50-8	ug/L	2:2:2	100	8.30E+01	4.09E+02	2.46E+02	7.36E+06	5.56E-05	No
ANTIMONY	7440-36-0	ug/L	1:1:2	100	3.60E+00	3.60E+00	3.60E+00	6.77E+04	5.31E-05	No
MERCURY	7439-97-6	ug/L	2:2:2	100	7.57E-01	2.00E+00	1.38E+00	5.81E+04	3.44E-05	No
TOLUENE	108-88-3	ug/l	1:2:2	50	3.00E+01	3.00E+01	1.53E+01	9.92E+05	3.02E-05	No
CADMIUM	7440-43-9	ug/L	2:2:2	100	1.00E+00	2.90E+00	1.95E+00	1.94E+05	1.50E-05	No
BARIUM	7440-39-3	ug/L	2:2:2	100	1.10E+01	7.50E+01	4.30E+01	1.35E+07	5.54E-06	No
ZINC	7440-66-6	ug/L	2:2:2	100	1.00E+02	5.25E+02	3.13E+02	1.06E+08	4.93E-06	No
SELENIUM	7782-49-2	ug/L	1:2:2	50	4.00E+00	4.00E+00	2.98E+00	9.68E+05	4.13E-06	No
MAGNESIUM	7439-95-4	ug/L	1:1:1	100	7.80E+03	7.80E+03	7.80E+03	2.13E+09	3.66E-06	No
NICKEL	7440-02-0	ug/L	2:2:2	100	1.10E+01	3.30E+01	2.20E+01	7.36E+07	4.49E-07	No
ACETOPHENONE	98-86-2	ug/l	1:1:1	100	1.86E+00	1.86E+00	1.86E+00	6.88E+06	2.70E-07	No
1,2-DICHLOROPROPANE	78-87-5	ug/l	1:1:2	100	1.74E+00	1.74E+00	1.74E+00	7.70E+06	2.26E-07	No
DIETHYL PHTHALATE	84-66-2	ug/l	1:1:1	100	1.40E+00	1.40E+00	1.40E+00	1.28E+07	1.09E-07	No
							Cumulative Risk:		4.27E-02	

Table E-2
Cumulative Risk Screening
Using Part 201 Criteria Groundwater Contact Criteria (GCC)- NonCancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	NonCancer GCC (g)	Ratio (h)	Constituent of Interest?
WHI9-2S										
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1:1:1	100	1.13E+00	1.13E+00	1.13E+00	5.84E+02	1.94E-03	No
IRON	7439-89-6	ug/L	1:1:1	100	1.88E+04	1.88E+04	1.88E+04	5.81E+07	3.24E-04	No
MAGNESIUM	7439-95-4	ug/L	1:1:1	100	2.03E+05	2.03E+05	2.03E+05	2.13E+09	9.53E-05	No
BARIUM	7440-39-3	ug/L	1:1:1	100	5.64E+02	5.64E+02	5.64E+02	1.35E+07	4.16E-05	No
MERCURY	7439-97-6	ug/l	1:1:2	100	4.11E-02	4.11E-02	4.11E-02	5.81E+04	7.07E-07	No
ZINC	7440-66-6	ug/L	1:1:1	100	6.80E+01	6.80E+01	6.80E+01	1.06E+08	6.39E-07	No
DIETHYL PHTHALATE	84-66-2	ug/l	1:1:1	100	2.05E+00	2.05E+00	2.05E+00	1.28E+07	1.60E-07	No
NICKEL	7440-02-0	ug/L	1:1:1	100	5.00E+00	5.00E+00	5.00E+00	7.36E+07	6.80E-08	No
							Cumulative Risk:		**2.40E-03**	

Notes:

CAS - Chemical Abstract Service.
(a) Only chemicals with at least one positively detected result are reported.
(b) Frequency of detection - Number of detected samples: Number of samples used to calculate statistics: Number of total samples.
(c) Percent of samples with detects out of samples used to calculate statistics.
(d) Minimum detected concentration for each chemical, after duplicates have been averaged.
(e) Maximum detected concentration for each chemical, after duplicates have been averaged.
(f) Arithmetic mean concentration for each chemical, after duplicates have been averaged and any non detected results with one-half the sample quantitation limit greater than the maximum detected concentration have been excluded.
(g) Groundwater Contact Criteria (GCC): NonCarcinogen (MDEQ, Dec. 2002).
(h) Ratio of the maximum detected concentration and the Part 201 criterion.

Table E-3
Cumulative Risk Screening
Using Part 201 Criteria Industrial and Commercial II, III, IV Groundwater Volatilization to Indoor Air Inhalation (GVIIC)- Cancer Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial Cancer GVIIC (g)	Ratio (h)	Constituent of Interest?
AOC 6										
TRICHLOROETHENE	79-01-6	ug/l	1 : 1 : 1	100	4.20E-01	4.20E-01	4.20E-01	9.68E+04	4.34E-06	No
TETRACHLOROETHENE	127-18-4	ug/l	1 : 1 : 1	100	4.70E-01	4.70E-01	4.70E-01	1.65E+05	2.86E-06	No
							Cumulative Risk:		**7.19E-06**	
CMSMW-13F										
NAPHTHALENE	91-20-3	ug/l	1 : 1 : 1	100	1.90E+01	1.90E+01	1.90E+01	1.10E+06	1.72E-05	No
							Cumulative Risk:		**1.72E-05**	
CMSMW-13S										
BENZENE	71-43-2	ug/l	1 : 1 : 1	100	6.60E+01	6.60E+01	6.60E+01	3.54E+04	1.87E-03	No
							Cumulative Risk:		**1.87E-03**	
CMSMW-14S										
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/l	1 : 1 : 1	100	5.90E+00	5.90E+00	5.90E+00	2.08E+05	2.83E-05	No
NAPHTHALENE	91-20-3	ug/l	1 : 1 : 1	100	5.65E+00	5.65E+00	5.65E+00	1.10E+06	5.13E-06	No
							Cumulative Risk:		**3.34E-05**	
CMSMW-15										
ETHYLBENZENE	100-41-4	ug/l	1 : 1 : 1	100	2.80E+00	2.80E+00	2.80E+00	7.04E+05	3.98E-06	No
STYRENE	100-42-5	ug/l	1 : 1 : 1	100	3.60E+00	3.60E+00	3.60E+00	1.09E+06	3.29E-06	No
1,4-DIOXANE	123-91-1	ug/l	1 : 1 : 1	100	4.80E+00	4.80E+00	4.80E+00	4.37E+07	1.10E-07	No
							Cumulative Risk:		**7.38E-06**	
CMSMW-2										
BENZENE	71-43-2	ug/l	1 : 1 : 1	100	5.10E+00	5.10E+00	5.10E+00	3.54E+04	1.44E-04	No
CHLOROMETHANE	74-87-3	ug/l	1 : 1 : 1	100	5.90E-01	5.90E-01	5.90E-01	5.18E+04	1.14E-05	No
							Cumulative Risk:		**1.56E-04**	

Table E-3
Cumulative Risk Screening
Using Part 201 Criteria Industrial and Commercial II, III, IV Groundwater Volatilization to Indoor Air Inhalation (GVIIC)- Cancer Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial Cancer GVIIC (g)	Ratio (h)	Constituent of Interest?
ERB-1										
CHLOROFORM	67-66-3	ug/l	1 : 1 : 1	100	3.80E+01	3.80E+01	3.80E+01	1.76E+05	2.16E-04	No
BROMODICHLOROMETHANE	75-27-4	ug/l	1 : 1 : 1	100	1.20E+00	1.20E+00	1.20E+00	3.67E+04	3.27E-05	No
METHYLENE CHLORIDE	75-09-2	ug/l	1 : 1 : 1	100	1.30E+01	1.30E+01	1.30E+01	1.37E+06	9.50E-06	No
BENZENE	71-43-2	ug/l	1 : 1 : 1	100	2.50E-01	2.50E-01	2.50E-01	3.54E+04	7.07E-06	No
STYRENE	100-42-5	ug/l	1 : 1 : 1	100	2.80E-01	2.80E-01	2.80E-01	1.09E+06	2.56E-07	No
							Cumulative Risk:		**2.65E-04**	
GTI SB-11										
BENZENE	71-43-2	ug/l	1 : 1 : 1	100	2.00E+00	2.00E+00	2.00E+00	3.54E+04	5.65E-05	No
							Cumulative Risk:		**5.65E-05**	
GTI SB-16										
BENZENE	71-43-2	ug/l	1 : 1 : 1	100	6.80E+01	6.80E+01	6.80E+01	3.54E+04	1.92E-03	No
							Cumulative Risk:		**1.92E-03**	
GTI SB-3										
BENZENE	71-43-2	ug/l	1 : 1 : 1	100	1.60E+00	1.60E+00	1.60E+00	3.54E+04	4.52E-05	No
STYRENE	100-42-5	ug/l	1 : 1 : 1	100	1.90E+00	1.90E+00	1.90E+00	1.09E+06	1.74E-06	No
							Cumulative Risk:		**4.70E-05**	
P-15-N										
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/l	1 : 1 : 1	100	1.04E+01	1.04E+01	1.04E+01	2.08E+05	4.99E-05	No
NAPHTHALENE	91-20-3	ug/l	1 : 1 : 1	100	3.76E+00	3.76E+00	3.76E+00	1.10E+06	3.41E-06	No
							Cumulative Risk:		**5.33E-05**	
P-34-N										
1,4-DIOXANE	123-91-1	ug/l	3 : 3 : 5	100	3.00E+00	3.60E+00	3.20E+00	4.37E+07	8.24E-08	No
							Cumulative Risk:		**8.24E-08**	

Table E-3
Cumulative Risk Screening
Using Part 201 Criteria Industrial and Commercial II, III, IV Groundwater Volatilization to Indoor Air Inhalation (GVIIC)- Cancer Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial Cancer GVIIC (g)	Ratio (h)	Constituent of Interest?
P-36-N										
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	100	1.02E+02	1.02E+02	1.02E+02	9.79E+08	1.04E-07	No
							Cumulative Risk:		**1.04E-07**	
PM1NA										
BENZENE	71-43-2	ug/l	1 : 2 : 4	50	1.90E+00	1.90E+00	1.20E+00	3.54E+04	5.37E-05	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 2 : 2	50	1.90E+01	1.90E+01	1.08E+01	9.79E+08	1.94E-08	No
							Cumulative Risk:		**5.37E-05**	
PM3NB										
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/l	1 : 1 : 1	100	3.90E+01	3.90E+01	3.90E+01	2.08E+05	1.87E-04	No
1,4-DIOXANE	123-91-1	ug/l	1 : 1 : 1	100	3.20E+00	3.20E+00	3.20E+00	4.37E+07	7.33E-08	No
							Cumulative Risk:		**1.87E-04**	
PM4NA										
BENZENE	71-43-2	ug/l	1 : 1 : 1	100	1.10E+00	1.10E+00	1.10E+00	3.54E+04	3.11E-05	No
							Cumulative Risk:		**3.11E-05**	
RFIMW 01										
1,4-DIOXANE	123-91-1	ug/l	1 : 1 : 1	100	1.20E+02	1.20E+02	1.20E+02	4.37E+07	2.75E-06	No
							Cumulative Risk:		**2.75E-06**	
RFIMW 02										
BIS(2-CHLOROETHYL) ETHER	111-44-4	ug/l	4 : 4 : 4	100	2.40E+01	4.50E+01	3.30E+01	2.08E+05	2.16E-04	No
BENZENE	71-43-2	ug/l	2 : 4 : 4	50	2.80E-01	7.70E-01	5.12E-01	3.54E+04	2.18E-05	No
1,4-DIOXANE	123-91-1	ug/l	1 : 1 : 3	100	4.00E+00	4.00E+00	4.00E+00	4.37E+07	9.16E-08	No
							Cumulative Risk:		**2.38E-04**	
RFIMW 03										
BIS(2-CHLOROETHYL) ETHER	111-44-4	ug/l	4 : 4 : 4	100	6.40E+00	1.50E+01	1.19E+01	2.08E+05	7.20E-05	No
							Cumulative Risk:		**7.20E-05**	

Table E-3
Cumulative Risk Screening
Using Part 201 Criteria Industrial and Commercial II, III, IV Groundwater Volatilization to Indoor Air Inhalation (GVIIC)- Cancer Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial Cancer GVIIC (g)	Ratio (h)	Constituent of Interest?
RFIMW 04										
1,4-DIOXANE	123-91-1	ug/l	4 : 4 : 4	100	1.10E+01	1.90E+01	1.58E+01	4.37E+07	4.35E-07	No
							Cumulative Risk:		**4.35E-07**	
RFIMW 05										
BENZENE	71-43-2	ug/l	3 : 4 : 4	75	4.50E-01	6.80E-01	5.55E-01	3.54E+04	1.92E-05	No
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/l	3 : 3 : 4	100	1.60E+00	1.80E+00	1.73E+00	2.08E+05	8.64E-06	No
NAPHTHALENE	91-20-3	ug/l	4 : 4 : 4	100	2.90E+00	3.90E+00	3.35E+00	1.10E+06	3.54E-06	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	2 : 3 : 3	67	1.90E+00	3.00E+00	2.47E+00	9.79E+08	3.06E-09	No
							Cumulative Risk:		**3.14E-05**	
RFIMW 06										
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/l	4 : 4 : 4	100	1.40E+01	1.80E+01	1.63E+01	2.08E+05	8.64E-05	No
1,2-DICHLOROETHANE	107-06-2	ug/l	2 : 4 : 4	50	4.70E-01	5.80E-01	5.12E-01	5.90E+04	9.84E-06	No
NAPHTHALENE	91-20-3	ug/l	3 : 3 : 3	100	1.30E+00	1.60E+00	1.47E+00	1.10E+06	1.45E-06	No
							Cumulative Risk:		**9.76E-05**	
RFIMW 07										
1,1-DICHLOROETHENE	75-35-4	ug/l	1 : 1 : 1	100	1.70E+00	1.70E+00	1.70E+00	1.26E+03	1.35E-03	No
NAPHTHALENE	91-20-3	ug/l	4 : 4 : 4	100	3.40E+01	6.55E+01	5.46E+01	1.10E+06	5.94E-05	No
BENZENE	71-43-2	ug/l	1 : 1 : 1	100	8.30E-01	8.30E-01	8.30E-01	3.54E+04	2.35E-05	No
ETHYLBENZENE	100-41-4	ug/l	1 : 1 : 1	100	1.10E+01	1.10E+01	1.10E+01	7.04E+05	1.56E-05	No
1,4-DIOXANE	123-91-1	ug/l	4 : 4 : 4	100	2.40E+01	4.40E+01	3.21E+01	4.37E+07	1.01E-06	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 3 : 3	33	1.30E+01	1.30E+01	7.67E+00	9.79E+08	1.33E-08	No
							Cumulative Risk:		**1.45E-03**	
RFIMW 08										
CHLOROFORM	67-66-3	ug/l	1 : 4 : 4	25	1.20E+01	1.20E+01	3.38E+00	1.76E+05	6.81E-05	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 4	100	1.80E+00	1.80E+00	1.80E+00	9.79E+08	1.84E-09	No
							Cumulative Risk:		**6.81E-05**	

Table E-3
Cumulative Risk Screening
Using Part 201 Criteria Industrial and Commercial II, III, IV Groundwater Volatilization to Indoor Air Inhalation (GVIIC)- Cancer
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial Cancer GVIIC (g)	Ratio (h)	Constituent of Interest?
RFIMW 09										
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 4	100	2.40E+00	2.40E+00	2.40E+00	9.79E+08	2.45E-09	No
							Cumulative Risk:		**2.45E-09**	
RFIMW 10										
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 3	100	1.50E+00	1.50E+00	1.50E+00	9.79E+08	1.53E-09	No
							Cumulative Risk:		**1.53E-09**	
RFIMW 11										
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	2 : 2 : 2	100	2.80E+00	3.50E+00	3.15E+00	9.79E+08	3.57E-09	No
							Cumulative Risk:		**3.57E-09**	
RFIMW 13										
1,2-DICHLOROETHANE	107-06-2	ug/l	1 : 1 : 1	100	2.20E+01	2.20E+01	2.20E+01	5.90E+04	3.73E-04	No
1,4-DIOXANE	123-91-1	ug/l	1 : 1 : 1	100	2.40E+02	2.40E+02	2.40E+02	4.37E+07	5.49E-06	No
							Cumulative Risk:		**3.79E-04**	
RFIMW 16										
1,4-DIOXANE	123-91-1	ug/l	1 : 1 : 1	100	3.90E+01	3.90E+01	3.90E+01	4.37E+07	8.93E-07	No
							Cumulative Risk:		**8.93E-07**	
RFIMW 18										
1,4-DIOXANE	123-91-1	ug/l	1 : 1 : 1	100	3.80E+00	3.80E+00	3.80E+00	4.37E+07	8.70E-08	No
							Cumulative Risk:		**8.70E-08**	
RFIMW 22										
BENZENE	71-43-2	ug/l	1 : 1 : 1	100	2.30E+03	2.30E+03	2.30E+03	3.54E+04	6.50E-02	No
VINYL CHLORIDE	75-01-4	ug/l	1 : 1 : 1	100	2.80E+02	2.80E+02	2.80E+02	1.30E+04	2.15E-02	No
ETHYLBENZENE	100-41-4	ug/l	1 : 1 : 1	100	5.30E+01	5.30E+01	5.30E+01	7.04E+05	7.52E-05	No
1,4-DIOXANE	123-91-1	ug/l	1 : 1 : 1	100	8.70E+01	8.70E+01	8.70E+01	4.37E+07	1.99E-06	No
							Cumulative Risk:		**8.66E-02**	

Table E-3
Cumulative Risk Screening
Using Part 201 Criteria Industrial and Commercial II, III, IV Groundwater Volatilization to Indoor Air Inhalation (GVIIC)- Cancer Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial Cancer GVIIC (g)	Ratio (h)	Constituent of Interest?
RFIMW 24										
BENZENE	71-43-2	ug/l	1 : 1 : 6	100	1.10E-01	1.10E-01	1.10E-01	3.54E+04	3.11E-06	No
METHYLENE CHLORIDE	75-09-2	ug/l	1 : 1 : 6	100	4.50E-01	4.50E-01	4.50E-01	1.37E+06	3.29E-07	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	3 : 5 : 5	60	2.00E+00	4.10E+00	2.84E+00	9.79E+08	4.19E-09	No
							Cumulative Risk:		**3.44E-06**	
RFIMW 26										
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	100	1.80E+01	1.80E+01	1.80E+01	9.79E+08	1.84E-08	No
							Cumulative Risk:		**1.84E-08**	
RFIMW 27										
BENZENE	71-43-2	ug/l	1 : 1 : 6	100	1.10E-01	1.10E-01	1.10E-01	3.54E+04	3.11E-06	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 4 : 4	25	4.10E+00	4.10E+00	2.90E+00	9.79E+08	4.19E-09	No
							Cumulative Risk:		**3.11E-06**	
RFIMW 28										
BENZENE	71-43-2	ug/l	5 : 5 : 6	100	1.20E+00	2.30E+00	1.70E+00	3.54E+04	6.50E-05	No
							Cumulative Risk:		**6.50E-05**	
WHI1-3S										
BENZENE	71-43-2	ug/l	1 : 1 : 1	100	6.81E+02	6.81E+02	6.81E+02	3.54E+04	1.93E-02	No
							Cumulative Risk:		**1.93E-02**	
WHI2-1S										
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	100	8.10E+02	8.10E+02	8.10E+02	9.79E+08	8.27E-07	No
							Cumulative Risk:		**8.27E-07**	
WHI2-2S										
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	100	8.40E+00	8.40E+00	8.40E+00	9.79E+08	8.58E-09	No
							Cumulative Risk:		**8.58E-09**	

Table E-3
Cumulative Risk Screening
Using Part 201 Criteria Industrial and Commercial II, III, IV Groundwater Volatilization to Indoor Air Inhalation (GVIIC)- Cancer Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial Cancer GVIIC (g)	Ratio (h)	Constituent of Interest?
WHI2-3S										
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	100	1.21E+02	1.21E+02	1.21E+02	9.79E+08	1.24E-07	No
							Cumulative Risk:		**1.24E-07**	
WHI3-1S										
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	100	8.23E+01	8.23E+01	8.23E+01	9.79E+08	8.40E-08	No
							Cumulative Risk:		**8.40E-08**	
WHI3-2S										
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	100	1.60E+01	1.60E+01	1.60E+01	9.79E+08	1.63E-08	No
							Cumulative Risk:		**1.63E-08**	
WHI3-3S										
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	100	6.38E+01	6.38E+01	6.38E+01	9.79E+08	6.51E-08	No
							Cumulative Risk:		**6.51E-08**	
WHI4-2S										
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	100	2.68E+01	2.68E+01	2.68E+01	9.79E+08	2.74E-08	No
							Cumulative Risk:		**2.74E-08**	
WHI9-2F										
NAPHTHALENE	91-20-3	ug/l	1 : 1 : 1	100	1.79E+01	1.79E+01	1.79E+01	1.10E+06	1.62E-05	No
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/l	1 : 1 : 1	100	3.29E+00	3.29E+00	3.29E+00	2.08E+05	1.58E-05	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	100	2.38E+01	2.38E+01	2.38E+01	9.79E+08	2.43E-08	No
							Cumulative Risk:		**3.20E-05**	
WHI9-2S										
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	100	1.13E+00	1.13E+00	1.13E+00	9.79E+08	1.15E-09	No
							Cumulative Risk:		**1.15E-09**	

Table E-3
Cumulative Risk Screening
Using Part 201 Criteria Industrial and Commercial II, III, IV Groundwater Volatilization to Indoor Air Inhalation (GVIIC)- Cancer Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial Cancer GVIIC (g)	Ratio (h)	Constituent of Interest?

Notes:

CAS - Chemical Abstract Service.
(a) Only chemicals with at least one positively detected result are reported.
(b) Frequency of detection - Number of detected samples: Number of samples used to calculate statistics: Number of total samples.
(c) Percent of samples with detects out of samples used to calculate statistics.
(d) Minimum detected concentration for each chemical, after duplicates have been averaged.
(e) Maximum detected concentration for each chemical, after duplicates have been averaged.
(f) Arithmetic mean concentration for each chemical, after duplicates have been averaged and any non detected results with one-half the sample quantitation limit greater than the maximum detected concentration have been excluded.
(g) Industrial and Commercial II, III, IV Groundwater Volatilization to Indoor Air Inhalation (GVIIC): Carcinogen (MDEQ, Dec. 2002).
(h) Ratio of the maximum detected concentration and the Part 201 criterion.

Table E-4
Cumulative Risk Screening
Using Part 201 Criteria Industrial and Commercial II, III, IV Groundwater Volatilization to Indoor Air Inhalation (GVIIC)- NonCancer Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer GVIIC (g)	Ratio (h)	Constituent of Interest?
CMSMW-1										
ACETONE	67-64-1	ug/l	1 : 1 : 1	100	9.40E+02	9.40E+02	9.40E+02	2.85E+09	3.30E-07	No
							Cumulative Risk:		**3.30E-07**	
CMSMW-12										
CARBON DISULFIDE	75-15-0	ug/l	1 : 1 : 1	100	1.50E+00	1.50E+00	1.50E+00	5.46E+05	2.75E-06	No
							Cumulative Risk:		**2.75E-06**	
CMSMW-13F										
NAPHTHALENE	91-20-3	ug/l	1 : 1 : 1	100	1.90E+01	1.90E+01	1.90E+01	1.54E+05	1.24E-04	No
							Cumulative Risk:		**1.24E-04**	
CMSMW-13S										
2-PICOLINE	109-06-8	ug/l	1 : 1 : 1	100	2.90E+01	2.90E+01	2.90E+01	1.22E+04	2.38E-03	No
PYRIDINE	110-86-1	ug/l	1 : 1 : 1	100	3.60E+00	3.60E+00	3.60E+00	1.22E+04	2.96E-04	No
TOTAL XYLENES	Total Xylenes	ug/L	1 : 1 : 1	100	3.18E+00	3.18E+00	3.18E+00	1.79E+07	1.78E-07	No
ACETONE	67-64-1	ug/l	1 : 1 : 1	100	8.30E+01	8.30E+01	8.30E+01	2.85E+09	2.91E-08	No
2,4-DIMETHYLPHENOL	105-67-9	ug/l	1 : 1 : 1	100	5.50E+00	5.50E+00	5.50E+00	6.02E+08	9.14E-09	No
							Cumulative Risk:		**2.68E-03**	
CMSMW-14S										
NAPHTHALENE	91-20-3	ug/l	1 : 1 : 1	100	5.65E+00	5.65E+00	5.65E+00	1.54E+05	3.67E-05	No
1,2-DICHLOROPROPANE	78-87-5	ug/l	1 : 1 : 1	100	5.20E-01	5.20E-01	5.20E-01	3.57E+04	1.46E-05	No
ACETONE	67-64-1	ug/l	1 : 1 : 1	100	4.65E+02	4.65E+02	4.65E+02	2.85E+09	1.63E-07	No
							Cumulative Risk:		**5.15E-05**	
CMSMW-15										
ETHYLBENZENE	100-41-4	ug/l	1 : 1 : 1	100	2.80E+00	2.80E+00	2.80E+00	3.28E+06	8.55E-07	No
STYRENE	100-42-5	ug/l	1 : 1 : 1	100	3.60E+00	3.60E+00	3.60E+00	9.35E+06	3.85E-07	No
							Cumulative Risk:		**1.24E-06**	

Table E-4
Cumulative Risk Screening
Using Part 201 Criteria Industrial and Commercial II, III, IV Groundwater Volatilization to Indoor Air Inhalation (GVIIC)- NonCancer Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer GVIIC (g)	Ratio (h)	Constituent of Interest?
CMSMW-2										
TOLUENE	108-88-3	ug/l	1 : 1 : 1	100	2.90E+01	2.90E+01	2.90E+01	1.48E+06	1.96E-05	No
CHLOROMETHANE	74-87-3	ug/l	1 : 1 : 1	100	5.90E-01	5.90E-01	5.90E-01	4.47E+04	1.32E-05	No
CHLOROBENZENE	108-90-7	ug/l	1 : 1 : 1	100	9.40E-01	9.40E-01	9.40E-01	4.85E+05	1.94E-06	No
1,2-DICHLOROBENZENE	95-50-1	ug/l	1 : 1 : 1	100	1.10E+00	1.10E+00	1.10E+00	2.02E+07	5.44E-08	No
ACETONE	67-64-1	ug/l	1 : 1 : 1	100	4.80E+01	4.80E+01	4.80E+01	2.85E+09	1.69E-08	No
PHENOL	108-95-2	ug/l	1 : 1 : 1	100	2.40E+01	2.40E+01	2.40E+01	1.39E+10	1.73E-09	No
							Cumulative Risk:		**3.48E-05**	
ERB-1										
CHLOROBENZENE	108-90-7	ug/l	1 : 1 : 1	100	3.40E-01	3.40E-01	3.40E-01	4.85E+05	7.01E-07	No
TOLUENE	108-88-3	ug/l	1 : 1 : 1	100	6.00E-01	6.00E-01	6.00E-01	1.48E+06	4.05E-07	No
STYRENE	100-42-5	ug/l	1 : 1 : 1	100	2.80E-01	2.80E-01	2.80E-01	9.35E+06	3.00E-08	No
							Cumulative Risk:		**1.14E-06**	
GTI SB-3										
STYRENE	100-42-5	ug/l	1 : 1 : 1	100	1.90E+00	1.90E+00	1.90E+00	9.35E+06	2.03E-07	No
							Cumulative Risk:		**2.03E-07**	
GTI-TPW-1										
TOTAL XYLENES	Total Xylenes	ug/L	1 : 1 : 1	100	3.69E+01	3.69E+01	3.69E+01	1.79E+07	2.06E-06	No
ACETOPHENONE	98-86-2	ug/l	1 : 1 : 1	100	2.99E+00	2.99E+00	2.99E+00	8.07E+08	3.70E-09	No
							Cumulative Risk:		**2.07E-06**	
P-15-N										
1,2-DICHLOROPROPANE	78-87-5	ug/l	1 : 1 : 1	100	6.63E+01	6.63E+01	6.63E+01	3.57E+04	1.86E-03	No
NAPHTHALENE	91-20-3	ug/l	1 : 1 : 1	100	3.76E+00	3.76E+00	3.76E+00	1.54E+05	2.45E-05	No
							Cumulative Risk:		**1.88E-03**	
P-34-N										
DIETHYL PHTHALATE	84-66-2	ug/l	1 : 1 : 4	100	1.70E+00	1.70E+00	1.70E+00	1.37E+09	1.24E-09	No
							Cumulative Risk:		**1.24E-09**	

Table E-4
Cumulative Risk Screening
Using Part 201 Criteria Industrial and Commercial II, III, IV Groundwater Volatilization to Indoor Air Inhalation (GVIIC)- NonCancer Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer GVIIC (g)	Ratio (h)	Constituent of Interest?
P-36-N										
DIETHYL PHTHALATE	84-66-2	ug/l	1 : 1 : 1	100	2.66E+00	2.66E+00	2.66E+00	1.37E+09	1.95E-09	No
							Cumulative Risk:		**1.95E-09**	
PM1NA										
CARBON DISULFIDE	75-15-0	ug/l	4 : 4 : 4	100	1.50E+00	3.50E+00	2.40E+00	5.46E+05	6.41E-06	No
TOTAL METHYLPHENOL	otal Methylpl	ug/L	3 : 3 : 4	100	4.00E+00	8.40E+00	4.43E+00	1.05E+09	7.97E-09	No
2,6-DICHLOROPHENOL	87-65-0	ug/l	3 : 3 : 4	100	2.40E+00	2.90E+00	2.70E+00	4.29E+08	6.77E-09	No
ACETONE	67-64-1	ug/l	1 : 1 : 2	100	9.00E+00	9.00E+00	9.00E+00	2.85E+09	3.16E-09	No
							Cumulative Risk:		**6.42E-06**	
PM1NB										
CARBON DISULFIDE	75-15-0	ug/l	1 : 1 : 1	100	3.10E+00	3.10E+00	3.10E+00	5.46E+05	5.67E-06	No
							Cumulative Risk:		**5.67E-06**	
PM3NB										
CARBON DISULFIDE	75-15-0	ug/l	1 : 1 : 1	100	6.30E-01	6.30E-01	6.30E-01	5.46E+05	1.15E-06	No
							Cumulative Risk:		**1.15E-06**	
PM4NA										
TOLUENE	108-88-3	ug/l	1 : 1 : 1	100	1.30E+01	1.30E+01	1.30E+01	1.48E+06	8.77E-06	No
CARBON DISULFIDE	75-15-0	ug/l	1 : 1 : 1	100	1.40E+00	1.40E+00	1.40E+00	5.46E+05	2.56E-06	No
							Cumulative Risk:		**1.13E-05**	
RFIMW 01										
TOLUENE	108-88-3	ug/l	1 : 1 : 1	100	1.20E+02	1.20E+02	1.20E+02	1.48E+06	8.09E-05	No
							Cumulative Risk:		**8.09E-05**	

Table E-4
Cumulative Risk Screening
Using Part 201 Criteria Industrial and Commercial II, III, IV Groundwater Volatilization to Indoor Air Inhalation (GVIIC)- NonCancer Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer GVIIC (g)	Ratio (h)	Constituent of Interest?
RFIMW 02										
CARBON DISULFIDE	75-15-0	ug/l	3 : 4 : 4	75	1.20E-01	5.90E-01	3.38E-01	5.46E+05	1.08E-06	No
TOTAL METHYLPHENOL	otal Methylpl	ug/L	3 : 3 : 3	100	3.85E+01	1.95E+02	1.15E+02	1.05E+09	1.85E-07	No
ACETONE	67-64-1	ug/l	1 : 2 : 2	50	2.70E+01	2.70E+01	1.60E+01	2.85E+09	9.48E-09	No
PHENOL	108-95-2	ug/l	1 : 3 : 3	33	5.30E+00	5.30E+00	3.43E+00	1.39E+10	3.82E-10	No
							Cumulative Risk:		**1.28E-06**	
RFIMW 03										
CARBON DISULFIDE	75-15-0	ug/l	1 : 1 : 4	100	1.20E-01	1.20E-01	1.20E-01	5.46E+05	2.20E-07	No
TOLUENE	108-88-3	ug/l	2 : 2 : 4	100	1.60E-01	3.10E-01	2.35E-01	1.48E+06	2.09E-07	No
TOTAL METHYLPHENOL	otal Methylpl	ug/L	3 : 4 : 4	75	1.40E+01	7.80E+01	3.12E+01	1.05E+09	7.40E-08	No
METHYL ETHYL KETONE	78-93-3	ug/l	2 : 2 : 2	100	5.60E+00	6.40E+00	6.00E+00	5.27E+08	1.21E-08	No
ACETONE	67-64-1	ug/l	2 : 3 : 3	67	1.70E+01	2.20E+01	1.58E+01	2.85E+09	7.72E-09	No
ACETOPHENONE	98-86-2	ug/l	1 : 1 : 3	100	1.90E+00	1.90E+00	1.90E+00	8.07E+08	2.35E-09	No
PHENOL	108-95-2	ug/l	1 : 1 : 2	100	1.50E+00	1.50E+00	1.50E+00	1.39E+10	1.08E-10	No
							Cumulative Risk:		**5.25E-07**	
RFIMW 04										
CARBON DISULFIDE	75-15-0	ug/l	2 : 2 : 4	100	1.00E-01	2.00E-01	1.50E-01	5.46E+05	3.66E-07	No
							Cumulative Risk:		**3.66E-07**	
RFIMW 05										
1,2-DICHLOROPROPANE	78-87-5	ug/l	4 : 4 : 4	100	3.90E-01	1.10E+00	7.32E-01	3.57E+04	3.09E-05	No
NAPHTHALENE	91-20-3	ug/l	4 : 4 : 4	100	2.90E+00	3.90E+00	3.35E+00	1.54E+05	2.54E-05	No
TOLUENE	108-88-3	ug/l	3 : 4 : 4	75	2.80E-01	6.10E-01	4.22E-01	1.48E+06	4.11E-07	No
TOTAL METHYLPHENOL	otal Methylpl	ug/L	4 : 4 : 4	100	6.07E+01	9.33E+01	7.43E+01	1.05E+09	8.86E-08	No
ACETONE	67-64-1	ug/l	3 : 4 : 4	75	6.90E+01	1.40E+02	8.35E+01	2.85E+09	4.92E-08	No
METHYL ETHYL KETONE	78-93-3	ug/l	3 : 4 : 4	75	9.10E+00	9.90E+00	8.45E+00	5.27E+08	1.88E-08	No
PHENOL	108-95-2	ug/l	3 : 4 : 4	75	1.40E+01	4.10E+01	2.35E+01	1.39E+10	2.95E-09	No
							Cumulative Risk:		**5.68E-05**	

