

Notice: Use this form to request a **written response (on agency letterhead)** from the Department of Natural Resources (DNR) regarding technical assistance or liability clarification for property with known or suspected environmental contamination. A fee may be required as is authorized by s. 292.55, Wis. Stats., and NR 749, Wis. Adm. Code. Personal information collected will be used for administrative purposes and may be provided to requesters to the extent required by Wisconsin's Open Records law [ss. 19.31 - 19.39, Wis. Stats.].

Definitions

"Property" refers to the subject property that is perceived to have been or has been impacted by the discharge of hazardous substances.

"Liability Clarification" refers to a written determination by the Department provided in response to a request made on this form. The response clarifies whether a person is or may become liable for the environmental contamination of a property, as provided in s. 292.55, Wis. Stats.

"Technical Assistance" refers to the Department's assistance or comments on the planning and implementation of an environmental investigation or environmental cleanup on a property in response to a request made on this form, as provided in s. 292.55, Wis. Stats.

Select the Correct Form

Do not use this form if one of the following applies:

- Request for an **off-site liability exemption or clarification** for property that has been or is perceived to be contaminated by one or more hazardous substances that originated on another property containing the source of the contamination. Use DNR's Off-Site Liability Exemption and Liability Clarification Application Form 4400-201.
- Submittal of an Environmental Assessment for the **Lender Liability Exemption**, s. 292.21, Wis. Stats., if no response or review by DNR is requested. Use the Lender Liability Exemption Environmental Assessment Tracking Form 4400-196.
- Request for an **exemption to develop on a historic fill site** or licensed landfill. Use DNR's Form 4400-226 or 4400-226A.
- **Request for closure** for property where the investigation and cleanup actions are completed. Use DNR's Case Summary and Closeout Request Form 4400-202.

All forms, publications and additional information are available on the internet at: dnr.wi.gov/topic/Brownfields/Pubs.html.

Instructions

1. Complete Sections 1, 2, 6 and 7 for all requests. Be sure to provide adequate and complete information.
2. Select the type of assistance requested: Section 3 for technical assistance; Section 4 for a written determination or clarification of environmental liabilities; or Section 5 for a specialized agreement.
3. Include the fee payment that is listed in Section 3, 4 or 5, unless the property is in the Voluntary Party Liability Exemption Program and the questions in Section 2 direct otherwise.
4. Send the completed request and supporting materials to the appropriate DNR regional office where the property is located. See the map on the last page. Contact the DNR project manager or call the phone numbers listed with any questions.

The time required for DNR's determination varies depending on the complexity of the site, and the clarity and completeness of the request and supporting documentation.

**Technical Assistance and Environmental
Liability Clarification Request**

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Section 1. Recipient of the Technical Assistance, Liability Clarification or Agreement from the Department

This is the person who is requesting that his or her liability be clarified or who is seeking technical assistance or a specialized agreement and is identified as the applicant in Section 7. DNR will address its response letter to this person.

Last Name	First Name	MI	Organization/ Business Name		
			GENERAL MOTORS LLC		
Mailing Address			City	State	ZIP Code
300 RENAISSANCE CENTER PO BOX 300			DETROIT	MI	48265-3000
Telephone # (include area code) (248) 255-2797		Fax # (include area code) (586) 575-5203	E-Mail Address kim.tucker-billingslea@gm.com		

The applicant listed above: (select all that apply)

- | | |
|---|--|
| ☒ Is currently the owner | ☐ Is considering selling the property |
| ☐ Is renting or leasing the property | ☐ Is considering acquiring the property |
| ☐ Has mortgagee interest in the property | |
| ☐ Other. Explain the status of the property with respect to the applicant: | |

Contact Information (to be contacted with questions about this request)

Contact Last Name	First Name	MI	Organization/Business Name		
TUCKER-BILLINGSLEA	KIM	D.	GENERAL MOTORS LLC		
Mailing Address			City	State	ZIP Code
M/C 480-206-1E0, T/C CADILLAC 1B02-10 30009 VAN DYKE ROAD			WARREN	MI	48090
Telephone # (include area code) (248) 255-2797		Fax # (include area code) (586) 575-5203	E-Mail Address kim.tucker-billingslea@gm.com		

Environmental Consultant (if applicable)

Contact Last Name	First Name	MI	Organization/Business Name		
DARNTON	MARTHA	F.	CONESTOGA-ROVERS AND ASSOCIATES		
Mailing Address			City	State	ZIP Code
14496 SHELDON ROAD			PLYMOUTH	MI	48170
Telephone # (include area code) (734) 453-5123		Fax # (include area code) (734) 453-5201	E-Mail Address mdarnton@craworld.com		

Attorney (if applicable)

Contact Last Name	First Name	MI	Organization/Business Name		
Mailing Address			City	State	ZIP Code
Telephone # (include area code)		Fax # (include area code)	E-Mail Address		

Property Owner (if different from applicant)

Contact Last Name	First Name	MI	Organization/Business Name		
Mailing Address			City	State	ZIP Code
Telephone # (include area code)		Fax # (include area code)	E-Mail Address		

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Section 2. Property Information

BRRTS No. (if known)	FID No. (if known) 64434	Property Name ALLIED SYSTEMS LTD	Tax Parcel # 0412100149	
Street Address 544 KELLOGG AVENUE		City JANESVILLE	State WI	ZIP Code 53546
County ROCK	Municipality where the property is located ☒ City ☐ Town ☐ Village of _____	Property is composed of: ☒ Single tax parcel ☐ Multiple tax parcels		Property Size Acres 139

- Is a response needed by a specific date? (e.g., property closing date) Note: Most requests are completed within 60 days. Please plan accordingly.
☒ No ☐ Yes – Reason: _____
- Is this property currently enrolled in or undergoing cleanup actions under the Voluntary Party Liability Exemption (VPLE) program?
☒ No. **Include fee that is required for your request in Section 3, 4 or 5.**
☐ Yes. If yes, is the recipient listed above also the voluntary party who is currently reenrolled in the VPLE program at that
☐ No. **Include the fee that is listed for your request in Section 3, 4 or 5.**
☐ Yes. **Do not include a separate fee.** This request will be billed separately through the VPLE Program.

Fill out the information in Section 3, 4 or 5 which corresponds with the type of request: Section 3. Technical Assistance; Section 4. Liability Clarification; or Section 5. Specialized Agreement.

Section 3. Request for Technical Assistance

Select the type of technical assistance requested: [Numbers in brackets are for WI DNR Use]

- ☒ No Further Action Letter (NFA) (Immediate Actions) [183] – NR 708.09 – **Include a fee of \$250.** Use for a written response to an immediate action after a discharge or discovery of hazardous substance. Generally, these are one-time spill events.
- ☐ Review of Site Investigation Work Plan [135] – NR 716.09 – **Include a fee of \$500.**
- ☐ Review of Site Investigation Report [137] – NR 716.09 – **Include a fee of \$750.**
- ☐ Approval of a Site Specific Soil Cleanup Standard [67] – NR 720.19 Reports – **Include a fee of \$750.**
- ☐ Review of a Remedial Action Options Report [143] – NR 722.07 – **Include a fee of \$750.**
- ☐ Review of a Remedial Action Design Report [148] – NR 724.09 – **Include a fee of \$750.**
- ☐ Review of a Remedial Action Documentation Report [152] – NR 724.17 – **Include a fee of \$250.**
- ☐ Review of a Long-term Monitoring Plan [25] – NR 724.17 – **Include a fee of \$300.**
- ☐ Review of an Operation and Maintenance Plan [192] – NR 724.13 – **Include a fee of \$300**

Other Technical Assistance [97] – s. 292.55, Wis. Stats. (For request to build on an abandoned landfill use Form 4400-226)

- ☐ Schedule a Technical Assistance Meeting – **Include a fee of \$500.**
- ☐ Hazardous Waste Determination – **Include a fee of \$500.**
- ☐ Other Technical Assistance – **Include a fee of \$500.** Explain your request below or in an attachment.

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Skip Sections 4 and 5 if the technical assistance you are requesting is listed above. Complete Sections 6 and 7 of this form.

Section 4. Request for Liability Clarification

Select the type of liability clarification requested. Use the available space given or attach information, explanations, or specific questions that you need answered in DNR's reply. Complete Sections 6 and 7 of this form. **[Numbers in brackets are for DNR Use]**

- ☐ "Lender" liability exemption clarification [686] – s. 292.21, Wis. Stats.

❖ **Include a fee of \$500.**

Provide the following documentation:

- (1) ownership status; of the property;
- (2) an environmental assessment, in accordance with s. 292.21, Wis. Stats.;
- (3) the date the environmental assessment was conducted by the lender;
- (4) the date of property acquisition;
- (5) documentation showing how the property was acquired;
- (6) a copy of the property deed with the correct legal description; and,
- (7) the Lender Liability Exemption Environmental Assessment Tracking Form (Form 4400-196).
- (8) If no sampling was done, please provide reasoning as to why it was **not** conducted. Include this either in the accompanying environmental assessment or as an attachment to this form, and cite language in s. 292.21(1)(c)2., h.-i., Wis. Stats.:
 - h. The collection and analysis of representative samples of soil or other materials in the ground that are suspected of being contaminated based on observations made during a visual inspection of the real property or based on aerial photographs, or other information available to the lender, including stained or discolored soil or other materials in the ground and including soil or materials in the ground in areas with dead or distressed vegetation. The collection and analysis shall identify contaminants in the soil or other materials in the ground and shall quantify concentrations.
 - i. The collection and analysis of representative samples of unknown wastes or potentially hazardous substances found on the real property and the determination of concentrations of hazardous waste and hazardous substances found in tanks, drums or other containers or in piles or lagoons on the real property.

- ☐ Representative" liability exemption clarification (e.g. trustees, receivers, etc.) [686] - s.292.21, Wis. Stats.

❖ **Include a fee of \$500.**

Provide the following documentation:

- (1) ownership status of the property;
- (2) the date of property acquisition by the representative;
- (3) the means by which the property was acquired;
- (4) documentation that the representative has no beneficial interest in any entity that owns, possesses, or controls the property;
- (5) documentation that the representative has not caused any discharge of a hazardous substance on the property; and
- (6) a copy of the property deed with the correct legal description.

- ☐ Clarification of local governmental unit (LGU) liability exemption at sites with: (check all that apply)

- ☐ hazardous substances spills – s. 292.11(9)(e), Wis. Stats [649];
- ☐ hazardous waste – s.292.24 (2), Wis. Stats [649]; and/or
- ☐ solid waste – s. 292.23(2), Wis. Stats [649].

❖ **Include a fee of \$500, a summary of the environmental liability clarification being requested, and the following:**

- (1) current and proposed ownership status of the property;
- (2) date and means by which the property was acquired by the LGU, where applicable;
- (3) a map and the ¼, ¼ section location of the property;
- (4) summary of current uses of the property;
- (5) intended or potential use(s) of the property;
- (6) descriptions of other investigations that have taken place on the property; and
- (7) (for solid waste clarifications) a summary of the license history of the facility.

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☐ Lease liability clarification [646] – s. 292.55, Wis. Stats.

❖ **Include a fee of \$500 for a single property, or \$1000 for multiple properties and the information listed below:**

- (1) a copy of the proposed lease;
- (2) the name of the current owner of the property and the person who will lease the property;
- (3) a description of the lease holder's association with any persons who have possession, control, or caused a discharge of a hazardous substance on the property;
- (4) map(s) showing the property location and any suspected or known sources of contamination detected on the property;
- (5) a description of the intended use of the property by the lease holder, with reference to the maps to indicate which areas will be used. Explain how the use will not interfere with any future investigation or cleanup at the property; and
- (6) all reports or investigations (e.g. Phase I and Phase II Environmental Assessments and/or Site Investigation Reports conducted under s. NR 716, Wis. Adm. Code) that identify areas of the property where a discharge has occurred.

General or other environmental liability clarification [682] – s. 292.55, Wis. Stats. – Explain your request below.

❖ **Include a fee of \$500 and an adequate summary of relevant environmental work to date.**

☒ No Action Required (NAR) [682] – s. NR 716.05

❖ **Include a fee of \$500.**

Use where an environmental discharge has or has not occurred, and applicant wants DNR determination that no further assessment or clean-up work is required. Usually this is requested after a Phase I and Phase II environmental assessment has been conducted; the assessment reports should be submitted with this form. This is not a closure letter.

☐ Clarify the liability associated with a "closed" property – s. 292.55, Wis. Stats.

❖ **Include a fee of \$500.**

– Include a copy of any closure documents if a state agency other than DNR approved the closure.

Use this space or attach additional sheets to provide necessary information, explanations or specific questions to be answered by the DNR.

PLEASE FIND ATTACHED A MEMORANDUM SUMMARIZING THE REMOVAL OF A 20,000-GALLON DIESEL UNDERGROUND STORAGE TANK (UST) FROM THE SUBJECT PROPERTY.

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Section 5. Request for a Specialized Agreement

Select the type of agreement needed. Include the appropriate draft agreements and supporting materials. Complete Sections 6 and 7 of this form. More information and model draft agreements are available at: dnr.wi.gov/topic/Brownfields/lgu.html#tabx4.

- ☐ Tax cancellation agreement [654] – s. 75.105(2)(d), Wis. Stats.

❖ **Include a fee of \$500, and the information listed below:**

- (1) Phase I and II Environmental Site Assessment Reports,
- (2) a copy of the property deed with the correct legal description; and,
- (3) a draft 75.105 agreement based on the DNR's model (dnr.wi.gov/topic/brownfields/documents/mod75-105agmt.pdf).

- ☐ Agreement for assignment of tax foreclosure judgment – s. 75.106, Wis. Stats. [666]

❖ **Include a fee of \$500, and the information listed below**

- (1) Phase I and II Environmental Site Assessment Reports,
- (2) a copy of the property deed with the correct legal description, and
- (3) a draft 75.106 agreement based on the DNR's model (dnr.wi.gov/topic/brownfields/documents/mod75-105agmt.pdf).

- ☐ Negotiated agreement – Enforceable contract for non-emergency remediation – s. 292.11(7)(d) and (e), Wis. Stats. [630]

❖ **Include a fee of \$1000, and the information listed below:**

- (1) a draft schedule for remediation; and,
- (2) the name, mailing address, phone and email for each party to the agreement.

Section 6. Other Information Submitted

Identify all materials that are included with this request.

Include one copy of any document from any state agency files that you want the Department to review as part of this request. The applicant is responsible for contacting other state agencies to obtain appropriate reports or information.

- ☐ Phase I Environmental Site Assessment Report — Date: _____
- ☐ Phase II Environmental Site Assessment Report — Date: _____
- ☐ Legal Description of Property (required for all liability requests and specialized agreements)
- ☒ Map of the property (required for all liability requests and specialized agreements)

Analytical results of the following sampled media: Select all that apply and include date of collection.

☐ Groundwater ☒ Soil ☐ Sediment ☐ Other medium – Describe: _____

Date of Collection: JUNE 2010 & JUNE 2012

- ☐ A copy of the closure letter and submittal materials
- ☐ Draft tax cancellation agreement
- ☐ Draft agreement for assignment of tax foreclosure judgment
- ☒ Other report(s) or information – Describe: A MEMORANDUM SUMMARIZING THE REMOVAL OF A 20,000-GALLON DIESEL UST

For property with newly identified discharges of hazardous substances only: Has a notification of a discharge of a hazardous substance been sent to the DNR as required by s. NR 706.05(1)(b), Wis. Adm. Code?

- ☐ Yes – Date (if known): _____
- ☐ No

Note: The Fax Notification for Hazardous Substance Discharge (non-emergency) form is available at: dnr.wi.gov/files/PDF/forms/4400/4400-225.pdf.

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Section 7. Certification by the Person who completed this form

☐ I am the applicant

☒ I prepared this request for: GENERAL MOTORS LLC

Applicant Name

I certify that I am familiar with the information submitted on this request, and that the information on and included with this request is true, accurate and complete to the best of my knowledge. I also certify I have the legal authority and the applicant's permission to make this request

GENERAL MOTORS LLC

Signature

Martina R. Hunter

Date Signed

02/13/2013

Title

ASSOCIATE/PROJECT MANAGER

Telephone Number (include area code)

(734) 453-5123

ASSOCIATE/PROJECT MANAGER

(734) 453-5123

DNR Use Only			
Date Received	Date Assigned	BRRTS Activity Code	BRRTS FID No. (if used)
DNR Reviewer		Comments	
Fee Enclosed? ☐ Yes ☐ No	Fee Amount \$	Date Additional Information Requested	Date Requested for DNR Response Letter
Date Approved	Final Determination		

MEMORANDUM

TO: Janet Dimaggio, WDNR REF. NO.: 077493

FROM: Kim Tucker-Billingslea, GM LLC DATE: February 14, 2013

C.C.: Martha Darnton, CRA; Julie Charlton, CRA
Kevin Long, ENVIRON; Mark Nielsen, ENVIRON

RE: **Former 20,000-Gallon Diesel Underground Storage Tank (UST) (Tank ID 334613)**
Former Haul-Away Yard
544 Kellogg Avenue
Janesville, Wisconsin

1.0 INTRODUCTION

This Memorandum was prepared by Conestoga-Rovers & Associates, Inc. (CRA) on behalf of General Motors, LLC (GM) to request a No Further Action (NFA) status for a 20,000-gallon diesel underground storage tank (UST) (Tank ID 334613) removed by Gannett Fleming in 2010 from the Former Haul-Away Yard located at 544 Kellogg Avenue, Janesville, Wisconsin (Site). The Site location is presented on Figure 1. A Site plan is presented on Figure 2. At the time of the tank removal, the Site was known as Allied Automotive Inc. (Allied), with the facility identification number 650215. The Site was acquired by GM on May 13, 2005 and leased to Allied from the purchase date until the end of 2010. Allied filed for bankruptcy in June 2011. The Site is currently vacant.

2.0 UST REMOVAL

The 20,000-gallon diesel fuel UST was removed by Gannett Fleming in 2010 (on behalf of Allied). A Tank System Service and Closure Assessment Report was completed for the 20,000-gallon UST and is included in Attachment A. According to Gannett Fleming, at the time of removal, the 20,000-gallon diesel fuel UST and associated piping appeared to be in good condition with no obvious signs of leaking or deterioration. The dispenser islands and associated piping were also removed concurrently with the 20,000-gallon diesel fuel UST.