Table E-4
Cumulative Risk Screening
Using Part 201 Criteria Industrial and Commercial II, III, IV Groundwater Volatilization to Indoor Air Inhalation (GVIIC)- NonCancer Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer GVIIC (g)	Ratio (h)	Constituent of Interest?
RFIMW 06										
1,2-DICHLOROPROPANE	78-87-5	ug/l	4 : 4 : 4	100	2.20E+01	3.50E+01	2.90E+01	3.57E+04	9.82E-04	No
PHENANTHRENE	85-01-8	ug/l	1 : 1 : 3	100	1.40E+00	1.40E+00	1.40E+00	8.14E+04	1.72E-05	No
NAPHTHALENE	91-20-3	ug/l	3 : 3 : 3	100	1.30E+00	1.60E+00	1.47E+00	1.54E+05	1.04E-05	No
CARBON DISULFIDE	75-15-0	ug/l	1 : 1 : 4	100	3.20E-01	3.20E-01	3.20E-01	5.46E+05	5.86E-07	No
TOLUENE	108-88-3	ug/l	2 : 2 : 4	100	1.60E-01	2.00E-01	1.80E-01	1.48E+06	1.35E-07	No
TOTAL METHYLPHENOL	otal Methylpl	ug/L	4 : 4 : 4	100	1.35E+01	2.45E+01	1.94E+01	1.05E+09	2.33E-08	No
ACETONE	67-64-1	ug/l	2 : 3 : 3	67	1.40E+01	1.90E+01	1.27E+01	2.85E+09	6.67E-09	No
PHENOL	108-95-2	ug/l	3 : 4 : 4	75	1.00E+01	1.40E+01	1.08E+01	1.39E+10	1.01E-09	No
							Cumulative Risk:		**1.01E-03**	
RFIMW 07										
NAPHTHALENE	91-20-3	ug/l	4 : 4 : 4	100	3.40E+01	6.55E+01	5.46E+01	1.54E+05	4.26E-04	No
PHENANTHRENE	85-01-8	ug/l	3 : 3 : 4	100	2.20E+00	3.05E+00	2.75E+00	8.14E+04	3.75E-05	No
CUMENE	98-82-8	ug/l	1 : 1 : 1	100	4.80E+00	4.80E+00	4.80E+00	1.44E+05	3.32E-05	No
TOLUENE	108-88-3	ug/l	1 : 1 : 1	100	1.70E+01	1.70E+01	1.70E+01	1.48E+06	1.15E-05	No
1,1,1-TRICHLOROETHANE	71-55-6	ug/l	1 : 1 : 1	100	1.30E+01	1.30E+01	1.30E+01	1.49E+06	8.72E-06	No
1,1-DICHLOROETHANE	75-34-3	ug/l	1 : 1 : 1	100	1.20E+01	1.20E+01	1.20E+01	2.28E+06	5.26E-06	No
ETHYLBENZENE	100-41-4	ug/l	1 : 1 : 1	100	1.10E+01	1.10E+01	1.10E+01	3.28E+06	3.36E-06	No
TOTAL XYLENES	Total Xylene:	ug/l	1 : 1 : 1	100	2.20E+01	2.20E+01	2.20E+01	1.79E+07	1.23E-06	No
2-HEXANONE	591-78-6	ug/l	1 : 1 : 1	100	1.30E+00	1.30E+00	1.30E+00	8.65E+06	1.50E-07	No
TOTAL METHYLPHENOL	otal Methylpl	ug/L	4 : 4 : 4	100	1.87E+01	1.37E+02	5.61E+01	1.05E+09	1.30E-07	No
ACENAPHTHENE	83-32-9	ug/l	2 : 2 : 4	100	2.70E+00	2.80E+00	2.75E+00	3.15E+07	8.88E-08	No
PHENOL	108-95-2	ug/l	3 : 4 : 4	75	4.55E+01	3.10E+02	1.24E+02	1.39E+10	2.23E-08	No
ACETONE	67-64-1	ug/l	1 : 1 : 1	100	4.40E+01	4.40E+01	4.40E+01	2.85E+09	1.54E-08	No
4-METHYL-2-PENTANONE (MIBK)	108-10-1	ug/l	1 : 1 : 1	100	9.10E-01	9.10E-01	9.10E-01	3.63E+08	2.51E-09	No
							Cumulative Risk:		**5.27E-04**	
RFIMW 08										
CARBON DISULFIDE	75-15-0	ug/l	2 : 4 : 4	50	1.50E-01	1.10E+00	5.63E-01	5.46E+05	2.01E-06	No
PHENOL	108-95-2	ug/l	1 : 4 : 4	25	4.80E+00	4.80E+00	3.08E+00	1.39E+10	3.46E-10	No
							Cumulative Risk:		**2.01E-06**	

Table E-4
Cumulative Risk Screening
Using Part 201 Criteria Industrial and Commercial II, III, IV Groundwater Volatilization to Indoor Air Inhalation (GVIIC)- NonCancer *Groundwater*
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer GVIIC (g)	Ratio (h)	Constituent of Interest?
RFIMW 09										
PHENOL	108-95-2	ug/l	1 : 4 : 4	25	5.60E+00	5.60E+00	3.27E+00	1.39E+10	4.03E-10	No
							Cumulative Risk:		**4.03E-10**	
RFIMW 12										
TOLUENE	108-88-3	ug/l	1 : 1 : 1	100	1.60E+01	1.60E+01	1.60E+01	1.48E+06	1.08E-05	No
CARBON DISULFIDE	75-15-0	ug/l	1 : 1 : 1	100	1.30E+00	1.30E+00	1.30E+00	5.46E+05	2.38E-06	No
TOTAL METHYLPHENOL	otal Methylpl	ug/L	4 : 4 : 4	100	1.93E+02	4.70E+02	2.83E+02	1.05E+09	4.46E-07	No
PHENOL	108-95-2	ug/l	3 : 4 : 4	75	7.90E+02	1.10E+03	7.94E+02	1.39E+10	7.92E-08	No
							Cumulative Risk:		**1.37E-05**	
RFIMW 13										
TOLUENE	108-88-3	ug/l	1 : 1 : 1	100	7.60E+01	7.60E+01	7.60E+01	1.48E+06	5.12E-05	No
							Cumulative Risk:		**5.12E-05**	
RFIMW 15										
TOLUENE	108-88-3	ug/l	1 : 1 : 1	100	1.80E+01	1.80E+01	1.80E+01	1.48E+06	1.21E-05	No
							Cumulative Risk:		**1.21E-05**	
RFIMW 16										
CARBON DISULFIDE	75-15-0	ug/l	1 : 1 : 1	100	3.40E+00	3.40E+00	3.40E+00	5.46E+05	6.22E-06	No
TOLUENE	108-88-3	ug/l	1 : 1 : 1	100	2.00E+00	2.00E+00	2.00E+00	1.48E+06	1.35E-06	No
ACETONE	67-64-1	ug/l	1 : 1 : 1	100	5.40E+02	5.40E+02	5.40E+02	2.85E+09	1.90E-07	No
METHYL ETHYL KETONE	78-93-3	ug/l	1 : 1 : 1	100	4.30E+01	4.30E+01	4.30E+01	5.27E+08	8.15E-08	No
PHENOL	108-95-2	ug/l	1 : 1 : 1	100	3.50E+02	3.50E+02	3.50E+02	1.39E+10	2.52E-08	No
							Cumulative Risk:		**7.87E-06**	
RFIMW 21										
ACETONE	67-64-1	ug/l	1 : 1 : 1	100	2.10E+03	2.10E+03	2.10E+03	2.85E+09	7.37E-07	No
PHENOL	108-95-2	ug/l	1 : 1 : 1	100	1.80E+01	1.80E+01	1.80E+01	1.39E+10	1.30E-09	No
							Cumulative Risk:		**7.39E-07**	

Table E-4
Cumulative Risk Screening
Using Part 201 Criteria Industrial and Commercial II, III, IV Groundwater Volatilization to Indoor Air Inhalation (GVIIC)- NonCancer Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer GVIIC (g)	Ratio (h)	Constituent of Interest?
RFIMW 22										
VINYL CHLORIDE	75-01-4	ug/l	1 : 1 : 1	100	2.80E+02	2.80E+02	2.80E+02	8.71E+04	3.22E-03	No
CHLOROBENZENE	108-90-7	ug/l	1 : 1 : 1	100	6.40E+02	6.40E+02	6.40E+02	4.85E+05	1.32E-03	No
ETHYLBENZENE	100-41-4	ug/l	1 : 1 : 1	100	5.30E+01	5.30E+01	5.30E+01	3.28E+06	1.62E-05	No
ACETONE	67-64-1	ug/l	1 : 1 : 1	100	5.20E+03	5.20E+03	5.20E+03	2.85E+09	1.83E-06	No
METHYL ETHYL KETONE	78-93-3	ug/l	1 : 1 : 1	100	8.00E+01	8.00E+01	8.00E+01	5.27E+08	1.52E-07	No
PHENOL	108-95-2	ug/l	1 : 1 : 1	100	2.20E+02	2.20E+02	2.20E+02	1.39E+10	1.58E-08	No
							Cumulative Risk:		**4.55E-03**	
RFIMW 23										
PYRENE	129-00-0	ug/l	1 : 1 : 1	100	9.60E+00	9.60E+00	9.60E+00	1.66E+08	5.78E-08	No
FLUORANTHENE	206-44-0	ug/l	1 : 1 : 1	100	4.50E+00	4.50E+00	4.50E+00	1.63E+08	2.76E-08	No
							Cumulative Risk:		**8.54E-08**	
RFIMW 26										
TOLUENE	108-88-3	ug/l	1 : 2 : 2	50	2.70E+01	2.70E+01	1.38E+01	1.48E+06	1.82E-05	No
DIETHYL PHTHALATE	84-66-2	ug/l	1 : 1 : 1	100	2.29E+01	2.29E+01	2.29E+01	1.37E+09	1.68E-08	No
							Cumulative Risk:		**1.82E-05**	
RFIMW 28										
PYRIDINE	110-86-1	ug/l	3 : 3 : 6	100	2.70E+00	4.10E+00	3.63E+00	1.22E+04	3.37E-04	No
CARBON DISULFIDE	75-15-0	ug/l	1 : 1 : 6	100	2.70E-01	2.70E-01	2.70E-01	5.46E+05	4.94E-07	No
2,4-DIMETHYLPHENOL	105-67-9	ug/l	6 : 6 : 6	100	6.70E+00	3.50E+01	2.05E+01	6.02E+08	5.82E-08	No
TOTAL METHYLPHENOL	›tal Methylpl	ug/L	5 : 6 : 6	83	2.93E+01	4.53E+01	3.38E+01	1.05E+09	4.30E-08	No
ACETONE	67-64-1	ug/l	1 : 2 : 1	50	1.40E+01	1.40E+01	1.05E+01	2.85E+09	4.92E-09	No
							Cumulative Risk:		**3.37E-04**	

Table E-4
Cumulative Risk Screening
Using Part 201 Criteria Industrial and Commercial II, III, IV Groundwater Volatilization to Indoor Air Inhalation (GVIIC)- NonCancer Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer GVIIC (g)	Ratio (h)	Constituent of Interest?
WHI1-3S										
ACETONE	67-64-1	ug/l	1 : 1 : 1	100	1.70E+03	1.70E+03	1.70E+03	2.85E+09	5.97E-07	No
ACETOPHENONE	98-86-2	ug/l	1 : 1 : 1	100	1.93E+00	1.93E+00	1.93E+00	8.07E+08	2.39E-09	No
PHENOL	108-95-2	ug/l	1 : 1 : 1	100	1.99E+01	1.99E+01	1.99E+01	1.39E+10	1.43E-09	No
DIETHYL PHTHALATE	84-66-2	ug/l	1 : 1 : 1	100	1.09E+00	1.09E+00	1.09E+00	1.37E+09	7.98E-10	No
							Cumulative Risk:		**6.01E-07**	
WHI2-2S										
DIETHYL PHTHALATE	84-66-2	ug/l	1 : 1 : 1	100	4.35E+00	4.35E+00	4.35E+00	1.37E+09	3.19E-09	No
ACETOPHENONE	98-86-2	ug/l	1 : 1 : 1	100	1.13E+00	1.13E+00	1.13E+00	8.07E+08	1.40E-09	No
							Cumulative Risk:		**4.58E-09**	
WHI2-3S										
DIETHYL PHTHALATE	84-66-2	ug/l	1 : 1 : 1	100	2.20E+00	2.20E+00	2.20E+00	1.37E+09	1.61E-09	No
							Cumulative Risk:		**1.61E-09**	
WHI3-1S										
TOLUENE	108-88-3	ug/l	1 : 2 : 2	50	3.50E+01	3.50E+01	1.78E+01	1.48E+06	2.36E-05	No
DIETHYL PHTHALATE	84-66-2	ug/l	1 : 1 : 1	100	2.41E+00	2.41E+00	2.41E+00	1.37E+09	1.76E-09	No
ACETOPHENONE	98-86-2	ug/l	1 : 1 : 1	100	1.01E+00	1.01E+00	1.01E+00	8.07E+08	1.25E-09	No
							Cumulative Risk:		**2.36E-05**	
WHI3-3S										
DIETHYL PHTHALATE	84-66-2	ug/l	1 : 1 : 1	100	1.91E+00	1.91E+00	1.91E+00	1.37E+09	1.40E-09	No
BUTYL BENZYL PHTHALATE	85-68-7	ug/l	1 : 1 : 1	100	1.56E+00	1.56E+00	1.56E+00	9.65E+09	1.62E-10	No
							Cumulative Risk:		**1.56E-09**	
WHI4-1S										
TOLUENE	108-88-3	ug/l	1 : 2 : 2	50	1.40E+01	1.40E+01	7.25E+00	1.48E+06	9.44E-06	No
							Cumulative Risk:		**9.44E-06**	

Table E-4
Cumulative Risk Screening
Using Part 201 Criteria Industrial and Commercial II, III, IV Groundwater Volatilization to Indoor Air Inhalation (GVIIC)- NonCancer Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer GVIIC (g)	Ratio (h)	Constituent of Interest?
WHI4-2S										
ACETOPHENONE	98-86-2	ug/l	1 : 1 : 1	100	1.29E+00	1.29E+00	1.29E+00	8.07E+08	1.60E-09	No
DIETHYL PHTHALATE	84-66-2	ug/l	1 : 1 : 1	100	2.05E+00	2.05E+00	2.05E+00	1.37E+09	1.50E-09	No
BUTYL BENZYL PHTHALATE	85-68-7	ug/l	1 : 1 : 1	100	1.01E+00	1.01E+00	1.01E+00	9.65E+09	1.05E-10	No
							Cumulative Risk:		**3.20E-09**	
WHI9-2F										
NAPHTHALENE	91-20-3	ug/l	1 : 1 : 1	100	1.79E+01	1.79E+01	1.79E+01	1.54E+05	1.16E-04	No
1,2-DICHLOROPROPANE	78-87-5	ug/l	1 : 1 : 2	100	1.74E+00	1.74E+00	1.74E+00	3.57E+04	4.88E-05	No
TOLUENE	108-88-3	ug/l	1 : 2 : 2	50	3.00E+01	3.00E+01	1.53E+01	1.48E+06	2.02E-05	No
PHENANTHRENE	85-01-8	ug/l	1 : 1 : 1	100	1.23E+00	1.23E+00	1.23E+00	8.14E+04	1.51E-05	No
ACETOPHENONE	98-86-2	ug/l	1 : 1 : 1	100	1.86E+00	1.86E+00	1.86E+00	8.07E+08	2.30E-09	No
DIETHYL PHTHALATE	84-66-2	ug/l	1 : 1 : 1	100	1.40E+00	1.40E+00	1.40E+00	1.37E+09	1.03E-09	No
							Cumulative Risk:		**2.01E-04**	
WHI9-2S										
DIETHYL PHTHALATE	84-66-2	ug/l	1 : 1 : 1	100	2.05E+00	2.05E+00	2.05E+00	1.37E+09	1.50E-09	No
							Cumulative Risk:		**1.50E-09**	

Table E-4
Cumulative Risk Screening
Using Part 201 Criteria Industrial and Commercial II, III, IV Groundwater Volatilization to Indoor Air Inhalation (GVIIC)- NonCancer Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Industrial NonCancer GVIIC (g)	Ratio (h)	Constituent of Interest?

Notes:

CAS - Chemical Abstract Service.
(a) Only chemicals with at least one positively detected result are reported.
(b) Frequency of detection - Number of detected samples: Number of samples used to calculate statistics: Number of total samples.
(c) Percent of samples with detects out of samples used to calculate statistics.
(d) Minimum detected concentration for each chemical, after duplicates have been averaged.
(e) Maximum detected concentration for each chemical, after duplicates have been averaged.
(f) Arithmetic mean concentration for each chemical, after duplicates have been averaged and any non detected results with one-half the sample quantitation limit greater than the maximum detected concentration have been excluded.
(g) Industrial and Commercial II, III, IV Groundwater Volatilization to Indoor Air Inhalation (GVIIC): NonCarcinogen (MDEQ, Dec. 2002).
(h) Ratio of the maximum detected concentration and the Part 201 criterion.

Table E-5
Risk Screening
Using Part 201 Criteria Groundwater Surface Water Interface (GSI) Criteria
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	GSI (g)	Exceeds? (h)
AOC 6									
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	100	9.50E+00	9.50E+00	9.50E+00	1.10E+01	No
TETRACHLOROETHENE	127-18-4	ug/l	1 : 1 : 1	100	4.70E-01	4.70E-01	4.70E-01	1.10E+01	No
TRICHLOROETHENE	79-01-6	ug/l	1 : 1 : 1	100	4.20E-01	4.20E-01	4.20E-01	2.90E+01	No
CMSMW-1									
ACETONE	67-64-1	ug/l	1 : 1 : 1	100	9.40E+02	9.40E+02	9.40E+02	1.70E+03	No
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	100	3.20E+06	3.20E+06	3.20E+06	5.00E+05	Yes
CMSMW-10									
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	100	4.60E+06	4.60E+06	4.60E+06	5.00E+05	Yes
CMSMW-11									
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	100	1.60E+07	1.60E+07	1.60E+07	5.00E+05	Yes
CMSMW-12									
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	100	1.10E+07	1.10E+07	1.10E+07	5.00E+05	Yes
CMSMW-13F									
NAPHTHALENE	91-20-3	ug/l	1 : 1 : 1	100	1.90E+01	1.90E+01	1.90E+01	1.30E+01	Yes
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	100	5.00E+06	5.00E+06	5.00E+06	5.00E+05	Yes
CMSMW-13S									
2,4-DIMETHYLPHENOL	105-67-9	ug/l	1 : 1 : 1	100	5.50E+00	5.50E+00	5.50E+00	3.80E+02	No
ACETONE	67-64-1	ug/l	1 : 1 : 1	100	8.30E+01	8.30E+01	8.30E+01	1.70E+03	No
BENZENE	71-43-2	ug/l	1 : 1 : 1	100	6.60E+01	6.60E+01	6.60E+01	1.20E+01	Yes
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	100	7.90E+06	7.90E+06	7.90E+06	5.00E+05	Yes
TOTAL XYLENES	Total Xylenes	ug/L	1 : 1 : 1	100	3.18E+00	3.18E+00	3.18E+00	3.50E+01	No
CMSMW-14S									
1,2-DICHLOROPROPANE	*78-87-5*	ug/l	1 : 1 : 1	100	*5.20E-01*	*5.20E-01*	*5.20E-01*	*9.10E+00*	*No*
ACETONE	67-64-1	ug/l	1 : 1 : 1	100	4.65E+02	4.65E+02	4.65E+02	1.70E+03	No
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/l	1 : 1 : 1	100	5.90E+00	5.90E+00	5.90E+00	1.50E+01	No
NAPHTHALENE	91-20-3	ug/l	1 : 1 : 1	100	5.65E+00	5.65E+00	5.65E+00	1.30E+01	No
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	100	2.95E+06	2.95E+06	2.95E+06	5.00E+05	Yes
CMSMW-15									
1,4-DIOXANE	123-91-1	ug/l	1 : 1 : 1	100	4.80E+00	4.80E+00	4.80E+00	3.40E+01	No

Table E-5
Risk Screening
Using Part 201 Criteria Groundwater Surface Water Interface (GSI) Criteria
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	GSI (g)	Exceeds? (h)
ETHYLBENZENE	100-41-4	ug/l	1 : 1 : 1	100	2.80E+00	2.80E+00	2.80E+00	1.80E+01	No
STYRENE	100-42-5	ug/l	1 : 1 : 1	100	3.60E+00	3.60E+00	3.60E+00	8.00E+01	No
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	100	7.40E+05	7.40E+05	7.40E+05	5.00E+05	Yes
CMSMW-16F									
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	100	5.60E+06	5.60E+06	5.60E+06	5.00E+05	Yes
CMSMW-18									
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	100	4.50E+06	4.50E+06	4.50E+06	5.00E+05	Yes
CMSMW-2									
1,2-DICHLOROBENZENE	95-50-1	ug/l	1 : 1 : 1	100	1.10E+00	1.10E+00	1.10E+00	1.60E+01	No
ACETONE	67-64-1	ug/l	1 : 1 : 1	100	4.80E+01	4.80E+01	4.80E+01	1.70E+03	No
BARIUM	7440-39-3	ug/L	1 : 1 : 1	100	2.30E+02	2.30E+02	2.30E+02	4.40E+02	No
BENZENE	71-43-2	ug/l	1 : 1 : 1	100	5.10E+00	5.10E+00	5.10E+00	1.20E+01	No
CHLORIDE	16887-00-6	ug/L	1 : 1 : 1	100	3.20E+05	3.20E+05	3.20E+05	1.25E+05	Yes
CHLOROBENZENE	108-90-7	ug/l	1 : 1 : 1	100	9.40E-01	9.40E-01	9.40E-01	4.70E+01	No
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	4.34E-01	4.34E-01	4.34E-01	1.30E-03	Yes
NICKEL	7440-02-0	ug/L	1 : 1 : 1	100	4.20E+00	4.20E+00	4.20E+00	5.20E+01	No
PHENOL	108-95-2	ug/l	1 : 1 : 1	100	2.40E+01	2.40E+01	2.40E+01	2.10E+02	No
TOLUENE	108-88-3	ug/l	1 : 1 : 1	100	2.90E+01	2.90E+01	2.90E+01	1.40E+02	No
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	100	2.00E+06	2.00E+06	2.00E+06	5.00E+05	Yes
VANADIUM	7440-62-2	ug/L	1 : 1 : 1	100	3.30E+00	3.30E+00	3.30E+00	1.20E+01	No
ZINC	7440-66-6	ug/L	1 : 1 : 1	100	4.90E+01	4.90E+01	4.90E+01	1.20E+02	No
CMSMW-3									
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	100	3.10E+06	3.10E+06	3.10E+06	5.00E+05	Yes
CMSMW-4									
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	100	2.90E+06	2.90E+06	2.90E+06	5.00E+05	Yes
CMSMW-5									
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	100	4.40E+06	4.40E+06	4.40E+06	5.00E+05	Yes
CMSMW-6									
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	100	2.10E+07	2.10E+07	2.10E+07	5.00E+05	Yes
CMSMW-7									
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	100	5.70E+06	5.70E+06	5.70E+06	5.00E+05	Yes

Table E-5
Risk Screening
Using Part 201 Criteria Groundwater Surface Water Interface (GSI) Criteria
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	GSI (g)	Exceeds? (h)
CMSMW-8									
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	3.90E+00	3.90E+00	3.90E+00	1.30E-03	Yes
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	100	1.20E+07	1.20E+07	1.20E+07	5.00E+05	Yes
CMSMW-9									
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	100	5.00E+06	5.00E+06	5.00E+06	5.00E+05	Yes
ENSR BG-MW-1									
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	3.50E+00	3.50E+00	3.50E+00	5.00E+01	No
BARIUM	7440-39-3	ug/L	1 : 1 : 1	100	4.90E+01	4.90E+01	4.90E+01	4.40E+02	No
CHLORIDE	16887-00-6	ug/L	1 : 1 : 1	100	1.80E+05	1.80E+05	1.80E+05	1.25E+05	Yes
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	100	2.10E+00	2.10E+00	2.10E+00	1.10E+01	No
COBALT	7440-48-4	ug/L	1 : 1 : 1	100	3.10E+00	3.10E+00	3.10E+00	1.00E+02	No
COPPER	7440-50-8	ug/L	1 : 1 : 1	100	4.10E+00	4.10E+00	4.10E+00	9.00E+00	No
MERCURY	7439-97-6	ug/l	2 : 2 : 2	100	3.53E-03	1.62E-02	9.86E-03	1.30E-03	Yes
NICKEL	7440-02-0	ug/L	1 : 1 : 1	100	4.40E+01	4.40E+01	4.40E+01	5.20E+01	No
THALLIUM	7440-28-0	ug/L	1 : 1 : 1	100	1.00E+01	1.00E+01	1.00E+01	1.20E+00	Yes
ZINC	7440-66-6	ug/L	1 : 1 : 1	100	2.40E+01	2.40E+01	2.40E+01	1.20E+02	No
ERB-1									
BENZENE	71-43-2	ug/l	1 : 1 : 1	100	2.50E-01	2.50E-01	2.50E-01	1.20E+01	No
CHLOROBENZENE	108-90-7	ug/l	1 : 1 : 1	100	3.40E-01	3.40E-01	3.40E-01	4.70E+01	No
CHLOROFORM	67-66-3	ug/l	1 : 1 : 1	100	3.80E+01	3.80E+01	3.80E+01	7.70E+01	No
METHYLENE CHLORIDE	75-09-2	ug/l	1 : 1 : 1	100	1.30E+01	1.30E+01	1.30E+01	4.70E+01	No
STYRENE	100-42-5	ug/l	1 : 1 : 1	100	2.80E-01	2.80E-01	2.80E-01	8.00E+01	No
TOLUENE	108-88-3	ug/l	1 : 1 : 1	100	6.00E-01	6.00E-01	6.00E-01	1.40E+02	No
GTI SB-11									
BENZENE	71-43-2	ug/l	1 : 1 : 1	100	2.00E+00	2.00E+00	2.00E+00	1.20E+01	No
GTI SB-16									
BENZENE	71-43-2	ug/l	1 : 1 : 1	100	6.80E+01	6.80E+01	6.80E+01	1.20E+01	Yes
GTI SB-3									
BENZENE	71-43-2	ug/l	1 : 1 : 1	100	1.60E+00	1.60E+00	1.60E+00	1.20E+01	No
STYRENE	100-42-5	ug/l	1 : 1 : 1	100	1.90E+00	1.90E+00	1.90E+00	8.00E+01	No

Table E-5
Risk Screening
Using Part 201 Criteria Groundwater Surface Water Interface (GSI) Criteria
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	GSI (g)	Exceeds? (h)
GTI-TPW-1									
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	6.00E+00	6.00E+00	6.00E+00	5.00E+01	No
BARIUM	7440-39-3	ug/L	1 : 1 : 1	100	6.70E+01	6.70E+01	6.70E+01	4.40E+02	No
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	100	4.00E+00	4.00E+00	4.00E+00	1.10E+01	No
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	100	7.92E+05	7.92E+05	7.92E+05	5.00E+05	Yes
TOTAL XYLENES	Total Xylenes	ug/L	1 : 1 : 1	100	3.69E+01	3.69E+01	3.69E+01	3.50E+01	Yes
P-15-N									
1,2-DICHLOROPROPANE	78-87-5	ug/l	1 : 1 : 1	100	6.63E+01	6.63E+01	6.63E+01	9.10E+00	Yes
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	3.30E+01	3.30E+01	3.30E+01	5.00E+01	No
BARIUM	7440-39-3	ug/L	1 : 1 : 1	100	9.50E+01	9.50E+01	9.50E+01	4.40E+02	No
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/l	1 : 1 : 1	100	1.04E+01	1.04E+01	1.04E+01	1.50E+01	No
NAPHTHALENE	91-20-3	ug/l	1 : 1 : 1	100	3.76E+00	3.76E+00	3.76E+00	1.30E+01	No
NICKEL	7440-02-0	ug/L	1 : 1 : 1	100	5.00E+00	5.00E+00	5.00E+00	5.20E+01	No
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	100	7.72E+05	7.72E+05	7.72E+05	5.00E+05	Yes
VANADIUM	7440-62-2	ug/L	1 : 1 : 1	100	1.30E+01	1.30E+01	1.30E+01	1.20E+01	Yes
P-34-N									
1,4-DIOXANE	123-91-1	ug/l	3 : 3 : 5	100	3.00E+00	3.60E+00	3.20E+00	3.40E+01	No
ARSENIC	7440-38-2	ug/L	6 : 6 : 6	100	1.60E+01	2.70E+02	8.98E+01	5.00E+01	Yes
BARIUM	7440-39-3	ug/L	6 : 6 : 6	100	9.50E+01	2.70E+02	1.84E+02	4.40E+02	No
CADMIUM	7440-43-9	ug/L	3 : 6 : 6	50	1.30E+00	1.90E+00	1.05E+00	2.20E+00	No
CHROMIUM	7440-47-3	ug/L	5 : 6 : 6	83	8.00E+00	5.00E+01	2.56E+01	1.10E+01	Yes
COPPER	7440-50-8	ug/L	4 : 6 : 6	67	1.80E+01	5.70E+01	2.90E+01	9.00E+00	Yes
DIETHYL PHTHALATE	84-66-2	ug/l	1 : 1 : 4	100	1.70E+00	1.70E+00	1.70E+00	1.10E+02	No
LEAD	7439-92-1	ug/L	6 : 6 : 6	100	1.20E+01	6.00E+01	2.93E+01	1.00E+01	Yes
NICKEL	7440-02-0	ug/L	3 : 6 : 6	50	4.80E+01	9.40E+01	4.28E+01	5.20E+01	Yes
TOTAL CYANIDE	57-12-5	ug/L	6 : 6 : 6	100	5.00E+00	2.20E+01	1.83E+01	5.20E+00	Yes
VANADIUM	7440-62-2	ug/L	4 : 6 : 6	67	2.60E+01	8.70E+01	4.35E+01	1.20E+01	Yes
ZINC	7440-66-6	ug/L	4 : 6 : 6	67	7.00E+01	3.30E+02	1.46E+02	1.20E+02	Yes
P-36-N									
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	7.70E+01	7.70E+01	7.70E+01	5.00E+01	Yes
BARIUM	7440-39-3	ug/L	1 : 1 : 1	100	3.32E+02	3.32E+02	3.32E+02	4.40E+02	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	100	1.02E+02	1.02E+02	1.02E+02	3.20E+01	Yes

Table E-5
Risk Screening
Using Part 201 Criteria Groundwater Surface Water Interface (GSI) Criteria
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	GSI (g)	Exceeds? (h)
DIETHYL PHTHALATE	84-66-2	ug/l	1 : 1 : 1	100	2.66E+00	2.66E+00	2.66E+00	1.10E+02	No
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	100	2.59E+06	2.59E+06	2.59E+06	5.00E+05	Yes
PM1NA									
2,6-DICHLOROPHENOL	87-65-0	ug/l	3 : 3 : 4	100	2.40E+00	2.90E+00	2.70E+00	1.90E+01	No
ACETONE	67-64-1	ug/l	1 : 1 : 2	100	9.00E+00	9.00E+00	9.00E+00	1.70E+03	No
ANTIMONY	7440-36-0	ug/L	1 : 4 : 4	25	2.00E+01	2.00E+01	9.50E+00	2.00E+00	Yes
ARSENIC	7440-38-2	ug/L	4 : 4 : 4	100	3.10E+01	6.60E+02	4.43E+02	5.00E+01	Yes
BARIUM	7440-39-3	ug/L	4 : 4 : 4	100	6.90E+01	3.00E+02	1.61E+02	4.40E+02	No
BENZENE	71-43-2	ug/l	1 : 2 : 4	50	1.90E+00	1.90E+00	1.20E+00	1.20E+01	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 2 : 2	50	1.90E+01	1.90E+01	1.08E+01	3.20E+01	No
CADMIUM	7440-43-9	ug/L	2 : 4 : 4	50	2.10E+00	2.00E+01	5.78E+00	2.20E+00	Yes
CHROMIUM	7440-47-3	ug/L	4 : 4 : 4	100	2.80E+01	1.40E+02	8.20E+01	1.10E+01	Yes
COPPER	7440-50-8	ug/L	3 : 4 : 4	75	1.80E+01	1.10E+02	5.25E+01	9.00E+00	Yes
LEAD	7439-92-1	ug/L	4 : 4 : 4	100	1.00E+01	8.90E+01	5.00E+01	1.00E+01	Yes
MERCURY	7439-97-6	ug/L	2 : 4 : 4	50	3.60E-01	1.00E+00	3.90E-01	1.30E-03	Yes
NICKEL	7440-02-0	ug/L	3 : 4 : 4	75	5.40E+01	1.50E+02	8.60E+01	5.20E+01	Yes
TOTAL CYANIDE	57-12-5	ug/L	4 : 4 : 4	100	6.80E+01	1.50E+04	7.30E+03	5.20E+00	Yes
TOTAL METHYLPHENOL	otal Methylpl	ug/L	3 : 3 : 4	100	4.00E+00	8.40E+00	4.43E+00	7.10E+01	No
VANADIUM	7440-62-2	ug/L	4 : 4 : 4	100	3.50E+01	8.50E+01	6.08E+01	1.20E+01	Yes
ZINC	7440-66-6	ug/L	2 : 4 : 4	50	6.20E+01	4.50E+02	1.67E+02	1.20E+02	Yes
PM3NB									
1,4-DIOXANE	123-91-1	ug/l	1 : 1 : 1	100	3.20E+00	3.20E+00	3.20E+00	3.40E+01	No
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/l	1 : 1 : 1	100	3.90E+01	3.90E+01	3.90E+01	1.50E+01	Yes
PM4NA									
ANTIMONY	7440-36-0	ug/L	1 : 1 : 1	100	1.30E+01	1.30E+01	1.30E+01	2.00E+00	Yes
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	3.00E+02	3.00E+02	3.00E+02	5.00E+01	Yes
BARIUM	7440-39-3	ug/L	1 : 1 : 1	100	1.00E+02	1.00E+02	1.00E+02	4.40E+02	No
BENZENE	71-43-2	ug/l	1 : 1 : 1	100	1.10E+00	1.10E+00	1.10E+00	1.20E+01	No
CHLORIDE	16887-00-6	ug/L	1 : 1 : 1	100	2.20E+07	2.20E+07	2.20E+07	1.25E+05	Yes
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	100	4.10E+01	4.10E+01	4.10E+01	1.10E+01	Yes
COBALT	7440-48-4	ug/L	1 : 1 : 1	100	3.30E+00	3.30E+00	3.30E+00	1.00E+02	No
COPPER	7440-50-8	ug/L	1 : 1 : 1	100	4.70E+00	4.70E+00	4.70E+00	9.00E+00	No

Table E-5
Risk Screening
Using Part 201 Criteria Groundwater Surface Water Interface (GSI) Criteria
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	GSI (g)	Exceeds? (h)
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	5.26E-02	5.26E-02	5.26E-02	1.30E-03	Yes
NICKEL	7440-02-0	ug/L	1 : 1 : 1	100	5.30E+01	5.30E+01	5.30E+01	5.20E+01	Yes
TOLUENE	108-88-3	ug/l	1 : 1 : 1	100	1.30E+01	1.30E+01	1.30E+01	1.40E+02	No
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	100	4.30E+07	4.30E+07	4.30E+07	5.00E+05	Yes
VANADIUM	7440-62-2	ug/L	1 : 1 : 1	100	6.60E+01	6.60E+01	6.60E+01	1.20E+01	Yes
ZINC	7440-66-6	ug/L	1 : 1 : 1	100	3.30E+01	3.30E+01	3.30E+01	1.20E+02	No
RFIMW 01									
1,4-DIOXANE	123-91-1	ug/l	1 : 1 : 1	100	1.20E+02	1.20E+02	1.20E+02	3.40E+01	Yes
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	3.50E+00	3.50E+00	3.50E+00	5.00E+01	No
BARIUM	7440-39-3	ug/L	1 : 1 : 1	100	1.85E+02	1.85E+02	1.85E+02	4.40E+02	No
CADMIUM	7440-43-9	ug/L	1 : 1 : 1	100	4.30E-01	4.30E-01	4.30E-01	2.20E+00	No
CHLORIDE	16887-00-6	ug/L	1 : 1 : 1	100	1.85E+07	1.85E+07	1.85E+07	1.25E+05	Yes
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	100	1.80E+00	1.80E+00	1.80E+00	1.10E+01	No
COBALT	7440-48-4	ug/L	1 : 1 : 1	100	1.25E+00	1.25E+00	1.25E+00	1.00E+02	No
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	2.83E-02	2.83E-02	2.83E-02	1.30E-03	Yes
NICKEL	7440-02-0	ug/L	1 : 1 : 1	100	3.90E+00	3.90E+00	3.90E+00	5.20E+01	No
THALLIUM	7440-28-0	ug/L	1 : 1 : 1	100	7.65E+00	7.65E+00	7.65E+00	1.20E+00	Yes
TOLUENE	108-88-3	ug/l	1 : 1 : 1	100	1.20E+02	1.20E+02	1.20E+02	1.40E+02	No
TOTAL CYANIDE	57-12-5	ug/L	4 : 4 : 4	100	2.70E+01	5.30E+01	4.15E+01	5.20E+00	Yes
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	100	3.00E+07	3.00E+07	3.00E+07	5.00E+05	Yes
VANADIUM	7440-62-2	ug/L	1 : 1 : 1	100	5.50E+00	5.50E+00	5.50E+00	1.20E+01	No
ZINC	7440-66-6	ug/L	1 : 1 : 1	100	1.70E+01	1.70E+01	1.70E+01	1.20E+02	No
RFIMW 02									
1,4-DIOXANE	123-91-1	ug/l	1 : 1 : 3	100	4.00E+00	4.00E+00	4.00E+00	3.40E+01	No
ACETONE	67-64-1	ug/l	1 : 2 : 2	50	2.70E+01	2.70E+01	1.60E+01	1.70E+03	No
ARSENIC	7440-38-2	ug/L	4 : 4 : 4	100	7.50E+00	4.40E+01	2.06E+01	5.00E+01	No
BARIUM	7440-39-3	ug/L	4 : 4 : 4	100	4.40E+02	7.70E+02	5.55E+02	4.40E+02	Yes
BENZENE	71-43-2	ug/l	2 : 4 : 4	50	2.80E-01	7.70E-01	5.12E-01	1.20E+01	No
BIS(2-CHLOROETHYL) ETHER	111-44-4	ug/l	4 : 4 : 4	100	2.40E+01	4.50E+01	3.30E+01	1.50E+01	Yes
CADMIUM	7440-43-9	ug/L	2 : 4 : 4	50	2.10E+00	6.80E+00	2.60E+00	2.20E+00	Yes
CHROMIUM	7440-47-3	ug/L	4 : 4 : 4	100	3.00E+01	1.80E+02	8.00E+01	1.10E+01	Yes
COPPER	7440-50-8	ug/L	3 : 4 : 4	75	4.20E+01	1.40E+02	6.28E+01	9.00E+00	Yes

Table E-5
Risk Screening
Using Part 201 Criteria Groundwater Surface Water Interface (GSI) Criteria
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	GSI (g)	Exceeds? (h)
LEAD	7439-92-1	ug/L	2 : 4 : 4	50	1.00E+01	4.60E+01	1.51E+01	1.00E+01	Yes
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	4.16E-03	4.16E-03	4.16E-03	1.30E-03	Yes
NICKEL	7440-02-0	ug/L	3 : 4 : 4	75	4.40E+01	1.70E+02	7.13E+01	5.20E+01	Yes
PHENOL	108-95-2	ug/l	1 : 3 : 3	33	5.30E+00	5.30E+00	3.43E+00	2.10E+02	No
TOTAL CYANIDE	57-12-5	ug/L	4 : 4 : 4	100	9.00E+00	2.20E+01	1.30E+01	5.20E+00	Yes
TOTAL METHYLPHENOL	otal Methylpl	ug/L	3 : 3 : 3	100	3.85E+01	1.95E+02	1.15E+02	7.10E+01	Yes
VANADIUM	7440-62-2	ug/L	3 : 4 : 4	75	2.40E+01	1.30E+02	4.85E+01	1.20E+01	Yes
ZINC	7440-66-6	ug/L	2 : 4 : 4	50	7.60E+01	3.10E+02	1.17E+02	1.20E+02	Yes
RFIMW 03									
ACETONE	67-64-1	ug/l	2 : 3 : 3	67	1.70E+01	2.20E+01	1.58E+01	1.70E+03	No
ARSENIC	7440-38-2	ug/L	4 : 4 : 4	100	1.90E+01	5.00E+01	3.00E+01	5.00E+01	No
BARIUM	7440-39-3	ug/L	4 : 4 : 4	100	1.20E+03	1.70E+03	1.50E+03	4.40E+02	Yes
BIS(2-CHLOROETHYL) ETHER	111-44-4	ug/l	4 : 4 : 4	100	6.40E+00	1.50E+01	1.19E+01	1.50E+01	No
CADMIUM	7440-43-9	ug/L	1 : 4 : 4	25	3.30E+00	3.30E+00	1.20E+00	2.20E+00	Yes
CHROMIUM	7440-47-3	ug/L	4 : 4 : 4	100	3.00E+01	1.50E+02	6.33E+01	1.10E+01	Yes
COPPER	7440-50-8	ug/L	3 : 4 : 4	75	3.20E+01	1.20E+02	5.40E+01	9.00E+00	Yes
LEAD	7439-92-1	ug/L	4 : 4 : 4	100	1.60E+01	7.10E+01	3.23E+01	1.00E+01	Yes
METHYL ETHYL KETONE	78-93-3	ug/l	2 : 2 : 2	100	5.60E+00	6.40E+00	6.00E+00	2.20E+03	No
NICKEL	7440-02-0	ug/L	4 : 4 : 4	100	4.70E+01	1.80E+02	8.55E+01	5.20E+01	Yes
PHENOL	108-95-2	ug/l	1 : 1 : 2	100	1.50E+00	1.50E+00	1.50E+00	2.10E+02	No
TOLUENE	108-88-3	ug/l	2 : 2 : 4	100	1.60E-01	3.10E-01	2.35E-01	1.40E+02	No
TOTAL CYANIDE	57-12-5	ug/L	1 : 4 : 4	25	6.00E+00	6.00E+00	3.38E+00	5.20E+00	Yes
TOTAL METHYLPHENOL	otal Methylpl	ug/L	3 : 4 : 4	75	1.40E+01	7.80E+01	3.12E+01	7.10E+01	Yes
VANADIUM	7440-62-2	ug/L	4 : 4 : 4	100	3.50E+01	1.30E+02	6.25E+01	1.20E+01	Yes
ZINC	7440-66-6	ug/L	3 : 4 : 4	75	9.10E+01	3.40E+02	1.49E+02	1.20E+02	Yes
RFIMW 04									
1,4-DIOXANE	123-91-1	ug/l	4 : 4 : 4	100	1.10E+01	1.90E+01	1.58E+01	3.40E+01	No
ARSENIC	7440-38-2	ug/L	4 : 4 : 4	100	1.90E+02	5.70E+02	3.85E+02	5.00E+01	Yes
BARIUM	7440-39-3	ug/L	4 : 4 : 4	100	3.60E+01	1.00E+02	7.38E+01	4.40E+02	No
CHROMIUM	7440-47-3	ug/L	3 : 4 : 4	75	5.80E+00	2.20E+01	1.13E+01	1.10E+01	Yes
COPPER	7440-50-8	ug/L	1 : 4 : 4	25	1.80E+01	1.80E+01	9.25E+00	9.00E+00	Yes
LEAD	7439-92-1	ug/L	2 : 4 : 4	50	3.90E+00	4.30E+00	2.80E+00	1.00E+01	No

Table E-5
Risk Screening
Using Part 201 Criteria Groundwater Surface Water Interface (GSI) Criteria
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	GSI (g)	Exceeds? (h)
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	7.45E-03	7.45E-03	7.45E-03	1.30E-03	Yes
TOTAL CYANIDE	57-12-5	ug/L	4 : 4 : 4	100	1.70E+01	1.30E+02	6.70E+01	5.20E+00	Yes
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	100	4.10E+06	4.10E+06	4.10E+06	5.00E+05	Yes
ZINC	7440-66-6	ug/L	2 : 4 : 4	50	5.00E+01	5.20E+01	3.33E+01	1.20E+02	No
RFIMW 05									
1,2-DICHLOROPROPANE	78-87-5	ug/l	4 : 4 : 4	100	3.90E-01	1.10E+00	7.32E-01	9.10E+00	No
ACETONE	67-64-1	ug/l	3 : 4 : 4	75	6.90E+01	1.40E+02	8.35E+01	1.70E+03	No
BARIUM	7440-39-3	ug/L	4 : 4 : 4	100	8.60E+02	1.40E+03	1.10E+03	4.40E+02	Yes
BENZENE	71-43-2	ug/l	3 : 4 : 4	75	4.50E-01	6.80E-01	5.55E-01	1.20E+01	No
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/l	3 : 3 : 4	100	1.60E+00	1.80E+00	1.73E+00	1.50E+01	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	2 : 3 : 3	67	1.90E+00	3.00E+00	2.47E+00	3.20E+01	No
CHROMIUM	7440-47-3	ug/L	2 : 4 : 4	50	6.60E+00	3.00E+01	1.04E+01	1.10E+01	Yes
COPPER	7440-50-8	ug/L	1 : 4 : 4	25	2.20E+01	2.20E+01	1.00E+01	9.00E+00	Yes
METHYL ETHYL KETONE	78-93-3	ug/l	3 : 4 : 4	75	9.10E+00	9.90E+00	8.45E+00	2.20E+03	No
NAPHTHALENE	91-20-3	ug/l	4 : 4 : 4	100	2.90E+00	3.90E+00	3.35E+00	1.30E+01	No
PHENOL	108-95-2	ug/l	3 : 4 : 4	75	1.40E+01	4.10E+01	2.35E+01	2.10E+02	No
SELENIUM	7782-49-2	ug/L	3 : 4 : 4	75	5.40E+00	9.90E+00	6.76E+00	5.00E+00	Yes
TOLUENE	108-88-3	ug/l	3 : 4 : 4	75	2.80E-01	6.10E-01	4.22E-01	1.40E+02	No
TOTAL CYANIDE	57-12-5	ug/L	2 : 3 : 3	67	6.00E+00	7.00E+00	5.17E+00	5.20E+00	Yes
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	100	1.50E+07	1.50E+07	1.50E+07	5.00E+05	Yes
TOTAL METHYLPHENOL	otal Methylpl	ug/L	4 : 4 : 4	100	6.07E+01	9.33E+01	7.43E+01	7.10E+01	Yes
ZINC	7440-66-6	ug/L	1 : 4 : 4	25	7.60E+01	7.60E+01	2.75E+01	1.20E+02	No
RFIMW 06									
1,2-DICHLOROETHANE	107-06-2	ug/l	2 : 4 : 4	50	4.70E-01	5.80E-01	5.12E-01	6.00E+00	No
1,2-DICHLOROPROPANE	78-87-5	ug/l	4 : 4 : 4	100	2.20E+01	3.50E+01	2.90E+01	9.10E+00	Yes
ACETONE	67-64-1	ug/l	2 : 3 : 3	67	1.40E+01	1.90E+01	1.27E+01	1.70E+03	No
ARSENIC	7440-38-2	ug/L	2 : 4 : 4	50	5.60E+00	7.50E+00	4.53E+00	5.00E+01	No
BARIUM	7440-39-3	ug/L	4 : 4 : 4	100	9.20E+01	1.30E+02	1.13E+02	4.40E+02	No
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/l	4 : 4 : 4	100	1.40E+01	1.80E+01	1.63E+01	1.50E+01	Yes
CHROMIUM	7440-47-3	ug/L	4 : 4 : 4	100	1.10E+01	3.30E+01	1.80E+01	1.10E+01	Yes
COPPER	7440-50-8	ug/L	2 : 4 : 4	50	1.30E+01	2.20E+01	1.14E+01	9.00E+00	Yes
LEAD	7439-92-1	ug/L	1 : 4 : 4	25	7.90E+00	7.90E+00	3.45E+00	1.00E+01	No

Table E-5
Risk Screening
Using Part 201 Criteria Groundwater Surface Water Interface (GSI) Criteria
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	GSI (g)	Exceeds? (h)
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	3.24E-01	3.24E-01	3.24E-01	1.30E-03	Yes
NAPHTHALENE	91-20-3	ug/l	3 : 3 : 3	100	1.30E+00	1.60E+00	1.47E+00	1.30E+01	No
PHENANTHRENE	85-01-8	ug/l	1 : 1 : 3	100	1.40E+00	1.40E+00	1.40E+00	2.40E+00	No
PHENOL	108-95-2	ug/l	3 : 4 : 4	75	1.00E+01	1.40E+01	1.08E+01	2.10E+02	No
SELENIUM	7782-49-2	ug/L	1 : 4 : 4	25	6.00E+00	6.00E+00	3.38E+00	5.00E+00	Yes
TOLUENE	108-88-3	ug/l	2 : 2 : 4	100	1.60E-01	2.00E-01	1.80E-01	1.40E+02	No
TOTAL CYANIDE	57-12-5	ug/L	4 : 4 : 4	100	7.00E+00	3.00E+01	1.53E+01	5.20E+00	Yes
TOTAL METHYLPHENOL	otal Methylpl	ug/L	4 : 4 : 4	100	1.35E+01	2.45E+01	1.94E+01	7.10E+01	No
ZINC	7440-66-6	ug/L	1 : 4 : 4	25	7.70E+01	7.70E+01	3.65E+01	1.20E+02	No
RFIMW 07									
1,1,1-TRICHLOROETHANE	71-55-6	ug/l	1 : 1 : 1	100	1.30E+01	1.30E+01	1.30E+01	2.00E+02	No
1,1-DICHLOROETHANE	75-34-3	ug/l	1 : 1 : 1	100	1.20E+01	1.20E+01	1.20E+01	7.40E+02	No
1,1-DICHLOROETHENE	75-35-4	ug/l	1 : 1 : 1	100	1.70E+00	1.70E+00	1.70E+00	2.40E+01	No
1,4-DIOXANE	123-91-1	ug/l	4 : 4 : 4	100	2.40E+01	4.40E+01	3.21E+01	3.40E+01	Yes
ACENAPHTHENE	83-32-9	ug/l	2 : 2 : 4	100	2.70E+00	2.80E+00	2.75E+00	1.90E+01	No
ACETONE	67-64-1	ug/l	1 : 1 : 1	100	4.40E+01	4.40E+01	4.40E+01	1.70E+03	No
BARIUM	7440-39-3	ug/L	1 : 1 : 1	100	8.60E+01	8.60E+01	8.60E+01	4.40E+02	No
BENZENE	71-43-2	ug/l	1 : 1 : 1	100	8.30E-01	8.30E-01	8.30E-01	1.20E+01	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 3 : 3	33	1.30E+01	1.30E+01	7.67E+00	3.20E+01	No
CHLORIDE	16887-00-6	ug/L	1 : 1 : 1	100	5.20E+06	5.20E+06	5.20E+06	1.25E+05	Yes
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	100	1.10E+00	1.10E+00	1.10E+00	1.10E+01	No
DIBENZOFURAN	132-64-9	ug/l	2 : 2 : 4	100	2.80E+00	2.95E+00	2.88E+00	4.00E+00	No
ETHYLBENZENE	100-41-4	ug/l	1 : 1 : 1	100	1.10E+01	1.10E+01	1.10E+01	1.80E+01	No
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	1.21E-01	1.21E-01	1.21E-01	1.30E-03	Yes
NAPHTHALENE	91-20-3	ug/l	4 : 4 : 4	100	3.40E+01	6.55E+01	5.46E+01	1.30E+01	Yes
NICKEL	7440-02-0	ug/L	1 : 1 : 1	100	3.60E+00	3.60E+00	3.60E+00	5.20E+01	No
PHENANTHRENE	85-01-8	ug/l	3 : 3 : 4	100	2.20E+00	3.05E+00	2.75E+00	2.40E+00	Yes
PHENOL	108-95-2	ug/l	3 : 4 : 4	75	4.55E+01	3.10E+02	1.24E+02	2.10E+02	Yes
SELENIUM	7782-49-2	ug/L	1 : 1 : 1	100	4.80E+00	4.80E+00	4.80E+00	5.00E+00	No
TOLUENE	108-88-3	ug/l	1 : 1 : 1	100	1.70E+01	1.70E+01	1.70E+01	1.40E+02	No
TOTAL CYANIDE	57-12-5	ug/L	4 : 4 : 4	100	4.10E+01	1.30E+02	6.98E+01	5.20E+00	Yes
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	100	1.30E+07	1.30E+07	1.30E+07	5.00E+05	Yes

Table E-5
Risk Screening
Using Part 201 Criteria Groundwater Surface Water Interface (GSI) Criteria
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	GSI (g)	Exceeds? (h)
TOTAL METHYLPHENOL	otal Methylpl	ug/L	4 : 4 : 4	100	1.67E+01	1.37E+02	5.61E+01	7.10E+01	Yes
TOTAL XYLENES	Total Xylenes	ug/l	1 : 1 : 1	100	2.20E+01	2.20E+01	2.20E+01	3.50E+01	No
VANADIUM	7440-62-2	ug/L	1 : 1 : 1	100	1.30E+00	1.30E+00	1.30E+00	1.20E+01	No
RFIMW 08									
BARIUM	7440-39-3	ug/L	3 : 3 : 3	100	8.70E+02	1.10E+03	9.90E+02	4.40E+02	Yes
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 4	100	1.80E+00	1.80E+00	1.80E+00	3.20E+01	No
CADMIUM	7440-43-9	ug/L	1 : 4 : 4	25	1.20E+00	1.20E+00	6.75E-01	2.20E+00	No
CHLOROFORM	67-66-3	ug/l	1 : 4 : 4	25	1.20E+01	1.20E+01	3.38E+00	7.70E+01	No
CHROMIUM	7440-47-3	ug/L	1 : 4 : 4	25	3.20E+01	3.20E+01	9.88E+00	1.10E+01	Yes
COPPER	7440-50-8	ug/L	1 : 4 : 4	25	3.30E+01	3.30E+01	1.25E+01	9.00E+00	Yes
LEAD	7439-92-1	ug/L	1 : 4 : 4	25	3.60E+00	3.60E+00	2.02E+00	1.00E+01	No
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	5.32E-03	5.32E-03	5.32E-03	1.30E-03	Yes
PHENOL	108-95-2	ug/l	1 : 4 : 4	25	4.80E+00	4.80E+00	3.08E+00	2.10E+02	No
TOTAL CYANIDE	57-12-5	ug/L	1 : 3 : 3	33	1.00E+01	1.00E+01	5.00E+00	5.20E+00	Yes
ZINC	7440-66-6	ug/L	1 : 4 : 4	25	2.40E+02	2.40E+02	7.68E+01	1.20E+02	Yes
RFIMW 09									
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	2.30E+01	2.30E+01	2.30E+01	5.00E+01	No
BARIUM	7440-39-3	ug/L	1 : 1 : 1	100	1.60E+02	1.60E+02	1.60E+02	4.40E+02	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 4	100	2.40E+00	2.40E+00	2.40E+00	3.20E+01	No
CHLORIDE	16887-00-6	ug/L	1 : 1 : 1	100	3.80E+06	3.80E+06	3.80E+06	1.25E+05	Yes
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	100	8.80E+01	8.80E+01	8.80E+01	1.10E+01	Yes
COBALT	7440-48-4	ug/L	1 : 1 : 1	100	1.50E+00	1.50E+00	1.50E+00	1.00E+02	No
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	1.37E-03	1.37E-03	1.37E-03	1.30E-03	Yes
NICKEL	7440-02-0	ug/L	1 : 1 : 1	100	4.80E+01	4.80E+01	4.80E+01	5.20E+01	No
PHENOL	108-95-2	ug/l	1 : 4 : 4	25	5.60E+00	5.60E+00	3.27E+00	2.10E+02	No
THALLIUM	7440-28-0	ug/L	1 : 1 : 1	100	9.40E+00	9.40E+00	9.40E+00	1.20E+00	Yes
TOTAL CYANIDE	57-12-5	ug/L	1 : 3 : 3	33	1.00E+01	1.00E+01	5.00E+00	5.20E+00	Yes
ZINC	7440-66-6	ug/L	1 : 1 : 1	100	1.40E+01	1.40E+01	1.40E+01	1.20E+02	No
RFIMW 10									
ARSENIC	7440-38-2	ug/L	4 : 4 : 4	100	1.50E+01	1.90E+01	1.64E+01	5.00E+01	No
BARIUM	7440-39-3	ug/L	4 : 4 : 4	100	7.50E+02	8.60E+02	8.10E+02	4.40E+02	Yes
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 3	100	1.50E+00	1.50E+00	1.50E+00	3.20E+01	No

Table E-5
Risk Screening
Using Part 201 Criteria Groundwater Surface Water Interface (GSI) Criteria
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	GSI (g)	Exceeds? (h)
CHROMIUM	7440-47-3	ug/L	1 : 4 : 4	25	1.40E+01	1.40E+01	5.38E+00	1.10E+01	Yes
TOTAL CYANIDE	57-12-5	ug/L	3 : 4 : 4	75	3.75E+00	1.00E+01	5.31E+00	5.20E+00	Yes
RFIMW 11									
ANTIMONY	7440-36-0	ug/L	2 : 4 : 4	50	8.50E+00	1.00E+01	6.34E+00	2.00E+00	Yes
ARSENIC	7440-38-2	ug/L	4 : 4 : 4	100	1.70E+01	1.40E+02	9.68E+01	5.00E+01	Yes
BARIUM	7440-39-3	ug/L	4 : 4 : 4	100	1.00E+02	3.40E+02	2.50E+02	4.40E+02	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	2 : 2 : 2	100	2.80E+00	3.50E+00	3.15E+00	3.20E+01	No
CADMIUM	7440-43-9	ug/L	3 : 4 : 4	75	2.80E+00	4.30E+00	2.90E+00	2.20E+00	Yes
CHROMIUM	7440-47-3	ug/L	4 : 4 : 4	100	1.90E+01	1.10E+02	7.90E+01	1.10E+01	Yes
COPPER	7440-50-8	ug/L	3 : 4 : 4	75	3.20E+02	4.20E+02	2.83E+02	9.00E+00	Yes
LEAD	7439-92-1	ug/L	4 : 4 : 4	100	1.90E+01	2.20E+02	1.62E+02	1.00E+01	Yes
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	1.62E-03	1.62E-03	1.62E-03	1.30E-03	Yes
NICKEL	7440-02-0	ug/L	3 : 4 : 4	75	1.00E+02	1.30E+02	9.50E+01	5.20E+01	Yes
TOTAL CYANIDE	57-12-5	ug/L	4 : 4 : 4	100	9.00E+00	5.20E+01	2.73E+01	5.20E+00	Yes
VANADIUM	7440-62-2	ug/L	3 : 4 : 4	75	7.20E+01	7.90E+01	5.85E+01	1.20E+01	Yes
ZINC	7440-66-6	ug/L	3 : 4 : 4	75	6.90E+01	6.00E+02	3.56E+02	1.20E+02	Yes
RFIMW 12									
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	3.80E+01	3.80E+01	3.80E+01	5.00E+01	No
BARIUM	7440-39-3	ug/L	1 : 1 : 1	100	7.80E+01	7.80E+01	7.80E+01	4.40E+02	No
CADMIUM	7440-43-9	ug/L	1 : 1 : 1	100	6.40E-01	6.40E-01	6.40E-01	2.20E+00	No
CHLORIDE	16887-00-6	ug/L	1 : 1 : 1	100	7.40E+06	7.40E+06	7.40E+06	1.25E+05	Yes
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	100	1.90E+01	1.90E+01	1.90E+01	1.10E+01	Yes
COPPER	7440-50-8	ug/L	1 : 1 : 1	100	3.30E+00	3.30E+00	3.30E+00	9.00E+00	No
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	1.45E-02	1.45E-02	1.45E-02	1.30E-03	Yes
NICKEL	7440-02-0	ug/L	1 : 1 : 1	100	4.60E+01	4.60E+01	4.60E+01	5.20E+01	No
PHENOL	108-95-2	ug/l	3 : 4 : 4	75	7.90E+02	1.10E+03	7.94E+02	2.10E+02	Yes
THALLIUM	7440-28-0	ug/L	1 : 1 : 1	100	5.90E+00	5.90E+00	5.90E+00	1.20E+00	Yes
TOLUENE	108-88-3	ug/l	1 : 1 : 1	100	1.60E+01	1.60E+01	1.60E+01	1.40E+02	No
TOTAL CYANIDE	57-12-5	ug/L	4 : 4 : 4	100	6.00E+00	1.80E+03	9.24E+02	5.20E+00	Yes
TOTAL METHYLPHENOL	otal Methylpl	ug/L	4 : 4 : 4	100	1.93E+02	4.70E+02	2.83E+02	7.10E+01	Yes
VANADIUM	7440-62-2	ug/L	1 : 1 : 1	100	4.20E+01	4.20E+01	4.20E+01	1.20E+01	Yes

Table E-5
Risk Screening
Using Part 201 Criteria Groundwater Surface Water Interface (GSI) Criteria
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	GSI (g)	Exceeds? (h)
RFIMW 13									
1,2-DICHLOROETHANE	107-06-2	ug/l	1 : 1 : 1	100	2.20E+01	2.20E+01	2.20E+01	6.00E+00	Yes
1,4-DIOXANE	123-91-1	ug/l	1 : 1 : 1	100	2.40E+02	2.40E+02	2.40E+02	3.40E+01	Yes
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	4.80E+00	4.80E+00	4.80E+00	5.00E+01	No
BARIUM	7440-39-3	ug/L	1 : 1 : 1	100	1.30E+02	1.30E+02	1.30E+02	4.40E+02	No
CHLORIDE	16887-00-6	ug/L	1 : 1 : 1	100	1.90E+07	1.90E+07	1.90E+07	1.25E+05	Yes
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	100	5.40E+01	5.40E+01	5.40E+01	1.10E+01	Yes
COPPER	7440-50-8	ug/L	1 : 1 : 1	100	5.70E+00	5.70E+00	5.70E+00	9.00E+00	No
LEAD	7439-92-1	ug/L	1 : 1 : 1	100	3.20E+00	3.20E+00	3.20E+00	1.00E+01	No
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	5.54E-02	5.54E-02	5.54E-02	1.30E-03	Yes
NICKEL	7440-02-0	ug/L	1 : 1 : 1	100	8.40E+00	8.40E+00	8.40E+00	5.20E+01	No
THALLIUM	7440-28-0	ug/L	1 : 1 : 1	100	7.80E+00	7.80E+00	7.80E+00	1.20E+00	Yes
TOLUENE	108-88-3	ug/l	1 : 1 : 1	100	7.60E+01	7.60E+01	7.60E+01	1.40E+02	No
TOTAL CYANIDE	57-12-5	ug/L	1 : 1 : 1	100	4.60E+01	4.60E+01	4.60E+01	5.20E+00	Yes
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	100	3.10E+07	3.10E+07	3.10E+07	5.00E+05	Yes
VANADIUM	7440-62-2	ug/L	1 : 1 : 1	100	7.20E+00	7.20E+00	7.20E+00	1.20E+01	No
ZINC	7440-66-6	ug/L	1 : 1 : 1	100	3.50E+01	3.50E+01	3.50E+01	1.20E+02	No
RFIMW 14									
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	100	7.65E+07	7.65E+07	7.65E+07	5.00E+05	Yes
RFIMW 15									
BARIUM	7440-39-3	ug/L	1 : 1 : 1	100	1.40E+02	1.40E+02	1.40E+02	4.40E+02	No
CHLORIDE	16887-00-6	ug/L	1 : 1 : 1	100	1.10E+07	1.10E+07	1.10E+07	1.25E+05	Yes
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	100	2.50E+02	2.50E+02	2.50E+02	1.10E+01	Yes
COBALT	7440-48-4	ug/L	1 : 1 : 1	100	1.80E+01	1.80E+01	1.80E+01	1.00E+02	No
COPPER	7440-50-8	ug/L	1 : 1 : 1	100	1.90E+01	1.90E+01	1.90E+01	9.00E+00	Yes
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	3.06E-03	3.06E-03	3.06E-03	1.30E-03	Yes
NICKEL	7440-02-0	ug/L	1 : 1 : 1	100	1.50E+03	1.50E+03	1.50E+03	5.20E+01	Yes
THALLIUM	7440-28-0	ug/L	1 : 1 : 1	100	9.60E+00	9.60E+00	9.60E+00	1.20E+00	Yes
TOLUENE	108-88-3	ug/l	1 : 1 : 1	100	1.80E+01	1.80E+01	1.80E+01	1.40E+02	No
TOTAL CYANIDE	57-12-5	ug/L	1 : 1 : 1	100	6.90E+01	6.90E+01	6.90E+01	5.20E+00	Yes
RFIMW 16									
1,4-DIOXANE	123-91-1	ug/l	1 : 1 : 1	100	3.90E+01	3.90E+01	3.90E+01	3.40E+01	Yes