Gannett Fleming collected a total of 31 soil samples (soil samples 1 through 31) from the following areas:

- Dispenser island and associated piping (soil samples 1 through 4, 7 through 14, and 25 through 31)
- 20,000-gallon diesel fuel UST excavation (soil samples 17 through 24)
- 20,000-gallon diesel fuel UST associated piping (soil samples 5, 6, 15, 16)

Soil samples were submitted for laboratory analysis of Total Petroleum Hydrocarbons (TPH) as Diesel Range Organics (DRO), benzene, toluene, ethylbenzene, and total xylenes (BTEX), methyl tert-butyl ether (MTBE), 1,2,4-trimethylbenzene (TMB), and 1,3,5-TMB. Soil sample locations are presented on Figure 3.

According to Gannett Fleming, no elevated photoionization detector (PID) readings or visual and/or olfactory evidence of contamination was observed in the vicinity of the tank bed or associated piping. Elevated PID readings ranging from 60 to 490 parts per million (ppm) were observed in soil samples 7, 9, 14, 25, 26, 30, and 31 located in the vicinity of former dispensers D1 and D6. Gannett Fleming noted on the Tank System Service and Closure Assessment Report "petroleum odors and staining associated with releases from the former USTs and dispensing system".

A release was indicated on the Tank System and Closure Assessment Report by Gannett Fleming, and the source of the release was identified as the pumps (dispensers). Conversely, Part B of the Tank System and Closure Assessment Report by Gannett Fleming indicates that the TPH-DRO concentrations detected above the published criteria were reportedly associated with the former leaking USTs (LUSTs), which were removed in 1990.

Following LUST removal in 1990, the WDNR assigned Bureau for Remediation and Redevelopment Tracking System [BRRTS] Number #03-54-000405 to the release. Contaminated soil and groundwater resulting from releases from the former LUSTs were subsequently investigated; and a combination soil vapor extraction and groundwater pump and treat remediation system was installed by Allied. Conditional closure of the LUST case was granted by the WDNR on June 15, 1999, with final closure granted on October 26, 1999, subsequent to abandonment of the monitoring wells and implementation of a deed restriction filed with Rock County. The filing placed a groundwater use restriction on the deed for the Site. Copies of the groundwater use restriction and closure letter are presented in Attachment B.

Based on information supplied to CRA, the impacted soil appears to be residual contamination from the closed LUST release, and no new release should be reported. The residual contamination identified in soil samples collected from the dispenser island and associated piping (soil samples 1 through 4, 7 through 14, and 25 through 31) is further discussed in Section 5.0.

3.0 20,000-GALLON DIESEL FUEL UST SOIL SAMPLE ANALYTICAL RESULTS

Laboratory analytical reports are presented in Attachment A. A summary of the analytical results for soil compared to the following published criteria are presented in Attachment C:

- Ch. NR 720, Wis. Adm. Code Industrial and Non-Industrial Residual Contaminant Levels (RCLs), and Generic RCLs
- WDNR Remediation and Redevelopment (RR) Publication RR-519-97 Soil Cleanup Levels for Polycyclic Aromatic Hydrocarbons (PAHs) Interim Guidance (RR-519-97) Groundwater Pathway RCLs and Direct Contact Pathway Non-Industrial RCLs

Analytical results from the soil samples collected by Gannett Fleming from the 20,000-gallon diesel fuel UST excavation and associated piping (soil samples 17 through 24 and soil samples 5, 6, 15, 16) were non-detect, indicating no evidence of a release to the environment.

Analytical results from the soil samples collected from the area of the dispenser island and associated piping (soil samples 1 through 4, 7 through 14, and 25 through 31) are further discussed in Section 5.0.

4.0 20,000-GALLON DIESEL FUEL UST CURRENT STATUS

Based on available information, and discussions with Gannett Fleming personnel, the status of the former 20,000-gallon UST is listed as closed/removed. At the time of the submittal of the Tank System and Closure Assessment Report, excavated soils were stockpiled on Site (due to the bankruptcy of Allied). Gannett Fleming was previously contacted by Ms. Janet DiMaggio of the WDNR regarding this issue.

In June 2012, the stockpiled soil was placed into an on-Site roll-off bin by CRA (on behalf of GM) for subsequent characterization and off-Site disposal. On July 5, 2012, CRA collected a composite sample from each of the on-Site roll off bins to characterize the soil for disposal.

Soil samples were submitted under standard chain-of-custody protocols to TestAmerica. The composite soil samples were combined into three soil samples by TestAmerica and analyzed for Toxicity Characteristic Leaching Procedure (TCLP) volatile organic compounds (VOCs), TCLP semivolatile organic compounds (SVOCs), TCLP lead, TCLP cadmium, reactive sulfide and cyanide, TPH-DRO, TPH as Gasoline Range Organics (GRO), TPH as Oil Range Organics (ORO), polychlorinated biphenyls (PCBs), ignitability, corrosivity, and the paint filter test.

A copy of the laboratory analytical results for the composite soil samples is presented in Attachment D. Analytical results indicated that all concentrations for the soil samples collected are below RCRA toxicity characteristic criteria for hazardous wastes. In addition, the soil materials are non-Toxic Substances Control Act (TSCA) soil wastes.

Based on the analytical results, the on-Site roll-off bins were shipped as non-impacted soil to the City of Janesville Municipal RCRA Subtitle D Landfill. The City of Janesville Solid Waste Manager, Ms. Mandy Bonneville, approved disposal of all materials in an email on July 23, 2012. The email from the City of Janesville is presented in Attachment D. The roll-off bins were shipped off Site on July 26 to July 30, 2012. Shipping documentation is also presented in Attachment D.

5.0 EVALUATION OF DISPENSER ISLAND AND ASSOCIATED PIPING ANALYTICAL RESULTS

This section presents an evaluation of the analytical results from the soil samples collected from the dispenser island and associated piping (soil samples 1 through 4, 7 through 14, and 25 through 31) which as discussed above in Section 3.0 are not related to the 20,000-gallon diesel fuel UST.

5.1 SCENARIOS FOR POTENTIAL HUMAN EXPOSURE

The Site occupies approximately 139 acres in Janesville, Wisconsin. The Site is zoned for heavy industry and is currently inactive. Future land use at the Site is expected to remain commercial/industrial, and GM plans to establish institutional controls to prevent future on-Site residential land use. In addition, currently there is no on-Site groundwater use and GM plans to maintain the existing restriction to prevent future on-Site groundwater use.

Based on the available information regarding land and groundwater use at and surrounding the Site, the potentially exposed populations at and in the vicinity of the Site identified under current and reasonably expected future land use are summarized in Table 1.

As indicated in Table 1, industrial workers comprise the main receptor population at the Site under reasonably expected future land use. Under current and reasonably expected future conditions, other populations with potentially significant on-Site exposures are maintenance workers, construction workers, and trespassers. The Site is currently surrounded by industrial/commercial properties and residential properties. The land use for these off-Site areas is expected to generally remain unchanged. As such, the largest potentially exposed off-Site populations are industrial workers, maintenance workers, and non-industrial receptors (e.g. residents).

The potential exposure pathways for these receptor populations are summarized in the scenarios for potential exposure presented in Table 1, and are discussed below.

On-Site

On-Site receptors include industrial workers, maintenance workers, construction workers, and trespassers. The potential exposures to environmental media evaluated for each receptor is as follows.

Industrial Workers

The Site is currently inactive, so there is no current exposure for industrial workers. In the future, the primary receptor population at the Site is expected to consist of workers who are engaged in routine commercial and/or industrial activities that generally take place indoors. During limited time outdoors, workers could be exposed to soil in unpaved or uncovered areas. Potential routes of exposure to surface soil would include incidental ingestion, dermal contact, and inhalation of soil vapor and airborne particulates.

These workers also could be exposed via inhalation of constituents from the subsurface soil, if constituents were to volatilize and migrate to outdoor air or migrate through cracks in the building foundation into indoor air. In the portions of the Site that are currently paved or will be paved in the future, exposure to constituents via inhalation of vapors that could volatilize and migrate to outdoor air would be significantly reduced since the pavement will prevent significant vapor migration. If pavement were to be removed, exposure in these areas to vapors that migrate into outdoor air could be higher. Exposure via inhalation of soil vapors that could volatilize and migrate into indoor air is also possible where buildings currently exist or could exist in the future.

Maintenance Workers

While the Site is currently inactive, infrastructure for subsurface utilities still exists at the Site and if utility services are restarted in the future, they may require occasional maintenance. No significant exposure during such activities is expected because the Site's current health and safety protocol requires workers to take proper precautions and use appropriate personal protective equipment (PPE) to prevent any unacceptable exposures. Potential exposure would be possible during maintenance activities under future use of the Site should similar health and safety controls not be maintained. Maintenance worker exposure involving subsurface activities is expected to be of limited size and duration (e.g., installation or repair of underground utilities, or removal or repair of pavement, etc.). Potential routes of exposure to surface and

subsurface soil during such activities would include incidental ingestion, dermal contact, and inhalation of soil vapor and airborne particulates.

Construction Workers

While there are no current plans to redevelop the Site, the Site could be redeveloped in the future. Construction workers engaged in Site redevelopment activities could be exposed to surface and subsurface soil in any area of the Site. Potential routes of exposure to surface and subsurface soil during such activities would include incidental ingestion, dermal contact, and inhalation of soil vapor and airborne particulates.

Trespassers

Currently, the Site is fenced, gated and locked. Security is present on Site several times a week to inspect the security measures. Trespasser exposure is expected to be limited in duration and extent. In the future, potential trespasser exposure would be possible and potentially more frequently if security measures are not maintained. While on Site, trespassers could be exposed to surface soil in uncovered areas. Potential routes of exposure to surface soil would include incidental ingestion, dermal contact, and inhalation of soil vapor and airborne particulates. Trespassers also could be exposed via inhalation of constituents from subsurface soil, if the constituents were to volatilize and migrate to outdoor air.

Off-Site

Off-Site receptors include industrial workers, maintenance workers, and non-industrial receptors (e.g., residents). The potential exposures evaluated for each receptor are discussed below.

Industrial Workers

Off-Site industrial workers could be exposed to contaminants in on-Site soil, if airborne particulates and vapors from on-Site soil were to migrate off Site.

Maintenance Workers

Off-Site workers could be exposed to contaminants in on-Site soil, if airborne particulates and vapors from on-Site soil were to migrate off Site.

Non-Industrial Receptors

Off-Site non-industrial receptors could be exposed to contaminants in on-Site soil, if airborne particulates and vapors from on-Site soil were to migrate off Site.

5.2 DATA EVALUATION

Consistent with WDNR guidance, the following summarizes the screening levels, data screening and risk assessment process that have been used to evaluate soil concentrations observed in soil samples collected from the dispenser island area and associated piping (soil samples 1 through 4, 7 through 14, and 25 through 31) that are not related to the 20,000-gallon diesel fuel UST.

The data evaluation process involves a comparison of soil data to applicable WDNR standards (i.e., ch. NR 746, Wis. Adm. Code Risk Screening and Closure Criteria for Petroleum Product Contaminated Sites and Agency Roles and Responsibilities) and Site-specific risk-based human health screening levels developed consistent with the proposed regulations presented in the proposed ch. NR 720, Wis. Adm. Code, Soil Cleanup Standards and the scenarios for potential human exposure presented above. In addition, estimates of incremental cumulative cancer risk and noncancer hazard index (HI) for soil exposure scenarios that are consistent with Site-specific assumptions regarding reasonable current and future land and groundwater use, have also been developed for comparison to Wisconsin's cumulative risk management limits (i.e., incremental cumulative cancer risk $> 10^{-5}$ and noncancer HI > 1).

Additional details regarding the methodologies and assumptions used to 1) derive the Site-specific risk-based human health screening levels and 2) calculate incremental cumulative cancer risk and noncancer HI are presented in Attachment E.

Data Screening Results

As noted above, the data evaluation process involves a comparison of soil data to applicable ch. NR 746, Wis. Adm. Code standards and Site-specific risk-based human health screening levels developed consistent with the proposed regulations presented in the proposed ch. NR 720, Wis. Adm. Code Soil Cleanup Standards and the scenarios for potential human exposure.

The Site-specific risk-based screening levels were calculated consistent with the proposed ch. NR 720, Wis. Adm. Code rules for establishing soil cleanup criteria. Specifically, the industrial and non-industrial soil contact screening levels were calculated using the exposure factors and particulate emissions factor, recommended in the proposed rules. These screening levels were calculated based upon a chemical-specific target cancer risk of 10^{-6} and noncancer hazard quotient (HQ) of 0.1. These target risk levels are an order of magnitude below Wisconsin's cumulative risk management goals of 10^{-5} and 1, respectively, to account for the potential exposure to multiple Site-related chemicals simultaneously. GM has also supplemented these industrial and non-industrial screening levels for other exposure scenarios identified for current and reasonably expected future soil and groundwater exposures at the Site (i.e., construction worker exposure, industrial worker exposure via vapor intrusion, soil screening levels for the protection of groundwater).

As summarized in Table 2, the maximum detected concentrations in soil samples collected from the dispenser island area and associated piping are compared to the following screening levels:¹

Ch. NR 746.06, Wis. Adm. Code Generic Screening Levels for Petroleum Storage Tanks

- Residual Petroleum Criteria (Table 1: Indicators of Residual Petroleum Product in Soil Pores)
- Human Health Contamination Criteria (Table 2: Protection of Human Health from Direct Contact with Contaminated Soil)

¹ For comparison purposes, Table 2 also provides a comparison of maximum concentrations to the generic screening levels tabulated in ch. NR 720, Wis. Adm. Code and in WDNR Publication RR-519-97, *Soil Cleanup Levels for Polycyclic Aromatic Hydrocarbons Interim Guidance*.

Proposed Ch. NR 720, Wis. Adm. Code Risk-Based Screening Levels

- Industrial Soil Contact Criteria
- Industrial Soil Volatilization to Indoor Air Criteria (Soil Vapor Intrusion)
- Construction Worker Soil Contact Criteria

Figure 4 presents the Site-wide spatial distribution of all chemicals with concentrations above background² that are also greater than conservative screening levels based on unrestricted land use (i.e., non-industrial screening levels, soil protection of groundwater, ch. NR 746, Wis. Adm. Code generic screening levels). Those specific sample concentrations that are above background and greater than screening levels based on current and reasonably expected future land and groundwater use at the Site (i.e., commercial/industrial land use, restrictions on groundwater use) are highlighted to facilitate a review of the spatial distribution of the chemical concentrations that have higher potential to pose a significant risk. The conservative screening levels based on unrestricted land use are not used to highlight specific sample concentrations since they are not based on exposure scenarios that are consistent with current and reasonably expected future land and groundwater use.

As indicated in Table 2 and on Figure 4, soil in the vicinity of dispenser D6 (soil samples 25 and 26) exhibited naphthalene concentrations greater than the ch. NR 746, Wis. Adm. Code Residual Petroleum Criteria screening level. The Residual Petroleum Criteria screening level that the naphthalene concentration exceeds is based upon the protection of groundwater. As discussed above, currently there is no on-Site groundwater use at the Site and GM plans to maintain existing deed restrictions to prevent any future on-Site groundwater use.

As indicated in Table 2 and on Figure 4, constituents were detected above the Site-specific industrial soil volatilization to indoor air, construction worker soil contact, and industrial soil contact screening levels in soil samples collected from the former dispenser area as follows:

- Constituents were detected above the Site-specific industrial soil volatilization to indoor air screening level in soil samples collected from the vicinity of dispenser D1 at soil sample 30 (naphthalene) and soil sample 31 (naphthalene); in the vicinity of dispenser D6 at soil sample 8 (naphthalene), soil samples 25 and 26 (1,2,4-TMB, 1,3,5-TMB, total xylenes, and naphthalene), and soil sample 14 (naphthalene)
- Constituents were detected above the Site-specific construction worker soil contact screening levels in soil samples collected from the vicinity of dispenser D6 at soil sample 25 (1,2,4-TMB, 1,3,5-TMB, and naphthalene) and soil sample 26 (1,3,5-TMB and naphthalene)

² Background levels may be based on either Site-specific background data collected during the field investigations or background data obtained from public sources appropriate to the region in which the Site is located (e.g., background soil levels as published in Shacklette (1984)). Currently, the 99% upper prediction limit (UPL) for each chemical is used to identify soil concentrations that are above background. Depending on the distribution of the background dataset (normal, lognormal or neither), a normal, lognormal or bootstrap method, respectively, was used to calculate the UPL. For the bootstrap method, the 99% UPL for each chemical was calculated using a nonparametric method (Efron and Tibshirani 1998) using the background data sets for Wisconsin published in Shacklette (1984). Nonparametric bootstrap UPLs were calculated from 6,000 bootstrap replications and at $\alpha = 0.01$ level of significance. Nonparametric bootstrap statistical limits are more reliable than parametric statistical limits because, unlike parametric limits, they do not rely on assumptions about distribution shapes that are often difficult to justify. Also, common earth metals (i.e., aluminum, calcium, iron, magnesium, potassium, and sodium) are not considered Site-related.

- Constituents were detected above the Site-specific industrial soil contact screening levels in soil samples collected from the vicinity of dispenser D6 at soil sample 25 (naphthalene)

Concentrations greater than these screening levels do not necessarily indicate that an unacceptable risk exists. However, they may identify sample data that may require further evaluation. As discussed above, these screening levels were calculated based upon a chemical-specific target cancer risk of 10^{-6} and noncancer HQ of 0.1. These target risk levels are an order of magnitude below Wisconsin's cumulative risk management goals of 10^{-5} and 1, respectively to account for the potential of exposure to multiple Site-related chemicals simultaneously. Per ch. NR 720, Wis. Adm. Code rules, decisions regarding the need for remedial action should be based on Wisconsin's cumulative risk management goals of 10^{-5} and 1, respectively. The significance and the risk estimates associated with these exceedances are discussed below.