Table E-5
Risk Screening
Using Part 201 Criteria Groundwater Surface Water Interface (GSI) Criteria
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	GSI (g)	Exceeds? (h)
ACETONE	67-64-1	ug/l	1 : 1 : 1	100	5.40E+02	5.40E+02	5.40E+02	1.70E+03	No
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	3.90E+01	3.90E+01	3.90E+01	5.00E+01	No
BARIUM	7440-39-3	ug/L	1 : 1 : 1	100	2.40E+02	2.40E+02	2.40E+02	4.40E+02	No
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	100	4.00E+01	4.00E+01	4.00E+01	1.10E+01	Yes
COPPER	7440-50-8	ug/L	1 : 1 : 1	100	1.80E+01	1.80E+01	1.80E+01	9.00E+00	Yes
LEAD	7439-92-1	ug/L	1 : 1 : 1	100	3.00E+00	3.00E+00	3.00E+00	1.00E+01	No
METHYL ETHYL KETONE	78-93-3	ug/l	1 : 1 : 1	100	4.30E+01	4.30E+01	4.30E+01	2.20E+03	No
NICKEL	7440-02-0	ug/L	1 : 1 : 1	100	4.40E+01	4.40E+01	4.40E+01	5.20E+01	No
PHENOL	108-95-2	ug/l	1 : 1 : 1	100	3.50E+02	3.50E+02	3.50E+02	2.10E+02	Yes
SELENIUM	7782-49-2	ug/L	1 : 1 : 1	100	6.50E+00	6.50E+00	6.50E+00	5.00E+00	Yes
TOLUENE	108-88-3	ug/l	1 : 1 : 1	100	2.00E+00	2.00E+00	2.00E+00	1.40E+02	No
TOTAL CYANIDE	57-12-5	ug/L	1 : 1 : 1	100	3.90E+02	3.90E+02	3.90E+02	5.20E+00	Yes
VANADIUM	7440-62-2	ug/L	1 : 1 : 1	100	2.00E+02	2.00E+02	2.00E+02	1.20E+01	Yes
RFIMW 18									
1,4-DIOXANE	123-91-1	ug/l	1 : 1 : 1	100	3.80E+00	3.80E+00	3.80E+00	3.40E+01	No
RFIMW 21									
ACETONE	67-64-1	ug/l	1 : 1 : 1	100	2.10E+03	2.10E+03	2.10E+03	1.70E+03	Yes
PHENOL	108-95-2	ug/l	1 : 1 : 1	100	1.80E+01	1.80E+01	1.80E+01	2.10E+02	No
RFIMW 22									
1,4-DIOXANE	123-91-1	ug/l	1 : 1 : 1	100	8.70E+01	8.70E+01	8.70E+01	3.40E+01	Yes
2,4,5-TP (SILVEX)	93-72-1	ug/l	1 : 1 : 4	100	8.60E-01	8.60E-01	8.60E-01	3.00E+01	No
ACETONE	67-64-1	ug/l	1 : 1 : 1	100	5.20E+03	5.20E+03	5.20E+03	1.70E+03	Yes
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	1.90E+02	1.90E+02	1.90E+02	5.00E+01	Yes
BARIUM	7440-39-3	ug/L	1 : 1 : 1	100	1.10E+02	1.10E+02	1.10E+02	4.40E+02	No
BENZENE	71-43-2	ug/l	1 : 1 : 1	100	2.30E+03	2.30E+03	2.30E+03	1.20E+01	Yes
BERYLLIUM	7440-41-7	ug/L	1 : 1 : 1	100	1.20E+00	1.20E+00	1.20E+00	2.40E+00	No
CHLORIDE	16887-00-6	ug/L	1 : 1 : 1	100	8.90E+06	8.90E+06	8.90E+06	1.25E+05	Yes
CHLOROBENZENE	108-90-7	ug/l	1 : 1 : 1	100	6.40E+02	6.40E+02	6.40E+02	4.70E+01	Yes
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	100	6.10E+01	6.10E+01	6.10E+01	1.10E+01	Yes
COBALT	7440-48-4	ug/L	1 : 1 : 1	100	3.80E+00	3.80E+00	3.80E+00	1.00E+02	No
COPPER	7440-50-8	ug/L	1 : 1 : 1	100	1.70E+01	1.70E+01	1.70E+01	9.00E+00	Yes
ETHYLBENZENE	100-41-4	ug/l	1 : 1 : 1	100	5.30E+01	5.30E+01	5.30E+01	1.80E+01	Yes

Table E-5
Risk Screening
Using Part 201 Criteria Groundwater Surface Water Interface (GSI) Criteria
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	GSI (g)	Exceeds? (h)
LEAD	7439-92-1	ug/L	1 : 1 : 1	100	2.80E+00	2.80E+00	2.80E+00	1.00E+01	No
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	3.33E-02	3.33E-02	3.33E-02	1.30E-03	Yes
METHYL ETHYL KETONE	78-93-3	ug/l	1 : 1 : 1	100	8.00E+01	8.00E+01	8.00E+01	2.20E+03	No
NICKEL	7440-02-0	ug/L	1 : 1 : 1	100	4.20E+01	4.20E+01	4.20E+01	5.20E+01	No
PHENOL	108-95-2	ug/l	1 : 1 : 1	100	2.20E+02	2.20E+02	2.20E+02	2.10E+02	Yes
TOTAL CYANIDE	57-12-5	ug/L	4 : 4 : 4	100	3.90E+04	4.60E+04	4.13E+04	5.20E+00	Yes
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	100	1.50E+07	1.50E+07	1.50E+07	5.00E+05	Yes
VANADIUM	7440-62-2	ug/L	1 : 1 : 1	100	5.00E+02	5.00E+02	5.00E+02	1.20E+01	Yes
VINYL CHLORIDE	75-01-4	ug/l	1 : 1 : 1	100	2.80E+02	2.80E+02	2.80E+02	1.50E+01	Yes
ZINC	7440-66-6	ug/L	1 : 1 : 1	100	2.20E+01	2.20E+01	2.20E+01	1.20E+02	No
RFIMW 23									
ARSENIC	7440-38-2	ug/L	4 : 4 : 4	100	6.30E+00	1.20E+01	9.57E+00	5.00E+01	No
BARIUM	7440-39-3	ug/L	4 : 4 : 4	100	9.90E+01	1.30E+02	1.12E+02	4.40E+02	No
CHROMIUM	7440-47-3	ug/L	3 : 4 : 4	75	7.20E+00	3.50E+01	1.42E+01	1.10E+01	Yes
COPPER	7440-50-8	ug/L	1 : 4 : 4	25	2.30E+01	2.30E+01	1.01E+01	9.00E+00	Yes
FLUORANTHENE	206-44-0	ug/l	1 : 1 : 1	100	4.50E+00	4.50E+00	4.50E+00	1.60E+00	Yes
LEAD	7439-92-1	ug/L	1 : 4 : 4	25	6.10E+00	6.10E+00	2.65E+00	1.00E+01	No
TOTAL CYANIDE	57-12-5	ug/L	4 : 4 : 4	100	1.10E+03	1.40E+03	1.25E+03	5.20E+00	Yes
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	100	3.20E+06	3.20E+06	3.20E+06	5.00E+05	Yes
ZINC	7440-66-6	ug/L	1 : 4 : 4	25	1.20E+02	1.20E+02	5.90E+01	1.20E+02	No
RFIMW 24									
ARSENIC	7440-38-2	ug/L	1 : 6 : 6	17	1.10E+01	1.10E+01	4.66E+00	5.00E+01	No
BARIUM	7440-39-3	ug/L	6 : 6 : 6	100	5.40E+01	1.20E+02	8.33E+01	4.40E+02	No
BENZENE	71-43-2	ug/l	1 : 1 : 6	100	1.10E-01	1.10E-01	1.10E-01	1.20E+01	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	3 : 5 : 5	60	2.00E+00	4.10E+00	2.84E+00	3.20E+01	No
CHROMIUM	7440-47-3	ug/L	6 : 6 : 6	100	1.70E+01	6.20E+02	2.72E+02	1.10E+01	Yes
COPPER	7440-50-8	ug/L	3 : 6 : 6	50	1.80E+01	2.10E+01	1.44E+01	9.00E+00	Yes
LEAD	7439-92-1	ug/L	5 : 6 : 6	83	4.30E+00	7.10E+00	4.91E+00	1.00E+01	No
METHYLENE CHLORIDE	75-09-2	ug/l	1 : 1 : 6	100	4.50E-01	4.50E-01	4.50E-01	4.70E+01	No
NICKEL	7440-02-0	ug/L	3 : 5 : 5	60	4.20E+01	1.60E+02	6.20E+01	5.20E+01	Yes
SELENIUM	7782-49-2	ug/L	1 : 6 : 6	17	6.90E+00	6.90E+00	3.82E+00	5.00E+00	Yes
TOTAL CYANIDE	57-12-5	ug/L	6 : 6 : 6	100	5.20E+01	6.30E+02	4.27E+02	5.20E+00	Yes

Table E-5
Risk Screening
Using Part 201 Criteria Groundwater Surface Water Interface (GSI) Criteria
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	GSI (g)	Exceeds? (h)
VANADIUM	7440-62-2	ug/L	1 : 6 : 6	17	2.30E+01	2.30E+01	1.22E+01	1.20E+01	Yes
ZINC	7440-66-6	ug/L	2 : 6 : 6	33	4.60E+01	5.10E+01	3.46E+01	1.20E+02	No
RFIMW 25									
ARSENIC	7440-38-2	ug/L	4 : 6 : 6	67	7.80E+00	2.60E+01	1.30E+01	5.00E+01	No
BARIUM	7440-39-3	ug/L	6 : 6 : 6	100	1.35E+02	2.70E+02	2.13E+02	4.40E+02	No
CADMIUM	7440-43-9	ug/L	2 : 6 : 6	33	1.10E+00	1.60E+00	7.83E-01	2.20E+00	No
CHROMIUM	7440-47-3	ug/L	6 : 6 : 6	100	1.90E+02	1.40E+03	6.78E+02	1.10E+01	Yes
COPPER	7440-50-8	ug/L	5 : 6 : 6	83	1.45E+01	6.10E+01	3.27E+01	9.00E+00	Yes
LEAD	7439-92-1	ug/L	5 : 6 : 6	83	3.60E+00	1.70E+01	8.40E+00	1.00E+01	Yes
NICKEL	7440-02-0	ug/L	6 : 6 : 6	100	5.70E+01	2.90E+02	1.52E+02	5.20E+01	Yes
TOTAL CYANIDE	57-12-5	ug/L	6 : 6 : 6	100	2.80E+01	5.40E+02	3.52E+02	5.20E+00	Yes
VANADIUM	7440-62-2	ug/L	3 : 6 : 6	50	5.70E+01	9.10E+01	3.98E+01	1.20E+01	Yes
ZINC	7440-66-6	ug/L	4 : 6 : 6	67	5.70E+01	1.90E+02	1.04E+02	1.20E+02	Yes
RFIMW 26									
ARSENIC	7440-38-2	ug/L	2 : 2 : 2	100	4.30E+00	7.00E+00	5.65E+00	5.00E+01	No
BARIUM	7440-39-3	ug/L	2 : 2 : 2	100	5.65E+01	2.74E+02	1.65E+02	4.40E+02	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	100	1.80E+01	1.80E+01	1.80E+01	3.20E+01	No
CHLORIDE	16887-00-6	ug/L	1 : 1 : 1	100	1.20E+06	1.20E+06	1.20E+06	1.25E+05	Yes
CHROMIUM	7440-47-3	ug/L	2 : 2 : 2	100	9.15E+01	5.17E+03	2.63E+03	1.10E+01	Yes
COBALT	7440-48-4	ug/L	1 : 1 : 1	100	1.50E+00	1.50E+00	1.50E+00	1.00E+02	No
COPPER	7440-50-8	ug/L	2 : 2 : 2	100	8.15E+00	1.40E+02	7.41E+01	9.00E+00	Yes
DIETHYL PHTHALATE	84-66-2	ug/l	1 : 1 : 1	100	2.29E+01	2.29E+01	2.29E+01	1.10E+02	No
LEAD	7439-92-1	ug/L	1 : 2 : 2	50	8.00E+00	8.00E+00	4.75E+00	1.00E+01	No
MERCURY	7439-97-6	ug/l	1 : 1 : 2	100	1.97E-02	1.97E-02	1.97E-02	1.30E-03	Yes
NICKEL	7440-02-0	ug/L	2 : 2 : 2	100	4.85E+01	2.46E+03	1.25E+03	5.20E+01	Yes
SELENIUM	7782-49-2	ug/L	1 : 2 : 2	50	3.52E+00	3.52E+00	2.76E+00	5.00E+00	No
THALLIUM	7440-28-0	ug/L	1 : 2 : 2	50	1.01E+01	1.01E+01	7.55E+00	1.20E+00	Yes
TOLUENE	108-88-3	ug/l	1 : 2 : 2	50	2.70E+01	2.70E+01	1.38E+01	1.40E+02	No
TOTAL CYANIDE	57-12-5	ug/L	4 : 6 : 6	67	7.00E+00	3.20E+02	9.18E+01	5.20E+00	Yes
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	100	1.24E+07	1.24E+07	1.24E+07	5.00E+05	Yes
VANADIUM	7440-62-2	ug/L	2 : 2 : 2	100	2.90E+00	2.00E+01	1.14E+01	1.20E+01	Yes
ZINC	7440-66-6	ug/L	1 : 2 : 2	50	2.20E+02	2.20E+02	1.13E+02	1.20E+02	Yes

Table E-5
Risk Screening
Using Part 201 Criteria Groundwater Surface Water Interface (GSI) Criteria
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	GSI (g)	Exceeds? (h)
RFIMW 27									
ARSENIC	7440-38-2	ug/L	1 : 6 : 6	17	5.90E+00	5.90E+00	4.40E+00	5.00E+01	No
BARIUM	7440-39-3	ug/L	6 : 6 : 6	100	1.80E+02	2.60E+02	2.20E+02	4.40E+02	No
BENZENE	71-43-2	ug/l	1 : 1 : 6	100	1.10E-01	1.10E-01	1.10E-01	1.20E+01	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 4 : 4	25	4.10E+00	4.10E+00	2.90E+00	3.20E+01	No
CADMIUM	7440-43-9	ug/L	1 : 6 : 6	17	1.10E+00	1.10E+00	7.67E-01	2.20E+00	No
CHROMIUM	7440-47-3	ug/L	6 : 6 : 6	100	6.50E+00	3.50E+01	1.88E+01	1.10E+01	Yes
COPPER	7440-50-8	ug/L	3 : 6 : 6	50	1.50E+01	5.20E+01	1.83E+01	9.00E+00	Yes
LEAD	7439-92-1	ug/L	1 : 6 : 6	17	7.30E+00	7.30E+00	2.72E+00	1.00E+01	No
SILVER	7440-22-4	ug/L	1 : 6 : 6	17	1.50E+01	1.50E+01	6.67E+00	2.00E-01	Yes
TOTAL CYANIDE	57-12-5	ug/L	5 : 6 : 6	83	6.00E+00	4.80E+01	2.28E+01	5.20E+00	Yes
VANADIUM	7440-62-2	ug/L	1 : 6 : 6	17	2.30E+01	2.30E+01	1.22E+01	1.20E+01	Yes
ZINC	7440-66-6	ug/L	2 : 6 : 6	33	5.90E+01	3.40E+02	7.91E+01	1.20E+02	Yes
RFIMW 28									
2,4-DIMETHYLPHENOL	105-67-9	ug/l	6 : 6 : 6	100	6.70E+00	3.50E+01	2.05E+01	3.80E+02	No
ACETONE	67-64-1	ug/l	1 : 2 : 1	50	1.40E+01	1.40E+01	1.05E+01	1.70E+03	No
ARSENIC	7440-38-2	ug/L	6 : 6 : 6	100	4.00E+01	6.90E+01	5.07E+01	5.00E+01	Yes
BARIUM	7440-39-3	ug/L	6 : 6 : 6	100	5.20E+01	1.35E+02	8.17E+01	4.40E+02	No
BENZENE	71-43-2	ug/l	5 : 5 : 6	100	1.20E+00	2.30E+00	1.70E+00	1.20E+01	No
CADMIUM	7440-43-9	ug/L	5 : 6 : 6	83	1.00E+00	2.80E+00	1.57E+00	2.20E+00	Yes
CHROMIUM	7440-47-3	ug/L	6 : 6 : 6	100	5.20E+00	5.00E+01	1.92E+01	1.10E+01	Yes
COPPER	7440-50-8	ug/L	4 : 6 : 6	67	2.40E+01	6.35E+01	2.90E+01	9.00E+00	Yes
LEAD	7439-92-1	ug/L	5 : 6 : 6	83	3.10E+00	1.51E+01	5.97E+00	1.00E+01	Yes
MERCURY	7439-97-6	ug/l	2 : 2 : 2	100	3.13E-03	4.31E-03	3.72E-03	1.30E-03	Yes
NICKEL	7440-02-0	ug/L	2 : 6 : 6	33	4.10E+01	4.30E+01	2.73E+01	5.20E+01	No
TOTAL CYANIDE	57-12-5	ug/L	5 : 6 : 6	83	1.00E+01	1.90E+01	1.38E+01	5.20E+00	Yes
TOTAL METHYLPHENOL	otal Methylpl	ug/L	5 : 6 : 6	83	2.93E+01	4.53E+01	3.38E+01	7.10E+01	No
VANADIUM	7440-62-2	ug/L	5 : 6 : 6	83	2.30E+01	8.05E+01	3.41E+01	1.20E+01	Yes
ZINC	7440-66-6	ug/L	4 : 6 : 6	67	5.00E+01	1.45E+02	7.49E+01	1.20E+02	Yes
RFIMW 29									
ANTIMONY	7440-36-0	ug/L	2 : 6 : 6	33	7.00E+00	7.95E+00	5.33E+00	2.00E+00	Yes
ARSENIC	7440-38-2	ug/L	4 : 6 : 6	67	8.50E+00	3.05E+01	1.33E+01	5.00E+01	No

Table E-5
Risk Screening
Using Part 201 Criteria Groundwater Surface Water Interface (GSI) Criteria
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	GSI (g)	Exceeds? (h)
BARIUM	7440-39-3	ug/L	6 : 6 : 6	100	6.60E+01	2.30E+02	1.56E+02	4.40E+02	No
CADMIUM	7440-43-9	ug/L	2 : 6 : 6	33	1.10E+00	1.40E+00	7.50E-01	2.20E+00	No
CHROMIUM	7440-47-3	ug/L	6 : 6 : 6	100	5.50E+01	2.75E+02	1.32E+02	1.10E+01	Yes
COPPER	7440-50-8	ug/L	4 : 6 : 6	67	1.50E+01	5.00E+01	2.80E+01	9.00E+00	Yes
LEAD	7439-92-1	ug/L	5 : 6 : 6	83	6.50E+00	1.90E+01	9.23E+00	1.00E+01	Yes
NICKEL	7440-02-0	ug/L	5 : 6 : 6	83	5.00E+01	1.10E+03	3.16E+02	5.20E+01	Yes
TOTAL CYANIDE	57-12-5	ug/L	5 : 6 : 6	83	8.00E+00	3.30E+01	1.63E+01	5.20E+00	Yes
VANADIUM	7440-62-2	ug/L	5 : 6 : 6	83	2.00E+01	5.85E+01	3.01E+01	1.20E+01	Yes
ZINC	7440-66-6	ug/L	3 : 6 : 6	50	4.65E+01	1.25E+02	5.81E+01	1.20E+02	Yes
WHI1-3S									
ACETONE	67-64-1	ug/l	1 : 1 : 1	100	1.70E+03	1.70E+03	1.70E+03	1.70E+03	No
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	8.80E+01	8.80E+01	8.80E+01	5.00E+01	Yes
BARIUM	7440-39-3	ug/L	1 : 1 : 1	100	1.28E+02	1.28E+02	1.28E+02	4.40E+02	No
BENZENE	71-43-2	ug/l	1 : 1 : 1	100	6.81E+02	6.81E+02	6.81E+02	1.20E+01	Yes
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	100	1.22E+02	1.22E+02	1.22E+02	1.10E+01	Yes
COPPER	7440-50-8	ug/L	1 : 1 : 1	100	3.80E+01	3.80E+01	3.80E+01	9.00E+00	Yes
DIETHYL PHTHALATE	84-66-2	ug/l	1 : 1 : 1	100	1.09E+00	1.09E+00	1.09E+00	1.10E+02	No
LEAD	7439-92-1	ug/L	1 : 1 : 1	100	1.30E+01	1.30E+01	1.30E+01	1.00E+01	Yes
NICKEL	7440-02-0	ug/L	1 : 1 : 1	100	4.70E+01	4.70E+01	4.70E+01	5.20E+01	No
PHENOL	108-95-2	ug/l	1 : 1 : 1	100	1.99E+01	1.99E+01	1.99E+01	2.10E+02	No
SELENIUM	7782-49-2	ug/L	1 : 1 : 1	100	7.00E+00	7.00E+00	7.00E+00	5.00E+00	Yes
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	100	5.63E+06	5.63E+06	5.63E+06	5.00E+05	Yes
VANADIUM	7440-62-2	ug/L	1 : 1 : 1	100	4.77E+02	4.77E+02	4.77E+02	1.20E+01	Yes
ZINC	7440-66-6	ug/L	1 : 1 : 1	100	6.10E+01	6.10E+01	6.10E+01	1.20E+02	No
WHI2-1S									
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	3.80E+01	3.80E+01	3.80E+01	5.00E+01	No
BARIUM	7440-39-3	ug/L	1 : 1 : 1	100	1.09E+02	1.09E+02	1.09E+02	4.40E+02	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	100	8.10E+02	8.10E+02	8.10E+02	3.20E+01	Yes
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	100	4.50E+01	4.50E+01	4.50E+01	1.10E+01	Yes
COPPER	7440-50-8	ug/L	1 : 1 : 1	100	2.20E+01	2.20E+01	2.20E+01	9.00E+00	Yes
LEAD	7439-92-1	ug/L	1 : 1 : 1	100	1.10E+01	1.10E+01	1.10E+01	1.00E+01	Yes
MERCURY	7439-97-6	ug/l	1 : 1 : 2	100	3.71E-03	3.71E-03	3.71E-03	1.30E-03	Yes

Table E-5
Risk Screening
Using Part 201 Criteria Groundwater Surface Water Interface (GSI) Criteria
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	GSI (g)	Exceeds? (h)
NICKEL	7440-02-0	ug/L	1 : 1 : 1	100	2.00E+01	2.00E+01	2.00E+01	5.20E+01	No
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	100	6.97E+05	6.97E+05	6.97E+05	5.00E+05	Yes
VANADIUM	7440-62-2	ug/L	1 : 1 : 1	100	2.60E+01	2.60E+01	2.60E+01	1.20E+01	Yes
ZINC	7440-66-6	ug/L	1 : 1 : 1	100	4.90E+01	4.90E+01	4.90E+01	1.20E+02	No
WHI2-2S									
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	3.80E+01	3.80E+01	3.80E+01	5.00E+01	No
BARIUM	7440-39-3	ug/L	1 : 1 : 1	100	4.32E+02	4.32E+02	4.32E+02	4.40E+02	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	100	8.40E+00	8.40E+00	8.40E+00	3.20E+01	No
CADMIUM	7440-43-9	ug/L	1 : 1 : 1	100	8.00E+00	8.00E+00	8.00E+00	2.20E+00	Yes
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	100	6.20E+01	6.20E+01	6.20E+01	1.10E+01	Yes
COPPER	7440-50-8	ug/L	1 : 1 : 1	100	1.18E+02	1.18E+02	1.18E+02	9.00E+00	Yes
DIETHYL PHTHALATE	84-66-2	ug/l	1 : 1 : 1	100	4.35E+00	4.35E+00	4.35E+00	1.10E+02	No
LEAD	7439-92-1	ug/L	1 : 1 : 1	100	2.39E+02	2.39E+02	2.39E+02	1.00E+01	Yes
MERCURY	7439-97-6	ug/L	1 : 1 : 1	100	3.34E+01	3.34E+01	3.34E+01	1.30E-03	Yes
NICKEL	7440-02-0	ug/L	1 : 1 : 1	100	4.00E+01	4.00E+01	4.00E+01	5.20E+01	No
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	100	1.18E+07	1.18E+07	1.18E+07	5.00E+05	Yes
VANADIUM	7440-62-2	ug/L	1 : 1 : 1	100	7.70E+01	7.70E+01	7.70E+01	1.20E+01	Yes
ZINC	7440-66-6	ug/L	1 : 1 : 1	100	6.66E+02	6.66E+02	6.66E+02	1.20E+02	Yes
WHI2-3S									
ARSENIC	7440-38-2	ug/L	1 : 1 : 1	100	4.20E+01	4.20E+01	4.20E+01	5.00E+01	No
BARIUM	7440-39-3	ug/L	1 : 1 : 1	100	1.43E+02	1.43E+02	1.43E+02	4.40E+02	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	100	1.21E+02	1.21E+02	1.21E+02	3.20E+01	Yes
CHROMIUM	7440-47-3	ug/L	1 : 1 : 1	100	6.00E+00	6.00E+00	6.00E+00	1.10E+01	No
COPPER	7440-50-8	ug/L	1 : 1 : 1	100	8.00E+00	8.00E+00	8.00E+00	9.00E+00	No
DIETHYL PHTHALATE	84-66-2	ug/l	1 : 1 : 1	100	2.20E+00	2.20E+00	2.20E+00	1.10E+02	No
NICKEL	7440-02-0	ug/L	1 : 1 : 1	100	9.00E+00	9.00E+00	9.00E+00	5.20E+01	No
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1 : 1 : 1	100	1.04E+06	1.04E+06	1.04E+06	5.00E+05	Yes
VANADIUM	7440-62-2	ug/L	1 : 1 : 1	100	6.00E+00	6.00E+00	6.00E+00	1.20E+01	No
ZINC	7440-66-6	ug/L	1 : 1 : 1	100	4.30E+01	4.30E+01	4.30E+01	1.20E+02	No
WHI3-1S									
ARSENIC	7440-38-2	ug/L	2 : 2 : 2	100	1.60E+01	1.42E+02	7.90E+01	5.00E+01	Yes
BARIUM	7440-39-3	ug/L	2 : 2 : 2	100	1.10E+02	2.91E+02	2.01E+02	4.40E+02	No

Table E-5
Risk Screening
Using Part 201 Criteria Groundwater Surface Water Interface (GSI) Criteria
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	GSI (g)	Exceeds? (h)
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1:1:1	100	8.23E+01	8.23E+01	8.23E+01	3.20E+01	Yes
CADMIUM	7440-43-9	ug/L	2:2:2	100	4.10E-01	1.00E+00	7.05E-01	2.20E+00	No
CHLORIDE	16887-00-6	ug/L	1:1:1	100	1.20E+05	1.20E+05	1.20E+05	1.25E+05	No
CHROMIUM	7440-47-3	ug/L	2:2:2	100	1.00E+01	1.31E+02	7.05E+01	1.10E+01	Yes
COPPER	7440-50-8	ug/L	2:2:2	100	1.10E+01	1.48E+02	7.95E+01	9.00E+00	Yes
DIETHYL PHTHALATE	84-66-2	ug/l	1:1:1	100	2.41E+00	2.41E+00	2.41E+00	1.10E+02	No
LEAD	7439-92-1	ug/L	2:2:2	100	2.30E+01	2.16E+02	1.20E+02	1.00E+01	Yes
MERCURY	7439-97-6	ug/L	2:2:2	100	1.05E-02	6.00E-01	3.05E-01	1.30E-03	Yes
NICKEL	7440-02-0	ug/L	2:2:2	100	9.20E+00	1.08E+02	5.86E+01	5.20E+01	Yes
TOLUENE	108-88-3	ug/l	1:2:2	50	3.50E+01	3.50E+01	1.78E+01	1.40E+02	No
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1:1:1	100	7.53E+05	7.53E+05	7.53E+05	5.00E+05	Yes
VANADIUM	7440-62-2	ug/L	2:2:2	100	1.70E+01	2.40E+02	1.29E+02	1.20E+01	Yes
ZINC	7440-66-6	ug/L	2:2:2	100	4.60E+01	4.65E+02	2.56E+02	1.20E+02	Yes
WHI3-2S									
ARSENIC	7440-38-2	ug/L	1:1:1	100	4.40E+01	4.40E+01	4.40E+01	5.00E+01	No
BARIUM	7440-39-3	ug/L	1:1:1	100	1.91E+02	1.91E+02	1.91E+02	4.40E+02	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1:1:1	100	1.60E+01	1.60E+01	1.60E+01	3.20E+01	No
CHROMIUM	7440-47-3	ug/L	1:1:1	100	4.20E+01	4.20E+01	4.20E+01	1.10E+01	Yes
COPPER	7440-50-8	ug/L	1:1:1	100	2.60E+01	2.60E+01	2.60E+01	9.00E+00	Yes
DINOSEB	88-85-7	ug/l	1:1:1	100	3.44E+00	3.44E+00	3.44E+00	1.00E+00	Yes
LEAD	7439-92-1	ug/L	1:1:1	100	2.30E+01	2.30E+01	2.30E+01	1.00E+01	Yes
MERCURY	7439-97-6	ug/L	2:2:2	100	6.44E-02	2.00E-01	1.32E-01	1.30E-03	Yes
NICKEL	7440-02-0	ug/L	1:1:1	100	2.10E+01	2.10E+01	2.10E+01	5.20E+01	No
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1:1:1	100	3.23E+06	3.23E+06	3.23E+06	5.00E+05	Yes
VANADIUM	7440-62-2	ug/L	1:1:1	100	4.20E+01	4.20E+01	4.20E+01	1.20E+01	Yes
ZINC	7440-66-6	ug/L	1:1:1	100	1.79E+02	1.79E+02	1.79E+02	1.20E+02	Yes
WHI3-3S									
ARSENIC	7440-38-2	ug/L	1:1:1	100	4.00E+00	4.00E+00	4.00E+00	5.00E+01	No
BARIUM	7440-39-3	ug/L	1:1:1	100	1.98E+02	1.98E+02	1.98E+02	4.40E+02	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1:1:1	100	6.38E+01	6.38E+01	6.38E+01	3.20E+01	Yes
BUTYL BENZYL PHTHALATE	85-68-7	ug/l	1:1:1	100	1.56E+00	1.56E+00	1.56E+00	6.90E+00	No
CHROMIUM	7440-47-3	ug/L	1:1:1	100	6.00E+00	6.00E+00	6.00E+00	1.10E+01	No

Table E-5
Risk Screening
Using Part 201 Criteria Groundwater Surface Water Interface (GSI) Criteria
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	GSI (g)	Exceeds? (h)
COPPER	7440-50-8	ug/L	1:1:1	100	8.00E+00	8.00E+00	8.00E+00	9.00E+00	No
DIETHYL PHTHALATE	84-66-2	ug/l	1:1:1	100	1.91E+00	1.91E+00	1.91E+00	1.10E+02	No
NICKEL	7440-02-0	ug/L	1:1:1	100	7.00E+00	7.00E+00	7.00E+00	5.20E+01	No
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1:1:1	100	2.88E+06	2.88E+06	2.88E+06	5.00E+05	Yes
VANADIUM	7440-62-2	ug/L	1:1:1	100	6.00E+00	6.00E+00	6.00E+00	1.20E+01	No
ZINC	7440-66-6	ug/L	1:1:1	100	2.00E+01	2.00E+01	2.00E+01	1.20E+02	No
WHI4-1S									
ANTIMONY	7440-36-0	ug/L	1:2:2	50	5.54E+02	5.54E+02	2.78E+02	2.00E+00	Yes
ARSENIC	7440-38-2	ug/L	1:2:2	50	1.03E+02	1.03E+02	5.40E+01	5.00E+01	Yes
BARIUM	7440-39-3	ug/L	2:2:2	100	2.60E+01	7.08E+02	3.67E+02	4.40E+02	Yes
CHLORIDE	16887-00-6	ug/L	1:1:1	100	1.40E+05	1.40E+05	1.40E+05	1.25E+05	Yes
CHROMIUM	7440-47-3	ug/L	1:2:2	50	1.46E+02	1.46E+02	7.33E+01	1.10E+01	Yes
COPPER	7440-50-8	ug/L	2:2:2	100	1.90E+01	8.69E+03	4.35E+03	9.00E+00	Yes
LEAD	7439-92-1	ug/L	2:2:2	100	8.50E+00	5.58E+03	2.79E+03	1.00E+01	Yes
MERCURY	7439-97-6	ug/L	2:2:2	100	6.73E-02	1.02E+01	5.13E+00	1.30E-03	Yes
NICKEL	7440-02-0	ug/L	1:2:2	50	8.10E+01	8.10E+01	4.11E+01	5.20E+01	Yes
TOLUENE	108-88-3	ug/l	1:2:2	50	1.40E+01	1.40E+01	7.25E+00	1.40E+02	No
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1:1:1	100	2.02E+06	2.02E+06	2.02E+06	5.00E+05	Yes
VANADIUM	7440-62-2	ug/L	1:2:2	50	1.71E+02	1.71E+02	8.57E+01	1.20E+01	Yes
ZINC	7440-66-6	ug/L	1:2:2	50	8.11E+02	8.11E+02	4.09E+02	1.20E+02	Yes
WHI4-2S									
ARSENIC	7440-38-2	ug/L	1:1:1	100	3.00E+01	3.00E+01	3.00E+01	5.00E+01	No
BARIUM	7440-39-3	ug/L	1:1:1	100	2.94E+02	2.94E+02	2.94E+02	4.40E+02	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1:1:1	100	2.68E+01	2.68E+01	2.68E+01	3.20E+01	No
BUTYL BENZYL PHTHALATE	85-68-7	ug/l	1:1:1	100	1.01E+00	1.01E+00	1.01E+00	6.90E+00	No
CADMIUM	7440-43-9	ug/L	1:1:1	100	2.00E+00	2.00E+00	2.00E+00	2.20E+00	No
CHROMIUM	7440-47-3	ug/L	1:1:1	100	3.00E+01	3.00E+01	3.00E+01	1.10E+01	Yes
COPPER	7440-50-8	ug/L	1:1:1	100	5.40E+01	5.40E+01	5.40E+01	9.00E+00	Yes
DIETHYL PHTHALATE	84-66-2	ug/l	1:1:1	100	2.05E+00	2.05E+00	2.05E+00	1.10E+02	No
LEAD	7439-92-1	ug/L	1:1:1	100	3.16E+02	3.16E+02	3.16E+02	1.00E+01	Yes
MERCURY	7439-97-6	ug/L	2:2:2	100	7.67E-01	8.00E-01	7.84E-01	1.30E-03	Yes
NICKEL	7440-02-0	ug/L	1:1:1	100	2.20E+01	2.20E+01	2.20E+01	5.20E+01	No

Table E-5
Risk Screening
Using Part 201 Criteria Groundwater Surface Water Interface (GSI) Criteria
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	GSI (g)	Exceeds? (h)
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1:1:1	100	2.41E+06	2.41E+06	2.41E+06	5.00E+05	Yes
VANADIUM	7440-62-2	ug/L	1:1:1	100	4.20E+01	4.20E+01	4.20E+01	1.20E+01	Yes
ZINC	7440-66-6	ug/L	1:1:1	100	2.24E+02	2.24E+02	2.24E+02	1.20E+02	Yes
WHI9-2F									
1,2-DICHLOROPROPANE	78-87-5	ug/l	1:1:2	100	1.74E+00	1.74E+00	1.74E+00	9.10E+00	No
ANTIMONY	7440-36-0	ug/L	1:1:2	100	3.60E+00	3.60E+00	3.60E+00	2.00E+00	Yes
ARSENIC	7440-38-2	ug/L	2:2:2	100	3.30E+01	4.10E+01	3.70E+01	5.00E+01	No
BARIUM	7440-39-3	ug/L	2:2:2	100	1.10E+01	7.50E+01	4.30E+01	4.40E+02	No
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/l	1:1:1	100	3.29E+00	3.29E+00	3.29E+00	1.50E+01	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1:1:1	100	2.38E+01	2.38E+01	2.38E+01	3.20E+01	No
CADMIUM	7440-43-9	ug/L	2:2:2	100	1.00E+00	2.90E+00	1.95E+00	2.20E+00	Yes
CHLORIDE	16887-00-6	ug/L	1:1:1	100	2.00E+05	2.00E+05	2.00E+05	1.25E+05	Yes
CHROMIUM	7440-47-3	ug/L	2:2:2	100	6.20E+00	2.70E+01	1.66E+01	1.10E+01	Yes
COPPER	7440-50-8	ug/L	2:2:2	100	8.30E+01	4.09E+02	2.46E+02	9.00E+00	Yes
DIETHYL PHTHALATE	84-66-2	ug/l	1:1:1	100	1.40E+00	1.40E+00	1.40E+00	1.10E+02	No
LEAD	7439-92-1	ug/L	2:2:2	100	1.40E+02	1.10E+03	6.20E+02	1.00E+01	Yes
MERCURY	7439-97-6	ug/L	2:2:2	100	7.57E-01	2.00E+00	1.38E+00	1.30E-03	Yes
NAPHTHALENE	91-20-3	ug/l	1:1:1	100	1.79E+01	1.79E+01	1.79E+01	1.30E+01	Yes
NICKEL	7440-02-0	ug/L	2:2:2	100	1.10E+01	3.30E+01	2.20E+01	5.20E+01	No
PHENANTHRENE	85-01-8	ug/l	1:1:1	100	1.23E+00	1.23E+00	1.23E+00	2.40E+00	No
SELENIUM	7782-49-2	ug/L	1:2:2	50	4.00E+00	4.00E+00	2.98E+00	5.00E+00	No
TOLUENE	108-88-3	ug/l	1:2:2	50	3.00E+01	3.00E+01	1.53E+01	1.40E+02	No
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1:1:1	100	1.54E+06	1.54E+06	1.54E+06	5.00E+05	Yes
VANADIUM	7440-62-2	ug/L	2:2:2	100	5.20E+01	8.30E+01	6.75E+01	1.20E+01	Yes
ZINC	7440-66-6	ug/L	2:2:2	100	1.00E+02	5.25E+02	3.13E+02	1.20E+02	Yes
WHI9-2S									
BARIUM	7440-39-3	ug/L	1:1:1	100	5.64E+02	5.64E+02	5.64E+02	4.40E+02	Yes
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1:1:1	100	1.13E+00	1.13E+00	1.13E+00	3.20E+01	No
DIETHYL PHTHALATE	84-66-2	ug/l	1:1:1	100	2.05E+00	2.05E+00	2.05E+00	1.10E+02	No
MERCURY	7439-97-6	ug/l	1:1:2	100	4.11E-02	4.11E-02	4.11E-02	1.30E-03	Yes
NICKEL	7440-02-0	ug/L	1:1:1	100	5.00E+00	5.00E+00	5.00E+00	5.20E+01	No
TOTAL DISSOLVED SOLIDS	TDS	ug/L	1:1:1	100	8.07E+06	8.07E+06	8.07E+06	5.00E+05	Yes

Table E-5
Risk Screening
Using Part 201 Criteria Groundwater Surface Water Interface (GSI) Criteria
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	GSI (g)	Exceeds? (h)
ZINC	7440-66-6	ug/L	1 : 1 : 1	100	6.80E+01	6.80E+01	6.80E+01	1.20E+02	No

Notes:

CAS - Chemical Abstract Service.
(a) Only chemicals with at least one positively detected result are reported.
(b) Frequency of detection - Number of detected samples: Number of samples used to calculate statistics: Number of total samples.
(c) Percent of samples with detects out of samples used to calculate statistics.
(d) Minimum detected concentration for each chemical, after duplicates have been averaged.
(e) Maximum detected concentration for each chemical, after duplicates have been averaged.
(f) Arithmetic mean concentration for each chemical, after duplicates have been averaged and any non detected results with one-half the sample quantitation limit greater than the maximum detected concentration have been excluded.
(g) Groundwater Surface Water Interface (GSI) Criteria (MDEQ, Dec. 2002). Only chemicals with Part 201 Groundwater Surface Water Interface (GSI) Criteria reported.
(h) Chemicals where maximum detected concentration exceeds criterion.

Table E-6
Risk Screening
Using Part 201 Criteria Water Solubility Criteria
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Water Solubility (g)	Exceeds? (h)
AOC 6									
TETRACHLOROETHENE	127-18-4	ug/l	1 : 1 : 1	100	4.70E-01	4.70E-01	4.70E-01	2.00E+05	No
TRICHLOROETHENE	79-01-6	ug/l	1 : 1 : 1	100	4.20E-01	4.20E-01	4.20E-01	1.10E+06	No
CMSMW-1									
ACETONE	67-64-1	ug/l	1 : 1 : 1	100	9.40E+02	9.40E+02	9.40E+02	1.00E+09	No
CMSMW-12									
CARBON DISULFIDE	75-15-0	ug/l	1 : 1 : 1	100	1.50E+00	1.50E+00	1.50E+00	1.19E+06	No
CMSMW-13F									
NAPHTHALENE	91-20-3	ug/l	1 : 1 : 1	100	1.90E+01	1.90E+01	1.90E+01	3.10E+04	No
CMSMW-13S									
2,4-DIMETHYLPHENOL	105-67-9	ug/l	1 : 1 : 1	100	5.50E+00	5.50E+00	5.50E+00	7.87E+06	No
2-PICOLINE	109-06-8	ug/l	1 : 1 : 1	100	2.90E+01	2.90E+01	2.90E+01	3.00E+05	No
ACETONE	67-64-1	ug/l	1 : 1 : 1	100	8.30E+01	8.30E+01	8.30E+01	1.00E+09	No
BENZENE	71-43-2	ug/l	1 : 1 : 1	100	6.60E+01	6.60E+01	6.60E+01	1.75E+06	No
PYRIDINE	110-86-1	ug/l	1 : 1 : 1	100	3.60E+00	3.60E+00	3.60E+00	3.00E+05	No
TOTAL XYLENES	Total Xylenes	ug/L	1 : 1 : 1	100	3.18E+00	3.18E+00	3.18E+00	1.86E+05	No
CMSMW-14S									
1,2-DICHLOROPROPANE	78-87-5	ug/l	1 : 1 : 1	100	5.20E-01	5.20E-01	5.20E-01	2.80E+06	No
ACETONE	67-64-1	ug/l	1 : 1 : 1	100	4.65E+02	4.65E+02	4.65E+02	1.00E+09	No
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/l	1 : 1 : 1	100	5.90E+00	5.90E+00	5.90E+00	1.72E+07	No
NAPHTHALENE	91-20-3	ug/l	1 : 1 : 1	100	5.65E+00	5.65E+00	5.65E+00	3.10E+04	No
CMSMW-15									
1,4-DIOXANE	123-91-1	ug/l	1 : 1 : 1	100	4.80E+00	4.80E+00	4.80E+00	9.00E+08	No
ETHYLBENZENE	100-41-4	ug/l	1 : 1 : 1	100	2.80E+00	2.80E+00	2.80E+00	1.69E+05	No
STYRENE	100-42-5	ug/l	1 : 1 : 1	100	3.60E+00	3.60E+00	3.60E+00	3.10E+05	No
CMSMW-2									
1,2-DICHLOROBENZENE	95-50-1	ug/l	1 : 1 : 1	100	1.10E+00	1.10E+00	1.10E+00	1.56E+05	No
ACETONE	67-64-1	ug/l	1 : 1 : 1	100	4.80E+01	4.80E+01	4.80E+01	1.00E+09	No
BENZENE	71-43-2	ug/l	1 : 1 : 1	100	5.10E+00	5.10E+00	5.10E+00	1.75E+06	No
CHLOROBENZENE	108-90-7	ug/l	1 : 1 : 1	100	9.40E-01	9.40E-01	9.40E-01	4.72E+05	No
CHLOROMETHANE	74-87-3	ug/l	1 : 1 : 1	100	5.90E-01	5.90E-01	5.90E-01	6.34E+06	No

Table E-6
Risk Screening
Using Part 201 Criteria Water Solubility Criteria
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Water Solubility (g)	Exceeds? (h)
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	4.34E-01	4.34E-01	4.34E-01	5.60E+01	No
PHENOL	108-95-2	ug/l	1 : 1 : 1	100	2.40E+01	2.40E+01	2.40E+01	8.28E+07	No
TOLUENE	108-88-3	ug/l	1 : 1 : 1	100	2.90E+01	2.90E+01	2.90E+01	5.26E+05	No
CMSMW-8									
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	3.90E+00	3.90E+00	3.90E+00	5.60E+01	No
ENSR BG-MW-1									
MERCURY	7439-97-6	ug/l	2 : 2 : 2	100	3.53E-03	1.62E-02	9.86E-03	5.60E+01	No
ERB-1									
BENZENE	71-43-2	ug/l	1 : 1 : 1	100	2.50E-01	2.50E-01	2.50E-01	1.75E+06	No
BROMODICHLOROMETHANE	75-27-4	ug/l	1 : 1 : 1	100	1.20E+00	1.20E+00	1.20E+00	6.74E+06	No
CHLOROBENZENE	108-90-7	ug/l	1 : 1 : 1	100	3.40E-01	3.40E-01	3.40E-01	4.72E+05	No
CHLOROFORM	67-66-3	ug/l	1 : 1 : 1	100	3.80E+01	3.80E+01	3.80E+01	7.92E+06	No
METHYLENE CHLORIDE	75-09-2	ug/l	1 : 1 : 1	100	1.30E+01	1.30E+01	1.30E+01	1.70E+07	No
STYRENE	100-42-5	ug/l	1 : 1 : 1	100	2.80E-01	2.80E-01	2.80E-01	3.10E+05	No
TOLUENE	108-88-3	ug/l	1 : 1 : 1	100	6.00E-01	6.00E-01	6.00E-01	5.26E+05	No
GTI SB-11									
BENZENE	71-43-2	ug/l	1 : 1 : 1	100	2.00E+00	2.00E+00	2.00E+00	1.75E+06	No
GTI SB-16									
BENZENE	71-43-2	ug/l	1 : 1 : 1	100	6.80E+01	6.80E+01	6.80E+01	1.75E+06	No
GTI SB-3									
BENZENE	71-43-2	ug/l	1 : 1 : 1	100	1.60E+00	1.60E+00	1.60E+00	1.75E+06	No
STYRENE	100-42-5	ug/l	1 : 1 : 1	100	1.90E+00	1.90E+00	1.90E+00	3.10E+05	No
GTI-TPW-1									
ACETOPHENONE	98-86-2	ug/l	1 : 1 : 1	100	2.99E+00	2.99E+00	2.99E+00	6.10E+06	No
TOTAL XYLENES	Total Xylenes	ug/L	1 : 1 : 1	100	3.69E+01	3.69E+01	3.69E+01	1.86E+05	No
P-16-N									
1,2-DICHLOROPROPANE	78-87-5	ug/l	1 : 1 : 1	100	6.63E+01	6.63E+01	6.63E+01	2.80E+06	No
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/l	1 : 1 : 1	100	1.04E+01	1.04E+01	1.04E+01	1.72E+07	No
NAPHTHALENE	91-20-3	ug/l	1 : 1 : 1	100	3.76E+00	3.76E+00	3.76E+00	3.10E+04	No

Table E-6
Risk Screening
Using Part 201 Criteria Water Solubility Criteria
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Water Solubility (g)	Exceeds? (h)
P-34-N									
1,4-DIOXANE	123-91-1	ug/l	3 : 3 : 5	100	3.00E+00	3.60E+00	3.20E+00	9.00E+08	No
DIETHYL PHTHALATE	84-66-2	ug/l	1 : 1 : 4	100	1.70E+00	1.70E+00	1.70E+00	1.08E+06	No
P-36-N									
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	100	1.02E+02	1.02E+02	1.02E+02	3.40E+02	No
DIETHYL PHTHALATE	84-66-2	ug/l	1 : 1 : 1	100	2.66E+00	2.66E+00	2.66E+00	1.08E+06	No
PM1NA									
2,6-DICHLOROPHENOL	87-65-0	ug/l	3 : 3 : 4	100	2.40E+00	2.90E+00	2.70E+00	4.50E+06	No
ACETONE	67-64-1	ug/l	1 : 1 : 2	100	9.00E+00	9.00E+00	9.00E+00	1.00E+09	No
BENZENE	71-43-2	ug/l	1 : 2 : 4	50	1.90E+00	1.90E+00	1.20E+00	1.75E+06	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 2 : 2	50	1.90E+01	1.90E+01	1.08E+01	3.40E+02	No
CARBON DISULFIDE	75-15-0	ug/l	4 : 4 : 4	100	1.50E+00	3.50E+00	2.40E+00	1.19E+06	No
MERCURY	7439-97-6	ug/L	2 : 4 : 4	50	3.60E-01	1.00E+00	3.90E-01	5.60E+01	No
TOTAL METHYLPHENOL	otal Methylpl	ug/L	3 : 3 : 4	100	4.00E+00	8.40E+00	4.43E+00	2.80E+07	No
PM1NB									
CARBON DISULFIDE	75-15-0	ug/l	1 : 1 : 1	100	3.10E+00	3.10E+00	3.10E+00	1.19E+06	No
PM3NB									
1,4-DIOXANE	123-91-1	ug/l	1 : 1 : 1	100	3.20E+00	3.20E+00	3.20E+00	9.00E+08	No
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/l	1 : 1 : 1	100	3.90E+01	3.90E+01	3.90E+01	1.72E+07	No
CARBON DISULFIDE	75-15-0	ug/l	1 : 1 : 1	100	6.30E-01	6.30E-01	6.30E-01	1.19E+06	No
PM4NA									
BENZENE	71-43-2	ug/l	1 : 1 : 1	100	1.10E+00	1.10E+00	1.10E+00	1.75E+06	No
CARBON DISULFIDE	75-15-0	ug/l	1 : 1 : 1	100	1.40E+00	1.40E+00	1.40E+00	1.19E+06	No
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	5.26E-02	5.26E-02	5.26E-02	5.60E+01	No
TOLUENE	108-88-3	ug/l	1 : 1 : 1	100	1.30E+01	1.30E+01	1.30E+01	5.26E+05	No
RFIMW 01									
1,4-DIOXANE	123-91-1	ug/l	1 : 1 : 1	100	1.20E+02	1.20E+02	1.20E+02	9.00E+08	No
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	2.83E-02	2.83E-02	2.83E-02	5.60E+01	No
TOLUENE	108-88-3	ug/l	1 : 1 : 1	100	1.20E+02	1.20E+02	1.20E+02	5.26E+05	No
RFIMW 02									
1,4-DIOXANE	123-91-1	ug/l	1 : 1 : 3	100	4.00E+00	4.00E+00	4.00E+00	9.00E+08	No

Table E-6
Risk Screening
Using Part 201 Criteria Water Solubility Criteria
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Water Solubility (g)	Exceeds? (h)
ACETONE	67-64-1	ug/l	1 : 2 : 2	50	2.70E+01	2.70E+01	1.60E+01	1.00E+09	No
BENZENE	71-43-2	ug/l	2 : 4 : 4	50	2.80E-01	7.70E-01	5.12E-01	1.75E+06	No
BIS(2-CHLOROETHYL) ETHER	111-44-4	ug/l	4 : 4 : 4	100	2.40E+01	4.50E+01	3.30E+01	1.72E+07	No
CARBON DISULFIDE	75-15-0	ug/l	3 : 4 : 4	75	1.20E-01	5.90E-01	3.38E-01	1.19E+06	No
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	4.16E-03	4.16E-03	4.16E-03	5.60E+01	No
PHENOL	108-95-2	ug/l	1 : 3 : 3	33	5.30E+00	5.30E+00	3.43E+00	8.28E+07	No
TOTAL METHYLPHENOL	>tal Methylpl	ug/L	3 : 3 : 3	100	3.85E+01	1.95E+02	1.15E+02	2.80E+07	No
RFIMW 03									
ACETONE	67-64-1	ug/l	2 : 3 : 3	67	1.70E+01	2.20E+01	1.58E+01	1.00E+09	No
ACETOPHENONE	98-86-2	ug/l	1 : 1 : 3	100	1.90E+00	1.90E+00	1.90E+00	6.10E+06	No
BIS(2-CHLOROETHYL) ETHER	111-44-4	ug/l	4 : 4 : 4	100	6.40E+00	1.50E+01	1.19E+01	1.72E+07	No
CARBON DISULFIDE	75-15-0	ug/l	1 : 1 : 4	100	1.20E-01	1.20E-01	1.20E-01	1.19E+06	No
METHYL ETHYL KETONE	78-93-3	ug/l	2 : 2 : 2	100	5.60E+00	6.40E+00	6.00E+00	2.40E+08	No
PHENOL	108-95-2	ug/l	1 : 1 : 2	100	1.50E+00	1.50E+00	1.50E+00	8.28E+07	No
TOLUENE	108-88-3	ug/l	2 : 2 : 4	100	1.60E-01	3.10E-01	2.35E-01	5.26E+05	No
TOTAL METHYLPHENOL	>tal Methylpl	ug/L	3 : 4 : 4	75	1.40E+01	7.80E+01	3.12E+01	2.80E+07	No
RFIMW 04									
1,4-DIOXANE	123-91-1	ug/l	4 : 4 : 4	100	1.10E+01	1.90E+01	1.58E+01	9.00E+08	No
CARBON DISULFIDE	75-15-0	ug/l	2 : 2 : 4	100	1.00E-01	2.00E-01	1.50E-01	1.19E+06	No
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	7.45E-03	7.45E-03	7.45E-03	5.60E+01	No
RFIMW 05									
1,2-DICHLOROPROPANE	78-87-5	ug/l	4 : 4 : 4	100	3.90E-01	1.10E+00	7.32E-01	2.80E+06	No
2-METHYLNAPHTHALENE	91-57-6	ug/l	1 : 1 : 2	100	1.20E+00	1.20E+00	1.20E+00	2.46E+04	No
ACETONE	67-64-1	ug/l	3 : 4 : 4	75	6.90E+01	1.40E+02	8.35E+01	1.00E+09	No
BENZENE	71-43-2	ug/l	3 : 4 : 4	75	4.50E-01	6.80E-01	5.55E-01	1.75E+06	No
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/l	3 : 3 : 4	100	1.60E+00	1.80E+00	1.73E+00	1.72E+07	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	2 : 3 : 3	67	1.90E+00	3.00E+00	2.47E+00	3.40E+02	No
METHYL ETHYL KETONE	78-93-3	ug/l	3 : 4 : 4	75	9.10E+00	9.90E+00	8.45E+00	2.40E+08	No
NAPHTHALENE	91-20-3	ug/l	4 : 4 : 4	100	2.90E+00	3.90E+00	3.35E+00	3.10E+04	No
PHENOL	108-95-2	ug/l	3 : 4 : 4	75	1.40E+01	4.10E+01	2.35E+01	8.28E+07	No
TOLUENE	108-88-3	ug/l	3 : 4 : 4	75	2.80E-01	6.10E-01	4.22E-01	5.26E+05	No
TOTAL METHYLPHENOL	>tal Methylpl	ug/L	4 : 4 : 4	100	6.07E+01	9.33E+01	7.43E+01	2.80E+07	No

Table E-6
Risk Screening
Using Part 201 Criteria Water Solubility Criteria
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Water Solubility (g)	Exceeds? (h)
RFIMW 06									
1,2-DICHLOROETHANE	107-06-2	ug/l	2 : 4 : 4	50	4.70E-01	5.80E-01	5.12E-01	8.52E+06	No
1,2-DICHLOROPROPANE	78-87-5	ug/l	4 : 4 : 4	100	2.20E+01	3.50E+01	2.90E+01	2.80E+06	No
ACETONE	67-64-1	ug/l	2 : 3 : 3	67	1.40E+01	1.90E+01	1.27E+01	1.00E+09	No
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/l	4 : 4 : 4	100	1.40E+01	1.80E+01	1.63E+01	1.72E+07	No
CARBON DISULFIDE	75-15-0	ug/l	1 : 1 : 4	100	3.20E-01	3.20E-01	3.20E-01	1.19E+06	No
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	3.24E-01	3.24E-01	3.24E-01	5.60E+01	No
NAPHTHALENE	91-20-3	ug/l	3 : 3 : 3	100	1.30E+00	1.60E+00	1.47E+00	3.10E+04	No
PHENANTHRENE	85-01-8	ug/l	1 : 1 : 3	100	1.40E+00	1.40E+00	1.40E+00	1.00E+03	No
PHENOL	108-95-2	ug/l	3 : 4 : 4	75	1.00E+01	1.40E+01	1.08E+01	8.28E+07	No
TOLUENE	108-88-3	ug/l	2 : 2 : 4	100	1.60E-01	2.00E-01	1.80E-01	5.26E+05	No
TOTAL METHYLPHENOL	otal Methylpl	ug/L	4 : 4 : 4	100	1.35E+01	2.45E+01	1.94E+01	2.80E+07	No
RFIMW 07									
1,1,1-TRICHLOROETHANE	71-55-6	ug/l	1 : 1 : 1	100	1.30E+01	1.30E+01	1.30E+01	1.33E+06	No
1,1-DICHLOROETHANE	75-34-3	ug/l	1 : 1 : 1	100	1.20E+01	1.20E+01	1.20E+01	5.06E+06	No
1,1-DICHLOROETHENE	75-35-4	ug/l	1 : 1 : 1	100	1.70E+00	1.70E+00	1.70E+00	2.25E+06	No
1,4-DIOXANE	123-91-1	ug/l	4 : 4 : 4	100	2.40E+01	4.40E+01	3.21E+01	9.00E+08	No
2-HEXANONE	591-78-6	ug/l	1 : 1 : 1	100	1.30E+00	1.30E+00	1.30E+00	1.60E+07	No
2-METHYLNAPHTHALENE	91-57-6	ug/l	4 : 4 : 4	100	4.20E+01	1.10E+02	8.60E+01	2.46E+04	No
4-METHYL-2-PENTANONE (MIBK)	108-10-1	ug/l	1 : 1 : 1	100	9.10E-01	9.10E-01	9.10E-01	2.00E+07	No
ACENAPHTHENE	83-32-9	ug/l	2 : 2 : 4	100	2.70E+00	2.80E+00	2.75E+00	4.24E+03	No
ACETONE	67-64-1	ug/l	1 : 1 : 1	100	4.40E+01	4.40E+01	4.40E+01	1.00E+09	No
BENZENE	71-43-2	ug/l	1 : 1 : 1	100	8.30E-01	8.30E-01	8.30E-01	1.75E+06	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 3 : 3	33	1.30E+01	1.30E+01	7.67E+00	3.40E+02	No
CUMENE	98-82-8	ug/l	1 : 1 : 1	100	4.80E+00	4.80E+00	4.80E+00	5.60E+04	No
DIBENZOFURAN	132-64-9	ug/l	2 : 2 : 4	100	2.80E+00	2.95E+00	2.88E+00	1.00E+04	No
ETHYLBENZENE	100-41-4	ug/l	1 : 1 : 1	100	1.10E+01	1.10E+01	1.10E+01	1.69E+05	No
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	1.21E-01	1.21E-01	1.21E-01	5.60E+01	No
NAPHTHALENE	91-20-3	ug/l	4 : 4 : 4	100	3.40E+01	6.55E+01	5.46E+01	3.10E+04	No
PHENANTHRENE	85-01-8	ug/l	3 : 3 : 4	100	2.20E+00	3.05E+00	2.75E+00	1.00E+03	No
PHENOL	108-95-2	ug/l	3 : 4 : 4	75	4.55E+01	3.10E+02	1.24E+02	8.28E+07	No
TOLUENE	108-88-3	ug/l	1 : 1 : 1	100	1.70E+01	1.70E+01	1.70E+01	5.26E+05	No

Table E-6
Risk Screening
Using Part 201 Criteria Water Solubility Criteria
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Water Solubility (g)	Exceeds? (h)
TOTAL METHYLPHENOL	otal Methylpl	ug/L	4 : 4 : 4	100	1.87E+01	1.37E+02	5.61E+01	2.80E+07	No
TOTAL XYLENES	Total Xylenes	ug/l	1 : 1 : 1	100	2.20E+01	2.20E+01	2.20E+01	1.86E+05	No
RFIMW 08									
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 4	100	1.80E+00	1.80E+00	1.80E+00	3.40E+02	No
CARBON DISULFIDE	75-15-0	ug/l	2 : 4 : 4	50	1.50E-01	1.10E+00	5.63E-01	1.19E+06	No
CHLOROFORM	67-66-3	ug/l	1 : 4 : 4	25	1.20E+01	1.20E+01	3.38E+00	7.92E+06	No
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	5.32E-03	5.32E-03	5.32E-03	5.60E+01	No
PHENOL	108-95-2	ug/l	1 : 4 : 4	25	4.80E+00	4.80E+00	3.08E+00	8.28E+07	No
RFIMW 09									
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 4	100	2.40E+00	2.40E+00	2.40E+00	3.40E+02	No
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	1.37E-03	1.37E-03	1.37E-03	5.60E+01	No
PHENOL	108-95-2	ug/l	1 : 4 : 4	25	5.60E+00	5.60E+00	3.27E+00	8.28E+07	No
RFIMW 10									
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 3	100	1.50E+00	1.50E+00	1.50E+00	3.40E+02	No
RFIMW 11									
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	2 : 2 : 2	100	2.80E+00	3.50E+00	3.15E+00	3.40E+02	No
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	1.62E-03	1.62E-03	1.62E-03	5.60E+01	No
RFIMW 12									
CARBON DISULFIDE	75-15-0	ug/l	1 : 1 : 1	100	1.30E+00	1.30E+00	1.30E+00	1.19E+06	No
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	1.45E-02	1.45E-02	1.45E-02	5.60E+01	No
PHENOL	108-95-2	ug/l	3 : 4 : 4	75	7.90E+02	1.10E+03	7.94E+02	8.28E+07	No
TOLUENE	108-88-3	ug/l	1 : 1 : 1	100	1.60E+01	1.60E+01	1.60E+01	5.26E+05	No
TOTAL METHYLPHENOL	otal Methylpl	ug/L	4 : 4 : 4	100	1.93E+02	4.70E+02	2.83E+02	2.80E+07	No
RFIMW 13									
1,2-DICHLOROETHANE	107-06-2	ug/l	1 : 1 : 1	100	2.20E+01	2.20E+01	2.20E+01	8.52E+06	No
1,4-DIOXANE	123-91-1	ug/l	1 : 1 : 1	100	2.40E+02	2.40E+02	2.40E+02	9.00E+08	No
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	5.54E-02	5.54E-02	5.54E-02	5.60E+01	No
TOLUENE	108-88-3	ug/l	1 : 1 : 1	100	7.60E+01	7.60E+01	7.60E+01	5.26E+05	No
RFIMW 15									
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	3.06E-03	3.06E-03	3.06E-03	5.60E+01	No
TOLUENE	108-88-3	ug/l	1 : 1 : 1	100	1.80E+01	1.80E+01	1.80E+01	5.26E+05	No

Table E-6
Risk Screening
Using Part 201 Criteria Water Solubility Criteria
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Water Solubility (g)	Exceeds? (h)
RFIMW 16									
1,4-DIOXANE	123-91-1	ug/l	1 : 1 : 1	100	3.90E+01	3.90E+01	3.90E+01	9.00E+08	No
ACETONE	67-64-1	ug/l	1 : 1 : 1	100	5.40E+02	5.40E+02	5.40E+02	1.00E+09	No
CARBON DISULFIDE	75-15-0	ug/l	1 : 1 : 1	100	3.40E+00	3.40E+00	3.40E+00	1.19E+06	No
METHYL ETHYL KETONE	78-93-3	ug/l	1 : 1 : 1	100	4.30E+01	4.30E+01	4.30E+01	2.40E+08	No
PHENOL	108-95-2	ug/l	1 : 1 : 1	100	3.50E+02	3.50E+02	3.50E+02	8.28E+07	No
TOLUENE	108-88-3	ug/l	1 : 1 : 1	100	2.00E+00	2.00E+00	2.00E+00	5.26E+05	No
RFIMW 18									
1,4-DIOXANE	123-91-1	ug/l	1 : 1 : 1	100	3.80E+00	3.80E+00	3.80E+00	9.00E+08	No
RFIMW 21									
ACETONE	67-64-1	ug/l	1 : 1 : 1	100	2.10E+03	2.10E+03	2.10E+03	1.00E+09	No
PHENOL	108-95-2	ug/l	1 : 1 : 1	100	1.80E+01	1.80E+01	1.80E+01	8.28E+07	No
RFIMW 22									
1,4-DIOXANE	123-91-1	ug/l	1 : 1 : 1	100	8.70E+01	8.70E+01	8.70E+01	9.00E+08	No
2,4,5-TP (SILVEX)	93-72-1	ug/l	1 : 1 : 4	100	8.60E-01	8.60E-01	8.60E-01	1.40E+05	No
ACETONE	67-64-1	ug/l	1 : 1 : 1	100	5.20E+03	5.20E+03	5.20E+03	1.00E+09	No
BENZENE	71-43-2	ug/l	1 : 1 : 1	100	2.30E+03	2.30E+03	2.30E+03	1.75E+06	No
CHLOROBENZENE	108-90-7	ug/l	1 : 1 : 1	100	6.40E+02	6.40E+02	6.40E+02	4.72E+05	No
ETHYLBENZENE	100-41-4	ug/l	1 : 1 : 1	100	5.30E+01	5.30E+01	5.30E+01	1.69E+05	No
MERCURY	7439-97-6	ug/l	1 : 1 : 1	100	3.33E-02	3.33E-02	3.33E-02	5.60E+01	No
METHYL ETHYL KETONE	78-93-3	ug/l	1 : 1 : 1	100	8.00E+01	8.00E+01	8.00E+01	2.40E+08	No
PHENOL	108-95-2	ug/l	1 : 1 : 1	100	2.20E+02	2.20E+02	2.20E+02	8.28E+07	No
VINYL CHLORIDE	75-01-4	ug/l	1 : 1 : 1	100	2.80E+02	2.80E+02	2.80E+02	2.76E+06	No
RFIMW 23									
BENZO(A)ANTHRACENE	56-55-3	ug/l	1 : 1 : 1	100	3.30E+00	3.30E+00	3.30E+00	9.40E+00	No
FLUORANTHENE	206-44-0	ug/l	1 : 1 : 1	100	4.50E+00	4.50E+00	4.50E+00	2.06E+02	No
PYRENE	129-00-0	ug/l	1 : 1 : 1	100	9.60E+00	9.60E+00	9.60E+00	1.35E+02	No
RFIMW 24									
BENZENE	71-43-2	ug/l	1 : 1 : 6	100	1.10E-01	1.10E-01	1.10E-01	1.75E+06	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	3 : 5 : 5	60	2.00E+00	4.10E+00	2.84E+00	3.40E+02	No
METHYLENE CHLORIDE	75-09-2	ug/l	1 : 1 : 6	100	4.50E-01	4.50E-01	4.50E-01	1.70E+07	No