Risk Assessment Results

Cumulative cancer risk and noncancer HIs for potential exposures that are relevant under current and reasonably expected future land use at and around the Site were calculated.

Soil cumulative cancer risk and noncancer HI estimates were calculated for each sampling location in the vicinity of the dispenser island and associated piping. To streamline risk calculations, the highest detected concentration for each constituent at each sample location from any depth was used. This provides upper-bound estimates on the actual exposure concentrations, and as such, the cumulative cancer and noncancer risk estimates calculated using these concentrations are considered upper-bound estimates.

Specific details and assumptions (e.g., exposure factors, toxicity values, fate and transport models used, risk equations, calculation of background exposure concentrations) used to calculate the soil cumulative cancer risk and noncancer HI estimates are presented in Attachment E.

Industrial Worker

The upper-bound estimates of Site-related media-specific cumulative cancer risks and noncancer HIs were compared to WDNR's risk management limits. The upper-bound estimates of Site-related media-specific cumulative cancer risk and HI for potential exposure of industrial workers for each alternate hypothetical case (i.e., all day exposure to outdoor soil or all day exposure to soil constituents via vapor intrusion) based on the highest observed concentrations for all constituents in soil are summarized in Table 3.

As indicated in Table 3, four of the 19 sample locations do not exhibit media-specific cumulative cancer risks or noncancer HIs exceeding WDNR's risk limits for industrial worker exposure to soil via vapor intrusion. The four sample locations with cumulative cancer risks and/or HI estimates that exceed WDNR's risk limits are sample locations 25, 26, 30, and 31. The risk estimates at soil sample locations 25 and 26 (located in the vicinity of dispenser D6) are the result of 1, 2, 4-TMB, 1, 3, 5-TMB, xylenes (total) and naphthalene concentrations. The risk estimates at soil sample locations 30 and 31 (located in the vicinity of dispenser D1) are the result of naphthalene concentrations. Without additional information necessary to refine the exposure concentrations used to estimate these upper-bound risks, potential future exposure to soil in the vicinity of sample locations 25, 26, 30, and 31 may be unacceptable via the vapor intrusion exposure pathway. Establishment of institutional controls may be warranted in these areas. As part of GM's planned Site-wide assessment, additional data may be collected from these areas to reassess whether or not these institutional controls are necessary.

The details of these calculations are presented in Attachment E.

On-Site Maintenance Workers

On-Site maintenance workers could be exposed to on-Site soil during occasional subsurface maintenance or construction activities. The upper-bound estimates of Site-related cumulative cancer risk and noncancer HI for these exposures are summarized in Table 3. These upper-bound estimates are based on the highest detected concentrations from any depth for all constituents at each location. As indicated in Table 3, no location has an upper-bound Site-related cumulative cancer risk or noncancer HI that exceeds the WDNR's risk management limits. Therefore, potential maintenance worker exposure to soil at the Site does not result in risk estimates that would warrant further evaluation.

The details of these calculations are presented in Attachment E.

On-Site Construction Workers

On-Site construction workers could be exposed to on-Site soil during future Site redevelopment construction activities. The upper-bound estimates of Site-related cumulative cancer risk and noncancer HI for these exposures are summarized in Table 3. These upper-bound estimates are based on the highest detected concentrations from any depth for all constituents at each location. As indicated in Table 3, no location has an upper-bound Site-related cumulative cancer risk or noncancer HI that exceeds the WDNR's risk management limits. Therefore, potential construction worker exposure to soil at the Site does not result in risk estimates that would warrant further evaluation.

The details of these calculations are presented in Attachment E.

On-Site Trespassers

Potential exposure of on-Site trespassers to soil is evaluated indirectly in this risk assessment using exposure estimates for on-Site industrial workers. This streamlines the risk assessment and is conservative because trespasser exposures would be lower than industrial worker exposures. Therefore, the cumulative cancer risk and HI estimates for trespassers are expected to be no higher than the estimates discussed above for industrial workers. As discussed above, the estimates of Site-related cancer and noncancer risks for on-Site industrial worker exposure to soil during outdoor activities do not exceed the WDNR's risk management limits. Therefore, potential trespasser exposure to soil at the Site would not result in risk estimates that would warrant further evaluation.

Off-Site Nonindustrial Receptors (e.g., residential)

Nonindustrial receptors could be exposed to on-Site soil, if airborne particulates and vapor from on-Site soil were to migrate off Site. The upper-bound estimates of Site-related cumulative cancer risk and HI for potential exposure of off-Site residents to constituents from on-Site soil based on the highest observed concentrations from any depth for all constituents at each location are summarized in Table 3. As indicated in Table 3, none of the locations exhibit upper-bound Site-related cumulative cancer risks or noncancer HIs exceeding the WDNR's risk management limits. Therefore, potential off-Site resident exposure to on-Site soil via the inhalation of airborne particulates and vapors would not result in risk estimates which would warrant further evaluation.

The details of these calculations are presented in Attachment E.

6.0 SUMMARY

Based on the information presented in this Memorandum, GM is requesting that the status of the 20,000-gallon diesel UST (Tank ID 334613) be changed to NFA, and that written documentation of the NFA be provided to GM.

An evaluation of soil concentrations for samples collected from the vicinity of the dispenser island and associated piping is provided in this Memorandum for reference purposes. The results of this evaluation indicated concentrations which could potentially pose an unacceptable risk to industrial workers via vapor intrusion in the future, if the Site were active and/or redeveloped such that workers would occupy buildings in the area of the former dispensers. Establishment of institutional controls may be warranted in these areas. As part of GM's planned Site-wide assessment, additional data may be collected from these areas to reassess whether or not these institutional controls are necessary.

It should be noted that the historical release of diesel fuel at the Site in the vicinity of the dispenser island and associated piping (BRRTS ID #03-54-000405) was investigated and remediated to the satisfaction of the WDNR during the period from 1990 until 1999. The deed restriction which prohibits groundwater use is still in effect and will remain applicable to the Site for future uses.

Enclosures

Tables:

Table 1	Scenarios for Potential Human Exposures
Table 2	Soil Screening Results Summary
Table 3	Upper-Bound Cumulative Cancer Risks and HIs for Soil for Each Location

Figures:

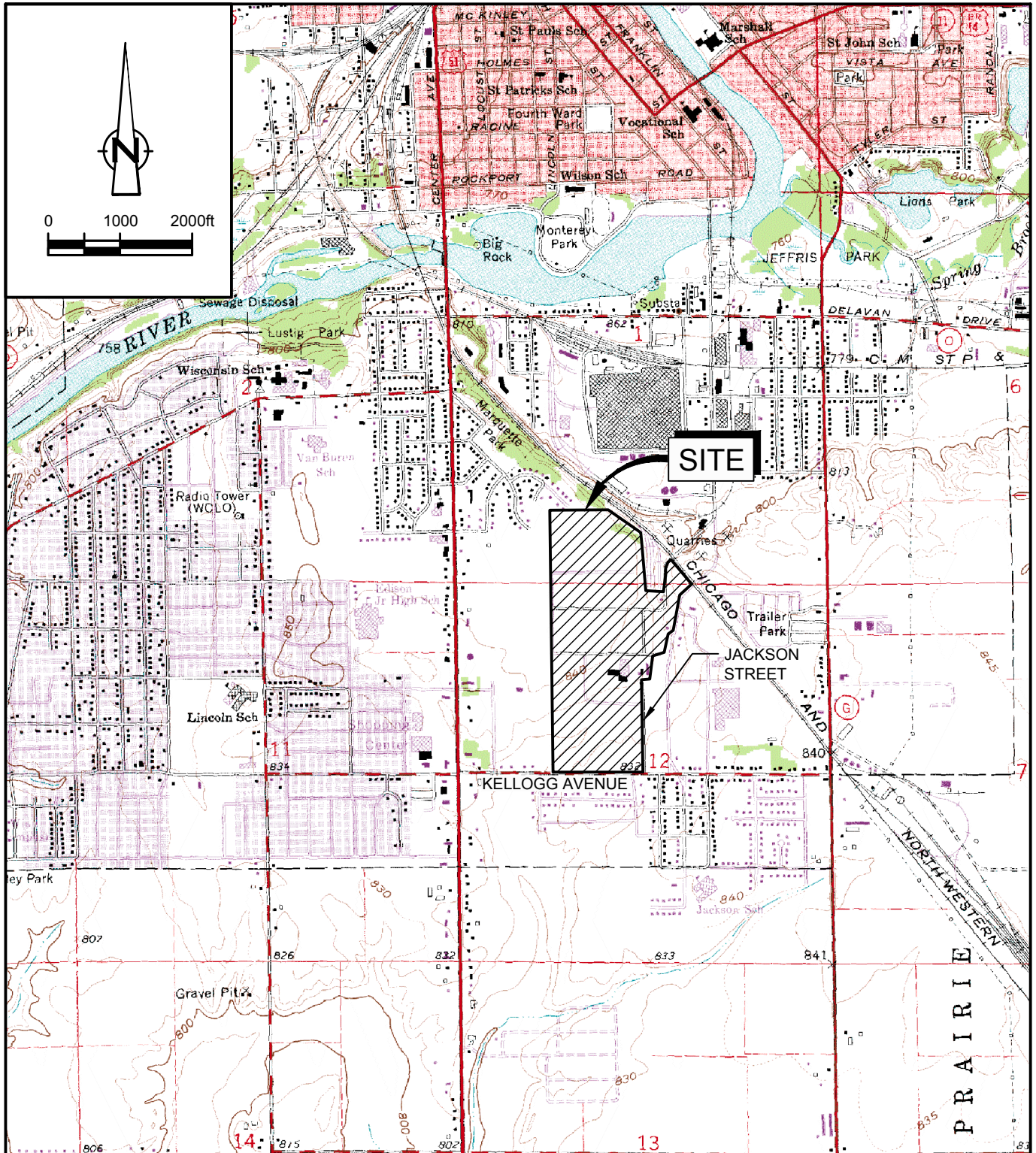
Figure 1	Site Location
Figure 2	Site Plan
Figure 3	Detailed System Layout
Figure 4	Soil Analytical Results – Summary of Exceedances

Attachments:

Attachment A:	Tank System Service and Closure Assessment Report
Attachment B:	Groundwater Use Restriction
Attachment C:	Summary of Soil Analytical Results

Attachment D: Waste Disposal Documentation

Attachment E: Human Health Risk Assessment Supporting Information and Calculations



SOURCE: USGS QUADRANGLE MAP;
JANESVILLE WEST, WISCONSIN,
PHOTOREVISED 1971 AND 1976

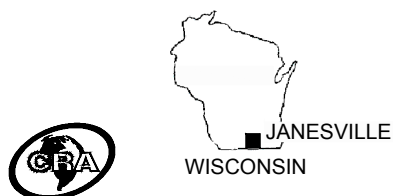


figure 1
SITE LOCATION
GENERAL MOTORS, LLC
FORMER HAUL-AWAY YARD
Janesville, Wisconsin

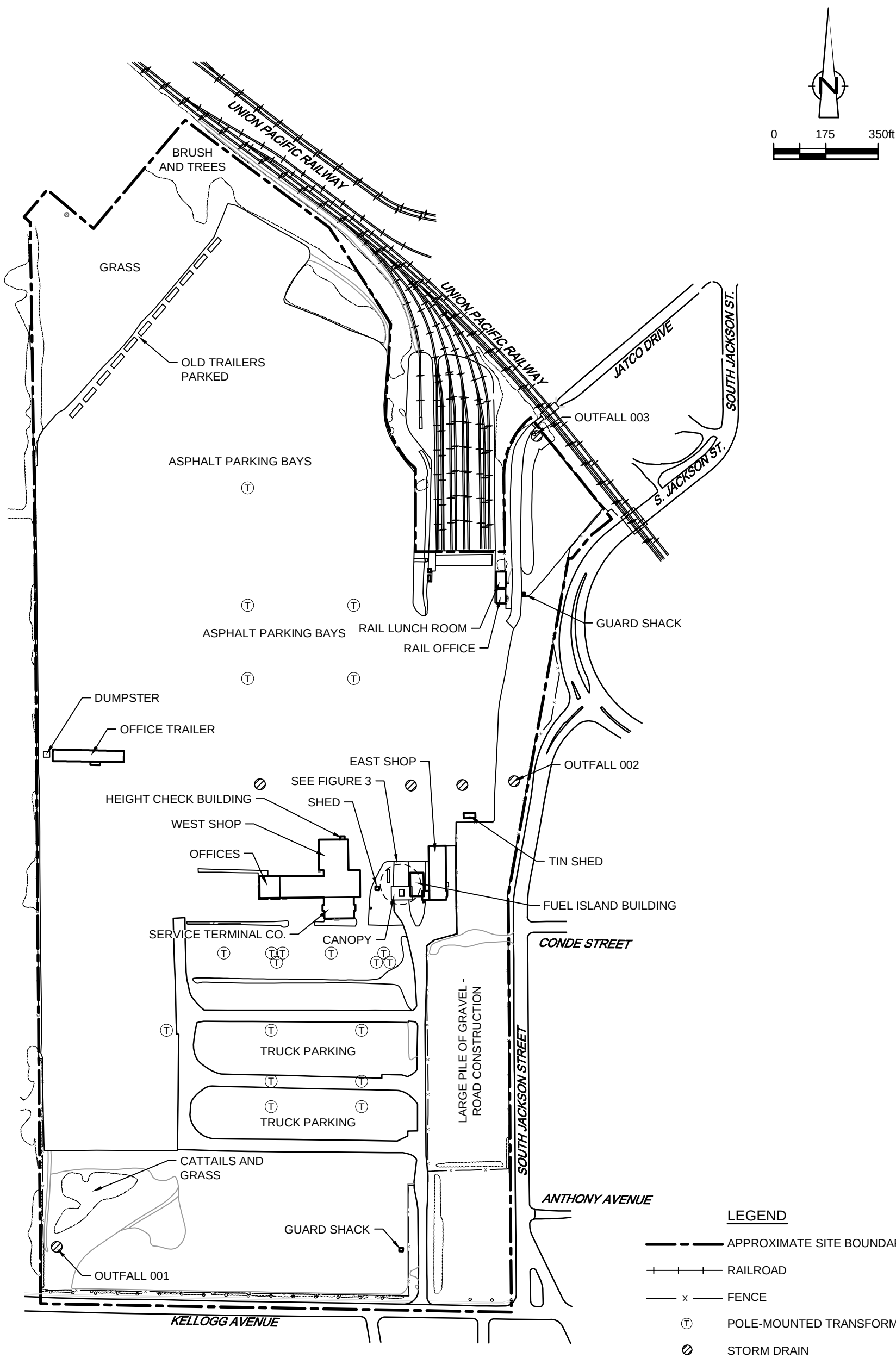
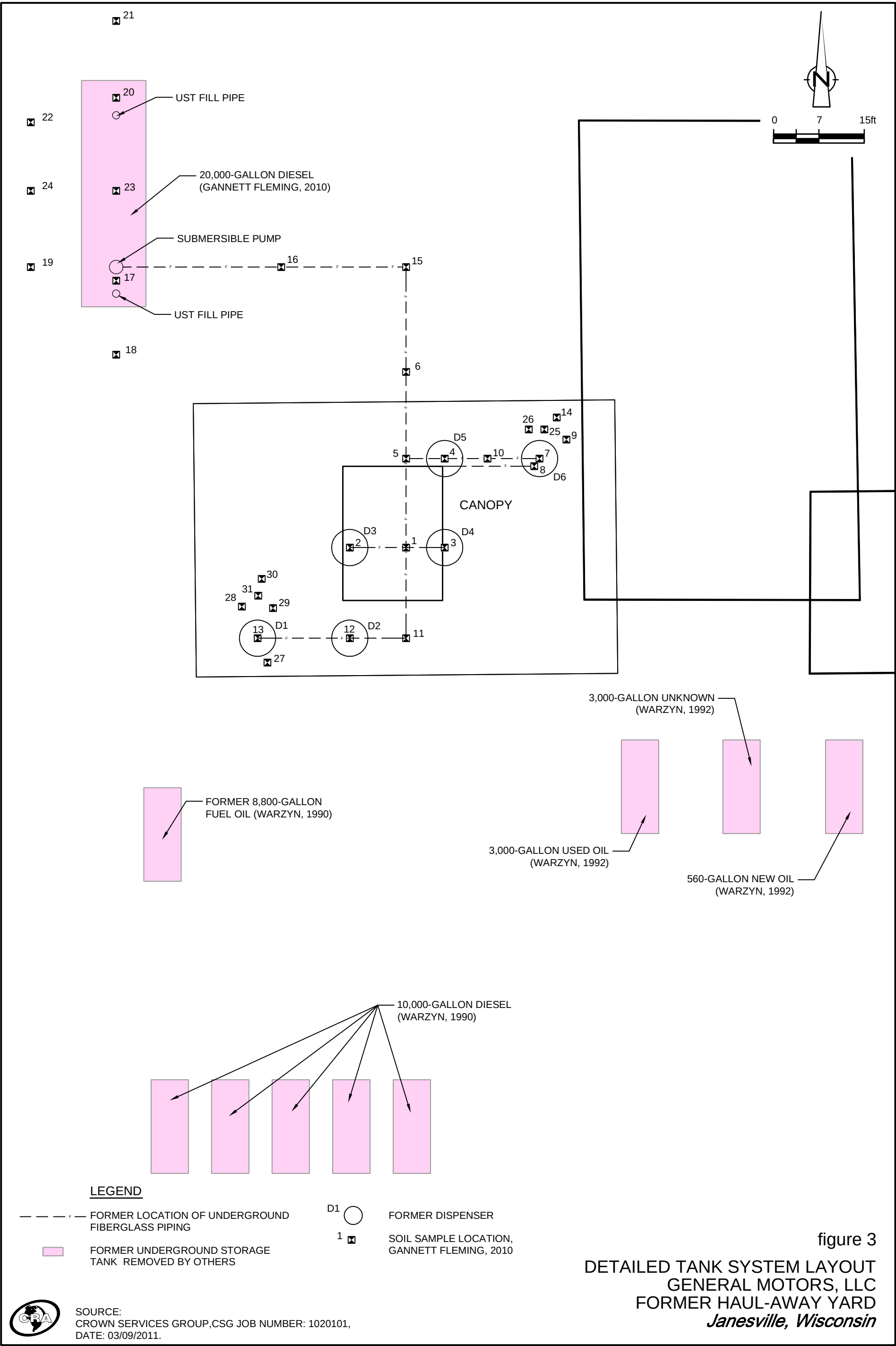