Table E-6
Risk Screening
Using Part 201 Criteria Water Solubility Criteria
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Water Solubility (g)	Exceeds? (h)
RFIMW 26									
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	100	1.80E+01	1.80E+01	1.80E+01	3.40E+02	No
DIETHYL PHTHALATE	84-66-2	ug/l	1 : 1 : 1	100	2.29E+01	2.29E+01	2.29E+01	1.08E+06	No
MERCURY	7439-97-6	ug/l	1 : 1 : 2	100	1.97E-02	1.97E-02	1.97E-02	5.60E+01	No
TOLUENE	108-88-3	ug/l	1 : 2 : 2	50	2.70E+01	2.70E+01	1.38E+01	5.26E+05	No
RFIMW 27									
BENZENE	71-43-2	ug/l	1 : 1 : 6	100	1.10E-01	1.10E-01	1.10E-01	1.75E+06	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 4 : 4	25	4.10E+00	4.10E+00	2.90E+00	3.40E+02	No
RFIMW 28									
2,4-DIMETHYLPHENOL	105-67-9	ug/l	6 : 6 : 6	100	6.70E+00	3.50E+01	2.05E+01	7.87E+06	No
ACETONE	67-64-1	ug/l	1 : 2 : 1	50	1.40E+01	1.40E+01	1.05E+01	1.00E+09	No
BENZENE	71-43-2	ug/l	5 : 5 : 6	100	1.20E+00	2.30E+00	1.70E+00	1.75E+06	No
CARBON DISULFIDE	75-15-0	ug/l	1 : 1 : 6	100	2.70E-01	2.70E-01	2.70E-01	1.19E+06	No
MERCURY	7439-97-6	ug/l	2 : 2 : 2	100	3.13E-03	4.31E-03	3.72E-03	5.60E+01	No
PYRIDINE	110-86-1	ug/l	3 : 3 : 6	100	2.70E+00	4.10E+00	3.63E+00	3.00E+05	No
TOTAL METHYLPHENOL	otal Methylph	ug/L	5 : 6 : 6	83	2.93E+01	4.53E+01	3.38E+01	2.80E+07	No
WHI1-3S									
ACETONE	67-64-1	ug/l	1 : 1 : 1	100	1.70E+03	1.70E+03	1.70E+03	1.00E+09	No
ACETOPHENONE	98-86-2	ug/l	1 : 1 : 1	100	1.93E+00	1.93E+00	1.93E+00	6.10E+06	No
BENZENE	71-43-2	ug/l	1 : 1 : 1	100	6.81E+02	6.81E+02	6.81E+02	1.75E+06	No
DIETHYL PHTHALATE	84-66-2	ug/l	1 : 1 : 1	100	1.09E+00	1.09E+00	1.09E+00	1.08E+06	No
PHENOL	108-95-2	ug/l	1 : 1 : 1	100	1.99E+01	1.99E+01	1.99E+01	8.28E+07	No
WHI2-1S									
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	100	8.10E+02	8.10E+02	8.10E+02	3.40E+02	Yes
MERCURY	7439-97-6	ug/l	1 : 1 : 2	100	3.71E-03	3.71E-03	3.71E-03	5.60E+01	No
WHI2-2S									
ACETOPHENONE	98-86-2	ug/l	1 : 1 : 1	100	1.13E+00	1.13E+00	1.13E+00	6.10E+06	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	100	8.40E+00	8.40E+00	8.40E+00	3.40E+02	No
DIETHYL PHTHALATE	84-66-2	ug/l	1 : 1 : 1	100	4.35E+00	4.35E+00	4.35E+00	1.08E+06	No
MERCURY	7439-97-6	ug/L	1 : 1 : 1	100	3.34E+01	3.34E+01	3.34E+01	5.60E+01	No

Table E-6
Risk Screening
Using Part 201 Criteria Water Solubility Criteria
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Water Solubility (g)	Exceeds? (h)
WHI2-3S									
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	100	1.21E+02	1.21E+02	1.21E+02	3.40E+02	No
DIETHYL PHTHALATE	84-66-2	ug/l	1 : 1 : 1	100	2.20E+00	2.20E+00	2.20E+00	1.08E+06	No
WHI3-1S									
ACETOPHENONE	98-86-2	ug/l	1 : 1 : 1	100	1.01E+00	1.01E+00	1.01E+00	6.10E+06	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	100	8.23E+01	8.23E+01	8.23E+01	3.40E+02	No
DIETHYL PHTHALATE	84-66-2	ug/l	1 : 1 : 1	100	2.41E+00	2.41E+00	2.41E+00	1.08E+06	No
MERCURY	7439-97-6	ug/L	2 : 2 : 2	100	1.05E-02	6.00E-01	3.05E-01	5.60E+01	No
TOLUENE	108-88-3	ug/l	1 : 2 : 2	50	3.50E+01	3.50E+01	1.78E+01	5.26E+05	No
WHI3-2S									
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	100	1.60E+01	1.60E+01	1.60E+01	3.40E+02	No
DINOSEB	88-85-7	ug/l	1 : 1 : 1	100	3.44E+00	3.44E+00	3.44E+00	5.20E+04	No
MERCURY	7439-97-6	ug/L	2 : 2 : 2	100	6.44E-02	2.00E-01	1.32E-01	5.60E+01	No
WHI3-3S									
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	100	6.38E+01	6.38E+01	6.38E+01	3.40E+02	No
BUTYL BENZYL PHTHALATE	85-68-7	ug/l	1 : 1 : 1	100	1.56E+00	1.56E+00	1.56E+00	2.69E+03	No
DIETHYL PHTHALATE	84-66-2	ug/l	1 : 1 : 1	100	1.91E+00	1.91E+00	1.91E+00	1.08E+06	No
WHI4-1S									
MERCURY	7439-97-6	ug/L	2 : 2 : 2	100	6.73E-02	1.02E+01	5.13E+00	5.60E+01	No
TOLUENE	108-88-3	ug/l	1 : 2 : 2	50	1.40E+01	1.40E+01	7.25E+00	5.26E+05	No
WHI4-2S									
ACETOPHENONE	98-86-2	ug/l	1 : 1 : 1	100	1.29E+00	1.29E+00	1.29E+00	6.10E+06	No
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	100	2.68E+01	2.68E+01	2.68E+01	3.40E+02	No
BUTYL BENZYL PHTHALATE	85-68-7	ug/l	1 : 1 : 1	100	1.01E+00	1.01E+00	1.01E+00	2.69E+03	No
DIETHYL PHTHALATE	84-66-2	ug/l	1 : 1 : 1	100	2.05E+00	2.05E+00	2.05E+00	1.08E+06	No
MERCURY	7439-97-6	ug/L	2 : 2 : 2	100	7.67E-01	8.00E-01	7.84E-01	5.60E+01	No
WHI9-2F									
1,2-DICHLOROPROPANE	78-87-5	ug/l	1 : 1 : 2	100	1.74E+00	1.74E+00	1.74E+00	2.80E+06	No
2-METHYLNAPHTHALENE	91-57-6	ug/l	1 : 1 : 1	100	2.63E+00	2.63E+00	2.63E+00	2.46E+04	No
ACETOPHENONE	98-86-2	ug/l	1 : 1 : 1	100	1.86E+00	1.86E+00	1.86E+00	6.10E+06	No
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/l	1 : 1 : 1	100	3.29E+00	3.29E+00	3.29E+00	1.72E+07	No

Table E-6
Risk Screening
Using Part 201 Criteria Water Solubility Criteria
Groundwater
BASF Wyandotte, MI Facility

Chemical (a)	CAS	Units	FOD (b)	% FOD (c)	Minimum Detected Concentration (d)	Maximum Detected Concentration (e)	Mean Concentration (f)	Water Solubility (g)	Exceeds? (h)
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	100	2.38E+01	2.38E+01	2.38E+01	3.40E+02	No
DIETHYL PHTHALATE	84-66-2	ug/l	1 : 1 : 1	100	1.40E+00	1.40E+00	1.40E+00	1.08E+06	No
MERCURY	7439-97-6	ug/L	2 : 2 : 2	100	7.57E-01	2.00E+00	1.38E+00	5.60E+01	No
NAPHTHALENE	91-20-3	ug/l	1 : 1 : 1	100	1.79E+01	1.79E+01	1.79E+01	3.10E+04	No
PHENANTHRENE	85-01-8	ug/l	1 : 1 : 1	100	1.23E+00	1.23E+00	1.23E+00	1.00E+03	No
TOLUENE	108-88-3	ug/l	1 : 2 : 2	50	3.00E+01	3.00E+01	1.53E+01	5.26E+05	No
WHI9-2S									
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	1 : 1 : 1	100	1.13E+00	1.13E+00	1.13E+00	3.40E+02	No
DIETHYL PHTHALATE	84-66-2	ug/l	1 : 1 : 1	100	2.05E+00	2.05E+00	2.05E+00	1.08E+06	No
MERCURY	7439-97-6	ug/l	1 : 1 : 2	100	4.11E-02	4.11E-02	4.11E-02	5.60E+01	No

Notes:

CAS - Chemical Abstract Service.
(a) Only chemicals with at least one positively detected result are reported.
(b) Frequency of detection - Number of detected samples: Number of samples used to calculate statistics: Number of total samples.
(c) Percent of samples with detects out of samples used to calculate statistics.
(d) Minimum detected concentration for each chemical, after duplicates have been averaged.
(e) Maximum detected concentration for each chemical, after duplicates have been averaged.
(f) Arithmetic mean concentration for each chemical, after duplicates have been averaged and any non detected results with one-half the sample quantitation limit greater than the maximum detected concentration have been excluded.
(g) Water Solubility Criteria (MDEQ, Dec. 2002). Only chemicals with Part 201 Water Solubility Criteria reported.
(h) Chemicals where maximum detected concentration exceeds criterion.

APPENDIX F

SCREENING CRITERIA FOR NON-DETECT ANALYTES

Table F-1
Michigan DEQ Part 201 Soil - Industrial and Commercial II, III and IV (a)
Risk Based Criteria
Chemicals Not Detected
BASF Wyandotte, MI Facility

Chemical	CAS	Surrogate	Cancer SVIIC	NonCancer SVIIC	Cancer Infinte VSIC	NonCancer Infinite VSIC	Cancer PSIC	NonCancer PSIC	Cancer DCC	NonCancer DCC
1,1,1,2-TETRACHLOROETHANE	630-20-6		3.29E+04		1.23E+05		5.30E+08		2.21E+06	6.49E+07
1,1,2,2-TETRACHLOROETHANE	79-34-5		2.28E+04		3.41E+04		6.76E+07		2.43E+05	
1,1,2-TRICHLOROETHANE	79-00-5		2.44E+04		5.68E+04		2.45E+08		8.38E+05	2.84E+06
1,1-DICHLOROETHENE	75-35-4		3.28E+02		3.68E+03		7.85E+07			6.56E+05
1,2,4,5-TETRACHLOROBENZENE	95-94-3									2.48E+08
1,2,4-TRICHLOROBENZENE	120-82-1			1.78E+07		3.37E+07		1.09E+10		1.09E+07
1,2-DIBROMO-3-CHLOROPROPANE	96-12-8			1.97E+04		1.52E+04		5.88E+06	2.02E+04	
1,2-DIBROMOETHANE (EDB)	106-93-4		3.56E+03		5.82E+03		1.78E+07		4.26E+02	
1,2-DICHLOROETHANE	107-06-2		1.09E+04		2.10E+04		1.51E+08		4.19E+05	
1,2-DICHLOROETHENE (TOTAL)	540-59-0	CIS-1,2-DICHLOROETHENE		4.11E+04		2.03E+05		1.00E+09		8.02E+06
1,3-DICHLOROBENZENE	541-73-1									6.56E+05
1,3-DINITROBENZENE	99-65-0	1,3-DICHLOROBENZENE								6.56E+05
1,4-DICHLOROBENZENE	106-46-7		1.01E+05		2.62E+05		5.69E+08		1.87E+06	
1,4-DIOXANE	123-91-1		8.67E+06		6.46E+05		7.13E+08		2.43E+06	
1,4-NAPHTHOQUINONE	130-15-4									
1-NAPHTHYLAMINE	134-32-7									
2,3,4,6-TETRACHLOROPHENOL	58-90-2									1.80E+07 (b)
2,4,5-T	93-76-5	SILVEX (2,4,5-TP)								
2,4,5-TP (SILVEX)	93-72-1									5.47E+06
2,4,5-TRICHLOROPHENOL	95-95-4			4.78E+09		4.79E+08		1.03E+10		7.29E+07
2,4,6-TRICHLOROPHENOL	88-06-2		4.64E+07		1.12E+07		1.27E+09		3.28E+06	
2,4-D	94-75-7			4.27E+08		5.48E+07		2.94E+09		8.58E+06
2,4-DICHLOROPHENOL	120-83-2			2.09E+08		3.42E+07		2.27E+09		7.29E+06
2,4-DINITROPHENOL	51-28-5	2,4-DICHLOROPHENOL		2.09E+08		3.42E+07		2.27E+09		7.29E+06
2,4-DINITROTOLUENE	121-14-2		4.91E+06	2.95E+07	1.98E+05	1.19E+06	1.96E+07	5.88E+07	2.21E+05	1.46E+06
2,6-DICHLOROPHENOL	87-65-0	2,4-DICHLOROPHENOL		2.09E+08		3.42E+07		2.27E+09		7.29E+06
2,6-DINITROTOLUENE	606-20-2	2,4-DINITROTOLUENE	4.91E+06	2.95E+07	1.98E+05	1.19E+06	1.96E+07	5.88E+07	2.21E+05	1.46E+06
2-ACETYLAMINOFLUORENE	53-96-3									
2-CHLORO-1,3-BUTADIENE	126-99-8									1.20E+04 (b)
2-CHLORONAPHTHALENE	91-58-7									1.82E+08
2-CHLOROPHENOL	95-57-8									4.52E+06
2-HEXANONE	591-78-6			1.82E+06		1.28E+06		1.18E+09		1.02E+08
2-NAPHTHYLAMINE	91-59-8									

Table F-1
Michigan DEQ Part 201 Soil - Industrial and Commercial II, III and IV (a)
Risk Based Criteria
Chemicals Not Detected
BASF Wyandotte, MI Facility

Chemical	CAS	Surrogate	Cancer SVIIC	NonCancer SVIIC	Cancer Infinte VSIC	NonCancer Infinite VSIC	Cancer PSIC	NonCancer PSIC	Cancer DCC	NonCancer DCC
2-NITROANILINE	88-74-4									1.80E+06 (b)
2-NITROPHENOL	88-75-5									2.04E+06
2-PICOLINE	109-06-8	PYRIDINE		1.96E+03		9.83E+03		1.03E+08		7.29E+05
3,3'-DICHLOROBENZIDINE	91-94-1		1.01E+07		2.60E+05		8.17E+06		3.04E+04	
3,3'-DIMETHYLBENZIDINE	119-93-7								7.50E+03 (b)	
3-CHLOROPROPENE	107-05-1	1,3-DICHLOROPROPENE	5.42E+03	6.50E+03	6.02E+04	7.22E+04	9.81E+08	5.88E+08	2.43E+05	2.48E+07
3-METHYLCHOLANTHRENE	56-49-5									
3-NITROANILINE	99-09-2									8.20E+04 (b)
4,4'-DDD	72-54-8		6.75E+08		1.22E+07		5.60E+07		3.97E+05	3.36E+06
4,6-DINITRO-2-METHYLPHENOL	534-52-1									2.55E+05
4-AMINOBIPHENYL	92-67-1									
4-BROMOPHENYL PHENYL ETHER	101-55-3	DECABROMODIPHENYLETHER	2.06E+10	4.33E+09	4.86E+08	1.02E+08	9.81E+09	1.03E+09		1.12E+07
4-CHLORO-3-METHYLPHENOL	59-50-7									1.46E+07
4-CHLOROANILINE	106-47-8									2.50E+06 (b)
4-CHLOROPHENYL PHENYL ETHER	7005-72-3	DECABROMODIPHENYLETHER	2.06E+10	4.33E+09	4.86E+08	1.02E+08	9.81E+09	1.03E+09		1.12E+07
4-METHYL-2-PENTANONE (MIBK)	108-10-1			6.89E+07		5.33E+07		6.03E+10		1.82E+08
4-NITROANILINE	100-01-6									8.20E+04 (b)
4-NITROPHENOL	100-02-7	2-NITROPHENOL								2.04E+06
4-NITROQUINOLINE-1-OXIDE	56-57-5									
5-NITRO-O-TOLUIDINE	99-55-8	P-TOLUIDINE	1.52E+06		2.60E+05		1.27E+08		4.34E+05	
7,12-DIMETHYLBENZ(A)ANTHRACENE	57-97-6	BENZO(A)ANTHRACENE							8.00E+04	
A,A-DIMETHYLPHENETHYLAMINE	122-09-8									6.20E+05 (b)
ACETONITRILE	75-05-8			8.79E+06		1.95E+06		1.77E+09		1.38E+07
ACROLEIN	107-02-8			7.55E+02		3.67E+02		5.88E+05		1.17E+07
ACRYLONITRILE	107-13-1		3.50E+04	7.14E+04	1.70E+04	3.46E+04	5.77E+07	5.88E+07	7.36E+04	
ALDRIN	309-00-2		7.09E+06				8.01E+05		4.29E+03	2.80E+04
ALPHA-BHC	319-84-6		1.58E+05		4.06E+04		2.14E+06		1.21E+04	
ANILINE	62-53-3			1.64E+06		1.55E+05		2.94E+07	1.52E+06	
AROCLOR 1016	12674-11-2	PCB	2.86E+06		1.48E+05		6.54E+06		1.58E+04	1.89E+04
AROCLOR 1221	11104-28-2	PCB	2.86E+06		1.48E+05		6.54E+06		1.58E+04	1.89E+04
AROCLOR 1232	11141-16-5	PCB	2.86E+06		1.48E+05		6.54E+06		1.58E+04	1.89E+04
AROCLOR 1242	53469-21-9	PCB	2.86E+06		1.48E+05		6.54E+06		1.58E+04	1.89E+04
BAP-TE	BAP-TE									

Table F-1
Michigan DEQ Part 201 Soil - Industrial and Commercial II, III and IV (a)
Risk Based Criteria
Chemicals Not Detected
BASF Wyandotte, MI Facility

Chemical	CAS	Surrogate	Cancer SVIIC	NonCancer SVIIC	Cancer Infinte VSIC	NonCancer Infinite VSIC	Cancer PSIC	NonCancer PSIC	Cancer DCC	NonCancer DCC
BETA-BHC	319-85-7		6.56E+06		2.66E+05		7.40E+06		2.50E+04	
BIS(2-CHLOROETHOXY)METHANE	111-91-1									
BROMODICHLOROMETHANE	75-27-4		6.38E+03		3.11E+04		1.06E+08		4.86E+05	1.31E+07
BROMOFORM	75-25-2		7.73E+05		3.05E+06		3.57E+09		3.80E+06	1.31E+07
BROMOMETHANE	74-83-9			1.59E+03				1.47E+08		1.02E+06
CARBON TETRACHLORIDE	56-23-5		9.91E+02		1.18E+04		1.66E+08		4.42E+05	5.17E+05
CHLORDANE	57-74-9		5.88E+07	6.18E+07	4.19E+06	4.40E+06	3.92E+07	2.06E+07	1.48E+05	2.33E+06
CHLOROBENZILATE	510-15-6								6.40E+04 (b)	
CHLORODIBROMOMETHANE	124-48-1		2.06E+04		8.02E+04		1.60E+08		4.96E+05	1.53E+07
CHLOROETHANE	75-00-3			5.30E+06		3.58E+07		2.94E+11	1.21E+07	1.31E+10
CHLOROMETHANE	74-87-3		1.19E+04	1.03E+04			6.14E+09	2.65E+09	7.36E+06	
CIS-1,2-DICHLOROETHENE	156-59-2			4.11E+04		2.03E+05		1.00E+09		8.02E+06
CIS-1,3-DICHLOROPROPENE	10061-01-5	1,3-DICHLOROPROPENE	5.42E+03	6.50E+03	6.02E+04	7.22E+04	9.81E+08	5.88E+08	2.43E+05	2.48E+07
DELTA-BHC	319-86-8	ALPHA BHC	1.58E+05		4.06E+04		2.14E+06		1.21E+04	
DIALLATE	2303-16-4								2.80E+05 (b)	
DIBROMOMETHANE	74-95-3									8.02E+06
DICHLORODIFLUOROMETHANE	75-71-8			1.67E+06		6.33E+07		1.46E+12		1.68E+08
DIELDRIN	60-57-1		7.23E+05		6.36E+04		8.53E+05		4.67E+03	8.51E+04
DIMETHOATE	60-51-5									1.20E+05 (b)
DIMETHYL PHTHALATE	131-11-3			3.36E+08		1.91E+07		1.47E+09		7.29E+09
DI-N-BUTYL PHTHALATE	84-74-2			1.30E+11		5.89E+08		1.47E+09		8.75E+07
DINOSEB	88-85-7									7.29E+05
DIPHENYLAMINE	122-39-4									1.50E+07 (b)
ENDOSULFAN I	959-98-8	ENDOSULFAN								4.37E+06
ENDOSULFAN II	33213-65-9	ENDOSULFAN								4.37E+06
ENDOSULFAN SULFATE	1031-07-8	ENDOSULFAN								4.37E+06
ENDRIN	72-20-8									1.90E+05
ENDRIN ALDEHYDE	7421-93-4	ENDRIN								1.90E+05
ETHYL METHACRYLATE	97-63-2									7.00E+05 (b)
ETHYL METHANESULFONATE	62-50-0									
GAMMA-BHC (LINDANE)	58-89-9								4.18E+04	2.94E+05
GAMMA-CHLORDANE	5103-74-2	CHLORDANE	5.88E+07	6.18E+07	4.19E+06	4.40E+06	3.92E+07	2.06E+07	1.48E+05	2.33E+06
HEPTACHLOR	76-44-8		1.89E+06		2.11E+05		3.02E+06		2.33E+04	2.58E+06

Table F-1
Michigan DEQ Part 201 Soil - Industrial and Commercial II, III and IV (a)
Risk Based Criteria
Chemicals Not Detected
BASF Wyandotte, MI Facility

Chemical	CAS	Surrogate	Cancer SVIIC	NonCancer SVIIC	Cancer Infinte VSIC	NonCancer Infinite VSIC	Cancer PSIC	NonCancer PSIC	Cancer DCC	NonCancer DCC
HEPTACHLOR EPOXIDE	1024-57-3		7.78E+06		2.65E+05		1.51E+06		1.29E+04	9.52E+03
HEXACHLOROBENZENE	118-74-1		2.17E+05		5.64E+04		8.53E+06		3.73E+04	8.96E+05
HEXACHLOROBUTADIENE	87-68-3		7.11E+05		4.59E+05		1.78E+08		4.67E+05	1.46E+06
HEXACHLOROCYCLOPENTADIENE	77-47-4			5.57E+04		5.99E+04		5.88E+06		6.72E+06
HEXACHLOROETHANE	67-72-1		3.75E+05	7.88E+04	3.15E+06	6.61E+05	9.81E+08	1.03E+08	2.86E+06	7.29E+05
HEXACHLOROPROPENE	1888-71-7	1,3-DICHLOROPROPENE	5.42E+03	6.50E+03	6.02E+04	7.22E+04	9.81E+08	5.88E+08	2.43E+05	2.48E+07
IODOMETHANE	74-88-4									
ISODRIN	465-73-6	ALDRIN	7.09E+06				8.01E+05		4.29E+03	2.80E+04
ISOPHORONE	78-59-1		2.04E+08	2.31E+08	4.21E+07	4.77E+07	1.45E+10	8.24E+09	2.21E+07	1.09E+08
ISOSAFROLE	120-58-1									
KEPONE	143-50-0								2.20E+03 (b)	
M & P CRESOLS	MPCRESOL	METHYLPHENOLS		3.04E+08		2.67E+07		2.94E+09		3.64E+07
METHACRYLONITRILE	126-98-7									
METHOXYCHLOR	72-43-5									5.60E+06
METHYL METHACRYLATE	80-62-6									7.30E+06 (b)
METHYL METHANESULFONATE	66-27-3									
NITROBENZENE	98-95-3		7.99E+05	1.68E+05	3.07E+05	6.44E+04	1.96E+08	2.06E+07		3.35E+05
N-NITROSODIETHYLAMINE	55-18-5								1.10E+02 (b)	
N-NITROSODIMETHYLAMINE	62-75-9								3.40E+02 (b)	
N-NITROSODI-N-BUTYLAMINE	924-16-3								5.80E+02 (b)	
N-NITROSODI-N-PROPYLAMINE	621-64-7		6.33E+04		7.14E+03		1.96E+06		5.40E+03	1.82E+08
N-NITROSODIPHENYLAMINE	86-30-6								7.84E+06	1.82E+08
N-NITROSOMETHYLETHYLAMINE	10595-95-6								7.80E+02 (b)	
N-NITROSOMORPHOLINE	59-89-2									
N-NITROSOPIPERIDINE	100-75-4	PIPERIDINE		1.17E+08		1.49E+07		4.12E+09		3.21E+05
N-NITROSOPYRROLIDINE	930-55-2								8.20E+03 (b)	
O-TOLUIDINE	95-53-4	P-TOLUIDINE	1.52E+06		2.60E+05		1.27E+08		4.34E+05	
P-DIMETHYLAMINOAZOBENZENE	60-11-7	AZOBENZENE	3.22E+07		2.14E+06		1.27E+08		6.57E+05	
PENTACHLOROBENZENE	608-93-5									9.30E+05
PENTACHLOROETHANE	76-01-7									
PENTACHLORONITROBENZENE	82-68-8			2.23E+05		2.77E+05		1.47E+08		5.47E+06
PERCENT SOLIDS	Q1-08-2									
PHENACETIN	62-44-2									

Table F-1
Michigan DEQ Part 201 Soil - Industrial and Commercial II, III and IV (a)
Risk Based Criteria
Chemicals Not Detected
BASF Wyandotte, MI Facility

Chemical	CAS	Surrogate	Cancer SVIIC	NonCancer SVIIC	Cancer Infinte VSIC	NonCancer Infinite VSIC	Cancer PSIC	NonCancer PSIC	Cancer DCC	NonCancer DCC
PRONAMIDE	23950-58-5									4.60E+07 (b)
PROPIONITRILE	107-12-0	CYANIDE						1.47E+09		2.50E+05
PYRIDINE	110-86-1			1.96E+03		9.83E+03		1.03E+08		7.29E+05
SAFROLE	94-59-7									
TETRACHLOROETHENE	127-18-4		6.04E+04		6.00E+05		6.76E+09		9.34E+05	7.29E+06
Total Carcinogenic PAHs	Total cPAHs									
Total HMW PAHs	tal HMW PAI									
Total LMW PAHs	tal LMW PAI									
Total PAHs	Total PAHs									
TOXAPHENE	8001-35-2		3.09E+08		4.75E+06		1.23E+07		8.49E+04	
TRANS-1,3-DICHLOROPROPENE	10061-02-6	1,3-DICHLOROPROPENE	5.42E+03	6.50E+03	6.02E+04	7.22E+04	9.81E+08	5.88E+08	2.43E+05	2.48E+07
TRANS-1,4-DICHLORO-2-BUTENE	110-57-6								1.80E+02 (b)	
TRICHLOROETHENE	79-01-6		3.74E+04		2.66E+05		2.31E+09		2.43E+06	
TRICHLOROFLUOROMETHANE	75-69-4			5.15E+06		1.10E+08		1.65E+12		2.55E+08
VINYL ACETATE	108-05-4			1.46E+06		2.00E+06		5.88E+09		6.41E+07
VINYL CHLORIDE	75-01-4			1.86E+04		1.89E+05		2.94E+09		2.19E+06

Table F-1
Michigan DEQ Part 201 Soil - Industrial and Commercial II, III and IV (a)
Risk Based Criteria
Chemicals Not Detected
BASF Wyandotte, MI Facility

Chemical	CAS	Surrogate	Cancer SVIIC	NonCancer SVIIC	Cancer Infinte VSIC	NonCancer Infinite VSIC	Cancer PSIC	NonCancer PSIC	Cancer DCC	NonCancer DCC

Notes:

All expressed in units of ug/kg
CAS - Chemical Abstract Service.
SVIIC - Soil Volatilization to Indoor Air Inhalation Criteria
VSIC - Infinite Source Volatilization Inhalation Criteria (Ambient Air)
PSIC - Particulate Soil Inhalation Criteria (Ambient Air)
DCC - Direct Contact Criteria
(a) MDEQ. Part 201Generic Cleanup Criteria. Dec. 2002)
(b) EPA Region 9 Industrial Soil PRG (Oct. 2004) used due to lack of Part 201 criteria. PRGs for carcinogens multiplied by 10 to equal 1X10(-5) risk level.