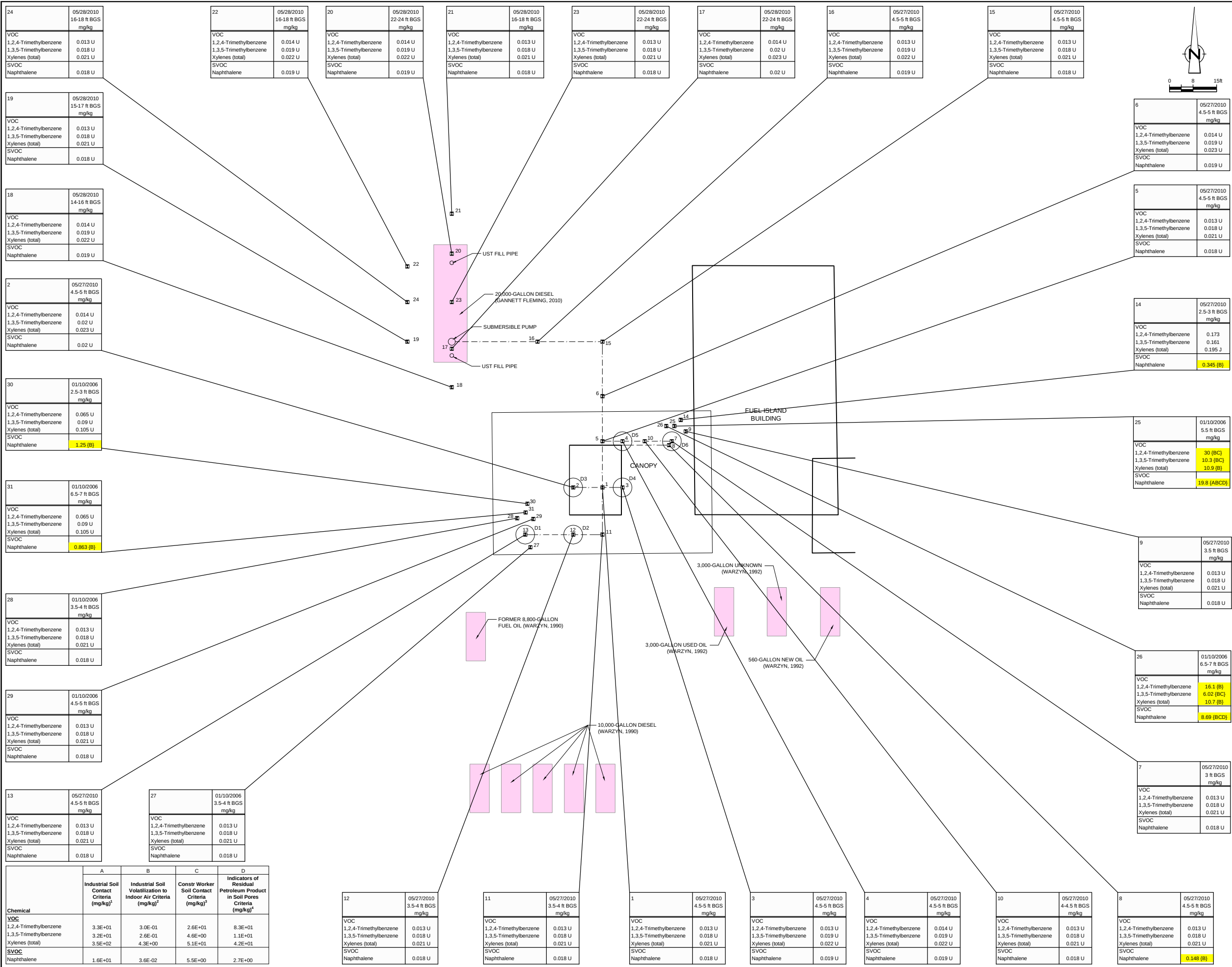
figure 2
 SITE PLAN
 GENERAL MOTORS, LLC
 FORMER HAUL-AWAY YARD
Janesville, Wisconsin



SOURCE:
 CROWN SERVICES GROUP, CSG JOB NUMBER: 1020101,
 DATE: 03/09/2011.



SOURCE:
CROWN SERVICES GROUP, CSG JOB NUMBER: 1020101,
DATE: 03/09/2011.



- LEGEND**
- FORMER LOCATION OF UNDERGROUND FIBERGLASS PIPING
 - FORMER UNDERGROUND STORAGE TANK, REMOVED BY OTHERS
 - D1 FORMER DISPENSER
 - 1 SOIL SAMPLE LOCATION, GANNETT FLEMING, 2010
 - 30 (BC) RESULT EXCEEDS* CRITERIA INDICATED
 - * AN EXCEEDANCE IS INDICATED IF THE RATIO OF THE CONCENTRATION DETECTED TO THE CRITERIA VALUE IS GREATER THAN OR EQUAL TO 1.05 (CONSIDERING SIGNIFICANT DIGITS) AND ABOVE THE ASSOCIATED UPL VALUE
 - RESIDUAL CONTAMINATION ASSOCIATED WITH CLOSED LUST (BRRTS #03-54-000405)
 - J APPROXIMATE VALUE
 - ft BGS FEET BELOW GROUND SURFACE
 - (mg/kg) MILLIGRAMS PER KILOGRAM
 - TPH TOTAL PETROLEUM HYDROCARBONS
 - U NOT PRESENT AT OR ABOVE THE ASSOCIATED VALUE

SAMPLE IDENTIFIER		DATE SAMPLE COLLECTED		SAMPLE DEPTH		SAMPLE UNITS	
6	05/27/2010	4.5-5 ft BGS	mg/kg				
VOC							
1,2,4-Trimethylbenzene	0.014 U						
1,3,5-Trimethylbenzene	0.019 U						
Xylenes (total)	0.023 U						
SVOC							
Naphthalene	0.019 U						
						CONCENTRATION (mg/kg)	
						PARAMETER	

- NOTES:
- DEVELOPED BY GM CONSISTENT WITH THE REQUIREMENTS PER THE PROPOSED CH. NR 720, WIS. ADM. CODE.
 - DEVELOPED BY GM CONSISTENT WITH THE REQUIREMENTS PER THE PROPOSED CH. NR 720, WIS. ADM. CODE AND WDNR (2010) ADDRESSING VAPOR INTRUSION AT REMEDIATION & REDEVELOPMENT SITES IN WISCONSIN.
 - DEVELOPED BY GM.
 - INDICATORS OF RESIDUAL PETROLEUM PRODUCT IN SOIL PORES CRITERIA (TABLE 1) FROM CH. NR 746, WIS. ADM. CODE.

STORAGE TANKS

#	CRA TANK ID	TANK DESCRIPTION, REMOVAL DETAILS	JANESVILLE FIRE DEPARTMENT ID
1	A	3,000-GALLON NEW OIL, CRA 2012	2
2	B	3,000-GALLON NEW OIL, CRA 2012	4
3	C	3,000-GALLON NEW OIL, CRA 2012	3
4	D	3,000-GALLON NEW OIL, CRA 2012	5
5	E	2,000-GALLON ANTIFREEZE, CRA 2012	7
6	F	300-GALLON FUEL OIL, CRA 2012	8
7	G	500-GALLON CLEANING SOLVENT, CRA 2012	10A
8	H	500-GALLON USED OIL, CRA 2012	11B
9	I	500-GALLON NEW OIL, CRA 2012	12C
10	J	300-GALLON NEW OIL, CRA 2012	13D
11	K	2,000-GALLON USED OIL, CRA 2012	14E
12	L	300-GALLON SOLVENT, CRA 2012	15F
13	M	500-GALLON CLEANING SOLVENT, CRA 2012	30P
14	N	1,000-GALLON USED OIL, GANNETT FLEMING 2010	31Q
15	O	3,000-GALLON USED OIL, WARZYN 1992	23
16	P	3,000-GALLON UNKNOWN, WARZYN 1992	24J
17	Q	500-GALLON NEW OIL, WARZYN 1992	25K
18	R	10,000-GALLON DIESEL, WARZYN 1990	18
19	S	10,000-GALLON DIESEL, WARZYN 1990	19
20	T	10,000-GALLON DIESEL, WARZYN 1990	20
21	U	10,000-GALLON DIESEL, WARZYN 1990	21
22	V	10,000-GALLON DIESEL, WARZYN 1990	22
23	W	8,800-GALLON FUEL OIL, WARZYN 1990	17
24	X	20,000-GALLON DIESEL, GANNETT FLEMING 2010	53Z
25	Y	6,000-GALLON LEADED GASOLINE, OTHERS 1994	16
26	Z	3,000-GALLON USED OIL, OTHERS 1993	6

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

**FORMER HAUL AWAY YARD
JANESVILLE, WISCONSIN**

**SOIL ANALYTICAL RESULTS - SUMMARY OF
EXCEEDANCES**



CONESTOGA-ROVERS & ASSOCIATES

Source Reference: CROWN SERVICES GROUP, CSG JOB NUMBER: 1020101, DATE: 03/09/2011.

Project Manager: M. DARNTON	Reviewed By: J. CHARLTON	Date: JANUARY 2013
Scale: AS SHOWN	Project N°: 77493-01	Report N°: MEMO013
		Drawing N°: figure 4

**Table 1: Scenarios for Potential Human Exposure
20,000 Gallon Tank, Former Haul-Away Yard, Janesville, Wisconsin**

Receptor Population	Exposure Medium	Exposure Route	Possible Currently	Possible in Future	Type of Analysis	Comments
O n - S i t e						
Industrial Workers	surface soil	ingestion and dermal contact	No	Yes	Quantitative	The Site is in an idled state and industrial workers are not currently present.
		inhalation of airborne particulates and vapors	No	Yes		In the future, exposure to surface soil would be possible in areas without cover or where cover may be removed in the future because ingestion and dermal contact with soil and inhalation of soil particulates would not be possible in areas with cover. Industrial worker activities do not involve direct contact with subsurface soil because industrial workers activities do not involve subsurface activities (e.g., excavation activities).
	subsurface soil	inhalation of vapors in outdoor air	No	Yes		Exposure to soil vapors via inhalation of outdoor air would be possible but only in areas where volatile chemicals are identified.
		inhalation of vapors that migrate through building foundations	No	Yes		Likewise, exposure via vapor intrusion through cracks in building foundations into indoor air would only be possible where volatile chemicals are identified in soil and occupied buildings exist or may exist in the future.
Maintenance Workers	surface and subsurface soil	ingestion and dermal contact	No	Yes	Quantitative	The Site is in an idled state and maintenance workers are not currently present.
		inhalation of airborne particulates and vapor	No	Yes		In the future, potential exposure to soil via ingestion, dermal contact, and inhalation of particulates and vapors (in areas where volatile constituents are identified in soil) may occur during occasional excavations into the subsurface.
Construction Workers	surface and subsurface soil	ingestion and dermal contact	No	Yes	Quantitative	The Site is in an idled state and construction workers are not currently present. In the future construction workers could be exposed to soil should redevelopment activities occur at the Site.
		inhalation of airborne particulates and vapor	No	Yes		In the future, potential exposure to soil via ingestion, dermal contact, and inhalation of particulates and vapors (in areas where volatile constituents are identified in soil) may occur during occasional excavations into the subsurface.
Trespassers	surface soil	ingestion and dermal contact	Yes	Yes	Inferred from Industrial Workers	While fencing at the Site limits access to the property, potential trespasser exposure is possible.
		inhalation of airborne particulates and vapors	Yes	Yes		Exposure to surface soil would be possible in areas without cover or where cover may be removed in the future. Trespasser activities do not involve direct contact with subsurface soil because their activities do not involve subsurface activities.
	subsurface soil	inhalation of vapors in outdoor air	Yes	Yes		Exposure to soil vapors via inhalation of outdoor air is possible but only in areas where volatile chemicals are identified.

**Table 1: Scenarios for Potential Human Exposure
20,000 Gallon Tank, Former Haul-Away Yard, Janesville, Wisconsin**

Receptor Population	Exposure Medium	Exposure Route	Possible Currently	Possible in Future	Type of Analysis	Comments
Off - Site						
Non-Industrial Receptor	on-site soil	inhalation of airborne particulates and vapors	Yes	Yes	Quantitative	Currently, no site-related contamination is known to exist off-site. Off-site non-industrial receptors may be exposed to windblown dust and vapors (from areas where volatile constituents are identified) emanating from on-site soil in areas currently without cover or from areas which may be uncovered in the future.
Industrial Workers	on-site soil	inhalation of airborne particulates and vapors	Yes	Yes	Inferred from On-Site Industrial Workers	Currently, no site-related contamination is known to exist off-site. Off-site industrial workers may be exposed to windblown dust and vapors (from areas where volatile constituents are identified) emanating from on-site soil in areas currently without cover or from areas which may be uncovered in the future.
Maintenance Workers	on-site soil	inhalation of airborne particulates and vapors	Yes	Yes	Inferred from On-Site Maintenance Workers	Currently, no site-related contamination is known to exist off-site. Off-site maintenance workers may be exposed to windblown dust and vapors (from areas where volatile constituents are identified) emanating from on-site soil in areas currently without cover or from areas which may be uncovered in the future.

Table 2: Soil Screening Results Summary 20,000 Gallon Tank, Former Haul-Away Yard, Janesville, Wisconsin																								
								GM Developed Risk-Based Criteria the proposed ch. NR 720, Wis. Adm. Code						Ch. NR 746, Wis. Adm. Code				Ch. NR 720, Wis. Adm. Code						
Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Max Detected (mg/kg)	Max Limit (mg/kg)	Industrial Soil Contact Criteria (mg/kg)	Ratio of Max Detect to	Industrial Soil Volatilization	Ratio of Max Detect to	Construction Worker Soil	Ratio of Max Detect to	Table 1 Indicators of Residual Petroleum Product in Soil Pores Criteria (mg/kg)	Ratio of Max Detect to Indicators of Residual Petroleum Product in Soil Pores Criteria	Table 2 Protection of Human Health from Direct Contact with Contaminated Soil Criteria (mg/kg)	Ratio of Max Detect to Protection of Human Health from Direct Contact with Contaminated Soil Criteria	Generic Industrial Soil Contact Criteria (mg/kg)	Ratio of Max Detect to Generic Industrial Soil Contact Criteria	Generic NonIndustrial Soil Contact Criteria (mg/kg)	Ratio of Max Detect to Generic NonIndustrial Soil Contact Criteria	Generic Soil Prot. GW Criteria (mg/kg)	Ratio of Max Detect to Soil Prot. GW Criteria
										Contact Criteria	to Indoor Air Criteria	Industrial Soil Volatilization to Indoor Air Criteria	Contact Criteria	Contact Criteria	Contact Criteria	Contact Criteria	Contact Criteria	Contact Criteria	Contact Criteria	Contact Criteria	Contact Criteria	Contact Criteria	Contact Criteria	Contact Criteria
Associated with UST	VOC	Benzene	71-43-2	A	12		1.80E-02	9.2E+00			1.6E-01		7.8E+00		8.5E+00		1.1E+00						5.5E-03	
Associated with UST	VOC	Ethyl Benzene	100-41-4	D	12		2.00E-02	2.6E+03			4.3E+01		1.1E+03		4.6E+00								2.9E+00	
Associated with UST	VOC	Methyl tert-butyl ether	1634-04-4	C	12		1.20E-02	2.9E+02			4.7E+00		3.5E+02											
Associated with UST	VOC	Toluene	108-88-3	ID	12		1.90E-02	5.4E+03			2.2E+02		5.7E+02		3.8E+01								1.5E+00	
Associated with UST	VOC	1,2,4-Trimethylbenzene	95-63-6	ID	12		1.40E-02	3.3E+01			3.0E-01		2.6E+01		8.3E+01									
Associated with UST	VOC	1,3,5-Trimethylbenzene	108-67-8	ID	12		2.00E-02	3.2E+01			2.6E-01		4.6E+00		1.1E+01									
Associated with UST	VOC	Xylenes (total)	1330-20-7	ID	12		2.30E-02	3.5E+02			4.3E+00		5.1E+01		4.2E+01								4.1E+00	
Associated with UST	SVOC	Naphthalene	91-20-3	C	12		2.00E-02	1.6E+01			3.6E-02		5.5E+00		2.7E+00				1.1E+02		2.0E+01		4.0E-01	
Associated with UST	PDIST	Diesel Range Organics	DRO		12		5.32E+00																1.0E+02	
Not Associated with UST	VOC	Benzene	71-43-2	A	19		1.60E-01	9.2E+00			1.6E-01		7.8E+00		8.5E+00		1.1E+00						5.5E-03	
Not Associated with UST	VOC	Ethyl Benzene	100-41-4	D	19	3	2.71E+00	9.00E-02	2.6E+03	1.0E-03	4.3E+01	6.2E-02	1.1E+03	2.4E-03	4.6E+00	5.9E-01							2.9E+00	9.3E-01
Not Associated with UST	VOC	Methyl tert-butyl ether	1634-04-4	C	19		1.10E-01	2.9E+02			4.7E+00		3.5E+02											
Not Associated with UST	VOC	Toluene	108-88-3	ID	19		1.70E-01	5.4E+03			2.2E+02		5.7E+02		3.8E+01								1.5E+00	
Not Associated with UST	VOC	1,2,4-Trimethylbenzene	95-63-6	ID	19	3	3.00E+01	6.50E-02	3.3E+01	9.0E-01	3.0E-01	9.9E+01	2.6E+01	1.2E+00	8.3E+01	3.6E-01								
Not Associated with UST	VOC	1,3,5-Trimethylbenzene	108-67-8	ID	19	3	1.03E+01	9.00E-02	3.2E+01	3.3E-01	2.6E-01	4.0E+01	4.6E+00	2.2E+00	1.1E+01	9.4E-01								
Not Associated with UST	VOC	Xylenes (total)	1330-20-7	ID	19	3	1.09E+01	1.05E-01	3.5E+02	3.1E-02	4.3E+00	2.5E+00	5.1E+01	2.1E-01	4.2E+01	2.6E-01							4.1E+00	2.7E+00
Not Associated with UST	SVOC	Naphthalene	91-20-3	C	19	6	1.98E+01	2.00E-02	1.6E+01	1.2E+00	3.6E-02	5.5E+02	5.5E+00	3.6E+00	2.7E+00	7.3E+00			1.1E+02	1.8E-01	2.0E+01	9.9E-01	4.0E-01	5.0E+01
Not Associated with UST	PDIST	Diesel Range Organics	DRO		19	7	6.17E+03	5.58E+00															1.0E+02	6.2E+01
Notes:																								
Constituents analyzed in each area are shown.																								
The criteria for soil are the lower of the criteria at either the target cancer risk of 1E-6 or target hazard quotient of 0.1.																								
The concentrations for the Xylene isomers (m/p and o) were summed before comparing to the criteria for Xylenes (total).																								
Ratios of concentration to the criteria greater than 1 are shaded in bold.																								
Chem Group - chemical group																								
Carc Class - United States Environmental Protection Agency (USEPA) Weight-of-Evidence Cancer Classification																								
Criteria Developed by GM for Site-Specific Evaluation:																								
Industrial Soil Contact Criteria and Soil Protection of Groundwater Criteria consistent with the requirements per proposed ch. NR 720 Wis. Adm. Code.																								
Industrial Soil Vapor Intrusion Criteria consistent with the requirements per proposed ch. NR 720, Wis. Adm. Code and Wisconsin Department of Natural Resources (WDNR) (2010) Addressing Vapor Intrusion at Remediation & Redevelopment Sites in Wisconsin .																								
Construction Worker Soil Contact Criteria developed by GM.																								
Wisconsin "Generic" Criteria As Published:																								
Generic Industrial Soil Contact Criteria and NonIndustrial Soil Contact Criteria from ch. NR 720, Wis. Adm. Code Residual Contaminant Levels (RCLs), and WDNR Remediation and Redevelopment (RR) Publication RR-519-97, Soil Cleanup Levels for Polycyclic Aromatic Hydrocarbons Interim Guidance (RR-519-97).																								
Generic Soil Protection of Groundwater Criteria from ch. NR 720, Wis. Adm. Code RCLs, and RR-519-97.																								
Generic Indicators of Residual Petroleum Product in Soil Pores Criteria from ch. NR 746, Wis. Adm. Code.																								
Generic Protection of Human Health from Direct Contact with Contaminated Soil Criteria from ch. NR 746, Wis. Adm. Code.																								