Table F-2
Michigan DEQ Part 201 Soil (a)
Non-Risk Based Criteria
Chemicals Not Detected
BASF Wyandotte, MI Facility

Chemical	CAS	Surrogate	Soil Saturation Screening Level	State Default Background	GSI Protection	Groundwater Contact Protection	Industrial/Commercial Drinking Water Protection
1,1,1,2-TETRACHLOROETHANE	630-20-6		4.40E+05			4.40E+05	6.40E+03
1,1,2,2-TETRACHLOROETHANE	79-34-5		8.70E+05		1.60E+03	9.40E+04	7.00E+02
1,1,2-TRICHLOROETHANE	79-00-5		9.20E+05		6.60E+03	4.20E+05	1.00E+02
1,1-DICHLOROETHENE	75-35-4		5.70E+05		1.30E+03	2.20E+05	1.40E+02
1,2,4,5-TETRACHLOROBENZENE	95-94-3				3.40E+03	1.50E+06	1.50E+06
1,2,4-TRICHLOROBENZENE	120-82-1		1.10E+06		1.80E+03	1.10E+06	4.20E+03
1,2-DIBROMO-3-CHLOROPROPANE	96-12-8		1.20E+03			1.20E+03	1.00E+01
1,2-DIBROMOETHANE (EDB)	106-93-4		8.90E+05		2.00E+01	5.00E+02	2.00E+01
1,2-DICHLOROETHANE	107-06-2		1.20E+06		7.20E+03	3.80E+05	1.00E+02
1,2-DICHLOROETHENE (TOTAL)	540-59-0	CIS-1,2-DICHLOROETHENE	6.40E+05		1.20E+04	6.40E+05	1.40E+03
1,3-DICHLOROBENZENE	541-73-1		1.70E+05		1.10E+03	5.10E+04	4.80E+02
1,3-DINITROBENZENE	99-65-0	1,3-DICHLOROBENZENE	1.70E+05		1.10E+03	5.10E+04	4.80E+02
1,4-DICHLOROBENZENE	106-46-7				2.90E+02	1.40E+05	1.70E+03
1,4-DIOXANE	123-91-1		9.70E+07		5.60E+04	3.40E+07	7.00E+03
1,4-NAPHTHOQUINONE	130-15-4						
1-NAPHTHYLAMINE	134-32-7						
2,3,4,6-TETRACHLOROPHENOL	58-90-2						
2,4,5-T	93-76-5	SILVEX (2,4,5-TP)					
2,4,5-TP (SILVEX)	93-72-1				2.20E+03	3.10E+06	3.60E+03
2,4,5-TRICHLOROPHENOL	95-95-4					9.10E+06	1.10E+05
2,4,6-TRICHLOROPHENOL	88-06-2					2.00E+05	9.40E+03
2,4-D	94-75-7				4.40E+03	2.40E+06	1.40E+03
2,4-DICHLOROPHENOL	120-83-2		1.80E+06		3.80E+02	9.60E+05	4.20E+03
2,4-DINITROPHENOL	51-28-5	2,4-DICHLOROPHENOL	1.80E+06		3.80E+02	9.60E+05	4.20E+03
2,4-DINITROTOLUENE	121-14-2					1.70E+05	6.40E+02
2,6-DICHLOROPHENOL	87-65-0	2,4-DICHLOROPHENOL	1.80E+06		3.80E+02	9.60E+05	4.20E+03
2,6-DINITROTOLUENE	606-20-2	2,4-DINITROTOLUENE				1.70E+05	6.40E+02
2-ACETYLAMINOFLUORENE	53-96-3						
2-CHLORO-1,3-BUTADIENE	126-99-8						
2-CHLORONAPHTHALENE	91-58-7					2.30E+06	1.80E+06
2-CHLOROPHENOL	95-57-8		1.90E+07		4.40E+02	1.90E+06	2.60E+03
2-HEXANONE	591-78-6		2.50E+06			2.50E+06	5.80E+04
2-NAPHTHYLAMINE	91-59-8						

Table F-2
Michigan DEQ Part 201 Soil (a)
Non-Risk Based Criteria
Chemicals Not Detected
BASF Wyandotte, MI Facility

Chemical	CAS	Surrogate	Soil Saturation Screening Level	State Default Background	GSI Protection	Groundwater Contact Protection	Industrial/Commercial Drinking Water Protection
2-NITROANILINE	88-74-4						
2-NITROPHENOL	88-75-5					1.60E+06	1.20E+03
2-PICOLINE	109-06-8	PYRIDINE	3.70E+04			3.70E+04	4.20E+02
3,3'-DICHLOROBENZIDINE	91-94-1				2.00E+03	4.60E+03	2.00E+03
3,3'-DIMETHYLBENZIDINE	119-93-7						
3-CHLOROPROPENE	107-05-1	1,3-DICHLOROPROPENE	6.20E+05			1.10E+05	7.00E+02
3-METHYLCHOLANTHRENE	56-49-5						
3-NITROANILINE	99-09-2						
4,4'-DDD	72-54-8						
4,6-DINITRO-2-METHYLPHENOL	534-52-1					1.90E+05	8.30E+02
4-AMINOBIPHENYL	92-67-1						
4-BROMOPHENYL PHENYL ETHER	101-55-3	DECABROMODIPHENYLETHER				1.40E+05	1.40E+05
4-CHLORO-3-METHYLPHENOL	59-50-7				2.80E+02	3.00E+06	1.60E+04
4-CHLOROANILINE	106-47-8						
4-CHLOROPHENYL PHENYL ETHER	7005-72-3	DECABROMODIPHENYLETHER				1.40E+05	1.40E+05
4-METHYL-2-PENTANONE (MIBK)	108-10-1		2.70E+06			2.70E+06	1.00E+05
4-NITROANILINE	100-01-6						
4-NITROPHENOL	100-02-7	2-NITROPHENOL				1.60E+06	1.20E+03
4-NITROQUINOLINE-1-OXIDE	56-57-5						
5-NITRO-O-TOLUIDINE	99-55-8	P-TOLUIDINE	1.20E+06			4.80E+05	1.20E+03
7,12-DIMETHYLBENZ(A)ANTHRACENE	57-97-6	BENZO(A)ANTHRACENE					
A,A-DIMETHYLPHENETHYLAMINE	122-09-8						
ACETONITRILE	75-05-8		2.20E+07			2.20E+07	8.00E+03
ACROLEIN	107-02-8		2.30E+07			2.30E+07	6.60E+03
ACRYLONITRILE	107-13-1		8.30E+06		1.00E+02	2.80E+05	2.20E+02
ALDRIN	309-00-2						
ALPHA-BHC	319-84-6					2.50E+03	7.10E+01
ANILINE	62-53-3		4.50E+06		3.30E+02	2.80E+06	4.40E+03
AROCLOR 1016	12674-11-2	PCB					
AROCLOR 1221	11104-28-2	PCB					
AROCLOR 1232	11141-16-5	PCB					
AROCLOR 1242	53469-21-9	PCB					
BAP-TE	BAP-TE						

Table F-2
Michigan DEQ Part 201 Soil (a)
Non-Risk Based Criteria
Chemicals Not Detected
BASF Wyandotte, MI Facility

Chemical	CAS	Surrogate	Soil Saturation Screening Level	State Default Background	GSI Protection	Groundwater Contact Protection	Industrial/Commercial Drinking Water Protection
BETA-BHC	319-85-7					5.10E+03	1.50E+02
BIS(2-CHLOROETHOXY)METHANE	111-91-1						
BROMODICHLOROMETHANE	75-27-4		1.50E+06			2.80E+05	1.60E+03
BROMOFORM	75-25-2		8.70E+05			8.70E+05	1.60E+03
BROMOMETHANE	74-83-9		2.20E+06		7.00E+02	1.40E+06	5.80E+02
CARBON TETRACHLORIDE	56-23-5		3.90E+05		9.00E+02	9.20E+04	1.00E+02
CHLORDANE	57-74-9						
CHLOROBENZILATE	510-15-6						
CHLORODIBROMOMETHANE	124-48-1		6.10E+05			3.60E+05	1.60E+03
CHLOROETHANE	75-00-3		9.50E+05			9.50E+05	3.40E+04
CHLOROMETHANE	74-87-3		1.10E+06			1.10E+06	2.20E+04
CIS-1,2-DICHLOROETHENE	156-59-2		6.40E+05		1.20E+04	6.40E+05	1.40E+03
CIS-1,3-DICHLOROPROPENE	10061-01-5	1,3-DICHLOROPROPENE	6.20E+05			1.10E+05	7.00E+02
DELTA-BHC	319-86-8	ALPHA BHC				2.50E+03	7.10E+01
DIALLATE	2303-16-4						
DIBROMOMETHANE	74-95-3		2.00E+06			2.00E+06	4.60E+03
DICHLORODIFLUOROMETHANE	75-71-8		1.00E+06			1.00E+06	2.70E+05
DIELDRIN	60-57-1						
DIMETHOATE	60-51-5						
DIMETHYL PHTHALATE	131-11-3		7.90E+05			7.90E+05	7.90E+05
DI-N-BUTYL PHTHALATE	84-74-2		7.60E+05		1.10E+04	7.60E+05	7.60E+05
DINOSEB	88-85-7		1.40E+05		2.00E+02	1.40E+05	3.00E+02
DIPHENYLAMINE	122-39-4						
ENDOSULFAN I	959-98-8	ENDOSULFAN					
ENDOSULFAN II	33213-65-9	ENDOSULFAN					
ENDOSULFAN SULFATE	1031-07-8	ENDOSULFAN					
ENDRIN	72-20-8						
ENDRIN ALDEHYDE	7421-93-4	ENDRIN					
ETHYL METHACRYLATE	97-63-2						
ETHYL METHANESULFONATE	62-50-0						
GAMMA-BHC (LINDANE)	58-89-9				2.00E+01	7.10E+03	2.00E+01
GAMMA-CHLORDANE	5103-74-2	CHLORDANE					
HEPTACHLOR	76-44-8						

Table F-2
Michigan DEQ Part 201 Soil (a)
Non-Risk Based Criteria
Chemicals Not Detected
BASF Wyandotte, MI Facility

Chemical	CAS	Surrogate	Soil Saturation Screening Level	State Default Background	GSI Protection	Groundwater Contact Protection	Industrial/Commercial Drinking Water Protection
HEPTACHLOR EPOXIDE	1024-57-3						
HEXACHLOROBENZENE	118-74-1				3.50E+02	8.20E+03	1.80E+03
HEXACHLOROBUTADIENE	87-68-3		3.50E+05		9.10E+01	3.50E+05	7.20E+04
HEXACHLOROCYCLOPENTADIENE	77-47-4		7.20E+05			7.20E+05	3.20E+05
HEXACHLOROETHANE	67-72-1				1.80E+03	1.10E+05	1.20E+03
HEXACHLOROPROPENE	1888-71-7	1,3-DICHLOROPROPENE	6.20E+05			1.10E+05	7.00E+02
IODOMETHANE	74-88-4						
ISODRIN	465-73-6	ALDRIN					
ISOPHORONE	78-59-1		2.40E+06		1.10E+04	2.40E+06	6.20E+04
ISOSAFROLE	120-58-1						
KEPONE	143-50-0						
M & P CRESOLS	MPCRESOL	METHYLPHENOLS			1.40E+03	1.60E+07	2.00E+04
METHACRYLONITRILE	126-98-7						
METHOXYCHLOR	72-43-5					1.80E+04	1.60E+04
METHYL METHACRYLATE	80-62-6						
METHYL METHANESULFONATE	66-27-3						
NITROBENZENE	98-95-3		4.90E+05		3.60E+03	2.20E+05	3.30E+02
N-NITROSODIETHYLAMINE	55-18-5						
N-NITROSODIMETHYLAMINE	62-75-9						
N-NITROSODI-N-BUTYLAMINE	924-16-3						
N-NITROSODI-N-PROPYLAMINE	621-64-7		1.50E+06			7.20E+03	3.30E+02
N-NITROSODIPHENYLAMINE	86-30-6					7.00E+05	2.20E+04
N-NITROSOMETHYLETHYLAMINE	10595-95-6						
N-NITROSOMORPHOLINE	59-89-2						
N-NITROSOPIPERIDINE	100-75-4	PIPERIDINE	1.20E+08			6.80E+05	1.80E+02
N-NITROSOPYRROLIDINE	930-55-2						
O-TOLUIDINE	95-53-4	P-TOLUIDINE	1.20E+06			4.80E+05	1.20E+03
P-DIMETHYLAMINOAZOBENZENE	60-11-7	AZOBENZENE				3.00E+05	1.70E+04
PENTACHLOROBENZENE	608-93-5		1.90E+05		9.50E+03	1.90E+05	8.10E+04
PENTACHLOROETHANE	76-01-7						
PENTACHLORONITROBENZENE	82-68-8					3.70E+04	3.70E+04
PERCENT SOLIDS	Q1-08-2						
PHENACETIN	62-44-2						

Table F-2
Michigan DEQ Part 201 Soil (a)
Non-Risk Based Criteria
Chemicals Not Detected
BASF Wyandotte, MI Facility

Chemical	CAS	Surrogate	Soil Saturation Screening Level	State Default Background	GSI Protection	Groundwater Contact Protection	Industrial/Commercial Drinking Water Protection
PRONAMIDE	23950-58-5						
PROPIONITRILE	107-12-0	CYANIDE		3.90E+02	2.00E+02	2.50E+05	4.00E+03
PYRIDINE	110-86-1		3.70E+04			3.70E+04	4.20E+02
SAFROLE	94-59-7						
TETRACHLOROETHENE	127-18-4		8.80E+04		9.00E+02	8.80E+04	1.00E+02
Total Carcinogenic PAHs	Total cPAHs						
Total HMW PAHs	tal HMW PAI						
Total LMW PAHs	tal LMW PAI						
Total PAHs	Total PAHs						
TOXAPHENE	8001-35-2				8.60E+02	3.60E+05	2.40E+04
TRANS-1,3-DICHLOROPROPENE	10061-02-6	1,3-DICHLOROPROPENE	6.20E+05			1.10E+05	7.00E+02
TRANS-1,4-DICHLORO-2-BUTENE	110-57-6						
TRICHLOROETHENE	79-01-6		5.00E+05		4.00E+03	4.40E+05	1.00E+02
TRICHLOROFLUOROMETHANE	75-69-4		5.60E+05			5.60E+05	1.50E+05
VINYL ACETATE	108-05-4		2.40E+06			2.40E+06	3.60E+04
VINYL CHLORIDE	75-01-4		4.90E+05		3.00E+02	2.00E+04	4.00E+01

Notes:

All expressed in units of ug/kg.
CAS - Chemical Abstract Service.
GSI - Groundwater Surface Water Interface.
(a) MDEQ. Part 201 Generic Cleanup Criteria, Dec. 2002.

Table F-3
Michigan DEQ Part 201 Groundwater Criteria (a)
Chemicals Not Detected
BASF Wyandotte, MI Facility

Chemical	CAS	Surrogate	Industrial Cancer GVIIC	Industrial NonCancer GVIIC	Cancer GCC	NonCancer GCC	Industrial Cancer DWC	Industrial NonCancer DWC	Water Solubility	GSI
1,1,1,2-TETRACHLOROETHANE	630-20-6		9.61E+04		2.98E+04	8.75E+05	3.16E+02	1.86E+03	1.10E+06	
1,1,2,2-TETRACHLOROETHANE	79-34-5		7.73E+04		4.75E+03		3.48E+01		2.97E+06	7.80E+01
1,1,2-TRICHLORO-1,2,2-TRIFLUOROET	76-13-1			3.73E+06		1.35E+08		5.63E+05	1.70E+05	3.20E+01
1,1,2-TRICHLOROETHANE	79-00-5		1.09E+05		2.11E+04	7.14E+04	1.20E+02	8.13E+01	4.42E+06	3.30E+02
1,2,3-TRICHLOROPROPANE	96-18-4					8.42E+04		1.19E+02	1.90E+06	
1,2,4,5-TETRACHLOROBENZENE	95-94-3					2.04E+05		7.09E+03	1.30E+03	2.90E+00
1,2,4-TRICHLOROBENZENE	120-82-1			8.58E+06		1.92E+04		3.13E+02	3.00E+05	3.00E+01
1,2-DIBROMO-3-CHLOROPROPANE	96-12-8			2.29E+04	3.93E+02		2.90E+00		1.23E+03	
1,2-DIBROMOETHANE (EDB)	106-93-4		1.52E+04		2.54E+01		6.10E-02		4.20E+06	2.00E-01
1,2-DIPHENYLHYDRAZINE	122-66-7						8.40E-01 (b)			
1,3,5-TRINITROBENZENE	99-35-4	1,2,4-TRICHLOROBENZENE		8.58E+06		1.92E+04		3.13E+02	3.00E+05	3.00E+01
1,3-DICHLOROBENZENE	541-73-1					1.98E+03		1.88E+01	1.11E+05	3.80E+01
1,3-DINITROBENZENE	99-65-0	1,3-DICHLOROBENZENE				1.98E+03		1.88E+01	1.11E+05	3.80E+01
1,4-DICHLOROBENZENE	106-46-7		1.03E+05		6.39E+03		2.67E+02		7.38E+04	1.30E+01
1,4-NAPHTHOQUINONE	130-15-4									
1-NAPHTHYLAMINE	134-32-7									
2,3,4,6-TETRACHLOROPHENOL	58-90-2							1.10E+03 (b)		
2,4,5-T	93-76-5	SILVEX (2,4,5-TP)				4.33E+04		1.56E+02	1.40E+05	3.00E+01
2,4,5-TRICHLOROPHENOL	95-95-4			1.44E+09		1.68E+05		2.09E+03	1.20E+06	
2,4,6-TRICHLOROPHENOL	88-06-2		5.00E+07		1.03E+04		4.70E+02		8.00E+05	4.40E+00
2,4-D	94-75-7			3.96E+08		1.24E+05		2.09E+02	6.80E+05	2.20E+02
2,4-DICHLOROPHENOL	120-83-2			4.29E+08		4.76E+04		2.09E+02	4.50E+06	1.90E+01
2,4-DINITROPHENOL	51-28-5	2,4-DICHLOROPHENOL		4.29E+08		4.76E+04		2.09E+02	4.50E+06	1.90E+01
2,4-DINITROTOLUENE	121-14-2		1.26E+07	7.59E+07	8.56E+03	5.65E+04	3.16E+01	4.17E+01	2.70E+05	
2,6-DINITROTOLUENE	606-20-2	2,4-DINITROTOLUENE	1.26E+07	7.59E+07	8.56E+03	5.65E+04	3.16E+01	4.17E+01	2.70E+05	
2-ACETYLAMINOFLUORENE	53-96-3									
2-CHLORO-1,3-BUTADIENE	126-99-8							1.40E+01 (b)		
2-CHLORONAPHTHALENE	91-58-7					2.46E+05		5.21E+03	6.74E+03	
2-CHLOROPHENOL	95-57-8					9.38E+04		1.29E+02	2.20E+07	2.20E+01
2-NAPHTHYLAMINE	91-59-8									
2-NITROANILINE	88-74-4							1.10E+02 (b)		
2-NITROPHENOL	88-75-5					7.87E+04		5.84E+01	2.50E+06	
3,3'-DICHLOROBENZIDINE	91-94-1		6.15E+06		1.83E+02		4.35E+00		3.11E+03	3.00E-01

Table F-3
Michigan DEQ Part 201 Groundwater Criteria (a)
Chemicals Not Detected
BASF Wyandotte, MI Facility

Chemical	CAS	Surrogate	Industrial Cancer GVIIC	Industrial NonCancer GVIIC	Cancer GCC	NonCancer GCC	Industrial Cancer DWC	Industrial NonCancer DWC	Water Solubility	GSI
3,3'-DIMETHYLBENZIDINE	119-93-7						2.90E-01 (b)			
3-CHLOROPROPENE	107-05-1	1,3-DICHLOROPROPENE	2.60E+04	3.12E+04	5.47E+03	5.58E+05	3.48E+01	7.09E+02	2.80E+06	
3-METHYLCHOLANTHRENE	56-49-5									
3-NITROANILINE	99-09-2						3.20E+01 (b)			
4,4'-DDD	72-54-8		4.26E+06		4.40E+01	3.73E+02	3.70E+01	6.26E+01	9.00E+01	
4,4'-DDE	72-55-9		6.34E+05		2.68E+01	1.13E+02	1.74E+01	1.46E+01	1.20E+02	
4,4'-DDT	50-29-3		1.56E+06		1.33E+01	3.99E+01	1.74E+01	1.04E+01	2.50E+01	2.00E-02
4,6-DINITRO-2-METHYLPHENOL	534-52-1					9.48E+03		7.30E+00	2.00E+05	
4-AMINOBIPHENYL	92-67-1									
4-BROMOPHENYL PHENYL ETHER	101-55-3	DECABROMODIPHENYL ETHER	8.04E+07	1.69E+07		2.88E+05		2.09E+02	3.00E+01	
4-CHLORO-3-METHYLPHENOL	59-50-7					7.89E+04		4.17E+02	3.90E+06	7.40E+00
4-CHLOROANILINE	106-47-8							1.50E+02 (b)		
4-CHLOROPHENYL PHENYL ETHER	7005-72-3	DECABROMODIPHENYL ETHER	8.04E+07	1.69E+07		2.88E+05		2.09E+02	3.00E+01	
4-NITROANILINE	100-01-6						3.20E+01 (b)			
4-NITROPHENOL	100-02-7	2-NITROPHENOL				7.87E+04		5.84E+01	2.50E+06	
4-NITROQUINOLINE-1-OXIDE	56-57-5									
5-NITRO-O-TOLUIDINE	99-55-8	P-TOLUIDINE	6.29E+06		2.40E+04		6.21E+01		7.60E+06	
7,12-DIMETHYLBENZ(A)ANTHRACENE	57-97-6	BENZO(A)ANTHRACENE			1.04E+01		8.48E+00		9.40E+00	
A,A-DIMETHYLPHENETHYLAMINE	122-09-8							3.60E+01 (b)		
ACENAPHTHYLENE	208-96-8			5.77E+05		1.38E+04		1.48E+02	3.93E+03	
ACETONITRILE	75-05-8			4.52E+07		5.63E+06		3.96E+02	2.00E+08	
ACROLEIN	107-02-8			4.19E+03		3.37E+06		3.34E+02	2.10E+08	
ACRYLONITRILE	107-13-1		1.92E+05	3.91E+05	1.37E+04		1.05E+01		7.50E+07	4.90E+00
ALDRIN	309-00-2		2.44E+03		3.43E-01	2.24E+00	4.00E-01	5.21E-01	1.80E+02	1.00E-02
ALPHA-BHC	319-84-6		6.27E+04		5.96E+01		1.74E+00		2.00E+03	
ALPHA-CHLORDANE	5103-71-9	CHLORDANE	3.15E+05	3.31E+05	1.50E+01	2.37E+02	9.93E+00	3.13E+01	5.60E+01	
ANILINE	62-53-3			7.57E+06	1.39E+05		2.17E+02		3.60E+07	4.00E+00
ANTHRACENE	120-12-7			3.24E+08		5.44E+05		2.09E+04	4.34E+01	
AROCLOR 1016	12674-11-2	PCBs	6.08E+03		3.31E+00	3.97E+00	1.74E+00	4.17E-01	4.47E+01	2.00E-01
AROCLOR 1221	11104-28-2	PCBs	6.08E+03		3.31E+00	3.97E+00	1.74E+00	4.17E-01	4.47E+01	2.00E-01
AROCLOR 1232	11141-16-5	PCBs	6.08E+03		3.31E+00	3.97E+00	1.74E+00	4.17E-01	4.47E+01	2.00E-01
AROCLOR 1242	53469-21-9	PCBs	6.08E+03		3.31E+00	3.97E+00	1.74E+00	4.17E-01	4.47E+01	2.00E-01
AROCLOR 1248	12672-29-6	PCBs	6.08E+03		3.31E+00	3.97E+00	1.74E+00	4.17E-01	4.47E+01	2.00E-01

Table F-3
Michigan DEQ Part 201 Groundwater Criteria (a)
Chemicals Not Detected
BASF Wyandotte, MI Facility

Chemical	CAS	Surrogate	Industrial Cancer GVIIC	Industrial NonCancer GVIIC	Cancer GCC	NonCancer GCC	Industrial Cancer DWC	Industrial NonCancer DWC	Water Solubility	GSI
AROCLOR 1254	11097-69-1	PCBs	6.08E+03		3.31E+00	3.97E+00	1.74E+00	4.17E-01	4.47E+01	2.00E-01
AROCLOR 1260	11096-82-5	PCBs	6.08E+03		3.31E+00	3.97E+00	1.74E+00	4.17E-01	4.47E+01	2.00E-01
BENZO(A)PYRENE	50-32-8		4.34E+05		6.42E-01		8.48E-01		1.62E+00	
BENZO(B & K)FLUORANTHENES	BENZOBK	BENZO(B)FLUORANTHENE			5.59E+00		8.48E+00		1.50E+00	
BENZO(B)FLUORANTHENE	205-99-2				5.59E+00		8.48E+00		1.50E+00	
BENZO(GHI)PERYLENE	191-24-2			4.25E+08		2.64E+02		1.48E+02	2.60E-01	
BENZO(K)FLUORANTHENE	207-08-9				5.59E+01		8.48E+01		8.00E-01	
BENZOIC ACID	65-85-0					9.84E+07		9.18E+04	3.50E+06	
BENZYL ALCOHOL	100-51-6			1.27E+11		8.77E+07		2.92E+04	4.40E+07	
BETA-BHC	319-85-7		2.44E+06		1.21E+02		3.58E+00		2.40E+02	
BIS(2-CHLOROETHOXY)METHANE	111-91-1									
BROMOFORM	75-25-2		3.76E+06		1.36E+05	4.72E+05	5.43E+02	3.75E+02	3.10E+06	
BROMOMETHANE	74-83-9			8.95E+03		6.97E+04		2.92E+01	1.45E+07	3.50E+01
CARBAZOLE	86-74-8				7.42E+03		3.48E+02		7.48E+03	1.00E+01
CARBON TETRACHLORIDE	56-23-5		2.39E+03		4.55E+03	5.33E+03	6.32E+01	1.48E+01	7.93E+05	4.50E+01
CHLORDANE	57-74-9		3.15E+05	3.31E+05	1.50E+01	2.37E+02	9.93E+00	3.13E+01	5.60E+01	
CHLOROBENZILATE	510-15-6						2.50E+00 (b)			
CHLORODIBROMOMETHANE	124-48-1		1.12E+05		1.77E+04	5.45E+05	7.09E+01	4.38E+02	2.60E+06	
CHLOROETHANE	75-00-3			2.88E+07	4.39E+05	4.74E+08	1.74E+03	3.75E+05	5.74E+06	
CHRYSENE	218-01-9				1.04E+03		8.48E+02		1.60E+00	
CIS-1,2-DICHLOROETHENE	156-59-2			2.12E+05		1.97E+05		2.29E+02	3.50E+06	6.20E+02
CIS-1,3-DICHLOROPROPENE	10061-01-5	1,3-DICHLOROPROPENE	2.60E+04	3.12E+04	5.47E+03	5.58E+05	3.48E+01	7.09E+02	2.80E+06	
DELTA-BHC	319-86-8	ALPHA BHC					1.74E+00		2.00E+03	
DIALLATE	2303-16-4						1.10E+01 (b)			
DIBENZ(A,H)ANTHRACENE	53-70-3				3.11E-01		8.48E-01		2.49E+00	
DIBROMOMETHANE	74-95-3					5.34E+05		2.29E+02	1.10E+07	
DICHLORODIFLUOROMETHANE	75-71-8			4.87E+05		3.27E+06		4.80E+03	3.00E+05	
DIELDRIN	60-57-1		1.84E+04		2.36E+00	4.31E+01	4.35E-01	1.59E+00	1.95E+02	2.00E-02
DIMETHOATE	60-51-5							7.30E+00 (b)		
DIMETHYL PHTHALATE	131-11-3			1.20E+09		5.37E+08		2.09E+05	4.19E+06	
DI-N-BUTYL PHTHALATE	84-74-2			1.91E+09		1.13E+05		2.50E+03	1.12E+04	9.70E+00
DI-N-OCTYL PHTHALATE	117-84-0					4.00E+02		3.75E+02	3.00E+03	
DIPHENYLAMINE	122-39-4							9.10E+02 (b)		

Table F-3
Michigan DEQ Part 201 Groundwater Criteria (a)
Chemicals Not Detected
BASF Wyandotte, MI Facility

Chemical	CAS	Surrogate	Industrial Cancer GVIIC	Industrial NonCancer GVIIC	Cancer GCC	NonCancer GCC	Industrial Cancer DWC	Industrial NonCancer DWC	Water Solubility	GSI
ENDOSULFAN I	959-98-8	ENDOSULFAN				2.85E+04		1.25E+02	5.10E+02	3.00E-02
ENDOSULFAN II	33213-65-9	ENDOSULFAN				2.85E+04		1.25E+02	5.10E+02	3.00E-02
ENDOSULFAN SULFATE	1031-07-8	ENDOSULFAN				2.85E+04		1.25E+02	5.10E+02	3.00E-02
ENDRIN	72-20-8					1.55E+02		3.55E+00	2.50E+02	
ENDRIN ALDEHYDE	7421-93-4	ENDRIN				1.55E+02		3.55E+00	2.50E+02	
ETHYL METHACRYLATE	97-63-2							5.50E+02 (b)		
ETHYL METHANESULFONATE	62-50-0									
FLUORENE	86-73-7			4.60E+07		1.02E+05		2.50E+03	1.98E+03	1.20E+01
GAMMA-BHC (LINDANE)	58-89-9				1.87E+02	1.31E+03	4.90E+00	6.88E+00	6.80E+03	3.00E-02
GAMMA-CHLORDANE	5103-74-2	CHLORDANE	3.15E+05	3.31E+05	1.50E+01	2.37E+02	9.93E+00	3.13E+01	5.60E+01	
HEPTACHLOR	76-44-8		1.85E+03		2.85E+00	3.15E+02	2.17E+00	4.80E+01	1.80E+02	1.00E-02
HEPTACHLOR EPOXIDE	1024-57-3		5.04E+04		1.22E+01	9.00E+00	1.20E+00	1.77E-01	2.00E+02	
HEXACHLOROBENZENE	118-74-1		3.01E+03		4.56E+00	1.09E+02	3.48E+00	1.67E+01	6.20E+03	2.00E-01
HEXACHLOROBUTADIENE	87-68-3		1.06E+04		3.97E+02	1.24E+03	6.68E+01	4.17E+01	3.23E+03	5.00E-02
HEXACHLOROCYCLOPENTADIENE	77-47-4			4.16E+02		1.64E+03		1.25E+02	1.80E+03	
HEXACHLOROETHANE	67-72-1		6.13E+05	1.29E+05	7.26E+03	1.85E+03	4.09E+02	2.09E+01	5.00E+04	6.70E+00
HEXACHLOROPROPENE	1888-71-7	1,3-DICHLOROPROPENE	2.60E+04	3.12E+04	5.47E+03	5.58E+05	3.48E+01	7.09E+02	2.80E+06	
INDENO(1,2,3-CD)PYRENE	193-39-5				3.26E+00		8.48E+00		2.20E-02	
IODOMETHANE	74-88-4									
ISODRIN	465-73-6	ALDRIN	2.44E+03		3.43E-01	2.24E+00	4.00E-01	5.21E-01	1.80E+02	1.00E-02
ISOPHORONE	78-59-1		7.13E+08	8.09E+08	9.88E+05	4.89E+06	3.16E+03	3.13E+03	1.20E+07	5.70E+02
ISOSAFROLE	120-58-1									
KEPONE	143-50-0						8.40E-02 (b)			
M & P CRESOLS	MPCRESOL	METHYLPHENOLS		1.05E+09		8.13E+05		1.04E+03	2.80E+07	7.10E+01
METHACRYLONITRILE	126-98-7									
METHAPYRILENE	91-80-5									
METHOXYCHLOR	72-43-5					3.53E+03		1.04E+02	4.50E+01	
METHYL ACETATE	79-20-9							6.10E+03 (b)		
METHYL METHACRYLATE	80-62-6							1.40E+03 (b)		
METHYL METHANESULFONATE	66-27-3									
METHYL TERT-BUTYL ETHER	1634-04-4			1.10E+08	6.13E+05	2.06E+06	1.02E+03	6.88E+02	4.68E+07	7.30E+02
NITROBENZENE	98-95-3		2.60E+06	5.46E+05		1.07E+04		9.59E+00	2.09E+06	1.80E+02
N-NITROSODIETHYLAMINE	55-18-5						4.50E-03 (b)			

Table F-3
Michigan DEQ Part 201 Groundwater Criteria (a)
Chemicals Not Detected
BASF Wyandotte, MI Facility

Chemical	CAS	Surrogate	Industrial Cancer GVIIC	Industrial NonCancer GVIIC	Cancer GCC	NonCancer GCC	Industrial Cancer DWC	Industrial NonCancer DWC	Water Solubility	GSI
N-NITROSODIMETHYLAMINE	62-75-9						1.30E-02 (b)			
N-NITROSODI-N-BUTYLAMINE	924-16-3						2.00E-02 (b)			
N-NITROSODI-N-PROPYLAMINE	621-64-7		2.58E+05		3.59E+02	1.21E+07	7.72E-01	5.21E+03	9.89E+06	
N-NITROSODIPHENYLAMINE	86-30-6				5.68E+04	1.32E+06	1.12E+03	5.21E+03	3.51E+04	
N-NITROSOMETHYLETHYLAMINE	10595-95-6						3.10E-02 (b)			
N-NITROSOMORPHOLINE	59-89-2									
N-NITROSOPIPERIDINE	100-75-4	PIPERIDINE		5.58E+08		3.36E+04		9.18E+00	1.00E+09	
N-NITROSOPYRROLIDINE	930-55-2						3.20E-01 (b)			
O-TOLUIDINE	95-53-4	P-TOLUIDINE	6.29E+06		2.40E+04		6.21E+01		7.60E+06	
PARATHION	56-38-2	METHYL PARATHION				3.00E+03		5.21E+00	5.00E+04	
P-DIMETHYLAMINOAZOBENZENE	60-11-7	AZOBENZENE	2.91E+06		1.55E+03		9.40E+01		6.40E+03	
PENTACHLOROBENZENE	608-93-5					2.40E+02		1.73E+01	6.50E+02	5.00E+00
PENTACHLOROETHANE	76-01-7									
PENTACHLORONITROBENZENE	82-68-8			4.40E+03		7.55E+03		1.56E+02	3.20E+01	
PENTACHLOROPHENOL	87-86-5		1.06E+08	4.75E+09	2.04E+02	1.25E+04	5.11E+01	6.26E+02	1.85E+06	1.80E+00
PHENACETIN	62-44-2									
P-PHENYLENEDIAMINE	106-50-3							6.90E+03 (b)		
PRONAMIDE	23950-58-5							2.70E+03 (b)		
PROPIONITRILE	107-12-0	CYANIDE								5.20E+00
PROPYLENE GLYCOL	57-55-6			2.22E+11		2.10E+10		4.17E+05	1.00E+09	2.90E+05
SAFROLE	94-59-7									
TIN	7440-31-5							2.20E+04 (b)		
TOXAPHENE	8001-35-2		6.32E+05		4.35E+01		7.90E+00		7.40E+02	1.00E+00
TRANS-1,2-DICHLOROETHENE	156-60-5			1.96E+05		2.22E+05		3.55E+02	6.30E+06	1.50E+03
TRANS-1,3-DICHLOROPROPENE	10061-02-6	1,3-DICHLOROPROPENE	2.60E+04	3.12E+04	5.47E+03	5.58E+05	3.48E+01	7.09E+02	2.80E+06	
TRANS-1,4-DICHLORO-2-BUTENE	110-57-6	1,4-DICHLORO-2-BUTENE					1.20E-02 (b)			
TRICHLOROFLUOROMETHANE	75-69-4			1.08E+07		3.17E+06		7.30E+03	1.10E+06	
VINYL ACETATE	108-05-4			8.92E+06		8.04E+06		1.84E+03	2.00E+07	
XYLENES	1330-20-7			1.79E+07		5.36E+06		3.75E+04	1.86E+05	3.50E+01

Table F-3
Michigan DEQ Part 201 Groundwater Criteria (a)
Chemicals Not Detected
BASF Wyandotte, MI Facility

Chemical	CAS	Surrogate	Industrial Cancer GVIIC	Industrial NonCancer GVIIC	Cancer GCC	NonCancer GCC	Industrial Cancer DWC	Industrial NonCancer DWC	Water Solubility	GSI

Notes:

All expressed in units of ug/L.
CAS - Chemical Abstract Service.
GVIIC - Groundwater Volatilization to Indoor Air Inhalation Criteria.
GCC - Groundwater Contact Criteria.
DWC - Drinking Water Criteria.
GSI - Groundwater Surface Water Interface.
(a) MDEQ. Part 201 Generic Cleanup Criteria, Dec. 2002.
(b) EPA Region 9 Industrial Tap Water PRG (Oct. 2004) used due to lack of Part 201 criteria. PRGs for carcinogens multiplied by 10 to equal 1X10(-5) risk level.

BASF Corporation
Wyandotte, Michigan

Risk Screening Work Plan for Wyandotte, Michigan Site

ENSR Corporation
December 2004
Document Number 00760-127-610

ENSR INTERNATIONAL

Letter of Transmittal

ATTENTION:

Mr. Juan Thomas
Project Manager
United States Environmental Protection Agency
Region V (DE-9J)
77 West Jackson Street
Chicago, Illinois 60604

DATE:

12/17/2004

PROJECT REFERENCE:

BASF – Wyandotte, MI Facility

PROJECT NUMBER:

00760-127-610

WE ARE SENDING YOU THE FOLLOWING:

Number of Originals	Number of Copies	Description
	3	Risk Screening Work Plan for Wyandotte, Michigan Site

REMARKS:

Three copies of the Risk Screening Work Plan for the BASF Wyandotte, MI facility are included herein. The work plan has been revised to include Figure 1 Site Plan. Please call me 630-836-1700 if you have any questions.

SIGNATURE:

Timothy Adams, PG
Program Manager

cc: B. Roberts - BASF
B. Ruffle - ENSR

27755 Diehl Road
Warrenville, Illinois 60555
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CONTENTS

1.0 INTRODUCTION I

1.1 Risk Screening Approach 1-1
1.1.1 Screening Criteria 1-1
1.1.2 Screening Methodology 1-2

2.0 DATABASE AND MEDIA SCREENING 2-1

2.1 Site Database 2-1

2.2 Risk Screening for Soil 2-1

2.3 Risk Screening for Groundwater 2-2

3.0 SUMMARY REPORT 3-1

4.0 REFERENCES 4-1

LIST OF FIGURE

FIGURE 1 Site Plan

1.0 INTRODUCTION

This work plan presents the proposed approach for performing risk screening on soil and groundwater data for the BASF Wyandotte, Michigan site. The purpose of risk screening is to compare site groundwater and soil data with conservative, risk-based screening levels to determine what areas and potential constituents of interest (COI) may be candidates for no further action and what areas and potential COI may warrant further investigation, evaluation and/or corrective action. The work plan describes the screening criteria and screening methodology to be used, summarizes the site database, and describes how soil and groundwater data will be evaluated.

1.1 Risk Screening Approach

This section discusses the overall risk screening approach to be used, including a discussion of proposed criteria and screening methodology.

1.1.1 Screening Criteria

The proposed risk screening criteria are the Generic Cleanup Criteria developed under the Part 201 program by the Remediation and Redevelopment Division of the Michigan Department of Environmental Quality (MDEQ, 2002). Michigan Part 201 generic criteria have been derived for a broad range of potential soil and groundwater exposure pathways and incorporate exposure parameters representative of the state of Michigan (e.g., exposure frequency, soil temperature).

The Michigan Part 201 generic criteria are proposed for risk screening of the BASF Wyandotte data for the following reasons:

- Industrial soil and groundwater screening criteria are available, which is appropriate for the current and future use of the BASF Wyandotte site;
- Local climate has been accounted for in the derivation of the criteria (e.g., soil exposure frequency reflects local climate conditions). Specifically, the Part 201 Generic Soil Direct Contact Criteria Technical Support Document (January 5, 2001) states: "The exposure frequency for dermal contact (EFd) is 245 days per year for the residential scenario and represents outdoor soil exposure. It takes into account EPA's recommendation to consider local weather conditions (e.g., snow cover, frozen soils). It is assumed that Michigan winters last for 4 months (120 days) making soil unavailable for contact. The EFd for the industrial/commercial scenario is 160 days per year.";
- Screening criteria are available for exposure pathways potentially applicable to the BASF Wyandotte site, including ingestion and dermal contact with soil, dermal contact with

groundwater, inhalation of volatiles in ambient and indoor air, and inhalation of fugitive dust in ambient air.

- Screening criteria are available for a key potential exposure pathway at the BASF Wyandotte site, which is migration of constituents in groundwater to surface water, referred to as Groundwater Surface Water Interface Protection Criteria (or GSI criteria). The GSI criteria are protective of human health, as well as aquatic and wildlife receptors, and comply with the state Water Quality Standards.

In addition, the use of the Michigan Part 201 generic criteria is consistent with the RCRA Facility Investigation (RFI) risk screening performed for the former BASF site in Holland, Michigan (ENSR, 2003) under the oversight of U.S. EPA Region 5.

If no Part 201 criteria have been developed for a constituent detected in soil and/or groundwater, suitable constituents with Part 201 criteria will be assigned as surrogates based on structural similarity whenever possible. Other sources of surrogate criteria, including the U.S. EPA Region 9 PRGs, as well as U.S. EPA Region 5 and MDEQ toxicologists, may also be consulted if no suitable Part 201 surrogates can be identified.

1.1.2 Screening Methodology

A cumulative risk screening methodology is proposed for the BASF Wyandotte evaluation, which is also consistent with the RFI risk screening performed for the former BASF Holland site. At U.S. EPA's request, the BASF Holland risk screening was performed using a cumulative risk screening methodology, which is the approach recommended by U.S. EPA Region 9 for application of their chemical and pathway-specific Preliminary Remediation Goals (PRGs) (U.S. EPA, 2004).

A cumulative risk screen approach involves dividing the site concentration of each constituent by its Part 201 screening criterion to generate a constituent-specific ratio. The ratios are then added together to generate a cumulative risk ratio total. If the cumulative risk total is less than 1, then all constituents in the total do not need further evaluation. If the cumulative risk ratio is greater than 1, then those constituents whose ratios cause the cumulative total to exceed 1 may need further evaluation. It should be noted that certain constituents with a site concentration/screening criterion ratio of less than but approaching 1 may still require further evaluation if the cumulative risk total exceeds 1.

The reason for conducting a cumulative risk screen is to account for potential additivity of carcinogenic and noncarcinogenic effects. In other words, it is important to determine whether the total carcinogenic risk could exceed 1 x 10^{-5}, or whether the total Hazard Index could exceed 1, even if no single chemical concentration exceeds its specific criterion. [Note: target organ-specific analyses for cumulative hazard indices above 1 are typically not included in risk screening, but are a refinement for screening hazard indices above 1.] Therefore, separate screens are conducted for chemicals with carcinogenic effects and for chemicals with noncarcinogenic effects. The use of a cumulative target

risk level of 1 x 10^{-5} is consistent with both the MDEQ target risk threshold under the Part 201 Rules and the cumulative cancer risk threshold used in the BASF Holland RFI risk screening.

If a constituent has both potential carcinogenic and noncarcinogenic effects, then that constituent will be included in both the cancer and non-cancer cumulative risk screens. The Part 201 generic criteria listed on the MDEQ website (http://www.michigan.gov/deq/0,1607,7-135-3311_4109_9846-20527--,00.html) present only the more conservative of the two sets of values. In order to perform a comprehensive cumulative risk screen, both the cancer and non-cancer criteria are needed for constituents with both types of effects. Therefore, electronic files containing both the cancer and non-cancer risk-based values for each constituent and pathway provided by MDEQ will be used for the risk screening.

Some of the Part 201 criteria are not purely risk-based. Consistent with U.S. EPA Region 9 guidance (U.S. EPA, 2004), criteria that are not purely risk-based will not be evaluated on a cumulative basis. This consists of the following criteria:

- Criteria based on soil saturation limits and solubility limits;
- GSI criteria, which are based on a mix of human health, aquatic and wildlife values;
- Soil GSI criteria, which are based on 20X the groundwater GSI or the soil-water partition model); and
- Statewide Default Background Levels for Soil.

Non-risk based criteria are not based on risk equations that consider carcinogenic or noncarcinogenic effects. Therefore, it is not appropriate to include such criteria in a cumulative screen. This reason is true for the criteria listed above. For the non-risk based criteria listed above, the comparison to site-specific concentrations will be performed on a straight exceed/not exceed basis.

2.0 DATABASE AND MEDIA SCREENING

This section discusses the database developed for the BASF Wyandotte site and describes the approach to be used to screen soil and groundwater data.

2.1 Site Database

Soil and groundwater data for the BASF Wyandotte site have been compiled in a database using EQuIS that includes information on sample identification, location, depth, date, result, qualifier, etc. Soil data have been grouped in the database by SWMU/AOC for purposes of the risk screening. A total of ten SWMU/AOCs have been identified and will be included in the soil risk screening. Groundwater data are available for 70 monitoring wells (see **Figure 1**). Some wells have results from multiple sampling rounds, ranging from 1996 to December 2003. Since more recent data are considered more representative of current site conditions, more recent groundwater monitoring data will be used in the groundwater risk screening. The approach to be used for screening soil data and groundwater data is discussed in the following two sections.

2.2 Risk Screening for Soil

For the soil risk screening, the maximum detected concentration of each constituent in each SWMU/AOC will be compared to the screening criterion. Because this is a screening approach, the maximum detect will be used regardless of depth. This provides a very conservative (health-protective) means of identifying key constituents and areas of potential concern. Because the maximum detect will be used rather than an average or upper-bound concentration such as the 95 percent upper confidence limit (UCL), and because site-specific factors (e.g, lower exposure frequency, surface vs. subsurface soil exposures) are not accounted for, it is important to note that the screening results are likely to be overly conservative (i.e., more health-protective than necessary). In other words, it is highly unlikely that the evaluation will "screen out" chemicals or areas of interest that should be evaluated further. The concentration to be used in the risk screening may be revisited and refined pending the results of the risk screening based on the maximum detect.

The soil risk screening will involve comparison to six different sets of Part 201 screening criteria (potential exposure pathways), as well soil saturation limits and Michigan statewide default background levels for inorganics. If multiple sets of criteria are available for a particular pathway, as is the case with the volatilization to ambient air and direct contact pathways, the most conservative of the sets of possible criteria will be used. The Part 201 screening criteria to be included in the soil risk screening are as follows:

- Groundwater Surface Water Interface Protection Criteria
- Groundwater Contact Protection Criteria

- Soil Volatilization to Indoor Air Inhalation Criteria
- Infinite Source Volatile Soil Inhalation Criteria for Ambient Air
- Particulate Soil Inhalation Criteria for Ambient Air
- Industrial and Commercial II Direct Contact Criteria
- Soil Saturation Concentration Screening Levels
- Statewide Default Background Levels.

The Industrial and Commercial Drinking Water Protection Criteria will not be included in the risk screening, because, as discussed later, on-site groundwater is not currently used for drinking water, nor will be in the future. Therefore, this potential exposure pathway is not complete.

Each set of screening criteria will be applied to each SWMU/AOC. This is a conservative approach as not all pathways apply to every SWMU/AOC. Cumulative risk screens that evaluate both potential cancer and non-cancer effects will be performed on all sets of criteria except the Groundwater Surface Water Interface Protection Criteria (#12), Soil Saturation Concentration Screening Levels (#20), and the Statewide Default Background Levels (#10). As previously described, for these three screening criteria, comparisons will be performed on a straight exceed/not exceed basis. It should be noted that some pathway-specific screening criteria are lower than the statewide default background levels. In accordance with the Part 201 Generic Cleanup Criteria guidance (MDEQ, 2002), cleanup criteria lower than background default to background.

2.3 Risk Screening for Groundwater

For the groundwater risk screening, detected constituents in each monitoring well will be compared to the screening criterion. The maximum detected concentration from the most recent two years of monitoring data will be used as the screening concentration. The concentration to be used in the risk screening may be revisited and refined pending the results of the risk screening based on the maximum detect. The groundwater risk screening will involve comparison to four sets of screening criteria:

- Groundwater Surface Water Interface (GSI) Criteria
- Industrial and Commercial II,III, and IV Groundwater Volatilization to Indoor Air Inhalation Criteria
- Groundwater Contact Criteria (GCC)
- Water Solubility Limits

The industrial drinking water criteria will not be used to screen groundwater, because this is not a complete exposure pathway at the Wyandotte site. Drinking water at the Wyandotte site and surrounding area is provided by the Wyandotte municipal water supply system. In addition, the closest groundwater well is located approximately 3-4 miles away and is used for irrigation purposes only. The closest known drinking water wells are approximately ten miles away. An institutional control may be used to ensure that use of on-site groundwater as drinking water is prohibited.

Cumulative risk screens that evaluate both potential cancer and non-cancer effects will be performed on the volatilization to indoor air criteria and groundwater contact criteria (GCC). For the GSI criteria and the Solubility Limits, comparisons will be performed on a straight exceed/not exceed basis.

3.0 SUMMARY REPORT

The results of the risk screening will be summarized in a report that includes screening tables for each pathway and monitoring well for groundwater and SWMU/AOC for soil. The risk screening report will identify the constituents of interest (COI) for each medium and pathway. Summary statistics for the soil and groundwater data in the site database will also be presented in the risk screening report.

4.0 REFERENCES

ENSR. 2003. RCRA Facility Investigation (RFI). Former BASF Holland Facility, Holland MI. April 2003.

MDEQ. 2002. Operational Memorandum #18, Part 201 Generic Cleanup Criteria December, 2002. http://www.michigan.gov/deq/0,1607,7-135-3311_4109_9846-20527--,00.html.

U.S. EPA. 2004. Region 9 Preliminary Remediation Goals (PRGs). October, 2004. http://www.epa.gov/region09/waste/sfund/prg/index.htm.

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July [illegible], 2004

CERTIFIED MAIL - RETURN RECEIPT REQUESTED:
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Mr. Juan Thomas
Project Manager
United States Environmental Protection Agency
Region V (DE-9J)
77 West Jackson Street
Chicago, Illinois 60604

Subject: BASF Response to USEPA Risk Assessment Comments Dated May 13, 2004

Dear Mr. Thomas:

Attached is BASF's response to USEPA's risk assessment comments dated May 13, 2004.

To recap, the Preliminary Risk Assessment that was part of the RFI was done in 1997; in November 2000 USEPA and MDEQ signed a Memorandum of Understanding which established Region 5's recognition of Michigan's voluntary cleanup and property redevelopment efforts for facilities regulated under the RCRA corrective action program; on March 7, 2002 agreements were reached at USEPA-MDEQ technical meetings where USEPA agreed to work closely with MDEQ-WMD to identify and address the Part 201 standards and requirements at any Michigan facilities where USEPA has the lead role for RCRA corrective action; and USEPA believes additional risk assessment work needs to be done at North Works in light of the Part 201 standards and requirements.

BASF acknowledges the Preliminary Risk Assessment will have to be supplemented to be consistent with Part 201 and is willing conduct that work and submit it to USEPA as a stand alone document. It is clear BASF and USEPA will need to discuss and agree upon the scope of the supplemental work. What is not clear to BASF is how USEPA will involve MDEQ-WMD to ensure consistent results among RCRA corrective action facilities.

USEPA stated they have identified data gaps associated with different media that needs additional investigation prior to the submission of a baseline human health risk assessment. BASF believes that depending upon the results of the initial risk screenin conducted using Part 201 procedures, additional investigations may indeed be neede

The path forward is to agree upon the details of the supplemental work and for BA then conduct that the supplemental work. The path forward from that point is de upon the results of the supplemental work.

It is important to BASF that the program is administered consistently among corrective action facilities.

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BASF

The Chemical Company

I will contact you after you have had a chance to review our response to your May [redacted] comments.

Thank you.

Sincerely yours,

Bruce Roberts
Project Manager

Attachment

cc: Mr. Brian Diepeveen – BASF
Ms. Mona Sutherland – PES
Mr. Tim Adams – ENSR

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le RCRA

BASF

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Mr. Tim Adams – ENSR

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Mr. Juan Thomas
Project Manager
United States Environmental Protection Agency
Region V (DE-9J)
77 West Jackson Street
Chicago, Illinois 60604

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It is important to BASF that the program is administered consistently among the RCRA corrective action facilities.

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B[redacted]response to USEPA's comments received May 13, 2004

[redacted]is BASF's response to USEPA's comments received May 13, 2004 in the [redacted]ment "BASFBhoomacmmts0504.wpd" and BASF's response to the comments. [redacted] response is indented and is below each comment. The comment is in italics.

[redacted]eneral Comments

1. To the extent possible, human health risk assessments and Ecological risk assessments should be stand alone documents and not part of RFI reports.

Any future human health risk assessments and Ecological risk assessments will be stand alone documents where possible.

2. The facility acknowledges that this risk assessment report is preliminary due to the fact that additional investigative work may be required at one or more SWMUs/AOCs. In regards to the additional investigative work (that might include complete delineation of the extent of onsite soil and ground water contamination), we have identified a number of data gaps associated with different media that needs additional investigation prior to the submission of a baseline human health risk assessment.

- *Lack of discussion of groundwater contaminants for the potential indoor vapor intrusion applicable to onsite and offsite receptors.*

- *Lack of discussion on the analytical results for surface water and sediment and the subsequent use of representative concentration in human health risk assessment.*

- *Lack of demonstration of mixing zone determination that potentially describes the groundwater discharge pathway to surface water. Deficiency in addressing other migration pathways impacting the Trenton Channel and Detroit River.*

The RFI did consider inhalation as a complete pathway, but indoor inhalation was not specifically addressed. Future risk assessment work will evaluate indoor inhalation. Offsite indoor vapor intrusion was not seen as a complete pathway. The potentiometric groundwater surface figures shown in the RFI (Figures 7-11 through Figure 7-14) do not show groundwater surface sloped toward offsite buildings.

The RFI had not planned to address surface water analytical results and this concern was not raised by USEPA when it reviewed the Draft RFI. RFI Section 7.7.1.2 does discuss sediment quality in the Trenton Channel. RFI Section 7.7.2 states that there is limited potential for sediment deposition adjacent to the facility. Because of the strong current and depth of water human contact with sediments is not expected. In 2002 the USGS and the U.S. Army Corps of Engineers used acoustic Doppler current profilers (ADCP) to survey flow velocities in Detroit River. One of the transects that crossed the channel, EC 42,

was in front of the site. The water depth closest to the site was 18.38 feet deepest water velocity measured at that location was 14.81 feet below the surface and the velocity was 2.01 feet per second. The average water velo for that entire transect was 1.79 feet per second. Another transect was made just north of the site. At that transect, the average water velocity was 1.77 feet per second. In addition, BASF does not allow boats to moor to the sheet pile w or rip rap.

A mixing zone determination that potentially describes the groundwater discharge pathway to surface water is shown in RFI Appendix F on page F-8. There is a vegetative cover on the site, so soil erosion is not a concern. The only other migration pathway is surface runoff. Stormwater runoff is discussed in RFI Section7.6

Specific Comments

8.1 Constituents of Concern

The risk based screening process followed by BASF is not acceptable to USEPA. Based on the MOU signed between MDEQ and USEPA, the RCRA facilities in Michigan should follow the part 201 criteria for soil and groundwater screening. Rather than UCL 80 of the mean, the maximum concentration detected for each contaminant in soil and groundwater should be compared against all the relevant criteria listed in part 201.

The Final RFI was submitted to USEPA in February 1999; the MOU signed between MDEQ and USEPA is dated November 3, 2000. The RFI work predates the MOU; therefore it is not legitimate to compare what was in the RFI to what should be done based upon the MOU. BASF recognizes that additional risk based screening will most likely be necessary and BASF plans to follow the path specified by the MOU.

8.2 Exposure assessment

The conceptual exposure model as depicted in Figure A1.1 of the RCRA Corrective Measures Study Work Plan, dated March 2001, should highlight current and future receptors with respect to current and future land and groundwater use The section on migration mechanisms identifies the number of migration pathways as well as media to media contamination. Although, the offsite contamination due to groundwater migration is acknowledged. this section failed to include off-site contamination due to storm water runoff and offsite indoor vapor intrusion due to groundwater volatilization.

Future land and groundwater use is not expected to be different from current use or non-use in the case of groundwater. Figure A1.1 does show runoff to surface water as an insignificant pathway. During the RFI field work, only three small areas were found where surface runoff left the property. Almost all surface runoff is captured and discharged into the sewer system. At the time the conceptual

exposure model was done, offsite indoor vapor intrusion due to groundwater volatilization was not seen as a complete pathway.

Human health exposure pathway

Inhalation pathway for the human receptors at the facility should also include indoor and outdoor inhalation of vapor due to volatilization from groundwater.

BASF acknowledges this is a valid concern and will be addressed during upcoming risk assessment discussions with USEPA.

Recreational activity in Detroit River should also consider swimming and wading as part of activities associated with recreational use.

BASF does not consider swimming and wading as part of activities normally associated with recreational use of the Detroit River. USEPA's GLNPO Web site on the Detroit River AOC states that there is only one beach on the Michigan side (the river is 32 miles long). The strong current makes the river dangerous to swim or wade in.

8.3 Toxicity Assessment

The recent directive from office of solid waste and emergency response (OSWER) titled, human health toxicity values in superfund risk assessments outlines the revised hierarchy of toxicity values as referenced in the following web page.
http://www.epa.gov/oerrpage/superfund/programs/risk/toolthh.htm
The revised recommended toxicity value hierarchy is as follows:

Tier 1 - EPA's IRIS
Tier 2 - EPA's Provisional Peer Reviewed Toxicity Values (PPRTVs)
Tier 3 - Other toxicity values such as CAL EPA, ATSDR and HEAST toxicity values.

Therefore, EPA requests that BASF follows this hierarchy in the revised Human Health Risk Assessment.

BASF is confused by USEPA's request to use the above toxicity value hierarchy. Item 8.a. of the 2002 agreements reached between USEPA and MDEQ that supplement the 2000 MOU states "effective the date of this letter, the U.S. EPA agrees that it will seek to have all new corrective action activities initiated at Michigan facilities use and comply with the Part 201 criteria and associated requirements as part of RCRA corrective action." MDEQ has published the toxicological and chemical-physical properties used to generate the cleanup criteria in final rule R 299.5752. BASF had expected to be able to use Michigan's values. Not using Michigan's values will add cost and confusion to future work. BASF is requesting USEPA to provide its rationale for not following the 2002 agreements with MDEQ.

This section describes route-to-route extrapolation for use in the derivation of dermal toxicity criteria. A discussion should be provided herein that, in each case this methodology was employed, BASF verified the defensibility of such extrapolation and ensured that such extrapolation was not contradicted by a divergent elicited adverse effect based on the alternate route of administration.

BASF does not believe it is necessary to provide this discussion. The RFI has been accepted by USEPA and these concerns were not raised by USEPA during their review of the Draft RFI. Future work would use the toxicological values given in Michigan Rule R 299.5752 unless rationale is provided by USEPA for not using these values.

Also consider including discussion on USEPA's alpha numeric weight of evidence classification system for carcinogens referencing "Guidelines for Carcinogen Risk Assessment" (USEPA, 1999).

BASF does not believe it is necessary to provide this discussion. The RFI has been accepted by USEPA and these concerns were not raised by USEPA during their review of the Draft RFI. Using USEPA's alpha numeric weight of evidence classification system for carcinogens can be addressed during upcoming risk assessment discussions with USEPA.

- ***Preliminary Risk Characterization***

HI in Paragraph 2 should read modification factor (MF).

It is unclear where HI should read MF. HI does not appear in the second paragraph in section 8.4 Preliminary Risk Characterization.

8.4.3 Uncertainties associated with the Preliminary Risk Assessment

Please provide a qualitative evaluation of tentatively identified compounds (TICs) and their associated toxicity in the Uncertainty section of the risk assessment.

BASF does not believe it is necessary to provide this qualitative evaluation. The RFI has been accepted by USEPA and these concerns were not raised by USEPA during their review of the Draft RFI. In addition, BASF followed the USEPA approved QAPP. The only use of TICs is described in Section 1 on page 48 of 71 of the QAPP. The Final RFI discusses TICs in Section 7.3.5; many of the TICs were never identified.

Table 8.1 Summary of analytical data for COPCs

The representative data in mean and 95%UCL columns do not correlate well with minimum and maximum concentrations reported in the table. For e.g., Benzopyrene had a

minimum concentration of 120 ppb and a maximum concentration of 1600 ppb. Generally, the mean is expected to fall between these two ranges. However, in this table the mean value for benzopyrene is 3059 ppb with a 95%UCL of mean approaching 55,148 ppb. If 95% UCL represented in this table was used as an exposure point concentration in the risk calculation, the potential cancer risk for a facility worker scenario should have exceeded 1x10-3. However, this does not seem to be the case according to the summary in page 8-10 and table 8-16 which describes that the cumulative risk is within the acceptable risk range of 1E-06 to 1E-04. This discrepancy is observed consistently for the majority of chemicals listed from table 8-1 to 8-11. Based on this calculation error, USEPA at this point considers the risk characterization from different SWMU/AOC's described in this report unacceptable.

It is not specifically stated in the RFI, but when the 95%UCL exceeded the maximum detected value, the maximum value was used in the risk calculations for the RAE and RME. The RAEs and RMEs used in the risk calculations are shown in Appendix G of the RFI.

As stated in the last paragraph of RFI Section 8.1, when a constituent was not detected one half of the detection limit was used in the statistical analysis. It also stated the data were assumed to be lognormally distributed. Please note that the detection frequency for the semivolatiles shown in Table 8-1 varied from 10% to 60% and detection frequency for benzopyrene was 30%. The analytical data for SWMU F is shown in RFI Table 7-3. The results for benzopyrene were 4000UJ, 540UJ, 19000UJ, 17000UJ, 15000UJ, 1600J, 630J, 460U, 490UJ, and 120J. The values used to calculate the mean were 2000, 270, 9500, 8500, 7500, 1600, 630, 230, 245, and 120.

For the appropriate statistical analysis, please refer to OSWER 9285.6-10 directive titled " Calculating upper confidence limits for exposure point concentrations at hazardous waste sites".

BASF is confused by USEPA's request to use the above referenced OSWER document. Item 8.a. of the 2002 agreements reached between USEPA and MDEQ that supplement the 2000 MOU states "effective the date of this letter, the U.S. EPA agrees that it will seek to have all new corrective action activities initiated at Michigan facilities use and comply with the Part 201 criteria and associated requirements as part of RCRA corrective action." MDEQ has published a document entitled "Sampling Strategies and Statistics Training Materials for Part 201 Cleanup Criteria" dated August 2002. BASF had expected to be able to use Michigan's guidance. Not using Michigan's guidance will add cost and confusion to future work. BASF is requesting USEPA to provide its rationale for not following the 2002 agreements with MDEQ.

4.0 Phase I RFI Objectives and Supporting Data Requirements

4.4 Preliminary site specific action levels (PSAL)

This HRA report has considered only groundwater surface water interface (GSI) based levels X 20 for the soil and GSI x1 for groundwater in the derivation of PSAL.

PSALs for soil and ground water should be derived from the most stringent of all the relevant criteria associated with different exposure pathways and potential receptors from each medium. In the derivation of PSAL, other regulatory risk based criteria for soil and groundwater from region 9 or region 3 or screening guidance have been considered. It is not clear from the report if standards from these sources were based on human health protection or groundwater contamination protection.

The PSALs were derived in 1996. That was before Part 201 was accepted by USEPA. BASF was following Michigan Act 307. In the Act 307 cleanup criteria tables, the pathways for groundwater were (1) health based drinking water, (2) aesthetic drinking water value, and (3) GSI value. The first two pathways were not applicable because the groundwater was not used for drinking water. The pathways for soil were (1) 20X drinking water value, (2) 20X GSI, and (3) direct contact criteria. The first soil pathway was not applicable because groundwater was not used for drinking water. 20X GSI value was more stringent than the direct contact criteria. BASF used the most stringent available criteria associated with a relevant pathway. BASF acknowledges that using the most stringent of all the relevant criteria associated with different exposure pathways and potential receptors from each medium is a valid concern and will be addressed during upcoming risk assessment discussions with USEPA; Part 201 criteria address more pathways than Act 307 criteria did. BASF believes that the Region IX PRGs are based upon human health protection. A review of the 1995 Region III Risk-Based Concentrations shows that the criteria were based upon human health protection.

It is not clear at this point, if BASF intends on developing site specific action levels for sediment based on fish bioaccumulation. Conceptual exposure model should address the child and adult recreational receptor as being potentially exposed from surface water and sediment and human health risk characterization must be performed on these receptors from exposure to sediment and surface water.

BASF does not intend on developing site specific action levels for sediment. As discussed above, human contact with sediments is not expected. A risk assessment for oral and dermal contact with surface water was done with the Preliminary Risk Assessment submitted as part of the RFI. The exposure and risk calculations are shown in Appendix G-12. The RFI has been accepted by USEPA and these concerns were not raised by USEPA during their review of the Draft RFI.

Provide the rationale and justification on the selection of background locations (specify up gradient locations in case of ground water analysis). Footnotes 5 and 6 in table 4.1 describes the calculation of background fill concentration and background soil concentration. For parameters detected within the background fill samples or sand

samples. BASF used a background value of mean concentration plus 3 standard deviations. This approach is not acceptable to USEPA based on the fact that only 5 soil borings were obtained for each category. With this minimal number of samples, standard deviation would generally be high and adding 3 standard deviation to the mean would overestimate the actual site background contaminant concentrations.

As stated in the RFI in Section 5.3.1, background locations were selected at Facility locations that were believed to be unaffected by the Facility or the SWMUs/AOCs being investigated. The locations were chosen to be approximately evenly spaced along Biddle Avenue and inside the BASF fence except for existing well P34N. In every case where the site specific background value was used as the PSAL, that value was less than the CERCLA Soil Screening Level. The background fill was used as the fill PSAL for 27 constituents; for 6 of those all of the results were non detect, so the mean was used rather than the mean plus 3 standard deviations. The background sand was used as the sand PSAL for 27 constituents; for 17 of those all of the results were non detect, so the mean was used rather than the mean plus 3 standard deviations. The RFI has been accepted by USEPAand these concerns were not raised by USEPA during their review of the Draft RFI. BASF anticipates using Michigan Part 201 criteria for relevant pathways in any future risk assessment conducted using Part 201 procedures. However, BASF reserves the right to develop site specific background criteria for future risk assessment conducted using Part 201 procedures.

For parameters not detected with in the background fill or sand samples BASF used a value which is mean concentration (Footnote 4, Table 4-2). Please explain how this mean was arrived from non detect data.

For parameters not detected, the mean was calculated from the detection limits (100% of the detection limit was used). This technique was used for both background soil and groundwater samples.

Please refer to OSWER 9285.6-07P(April, 2002) titled "Guidance for comparing background and chemical concentrations in soil for CERCLA sites" Appendix B: Policy considerations for the application of background data in risk assessment and remedy selection.

BASF is confused by USEPA's request to use the above referenced OSWER document. Item 8.a. of the 2002 agreements reached between USEPA and MDEQ that supplement the 2000 MOU states "effective the date of this letter, the U.S. EPA agrees that it will seek to have all new corrective action activities initiated at Michigan facilities use and comply with the Part 201 criteria and associated requirements as part of RCRA corrective action." MDEQ has published a document entitled "Sampling Strategies and Statistics Training Materials for Part 201 Cleanup Criteria" dated August 2002. BASF had expected to be able to use Michigan's guidance. Not using Michigan's guidance will add

cost and confusion to future work. BASF is requesting USEPA to provide its rationale for not following the 2002 agreements with MDEQ.

Appendix F – Exposure assumptions for chemical intake estimates

Table F-1 Exposure Scenarios with applicable sites and exposure pathways

This table should include exposure pathways such as ground water volatilization and fish bioaccumulation through sediment contamination.

BASF acknowledges that groundwater volatilization is a valid concern and will be addressed during risk assessment discussions with USEPA. BASF does not believe it is necessary to consider fish bioaccumulation through sediment contamination. The Michigan Department of Natural Resources has published fish advisories. The Detroit River is specifically mentioned in the fish advisories booklet. The RFI has been accepted by USEPA and these concerns were not raised by USEPA during their review of the Draft RFI. In addition, BASF followed the USEPA approved QAPP.

4.16 IRso (Ingestion rate for soil, Maintenance Worker)

The incidental soil ingestion rate for a generic maintenance worker appears to be low. USEPA's supplemental guidance for developing soil screening levels for superfund sites (USEPA, 2001) recommends a default soil ingestion rate for workers likely to experience significant exposures to surface soils during work activities of 100 mg/day. A soil ingestion rate of 50 mg/day is appropriate for a generic indoor worker, however, a maintenance worker is assumed to have a significantly greater contact incidence with outdoor soil and outdoor soil-derived dust than a generic office worker, hence the applicability of the increased contact rate. Revise the risk assessment to reflect a soil ingestion rate for this receptor population of 100mg/day or propose a site specific value supported by documentation and defensible rationale.

At the time the Preliminary Risk Assessment was done, the USEPA guidance was 50 mg/day as referenced in the RFI. MDEQ's Generic Soil Direct Contact Criteria Technical Support Document specifies that the soil ingestion rate for industrial/commercial workers is 50 mg/day. Please note that a soil ingestion rate of 480 mg/day for a construction/utility worker was used in the Preliminary Risk Assessment. BASF is confused by USEPA's request to use the above referenced soil ingestion rate. Item 8.a. of the 2002 agreements reached between USEPA and MDEQ that supplement the 2000 MOU states "effective the date of this letter, the U.S. EPA agrees that it will seek to have all new corrective action activities initiated at Michigan facilities use and comply with the Part 201 criteria and associated requirements as part of RCRA corrective action." BASF had expected to be able to use Michigan's guidance. Not using Michigan's guidance will add cost and confusion to future work. BASF is requesting USEPA to provide its rationale for not following the 2002 agreements with MDEQ.

4.21 SAso (Skin surface area available for contact with soil)

As per supplemental guide to RAGS, standard default exposure factors (EPA 1991) and RAGS, Dermal risk assessment (EPA 2001, exposed head, hands, forearms), total surface area of 3300 cm^2 should be used facility and maintenance workers.

As stated in the RFI, all site workers are required to wear long sleeved shirts. In addition they are required to wear hard hats; therefore BASF believes the value used in the risk assessment is appropriate, The RFI has been accepted by USEPA and these concerns were not raised by USEPA during their review of the Draft RFI.