**Table 3: Upper-Bound Cumulative Cancer Risks and HIs for Soil For Each Location
20,000 Gallon Tank, Former Haul-Away Yard, Janesville, Wisconsin**

Area	Location	Industrial				Maintenance Worker		Construction Worker		Off-Site Non-Industrial	
		Outdoor Activities		Vapor Intrusion		Risk	HI	Risk	HI	Inhalation	
		Risk	HI	Risk	HI					Risk	HI
Associated with UST	5	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Associated with UST	6	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Associated with UST	15	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Associated with UST	16	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Associated with UST	17	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Associated with UST	18	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Associated with UST	19	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Associated with UST	20	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Associated with UST	21	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Associated with UST	22	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Associated with UST	23	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Associated with UST	24	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Not Associated with UST	1	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Not Associated with UST	2	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Not Associated with UST	3	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Not Associated with UST	4	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Not Associated with UST	7	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Not Associated with UST	8	9E-09	3E-04	4E-06	1E-01	2E-09	1E-04	4E-09	3E-03	4E-08	2E-03
Not Associated with UST	9	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Not Associated with UST	10	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Not Associated with UST	11	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Not Associated with UST	12	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Not Associated with UST	13	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Not Associated with UST	14	2E-08	2E-03	1E-05	4E-01	3E-09	7E-04	9E-09	1E-02	1E-07	9E-03
Not Associated with UST	25	1E-06	2E-01	6E-04	3E+01	2E-07	7E-02	5E-07	7E-01	6E-06	6E-01
Not Associated with UST	26	5E-07	9E-02	2E-04	1E+01	9E-08	4E-02	2E-07	4E-01	2E-06	3E-01
Not Associated with UST	27	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Not Associated with UST	28	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Not Associated with UST	29	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Not Associated with UST	30	8E-08	2E-03	3E-05	1E+00	1E-08	9E-04	3E-08	2E-02	4E-07	2E-02
Not Associated with UST	31	5E-08	2E-03	2E-05	7E-01	9E-09	6E-04	2E-08	2E-02	2E-07	1E-02
Notes:											
NC - risk estimates could not be calculated since either no toxicity value exists for the detected constituents at this location or no constituents were detected above background concentrations in this area.											
Cumulative cancer risk and HI estimates in excess of 1E-5 and 1, respectively, are shaded and bolded.											
Risk - Cumulative Cancer Risk											
HI - Noncancer Hazard Index											

ATTACHMENT A

TANK SYSTEM SERVICE AND CLOSURE ASSESSMENT REPORT

TDID#:

Reg Obj #: 334613

UNDERGROUND FLAMMABLE/COMBUSTIBLE/HAZARDOUS LIQUID STORAGE TANK REGISTRATION

Information Required By Section 101.142, Wis. Stats.

Send Completed Form To:
Department of Commerce
Bureau of Petroleum Products and
Tanks
P.O. Box 7837
Madison, WI 53707-7837

Underground tanks in Wisconsin that have stored or currently store petroleum or regulated substances must be registered. A separate form is needed for each tank. Send each completed form to the agency designated in the top right corner. Have you previously registered this tank by submitting a form? ☒ Yes ☐ No If yes, are you correcting/updating information only? ☒ Yes ☐ No

Personal information you provide may be used for secondary purposes [Privacy Law, s. 15.04 (1)(m)].

This registration applies to a tank status that is (check one):			Fire Department providing fire coverage where tank is located: ☒ City ☐ Village ☐ Town of: JANESVILLE
☐ In Use	☐ Closed - Tank Removed	☐ Ownership Change (Indicate new owner name in block 2)	
☐ Newly Installed	☐ Closed - Filled with Inert Materials		
☐ Abandoned with Product	☐ Abandon with Water		
☐ Abandoned without Product (empty)	☐ Temporarily Out of Service - Provide Date: _____		

A. IDENTIFICATION (Please Print)

1. Tank Site Name ALLIED SYSTEMS LLC		Site Street Address 544 KELLOGG AVE		Site Telephone Number ()	
☒ City ☐ Village ☐ Town of: JANESVILLE		State WISCONSIN		Zip Code 53546-2847	
2. Tank Owner Name GENERAL MOTORS LLC-ENVIRONMENT		Mailing Address 300 RENAISSANCE CENTER		Telephone Number ()	
☒ City ☐ Village ☐ Town of: DETROIT		State MI		Zip Code 48265-3000	
3. Property Owner Name (if different than tank owner)		Property Owner Address if different than #1			

B. Site ID #:	Facility ID #: 650215	Customer ID #: 1116270
C. Tank Capacity (gallons): 20,000	Tank Age (age or date installed):	Vehicle fueling: ☒ Yes ☐ No

D. LAND OWNER TYPE (check one) Refer to back					
☐ County	☐ State	☐ Federal Leased	☐ Federal Owned	☐ Tribal Nation	☐ Municipal
☐ Other Government	☒ Private				

E. OCCUPANCY TYPE (check one) Refer to back					
☐ Retail Fuel Sales	☐ Bulk Storage	☐ Terminal Storage	☐ Mercantile/Commercial	☒ Industrial	☐ Residential
☐ Agricultural (crop or livestock production)	☐ Backup or Emergency Generator	☐ Gov't Fleet	☐ Utility	☐ Other (specify):	

F. Tank Construction:			Overfill Protection? ☐ Yes ☐ No		
☐ Bare Steel	☐ Coated Steel	☐ Stainless steel	☐ Steel - Fiberglass Reinforced Plastic Composite	Spill Containment? ☐ Yes ☐ No	
☐ Fiberglass	☐ Unknown	☐ Other (specify): _____		☐ Lined (date): _____	

G. Tank Cathodic Protection: ☐ Sacrificial Anodes ☐ Impressed Current ☐ N/A	Tank Double Walled? ☐ Yes ☐ No
---	---

H. Primary Tank Leak Detection Method:					
☐ Automatic tank gauging	☐ Interstitial monitoring	☐ Inventory control and tightness testing	☐ Groundwater monitoring	☐ Vapor monitoring	
☐ Manual tank gauging (only for tanks of 1,000 gallons or less)			☐ Statistical Inventory Reconciliation (SIR)		☐ Unknown

I. Piping Construction:					
☐ Bare Steel	☐ Coated Steel	☐ Stainless Steel	☐ Fiberglass	☐ Flexible	☐ Copper
☐ Unknown	☐ NA	☐ Other _____			

J. Piping Cathodic Protection: ☐ Sacrificial Anodes ☐ Impressed Current ☐ N/A	Pipe Double Walled? ☐ Yes ☐ No
---	---

K. Primary Piping System Type: ☐ Pressurized piping with ↓ A. ☐ auto shutoff; B. ☐ alarm, or C. ☐ flow restrictor ☐ Unknown				
☐ Suction piping with check valve at tank		☐ Suction piping with check valve at pump and inspectable		☐ Not needed if waste oil

L. Piping Leak Detection Method: (used if pressurized or check valve at tank): ☐ SIR ☐ Tightness testing ☐ Electronic line leak monitor					
☐ Groundwater monitoring		☐ Vapor monitoring		☐ Interstitial monitoring	
☐ Not required		☐ Unknown			

M. Vapor Recovery/Stage II ☐ Fiberglass ☐ Flexible ☐ Other: _____ CARB #: _____	
☐ Operational - Provide Date (mo./day/yr.): _____ ☐ Non-Operational - Provide Date (mo./day/yr.): _____	

N. TANK CONTENTS (Current, or previous product (if tank now empty))					
☐ Leaded	☐ Unleaded	☐ Gasohol	☐ E85	☒ Diesel	☐ Bio-diesel
☐ Aviation	☐ Premix	☐ Fuel Oil	☐ Kerosene	☐ New Oil	
☐ Waste/Used Motor Oil ☐ Hazardous Waste* ☐ Unknown ☐ Empty* ☐ Sand/Gravel/Slurry* ☐ Other (specify): _____					
☐ Chemical* Name _____					CAS #: _____

* NOT PECFA eligible.

O. If Tank Closed, Abandoned or Out of Service Give date (mo./day/yr): 5-28-2010	Geo Latitude: _____ Geo Longitude: _____
Tank Owner Name (please print):	Has a site assessment been completed? (see reverse side for details) ☒ Yes ☐ No

Tank Owner Signature (Note: By signing, signer is accepting legal and financial responsibility for the storage tank system.)	Date
---	-------------

**Complete One Form for
Each System Service Event**

The information you provide may be used
for secondary purposes
[Privacy Law, s. 15.04 (1) (m), Wis. Stats.]

**TANK SYSTEM SERVICE AND CLOSURE
ASSESSMENT REPORT**

CHECK ONE:

- ☒ **UNDERGROUND**
☐ **ABOVEGROUND**

FOR PORTIONS OF THE FORM THAT
DO NOT APPLY, CHECK THE 'N/A' BOX

RETURN COMPLETED CHECKLIST TO

Wisconsin Department of Commerce
ERS Division
Bureau of Petroleum Products and
Tanks
P.O. Box 7837
Madison, WI 53707-7837

Part A – To be completed by contractor performing repair or closure

A. TYPE OF SERVICE ☒ CLOSURE ☐ REPAIR/UPGRADE ☐ CHANGE-IN-SERVICE

Indicate portion of system being serviced if a repair, upgrade or change-in-service is being performed

- ☐ Remote fill ☐ Tank ☐ Piping ☐ Transition/containment sump ☐ Spill bucket ☐ Dispenser

B. IDENTIFICATION (Please Print)

1. Facility Name Allied System Ltd.		2. Owner Name General Motors LLC - Env. Serv.	
Facility Street Address (not P.O. Box) 544 Kellogg Ave.		3. Contact Name Job Title	
Municipality Janesville		Mailing Address 300 Renaissance Center	
☒ City ☐ Village ☐ Town of		Post Office Detroit State MI Zip Code 48265	
Zip Code 53546	County Rock	County	Telephone No. (include area code) ()
4. Primary Service Contractor Section A above HPS Inc.		Service Contractor Street Address 3948 State Rd. 19	
Service Contractor Telephone No. (include area code) (608) 242-8210		Service Contractor City, State, Zip Code DeForest WI 53532	

C. TANK SYSTEM DETAIL (Complete for all service activities)

a	b	c	d	e	f	g	h
Tank ID #	Type of Closure ¹	Tank Material of Construction	Piping Material of Construction	Tank Capacity (gallons)	Contents ²	Release - System Integrity Compromised (e.g. holes, cracks, loose connection, etc)?	If "Yes" to "g", Then Specify Source & Cause of Release ³
334613	P	Fiber	Fiber	20,000	DL	☒ Y ☐ N	Pumps spill
						☐ Y ☐ N	
						☐ Y ☐ N	
						☐ Y ☐ N	
						☐ Y ☐ N	
						☐ Y ☐ N	

1. Indicate type of closure: P = Permanent, TOS = Temporarily Out-of-Service, CIP = Closure In-Place

2. Indicate type of product: DL = Diesel, LG = Leaded Gasoline, UG = Unleaded Gasoline, FO = Fuel Oil, GH = Gasohol, AF = Aviation Fuel, K = Kerosene, PX = Premix, WO = Waste/Used Motor Oil, FCHZW = Flammable/Combustible Hazardous Waste, OC = Other Chemical (indicate the chemical name(s))

CAS number(s):

3. Source of release: T = tank, P = piping, D = dispenser, STP = submersible turbine pump, DP = delivery problem, O = other

4. Cause of release: S = spill, O = overfill, POMD = physical or mechanical damage, C = corrosion, IP = installation problem, O = other

5. Has release been reported to the Department of Natural Resources? ☐ Yes ☐ No ☐ Release not evident at this time

D. CLOSURES (Check applicable box at right in response to all statements in section D)

Written notification was provided to the local agent 15 days in advance of closure date. ☒ Y ☐ N

All local permits were obtained before beginning closure. ☒ Y ☐ N ☐ NA

☒ UST Form ERS-7437 or ☐ AST Form ERS-8731 filed by owner with the Dept. of Commerce indicating closure. ☒ Y ☐ N ☐ NA

NOTE: TANK INVENTORY FORM ERS-7437 or ERS-8731 SIGNED BY THE OWNER MUST BE SUBMITTED WITH EACH CLOSURE or CHANGE-IN-SERVICE CHECKLIST

D.1 ☐ TEMPORARILY OUT-OF-SERVICE

1. Product removed.

Remover Verified	Inspector Verified	NA
☐ Y ☐ N	☐ Y ☐ N	☐
☐ Y ☐ N	☐ Y ☐ N	☐
☐ Y ☐ N	☐ Y ☐ N	☐
☐ Y ☐ N	☐ Y ☐ N	☐
☐ Y ☐ N	☐ Y ☐ N	☐

a. Product lines drained into tank (or other container) and liquid removed, and

b. All product removed to bottom of suction line, OR

c. All product removed to within 1" of bottom.

2. Fill pipe, gauge pipe, tank truck vapor recovery fittings, and vapor return lines capped.

3. All product lines at the islands or pumps located elsewhere are removed and capped, OR

4. Dispensers/pumps left in place blocked and power disconnected.	☒ Y ☐ N	☒ Y ☐ N	☐ NA
5. Vent lines left open.	☒ Y ☐ N	☒ Y ☐ N	☐ NA
6. Inventory form filed indicating temporarily out-of-service (TOS) closure.	☒ Y ☐ N	☒ Y ☐ N	☐ NA

D.2. ☒ CLOSURE BY REMOVAL OR IN-PLACE

1. General Requirements

a. Product from piping drained into tank (or other container).	☒ Y ☐ N	☒ Y ☐ N	☐ NA
b. Piping disconnected from tank and removed.	☒ Y ☐ N	☒ Y ☐ N	☐ NA
c. All liquid and residue removed from tank using explosion-proof pumps or hand pumps.	☒ Y ☐ N	☒ Y ☐ N	☐ NA
d. All pump motors and suction hoses bonded to tank or otherwise grounded.	☒ Y ☐ N	☒ Y ☐ N	☐ NA
e. Fill pipes, gauge pipes, vapor recovery connections, submersible pumps and other fixtures removed.	☒ Y ☐ N	☒ Y ☐ N	☐ NA
f. Vent lines left connected until tanks purged.	☒ Y ☐ N	☒ Y ☐ N	☐ NA
g. Tank openings temporarily plugged so vapors exit through vent.	☒ Y ☐ N	☒ Y ☐ N	☐ NA
h. Tank atmosphere reduced to 10% of the lower flammable range (LEL) - see Section E.	☒ Y ☐ N	☒ Y ☐ N	☐ NA

2. Specific Closure-by-Removal Requirements

a. Tank removed from excavation after PURGING/INERTING; placed on level ground and blocked to prevent movement.	☒ Y ☐ N	☒ Y ☐ N	☐ NA
b. Tank cleaned before being removed from site.	☒ Y ☐ N	☒ Y ☐ N	☐ NA
c. Tank labeled in 2" high letters after removal but before being moved from site.	☒ Y ☐ N	☒ Y ☐ N	☐ NA

NOTE: COMPLETE TANK LABELING SHOULD INCLUDE WARNING AGAINST REUSE; FORMER CONTENTS; VAPOR STATE; VAPOR FREEING TREATMENT; DATE.

d. Tank vent hole (1/8" in uppermost part of tank) installed prior to moving the tank from site.	☒ Y ☐ N	☒ Y ☐ N	☐ NA
e. Site security is provided while the excavation is open.	☒ Y ☐ N	☒ Y ☐ N	☐ NA

3. Specific Closure-In-Place Requirements

NOTE: CLOSURES IN-PLACE ARE ONLY ALLOWED WITH THE PRIOR WRITTEN APPROVAL OF THE DEPARTMENT OF COMMERCE OR LOCAL AGENT.

a. Tank properly cleaned to remove all sludge and residue.	☒ Y ☐ N	☒ Y ☐ N	☐ NA
b. Solid inert material (sand, cyclone boiler slag, or pea gravel recommended) introduced and tank filled.	☒ Y ☐ N	☒ Y ☐ N	☐ NA
c. Vent line disconnected or removed.	☒ Y ☐ N	☒ Y ☐ N	☐ NA
d. Inventory form filed by owner with the Department of Commerce indicating closure in-place.	☒ Y ☐ N	☒ Y ☐ N	☐ NA

E. REPAIR, UPGRADE OR CHANGE-IN-SERVICE

Written notification was provided to the local agent 15 days in advance of service date.

☐ Y ☐ N ☐ NA

All local permits were obtained before beginning service.

☐ Y ☐ N ☐ NA

Form ERS-7437 or ☐ ERS-8731 filed by owner with the Department of Commerce indicating change-in-service.

☐ Y ☐ N ☐ NA

F. METHOD OF VAPOR FREEING OF TANK

☒ Displacement of vapors by eductor or diffused air blower.

Eductor driven by compressed air, bonded and drop tube left in place; vapors discharged minimum of 12 feet above ground.

Diffused air blower bonded and drop tube removed. Air pressure not exceeding 5 psig.

☐ Inert gas using dry ice or liquid carbon dioxide.

☐ Inert gas using CO₂ or N₂ **NOTE: INERT GASSES PRODUCE AN OXYGEN DEFICIENT ATMOSPHERE. LEL METERS MAY NOT FUNCTION ACCURATELY. THE TANK MAY NOT BE ENTERED IN THIS STATE WITHOUT SPECIAL EQUIPMENT.**

Gas introduced through a single opening at a point near the bottom of the tank at the end of the tank opposite the vent.

Gas introduced under low pressure not to exceed 5 psig to reduce static electricity. Gas introducing device grounded.

☒ Readings of 10% or less of the lower flammable range (LEL) or 0% oxygen obtained before removing tank from ground.

☒ Tank atmosphere monitored for flammable or combustible vapor levels prior to and during cleaning and cutting.

☒ Calibrate combustible gas indicator and/or oxygen meter prior to use. Drop tube removed prior to checking atmosphere. Tank space monitored at bottom, middle and upper portion of tank.

G. REMOVER/CLEANER INFORMATION

Jon Heller

Remover/Cleaner Name (print)

Jon Heller

Remover/Cleaner Signature

42281

Certification No.

6-4-2010

Date Signed

I attest that the procedures and information which I have provided as the tank closure contractor are correct and comply with Comm 10.

Company expected to perform soil contamination assessment

H. INSPECTOR INFORMATION

LAWRENCE HAINSTOCK

Inspector Name (print)

Lawrence Hainstock

Inspector Signature

253429

Inspector Cert #

00023

LPO Agency #

5302

FDID # For Location Where Inspection Performed

608-755-3056

Inspector Telephone Number

6-4-10

Date Signed

TANK REMOVAL/CLOSURE FEES

FIRE DEPARTMENT MISCELLANEOUS ACCOUNT #100-51707

PROPERTY/OWNER NAME: General Motors LLC.

SITE ADDRESS: 544 Kellogg Ave

PAID BY/REMOVER NAME: Heller's.

DATE RECEIVED BY JFD: _____

INSPECTOR INITIALS: _____

FEES: \$ 75.00 FOR 1 TANKS

AST OR UST (CIRCLE ONE)

20,000 Gallon Diesel.

FEES: PLAN REVIEW \$25
SITE INSPECTION FIRST TANK \$50, EACH ADDITIONAL \$30

Breaking concrete + Removing Piping
Tues - the 18th at 10:00 AM.
Jon Heller 42281
608-577-1055

HELLER'S JUNK REMOVAL 06-03		79-57-342 759	3407
3948 HWY. 19 UNIT A DEFOREST, WI 53532		DATE	<u>5-13-10</u>
PAY TO THE ORDER OF	<u>Janesville Fire Dept.</u>		<u>\$75.00</u>
<u>Seventy five and no/100's</u>		DOLLARS	☒ Security Features Included Details on Back
 Associated Bank			
MEMO		<u>Jon Heller</u> MP	
⑆075900575⑆ 2008 124 001⑆ 3407			



Wisconsin Department of Commerce
ERS Division
Bureau of Petroleum Products and Tanks
P.O. Box 7837
Madison, WI 53707-7837

Comm. 10 Notification Record

Personal information you provide may be used for secondary purposes [Privacy Law, s.15.04 (1)(m)].

TO: JANESVILLE FIRE DEPARTMENT

OFFICE LOCATION: FAX 608-373-3438

(Refer to the Commerce web site: > <http://apps.commerce.state.wi.us/ERSLPOLists/ERSLPOLists?agency> < for the agency responsible for the specific jurisdiction.)

LOCATION / IDENTIFICATION (Please print or type)

Site Name ALLIED SYSTEMS LTD.		Owner Name General Motors LLC - Environmental Services		
Site Street Address 544 KELLOGG AVENUE		Owner Street or P.O. Address 300 RENAISSANCE CENTER		
☒ City ☐ Village ☐ Town of: JANESVILLE FIRE DEPARTMENT		☒ City ☐ Village ☐ Town of: DETROIT		
County ROCK	Zip Code 53546-2847	State MI	Zip Code 48265-3000	Telephone (608) 836-1500
Fire Department providing fire protection coverage: JANESVILLE FIRE DEPARTMENT - 5302				

Name of Contractor: HPS INC.

Address of Contractor: 3948 HWY 19

City/Town: DEFOREST, WI 53532

Telephone Number: (608) 242-8210

Fax Number: (608) 242-8212

Date work is to begin: MAY 17TH, 2010

Comm. 10 certified project supervisor: JON HELLER - CELL PHONE 608-577-1055 42281

Project will involve:

	Check		Number of tanks	Plan Number	Approval Date
	UST	AST			
Tank Installation	☐	☐	_____	_____	_____
Dispenser POS Conversion	☐	☐	_____	_____	_____
Piping Installation/Upgrade	☐	☐	_____	_____	_____
Leak Detection Upgrade	☐	☐	_____	_____	_____
Spill/Overfill Protection	☐	☐	_____	_____	_____
Stage II Vapor Recovery	☐	☐	_____	_____	_____
Cathodic Protection/Lining	☐	☐	_____	_____	_____
Tank Closure	☒	☐	1	_____	_____

Comments: 20,000 GALLON DIESEL TANK TO INCLUDE PIPING AND PUMPS. GANNETT FLEMING
WILL BE PERFORMING THE SITE ASSEMENT DENNIS KUGLE 608-836-1500

Part B – To be completed by environmental professional

Submit original Part B to the WDNR along with a copy of Part A

I. TANK-SYSTEM SITE ASSESSMENT (TSSA)

Site Name: ALLIED SYSTEMS LLC

Address: 544 KELLONG AVE - JAMESVILLE, WI - 53546-2847

Note: Site name and address must match with Part A Section 1.

To determine if a TSSA is required, see Comm 10 and section II part B of ASSESSMENT AND REPORTING OF SUSPECTED AND OBVIOUS RELEASES FROM UNDERGROUND AND ABOVEGROUND STORAGE TANK SYSTEMS.

If a TSSA is required, then follow the procedures detailed in ASSESSMENT AND REPORTING OF SUSPECTED AND OBVIOUS RELEASES FROM UNDERGROUND AND ABOVEGROUND STORAGE TANK SYSTEMS.

1. Site Information

a. Has there been a previously documented release at this site? ☒ Y ☐ N

If yes, provide the Commerce # 53546284744, or DNR BRRT's # 03-54-000405.

b. Number of active tanks¹ at facility prior to completion of current services USTs 0 ASTs 0

(NOTE 1: Do not include previously closed systems or system components.)

c. Excavation/trench dimensions (In feet). (Photos must be provided.)

EXCAVATION/TRENCH #	LENGTH	WIDTH	DEPTH
SEE ATTACHED MAPS + PHOTOS			

2. Visual Excavation/Trench Inspection (Photos must be provided for "Yes" responses, except item b.)

Do any of the following conditions exist in or about the excavation(s)?

a. Stained soils: ☒ Y ☐ N b. Petroleum odor: ☒ Y ☐ N c. Water in excavation/trench: ☐ Y ☒ N

d. Free product in the excavation/trench: ☐ Y ☒ N e. Sheen or free product on water: ☐ Y ☒ N

3. Geology/Hydrogeology

a. Depth to groundwater ~65-70 feet b. Indicate type of geology? SAND WITH CL/SLT LAYER
(Note 2: Use these symbols individually or in combination as appropriate: C = Clay, SLT = Silt, S = Sand, Gr = Gravel)

4. Receptors

a. Water supply well(s) within 250 feet of the facility? ☐ Y ☒ N If yes, specify

b. Surface water(s) within 1000 feet of the facility? ☒ Y ☐ N If yes, specify STORMWATER RETENTION POND

5. Sampling

a. Follow the procedures detailed in ASSESSMENT AND REPORTING OF SUSPECTED AND OBVIOUS RELEASES FROM UNDERGROUND AND ABOVEGROUND STORAGE TANK SYSTEMS.

b. Complete Tables 1 and 2 as appropriate. (Attach chain-of-custody and laboratory analytical reports.)

c. Attach a detailed map of site features and sample locations.

J. NOTE RELEVANT OBSERVATIONS, SPECIFIC PROBLEMS OR CONCERNS BELOW

GANNETT FLEMING WAS NOT PRESENT DURING REMOVAL OF AST.
FIBERGLASS UST + PIPING WERE IN EXCELLENT CONDITION UPON
REMOVAL WITH NO SIGNS OF A RELEASE. DUE TO LARGE VOLUME
OF PEA GRAVEL SURROUNDING UST, NO CONFIRMATION SAMPLES
WERE COLLECTED FROM EASTERN SIDEWALL OF UST
EXCAVATION. PETROLEUM ODORS + STAINING ASSOCIATED WITH
RELEASES FROM FORMER USTs + DISPENSING SYSTEM.

TABLE 1 SOIL FIELD SCREENING & GRO/DRO LABORATORY ANALYTICAL RESULTS-FOR PETROLEUM PRODUCTS

[illegible]

TABLE 2 SOIL LABORATORY ANALYTICAL RESULTS-FOR PETROLEUM PRODUCTS

[illegible]

K. TANK-SYSTEM SITE ASSESSMENT INFORMATION

- ☐ As a tank-system site assessor certified under Wis. Admin. Code section Comm 5.83, it is my opinion that there is no indication of a release of a regulated substance to the environment.
- ☒ Sampling at the site indicates there has been a release to the environment. Pursuant to Wis. Admin. Code section Comm 10.585 (2) (a) and Wis. Stats. section 292.11 (2) (a), the owner or operator or contractor performing work under chapter Comm 10 shall immediately report any release of a regulated substance to the Wisconsin Department of Natural Resources. Failure to do so may result in forfeitures of a minimum of \$10 and a maximum of \$5000 for each violation under Wis. Stats. section 101.09 (5). Each day of continued violation and each tank are treated as separate offenses.

ANTHONY MILLER
Tank-System Site Assessor Name (print)


Tank System Site Assessor Signature

42076
Certification Number #

608-836-1500
Tank-System Site Assessor Telephone Number

3/14/12
Date Signed

GANNETT FLEMING
Company Name



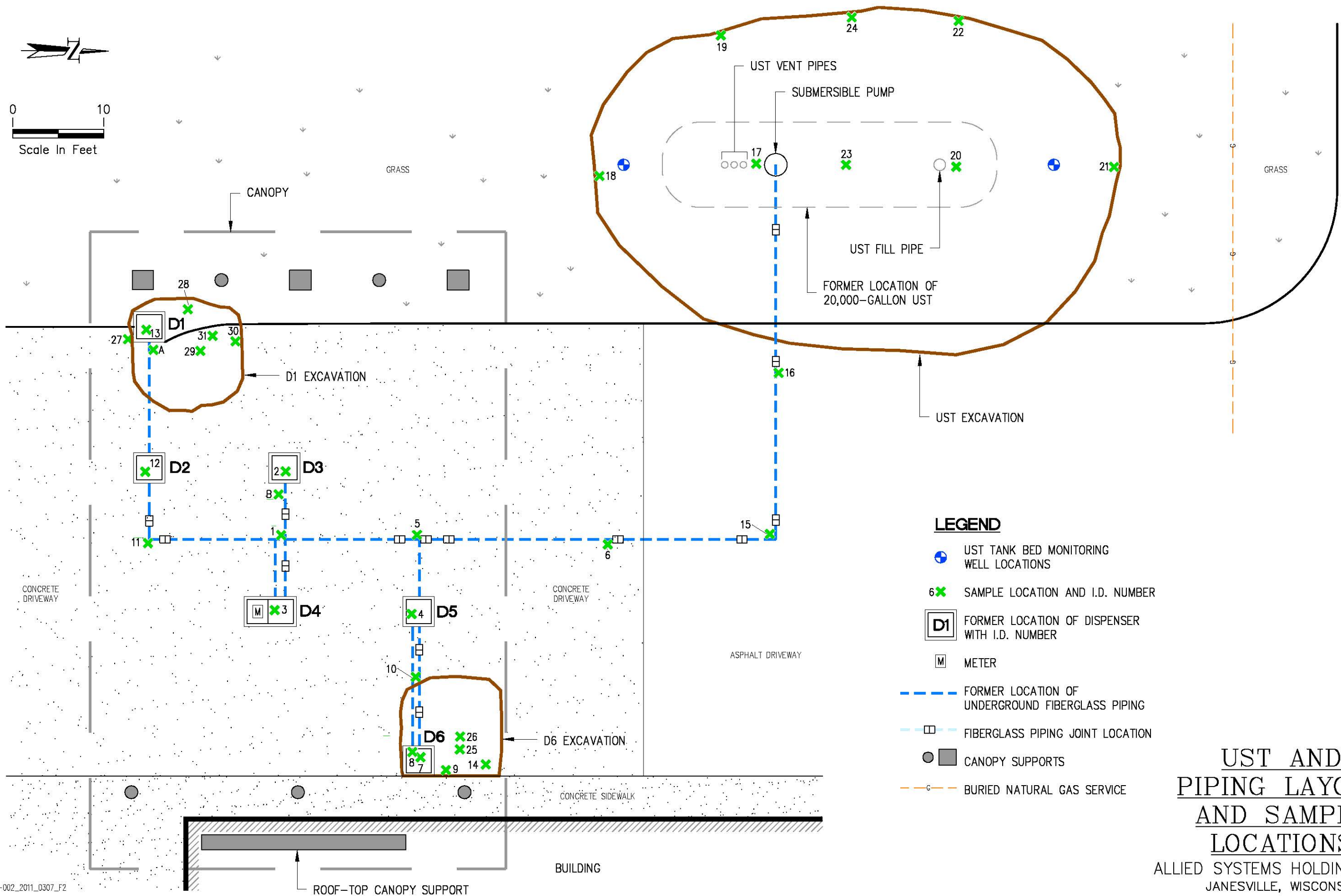
SCALE: 1 INCH ~ 0.25 MILES

7.5 MIN TOPOGRAPHIC MAP
JANESVILLE, WISCONSIN
1981



LOCATION MAP

ALLIED SYSTEMS HOLDINGS, INC.
JANESVILLE, WISCONSIN



LEGEND

- UST TANK BED MONITORING WELL LOCATIONS
- SAMPLE LOCATION AND I.D. NUMBER
- FORMER LOCATION OF DISPENSER WITH I.D. NUMBER
- METER
- FORMER LOCATION OF UNDERGROUND FIBERGLASS PIPING
- FIBERGLASS PIPING JOINT LOCATION
- CANOPY SUPPORTS
- BURIED NATURAL GAS SERVICE

UST AND
PIPING LAYOUT
AND SAMPLE
LOCATIONS
ALLIED SYSTEMS HOLDINGS, INC.
JANESVILLE, WISCONSIN

ALLIED SYSTEMS HOLDINGS, INC.
JANESVILLE, WISCONSIN

TABLE 1

OVA AND FIELD MEASUREMENTS

Sample ID	Depth (ft)	Soil Type ⁽¹⁾	Location ⁽²⁾	OVA Reading (ppm)
A	1	PG	D1	18
B	2.5 - 3	PG	D3	4
1	4.5 - 5	SM-SP	Main T-Joint leading to D3 & D4	<0.1
2	4.5 - 5	SM-SP	D3	<0.1
3	4.5 - 5	SP w/Gr	D4	<0.1
4	4.5 - 5	SM-SP w/Gr	D5	<0.1
5	4.5 - 5	SP	Main T-Joint leading to D6	<0.1
6	4.5 - 5	SP	Joint in Piping Run	<0.1
7	3	ML-CL	Contaminated Soil D6	250
8	4.5 - 5	SP	D6	0.5
9	3.5	ML-CL	D6 - Below Building Foundation	100
10	4.0 - 4.5	SP w/ Tr Gr	D5 to D6 Piping Run	<0.1
11	3.5 - 4	SP w/ Tr Gr	South Main Elbow Joint to D2	<0.1
12	3.5 - 4	SP	D2	<0.1
13	4.5 - 5	SM-ML	D1	<0.1
14	2.5 - 3	ML-CL-OL	3 ft North of D6	200 / 180 ⁽³⁾
15	4.5 - 5	SP	North Elbow of Piping Run to UST	<0.1
16	4.5 - 5	SP	Joint in Piping Run 20 ft East of UST	<0.1
17	22 - 24	SM-SP w/ Gr	South Floor Beneath UST	<0.1
18	14 - 16	ML-CL	South End Wall of UST Excavation	<0.1
19	15 - 17	ML-CL	SW Sidewall of UST Excavation	<0.1
20	22 - 24	SP-SW	North Floor Beneath UST	<0.1
21	16 - 18	SP-SW	North End Wall of UST Excavation	<0.1
22	16 - 18	SM-ML	NW Sidewall of UST Excavation	<0.1
23	22 - 24	SP	Center Floor Beneath UST	<0.1
24	16 - 18	SP-SW	WC Sidewall of UST Excavation	<0.1
25	5.5	SM-SP	7.5 ft North of D6	450
26	6.5 - 7	SC-ML	7.5 ft North of D6	490
27	3.5 - 4	SM	South Sidewall of D1 Excavation	<0.1
28	3.5 - 4	SM	WC Sidewall of D1 Excavation	<0.1
29	4.5 - 5	Sm	South Central Floor of D1 Excavation	<0.1
30	2.5 - 3	SM	North Sidewall of D1 Excavation	60
31	6.5 - 7	ML-CL	North Floor of D1 Excavation	90
Stockpile	--	SM-ML	Composite of 5 samples	50

FOOTNOTES:

(1) Soil Types: PG = Pea Gravel; CL = Clay; ML = Silt; SP = Poorly-Graded Sands; SW = Well-Graded Sands; SM = Silty Sand; SC = Sandy Clay; OL = Organic Silt; Gr = Gravel; Tr = Trace amounts.

(2) Location identifiers D1 through D6 refer to the dispensers shown on Figure 2, UST = Underground Storage Tank Excavation, W = West, S = South, N = North, C = Central.

(3) Due to the high organic content of the native soil surrounding sample #14 (the original "A" horizon), it was first analyzed in the field using an OVA with and without a filter that filters out all organic vapors except methane. The first reading listed on the table for sample #14 is the total organic vapor concentrations, the second value is the methane only reading.

ALLIED SYSTEMS HOLDINGS, INC
JANESVILLE, WISCONSIN

TABLE 2

ANALYTICAL RESULTS OF SOIL SAMPLES SUBMITTED FOR LABORATORY ANALYSES

Sample ID	Compounds and NR 720 Residual Contaminant Level Clean-Up Standards (mg/kg)								
	DRO ⁽¹⁾	Benzene	Ethylbenzene	MTBE	Naphthalene	1,2,4-TMB	1,3,5-TMB	Xylenes	Toluene
	100	0.0055	2.9	NS	0.4 ⁽²⁾	NS	NS	4.1	1.5
1	--	--	--	--	--	--	--	--	--
2	--	--	--	--	--	--	--	--	--
3	--	--	--	--	--	--	--	--	--
4	--	--	--	--	--	--	--	--	--
5	--	--	--	--	--	--	--	--	--
6	--	--	--	--	--	--	--	--	--
7	--	--	--	--	--	--	--	--	--
8	--	--	--	--	0.148	--	--	--	--
9	--	--	--	--	--	--	--	--	--
10	--	--	--	--	--	--	--	--	--
11	--	--	--	--	--	--	--	--	--
12	--	--	--	--	--	--	--	--	--
13	--	--	--	--	--	--	--	--	--
14	36.2	--	0.071	--	0.345	0.173	0.161	0.186	--
15	--	--	--	--	--	--	--	--	--
16	--	--	--	--	--	--	--	--	--
17	--	--	--	--	--	--	--	--	--
18	--	--	--	--	--	--	--	--	--
19	--	--	--	--	--	--	--	--	--
20	--	--	--	--	--	--	--	--	--
21	--	--	--	--	--	--	--	--	--
22	--	--	--	--	--	--	--	--	--
23	--	--	--	--	--	--	--	--	--
24	--	--	--	--	--	--	--	--	--
25	6,170	--	2.71	--	19.8	30.0	10.3	10.94	--

ALLIED SYSTEMS HOLDINGS, INC
JANESVILLE, WISCONSIN

TABLE 2

ANALYTICAL RESULTS OF SOIL SAMPLES SUBMITTED FOR LABORATORY ANALYSES

Sample ID	Compounds and NR 720 Residual Contaminant Level Clean-Up Standards (mg/kg)								
	DRO ⁽¹⁾	Benzene	Ethylbenzene	MTBE	Naphthalene	1,2,4-TMB	1,3,5-TMB	Xylenes	Toluene
	100	0.0055	2.9	NS	0.4 ⁽²⁾	NS	NS	4.1	1.5
26	1,860	--	2.23	--	8.69	16.1	6.02	10.71	--
27	21.3	--	--	--	--	--	--	--	--
28	--	--	--	--	--	--	--	--	--
29	--	--	--	--	--	--	--	--	--
30	485	--	--	--	1.25	--	--	--	--
31	740	--	--	--	0.863	--	--	--	--
Stockpile	910	--	--	--	1.05	0.867	--	--	--

NOTES:

Concentrations are calculated on dry weight basis and are listed on this table in units of milligrams per kilogram (mg/kg).

DRO = Diesel Range Organics

MTBE = Methyl Tert Butyl Ether

TMB = Trimethylbenzene

-- = Analyzed but not detected at a concentration above the laboratory detection limit. See laboratory report for specific detection limits for each sample and compound.
NR 720 RCL = Wisconsin Statutes Chapter 720 Residual Contaminant Levels for DRO, benzene, total xylenes, and toluene, last revised in September 2007; based on review of website <http://www.legis.state.wi.us/rsb/code/nr/nr720.pdf> accessed by Gannett Fleming on June 24, 2010. Concentrations exceeding the NR 720 RCLs are in bold.

NS = No NR 720 RCL standard.

FOOTNOTES:

(1) The chromatograms for all samples that contained DRO were characteristic for a fuel oil/diesel (i.e. #1 or #2 Diesel, Jet Fuel, Kerosene, Weathered Diesel, etc.).

(2) The RCL for naphthalene is based on the suggested generic soil clean-up levels for PAHs protective of the groundwater pathway, publication RR-519-97 dated April 1997. WDNR website <http://dnr.wi.gov/org/aw/rr/archives/pubs/RR519.pdf> accessed by Gannett Fleming on June 24, 2010.

SIEMENS

June 11, 2010

Gannett Fleming, Inc.
8025 Excelsior Drive
Madison, WI 53717

Attn: Jeff King

REPORT NO.: 1005500

PROJECT NO.: 52865.001 Allied

Please find enclosed the analytical report, including the Sample Summary, Sample Narrative and Chain of Custody for your sample set received May 28, 2010.

All analyses were performed in accordance with NELAC Standards using approved methods as indicated on this report.

If you have any questions about the results, please call. Thank you for using Siemens Water Technologies for your analytical needs.

Sincerely,

Siemens Water Technologies



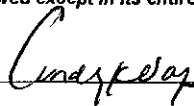
Bruce Schertz

Lab Manager

Enviroscan Analytical™ Services

I certify that the data contained in this report has been generated and reviewed in accordance with the Siemens Water Technologies Quality Assurance Program. Exceptions, if any, are discussed in the sample narrative. Samples will be retained for 30 days from the date of this report, then disposed in an appropriate manner. Siemens Water Technologies Corp. reserves the right to return samples identified as hazardous. Release of this Final Report is authorized as verified by the following signature. The contents of this report apply to the sample(s) analyzed. No duplication of this report is allowed except in its entirety.

Reviewed by: _____



Certifications:

Wisconsin 737053130
Minnesota 055-999-302
Illinois 100317



Siemens Water Technologies Corp.

301 West Military Road
Rothschild, WI 54474

Tel: 800-338-7226
Fax: 715-355-3221

www.siemens.com/enviroscan

SAMPLE SUMMARY

<u>Lab Id</u>	<u>Client</u>	<u>Sample Id</u>	<u>Date/Time</u>	<u>Matrix</u>
1005500-01	1		05/27/10 12:00	Solid
1005500-02	2		05/27/10 12:05	Solid
1005500-03	3		05/27/10 12:30	Solid
1005500-04	4		05/27/10 12:45	Solid
1005500-05	5		05/27/10 13:15	Solid
1005500-06	6		05/27/10 13:35	Solid
1005500-07	7		05/27/10 13:50	Solid
1005500-08	8		05/27/10 13:55	Solid
1005500-09	9		05/27/10 14:10	Solid
1005500-10	10		05/27/10 14:40	Solid
1005500-11	11		05/27/10 14:50	Solid
1005500-12	12		05/27/10 15:05	Solid
1005500-13	13		05/27/10 15:30	Solid
1005500-14	14		05/27/10 15:35	Solid
1005500-15	15		05/27/10 15:50	Solid
1005500-16	16		05/27/10 15:55	Solid
1005500-17	MeOH Blank		05/27/10 00:00	Solid

SIEMENS

Gannett Fleming, Inc.
8025 Excelsior Drive
Madison, WI 53717

PROJECT NO. : 52865.001 Allied
REPORT NO. : 1005500
DATE REC'D: 05/28/10 18:00
REPORT DATE : 06/11/10 11:10
PREPARED BY : BMS

Attn: Jeff King

Sample ID: 1

Matrix: Solid

Sample Date/Time: 05/27/10 12:00

Lab No. : 1005500-01

	<u>Results</u>	<u>Units</u>	<u>LOD</u>	<u>LOQ</u>	<u>Dilution Factor</u>	<u>Qualifiers</u>	<u>Date Analyzed</u>	<u>Analyst</u>
<u>EPA 8021B</u>								
1,2,4-Trimethylbenzene	ND	mg/kg dry	0.013	0.025	1		06/07/10	ALZ
1,3,5-Trimethylbenzene	ND	mg/kg dry	0.018	0.025	1		06/07/10	ALZ
Benzene	ND	mg/kg dry	0.016	0.025	1		06/07/10	ALZ
Ethylbenzene	ND	mg/kg dry	0.018	0.025	1		06/07/10	ALZ
m&p-Xylene	ND	mg/kg dry	0.021	0.025	1		06/07/10	ALZ
Methyl Tert Butyl Ether	ND	mg/kg dry	0.011	0.025	1		06/07/10	ALZ
Naphthalene	ND	mg/kg dry	0.018	0.025	1		06/07/10	ALZ
o-Xylene	ND	mg/kg dry	0.016	0.025	1		06/07/10	ALZ
Toluene	ND	mg/kg dry	0.017	0.025	1		06/07/10	ALZ

WI DNR DRO

Prep Method: WI DNR Soil Extraction

By: JEG

Date Prepared: 06/07/10

Diesel Range Organics	ND	mg/kg dry	4.29	4.29	0.859		06/10/10	LMP
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Sample ID: 2

Matrix: Solid

Sample Date/Time: 05/27/10 12:05

Lab No. : 1005500-02

	<u>Results</u>	<u>Units</u>	<u>LOD</u>	<u>LOQ</u>	<u>Dilution Factor</u>	<u>Qualifiers</u>	<u>Date Analyzed</u>	<u>Analyst</u>
<u>EPA 8021B</u>								
1,2,4-Trimethylbenzene	ND	mg/kg dry	0.014	0.027	1.09		06/07/10	ALZ
1,3,5-Trimethylbenzene	ND	mg/kg dry	0.020	0.027	1.09		06/07/10	ALZ
Benzene	ND	mg/kg dry	0.017	0.027	1.09		06/07/10	ALZ
Ethylbenzene	ND	mg/kg dry	0.020	0.027	1.09		06/07/10	ALZ
m&p-Xylene	ND	mg/kg dry	0.023	0.027	1.09		06/07/10	ALZ
Methyl Tert Butyl Ether	ND	mg/kg dry	0.012	0.027	1.09		06/07/10	ALZ
Naphthalene	ND	mg/kg dry	0.020	0.027	1.09		06/07/10	ALZ
o-Xylene	ND	mg/kg dry	0.017	0.027	1.09		06/07/10	ALZ
Toluene	ND	mg/kg dry	0.019	0.027	1.09		06/07/10	ALZ

WI DNR DRO

Prep Method: WI DNR Soil Extraction

By: JEG

Date Prepared: 06/07/10

Diesel Range Organics	ND	mg/kg dry	5.58	5.58	1.12		06/10/10	LMP
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SIEMENS

Gannett Fleming, Inc.
8025 Excelsior Drive
Madison, WI 53717

PROJECT NO. : 52865.001 Allied
REPORT NO. : 1005500
DATE REC'D: 05/28/10 18:00
REPORT DATE : 06/11/10 11:10
PREPARED BY : BMS

Attn: Jeff King

Sample ID: 3

Matrix: Solid

Sample Date/Time: 05/27/10 12:30

Lab No. : 1005500-03

	Results	Units	LOD	LOQ	Dilution Factor	Qualifiers	Date Analyzed	Analyst
EPA 8021B								
1,2,4-Trimethylbenzene	ND	mg/kg dry	0.013	0.026	1.03		06/07/10	ALZ
1,3,5-Trimethylbenzene	ND	mg/kg dry	0.019	0.026	1.03		06/07/10	ALZ
Benzene	ND	mg/kg dry	0.017	0.026	1.03		06/07/10	ALZ
Ethylbenzene	ND	mg/kg dry	0.019	0.026	1.03		06/07/10	ALZ
m&p-Xylene	ND	mg/kg dry	0.022	0.026	1.03		06/07/10	ALZ
Methyl Tert Butyl Ether	ND	mg/kg dry	0.011	0.026	1.03		06/07/10	ALZ
Naphthalene	ND	mg/kg dry	0.019	0.026	1.03		06/07/10	ALZ
o-Xylene	ND	mg/kg dry	0.017	0.026	1.03		06/07/10	ALZ
Toluene	ND	mg/kg dry	0.018	0.026	1.03		06/07/10	ALZ

WI DNR DRO

Prep Method: WI DNR Soil Extraction

By: JEG

Date Prepared: 06/07/10

Diesel Range Organics	ND	mg/kg dry	4.64	4.64	0.928		06/10/10	LMP
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Sample ID: 4

Matrix: Solid

Sample Date/Time: 05/27/10 12:45

Lab No. : 1005500-04

	Results	Units	LOD	LOQ	Dilution Factor	Qualifiers	Date Analyzed	Analyst
EPA 8021B								
1,2,4-Trimethylbenzene	ND	mg/kg dry	0.014	0.026	1.04		06/07/10	ALZ
1,3,5-Trimethylbenzene	ND	mg/kg dry	0.019	0.026	1.04		06/07/10	ALZ
Benzene	ND	mg/kg dry	0.017	0.026	1.04		06/07/10	ALZ
Ethylbenzene	ND	mg/kg dry	0.019	0.026	1.04		06/07/10	ALZ
m&p-Xylene	ND	mg/kg dry	0.022	0.026	1.04		06/07/10	ALZ
Methyl Tert Butyl Ether	ND	mg/kg dry	0.011	0.026	1.04		06/07/10	ALZ
Naphthalene	ND	mg/kg dry	0.019	0.026	1.04		06/07/10	ALZ
o-Xylene	ND	mg/kg dry	0.017	0.026	1.04		06/07/10	ALZ
Toluene	ND	mg/kg dry	0.018	0.026	1.04		06/07/10	ALZ

WI DNR DRO

Prep Method: WI DNR Soil Extraction

By: JEG

Date Prepared: 06/07/10

Diesel Range Organics	ND	mg/kg dry	4.56	4.56	0.912		06/09/10	ALZ
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SIEMENS

Gannett Fleming, Inc.
8025 Excelsior Drive
Madison, WI 53717

PROJECT NO. : 52865.001 Allied
REPORT NO. : 1005500
DATE REC'D: 05/28/10 18:00
REPORT DATE : 06/11/10 11:10
PREPARED BY : BMS

Attn: Jeff King

Sample ID: 5

Matrix: Solid

Sample Date/Time: 05/27/10 13:15

Lab No. : 1005500-05

	<u>Results</u>	<u>Units</u>	<u>LOD</u>	<u>LOQ</u>	<u>Dilution Factor</u>	<u>Qualifiers</u>	<u>Date Analyzed</u>	<u>Analyst</u>
EPA 8021B								
1,2,4-Trimethylbenzene	ND	mg/kg dry	0.013	0.025	1		06/08/10	ALZ
1,3,5-Trimethylbenzene	ND	mg/kg dry	0.018	0.025	1		06/08/10	ALZ
Benzene	ND	mg/kg dry	0.016	0.025	1		06/08/10	ALZ
Ethylbenzene	ND	mg/kg dry	0.018	0.025	1		06/08/10	ALZ
m&p-Xylene	ND	mg/kg dry	0.021	0.025	1		06/08/10	ALZ
Methyl Tert Butyl Ether	ND	mg/kg dry	0.011	0.025	1		06/08/10	ALZ
Naphthalene	ND	mg/kg dry	0.018	0.025	1		06/08/10	ALZ
o-Xylene	ND	mg/kg dry	0.016	0.025	1		06/08/10	ALZ
Toluene	ND	mg/kg dry	0.017	0.025	1		06/08/10	ALZ

WI DNR DRO

Prep Method: WI DNR Soil Extraction

By: JEG

Date Prepared: 06/07/10

Diesel Range Organics	ND	mg/kg dry	5.32	5.32	1.06		06/09/10	ALZ
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Sample ID: 6

Matrix: Solid

Sample Date/Time: 05/27/10 13:35

Lab No. : 1005500-06

	<u>Results</u>	<u>Units</u>	<u>LOD</u>	<u>LOQ</u>	<u>Dilution Factor</u>	<u>Qualifiers</u>	<u>Date Analyzed</u>	<u>Analyst</u>
EPA 8021B								
1,2,4-Trimethylbenzene	ND	mg/kg dry	0.014	0.027	1.08		06/08/10	ALZ
1,3,5-Trimethylbenzene	ND	mg/kg dry	0.019	0.027	1.08		06/08/10	ALZ
Benzene	ND	mg/kg dry	0.017	0.027	1.08		06/08/10	ALZ
Ethylbenzene	ND	mg/kg dry	0.019	0.027	1.08		06/08/10	ALZ
m&p-Xylene	ND	mg/kg dry	0.023	0.027	1.08		06/08/10	ALZ
Methyl Tert Butyl Ether	ND	mg/kg dry	0.012	0.027	1.08		06/08/10	ALZ
Naphthalene	ND	mg/kg dry	0.019	0.027	1.08		06/08/10	ALZ
o-Xylene	ND	mg/kg dry	0.017	0.027	1.08		06/08/10	ALZ
Toluene	ND	mg/kg dry	0.018	0.027	1.08		06/08/10	ALZ

WI DNR DRO

Prep Method: WI DNR Soil Extraction

By: JEG

Date Prepared: 06/07/10

Diesel Range Organics	ND	mg/kg dry	5.06	5.06	1.01		06/09/10	ALZ
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SIEMENS

Gannett Fleming, Inc.
8025 Excelsior Drive
Madison, WI 53717

PROJECT NO. : 52865.001 Allied
REPORT NO. : 1005500
DATE REC'D: 05/28/10 18:00
REPORT DATE : 06/11/10 11:10
PREPARED BY : BMS

Attn: Jeff King

Sample ID: 7

Matrix: Solid

Sample Date/Time: 05/27/10 13:50

Lab No. : 1005500-07

	<u>Results</u>	<u>Units</u>	<u>LOD</u>	<u>LOQ</u>	<u>Dilution Factor</u>	<u>Qualifiers</u>	<u>Date Analyzed</u>	<u>Analyst</u>
<u>EPA 8021B</u>								
1,2,4-Trimethylbenzene	ND	mg/kg dry	0.013	0.025	1		06/08/10	ALZ
1,3,5-Trimethylbenzene	ND	mg/kg dry	0.018	0.025	1		06/08/10	ALZ
Benzene	ND	mg/kg dry	0.016	0.025	1		06/08/10	ALZ
Ethylbenzene	ND	mg/kg dry	0.018	0.025	1		06/08/10	ALZ
m&p-Xylene	ND	mg/kg dry	0.021	0.025	1		06/08/10	ALZ
Methyl Tert Butyl Ether	ND	mg/kg dry	0.011	0.025	1		06/08/10	ALZ
Naphthalene	ND	mg/kg dry	0.018	0.025	1		06/08/10	ALZ
o-Xylene	ND	mg/kg dry	0.016	0.025	1		06/08/10	ALZ
Toluene	ND	mg/kg dry	0.017	0.025	1		06/08/10	ALZ

WI DNR DRO

Prep Method: WI DNR Soil Extraction

By: KAM

Date Prepared: 06/08/10

Diesel Range Organics	ND	mg/kg dry	4.53	4.53	0.905		06/09/10	LMP
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Sample ID: 8

Matrix: Solid

Sample Date/Time: 05/27/10 13:55

Lab No. : 1005500-08

	<u>Results</u>	<u>Units</u>	<u>LOD</u>	<u>LOQ</u>	<u>Dilution Factor</u>	<u>Qualifiers</u>	<u>Date Analyzed</u>	<u>Analyst</u>
<u>EPA 8021B</u>								
1,2,4-Trimethylbenzene	ND	mg/kg dry	0.013	0.025	1		06/08/10	ALZ
1,3,5-Trimethylbenzene	ND	mg/kg dry	0.018	0.025	1		06/08/10	ALZ
Benzene	ND	mg/kg dry	0.016	0.025	1		06/08/10	ALZ
Ethylbenzene	ND	mg/kg dry	0.018	0.025	1		06/08/10	ALZ
m&p-Xylene	ND	mg/kg dry	0.021	0.025	1		06/08/10	ALZ
Methyl Tert Butyl Ether	ND	mg/kg dry	0.011	0.025	1		06/08/10	ALZ
Naphthalene	0.148	mg/kg dry	0.018	0.025	1		06/08/10	ALZ
o-Xylene	ND	mg/kg dry	0.016	0.025	1		06/08/10	ALZ
Toluene	ND	mg/kg dry	0.017	0.025	1		06/08/10	ALZ

WI DNR DRO

Prep Method: WI DNR Soil Extraction

By: KAM

Date Prepared: 06/08/10

Diesel Range Organics	61.6	mg/kg dry	4.62	4.62	0.924	D1	06/09/10	LMP
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SIEMENS

Gannett Fleming, Inc.
8025 Excelsior Drive
Madison, WI 53717

PROJECT NO. : 52865.001 Allied
REPORT NO. : 1005500
DATE REC'D: 05/28/10 18:00
REPORT DATE : 06/11/10 11:10
PREPARED BY : BMS

Attn: Jeff King

Sample ID: 9

Matrix: Solid

Sample Date/Time: 05/27/10 14:10

Lab No. : 1005500-09

	<u>Results</u>	<u>Units</u>	<u>LOD</u>	<u>LOQ</u>	<u>Dilution Factor</u>	<u>Qualifiers</u>	<u>Date Analyzed</u>	<u>Analyst</u>
<u>EPA 8021B</u>								
1,2,4-Trimethylbenzene	ND	mg/kg dry	0.013	0.025	1		06/08/10	ALZ
1,3,5-Trimethylbenzene	ND	mg/kg dry	0.018	0.025	1		06/08/10	ALZ
Benzene	ND	mg/kg dry	0.016	0.025	1		06/08/10	ALZ
Ethylbenzene	ND	mg/kg dry	0.018	0.025	1		06/08/10	ALZ
m&p-Xylene	ND	mg/kg dry	0.021	0.025	1		06/08/10	ALZ
Methyl Tert Butyl Ether	ND	mg/kg dry	0.011	0.025	1		06/08/10	ALZ
Naphthalene	ND	mg/kg dry	0.018	0.025	1		06/08/10	ALZ
o-Xylene	ND	mg/kg dry	0.016	0.025	1		06/08/10	ALZ
Toluene	ND	mg/kg dry	0.017	0.025	1		06/08/10	ALZ

WI DNR DRO

Prep Method: WI DNR Soil Extraction

By: KAM

Date Prepared: 06/08/10

Diesel Range Organics	ND	mg/kg dry	5.15	5.15	1.03		06/09/10	LMP
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Sample ID: 10

Matrix: Solid

Sample Date/Time: 05/27/10 14:40

Lab No. : 1005500-10

	<u>Results</u>	<u>Units</u>	<u>LOD</u>	<u>LOQ</u>	<u>Dilution Factor</u>	<u>Qualifiers</u>	<u>Date Analyzed</u>	<u>Analyst</u>
<u>EPA 8021B</u>								
1,2,4-Trimethylbenzene	ND	mg/kg dry	0.013	0.025	1		06/08/10	ALZ
1,3,5-Trimethylbenzene	ND	mg/kg dry	0.018	0.025	1		06/08/10	ALZ
Benzene	ND	mg/kg dry	0.016	0.025	1		06/08/10	ALZ
Ethylbenzene	ND	mg/kg dry	0.018	0.025	1		06/08/10	ALZ
m&p-Xylene	ND	mg/kg dry	0.021	0.025	1		06/08/10	ALZ
Methyl Tert Butyl Ether	ND	mg/kg dry	0.011	0.025	1		06/08/10	ALZ
Naphthalene	ND	mg/kg dry	0.018	0.025	1		06/08/10	ALZ
o-Xylene	ND	mg/kg dry	0.016	0.025	1		06/08/10	ALZ
Toluene	ND	mg/kg dry	0.017	0.025	1		06/08/10	ALZ

WI DNR DRO

Prep Method: WI DNR Soil Extraction

By: KAM

Date Prepared: 06/08/10

Diesel Range Organics	ND	mg/kg dry	5.41	5.41	1.08		06/09/10	LMP
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SIEMENS

Gannett Fleming, Inc.
8025 Excelsior Drive
Madison, WI 53717

PROJECT NO. : 52865.001 Allied
REPORT NO. : 1005500
DATE REC'D: 05/28/10 18:00
REPORT DATE : 06/11/10 11:10
PREPARED BY : BMS

Attn: Jeff King

Sample ID: 11

Matrix: Solid

Sample Date/Time: 05/27/10 14:50

Lab No. : 1005500-11

	<u>Results</u>	<u>Units</u>	<u>LOD</u>	<u>LOQ</u>	<u>Dilution Factor</u>	<u>Qualifiers</u>	<u>Date Analyzed</u>	<u>Analyst</u>
EPA 8021B								
1,2,4-Trimethylbenzene	ND	mg/kg dry	0.013	0.025	1		06/08/10	ALZ
1,3,5-Trimethylbenzene	ND	mg/kg dry	0.018	0.025	1		06/08/10	ALZ
Benzene	ND	mg/kg dry	0.016	0.025	1		06/08/10	ALZ
Ethylbenzene	ND	mg/kg dry	0.018	0.025	1		06/08/10	ALZ
m&p-Xylene	ND	mg/kg dry	0.021	0.025	1		06/08/10	ALZ
Methyl Tert Butyl Ether	ND	mg/kg dry	0.011	0.025	1		06/08/10	ALZ
Naphthalene	ND	mg/kg dry	0.018	0.025	1		06/08/10	ALZ
o-Xylene	ND	mg/kg dry	0.016	0.025	1		06/08/10	ALZ
Toluene	ND	mg/kg dry	0.017	0.025	1		06/08/10	ALZ

WI DNR DRO

Prep Method: WI DNR Soil Extraction

By: KAM

Date Prepared: 06/08/10

Diesel Range Organics	ND	mg/kg dry	4.04	4.04	0.807		06/09/10	LMP
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Sample ID: 12

Matrix: Solid

Sample Date/Time: 05/27/10 15:05

Lab No. : 1005500-12

	<u>Results</u>	<u>Units</u>	<u>LOD</u>	<u>LOQ</u>	<u>Dilution Factor</u>	<u>Qualifiers</u>	<u>Date Analyzed</u>	<u>Analyst</u>
EPA 8021B								
1,2,4-Trimethylbenzene	ND	mg/kg dry	0.013	0.025	1		06/08/10	ALZ
1,3,5-Trimethylbenzene	ND	mg/kg dry	0.018	0.025	1		06/08/10	ALZ
Benzene	ND	mg/kg dry	0.016	0.025	1		06/08/10	ALZ
Ethylbenzene	ND	mg/kg dry	0.018	0.025	1		06/08/10	ALZ
m&p-Xylene	ND	mg/kg dry	0.021	0.025	1		06/08/10	ALZ
Methyl Tert Butyl Ether	ND	mg/kg dry	0.011	0.025	1		06/08/10	ALZ
Naphthalene	ND	mg/kg dry	0.018	0.025	1		06/08/10	ALZ
o-Xylene	ND	mg/kg dry	0.016	0.025	1		06/08/10	ALZ
Toluene	ND	mg/kg dry	0.017	0.025	1		06/08/10	ALZ

WI DNR DRO

Prep Method: WI DNR Soil Extraction

By: KAM

Date Prepared: 06/08/10

Diesel Range Organics	ND	mg/kg dry	4.44	4.44	0.888		06/09/10	LMP
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SIEMENS

Gannett Fleming, Inc.
8025 Excelsior Drive
Madison, WI 53717

PROJECT NO. : 52865.001 Allied
REPORT NO. : 1005500
DATE REC'D: 05/28/10 18:00
REPORT DATE : 06/11/10 11:10
PREPARED BY : BMS

Attn: Jeff King

Sample ID: 13

Matrix: Solid

Sample Date/Time: 05/27/10 15:30

Lab No. : 1005500-13

	<u>Results</u>	<u>Units</u>	<u>LOD</u>	<u>LOQ</u>	<u>Dilution Factor</u>	<u>Qualifiers</u>	<u>Date Analyzed</u>	<u>Analyst</u>
<u>EPA 8021B</u>								
1,2,4-Trimethylbenzene	ND	mg/kg dry	0.013	0.025	1		06/08/10	ALZ
1,3,5-Trimethylbenzene	ND	mg/kg dry	0.018	0.025	1		06/08/10	ALZ
Benzene	ND	mg/kg dry	0.016	0.025	1		06/08/10	ALZ
Ethylbenzene	ND	mg/kg dry	0.018	0.025	1		06/08/10	ALZ
m&p-Xylene	ND	mg/kg dry	0.021	0.025	1		06/08/10	ALZ
Methyl Tert Butyl Ether	ND	mg/kg dry	0.011	0.025	1		06/08/10	ALZ
Naphthalene	ND	mg/kg dry	0.018	0.025	1		06/08/10	ALZ
o-Xylene	ND	mg/kg dry	0.016	0.025	1		06/08/10	ALZ
Toluene	ND	mg/kg dry	0.017	0.025	1		06/08/10	ALZ

WI DNR DRO

Prep Method: WI DNR Soil Extraction

By: KAM

Date Prepared: 06/08/10

Diesel Range Organics	ND	mg/kg dry	5.00	5.00	0.997		06/09/10	LMP
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Sample ID: 14

Matrix: Solid

Sample Date/Time: 05/27/10 15:35

Lab No. : 1005500-14

	<u>Results</u>	<u>Units</u>	<u>LOD</u>	<u>LOQ</u>	<u>Dilution Factor</u>	<u>Qualifiers</u>	<u>Date Analyzed</u>	<u>Analyst</u>
<u>EPA 8021B</u>								
1,2,4-Trimethylbenzene	0.173	mg/kg dry	0.014	0.027	1.09		06/08/10	ALZ
1,3,5-Trimethylbenzene	0.161	mg/kg dry	0.020	0.027	1.09		06/08/10	ALZ
Benzene	ND	mg/kg dry	0.017	0.027	1.09		06/08/10	ALZ
Ethylbenzene	0.071	mg/kg dry	0.020	0.027	1.09		06/08/10	ALZ
m&p-Xylene	0.186	mg/kg dry	0.023	0.027	1.09		06/08/10	ALZ
Methyl Tert Butyl Ether	ND	mg/kg dry	0.012	0.027	1.09		06/08/10	ALZ
Naphthalene	0.345	mg/kg dry	0.020	0.027	1.09		06/08/10	ALZ
o-Xylene	ND	mg/kg dry	0.017	0.027	1.09		06/08/10	ALZ
Toluene	ND	mg/kg dry	0.019	0.027	1.09		06/08/10	ALZ

WI DNR DRO

Prep Method: WI DNR Soil Extraction

By: KAM

Date Prepared: 06/08/10

Diesel Range Organics	36.2	mg/kg dry	4.63	4.63	0.926	D1	06/09/10	LMP
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SIEMENS

Gannett Fleming, Inc.
8025 Excelsior Drive
Madison, WI 53717

PROJECT NO. : 52865.001 Allied
REPORT NO. : 1005500
DATE REC'D: 05/28/10 18:00
REPORT DATE : 06/11/10 11:10
PREPARED BY : BMS

Attn: Jeff King

Sample ID: 15

Matrix: Solid

Sample Date/Time: 05/27/10 15:50

Lab No. : 1005500-15

	<u>Results</u>	<u>Units</u>	<u>LOD</u>	<u>LOQ</u>	<u>Dilution Factor</u>	<u>Qualifiers</u>	<u>Date Analyzed</u>	<u>Analyst</u>
EPA 8021B								
1,2,4-Trimethylbenzene	ND	mg/kg dry	0.013	0.025	1.01		06/08/10	ALZ
1,3,5-Trimethylbenzene	ND	mg/kg dry	0.018	0.025	1.01		06/08/10	ALZ
Benzene	ND	mg/kg dry	0.016	0.025	1.01		06/08/10	ALZ
Ethylbenzene	ND	mg/kg dry	0.018	0.025	1.01		06/08/10	ALZ
m&p-Xylene	ND	mg/kg dry	0.021	0.025	1.01		06/08/10	ALZ
Methyl Tert Butyl Ether	ND	mg/kg dry	0.011	0.025	1.01		06/08/10	ALZ
Naphthalene	ND	mg/kg dry	0.018	0.025	1.01		06/08/10	ALZ
o-Xylene	ND	mg/kg dry	0.016	0.025	1.01		06/08/10	ALZ
Toluene	ND	mg/kg dry	0.017	0.025	1.01		06/08/10	ALZ

WI DNR DRO

Prep Method: WI DNR Soil Extraction

By: KAM

Date Prepared: 06/08/10

Diesel Range Organics	ND	mg/kg dry	4.30	4.30	0.859		06/09/10	LMP
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Sample ID: 16

Matrix: Solid

Sample Date/Time: 05/27/10 15:55

Lab No. : 1005500-16

	<u>Results</u>	<u>Units</u>	<u>LOD</u>	<u>LOQ</u>	<u>Dilution Factor</u>	<u>Qualifiers</u>	<u>Date Analyzed</u>	<u>Analyst</u>
EPA 8021B								
1,2,4-Trimethylbenzene	ND	mg/kg dry	0.013	0.026	1.04		06/08/10	ALZ
1,3,5-Trimethylbenzene	ND	mg/kg dry	0.019	0.026	1.04		06/08/10	ALZ
Benzene	ND	mg/kg dry	0.017	0.026	1.04		06/08/10	ALZ
Ethylbenzene	ND	mg/kg dry	0.019	0.026	1.04		06/08/10	ALZ
m&p-Xylene	ND	mg/kg dry	0.022	0.026	1.04		06/08/10	ALZ
Methyl Tert Butyl Ether	ND	mg/kg dry	0.011	0.026	1.04		06/08/10	ALZ
Naphthalene	ND	mg/kg dry	0.019	0.026	1.04		06/08/10	ALZ
o-Xylene	ND	mg/kg dry	0.017	0.026	1.04		06/08/10	ALZ
Toluene	ND	mg/kg dry	0.018	0.026	1.04		06/08/10	ALZ

WI DNR DRO

Prep Method: WI DNR Soil Extraction

By: KAM

Date Prepared: 06/08/10

Diesel Range Organics	ND	mg/kg dry	4.43	4.43	0.886		06/09/10	LMP
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SIEMENS

Gannett Fleming, Inc.
8025 Excelsior Drive
Madison, WI 53717

PROJECT NO. : 52865.001 Allied
REPORT NO. : 1005500
DATE REC'D: 05/28/10 18:00
REPORT DATE : 06/11/10 11:10
PREPARED BY : BMS

Attn: Jeff King

Sample ID: MeOH Blank

Matrix: Solid

Sample Date/Time: 05/27/10 0:00

Lab No. : 1005500-17

	<u>Results</u>	<u>Units</u>	<u>LOD</u>	<u>LOQ</u>	<u>Dilution Factor</u>	<u>Qualifiers</u>	<u>Date Analyzed</u>	<u>Analyst</u>
<u>EPA 8021B</u>								
1,2,4-Trimethylbenzene	ND	mg/kg	0.013	0.025	1		06/07/10	ALZ
1,3,5-Trimethylbenzene	ND	mg/kg	0.018	0.025	1		06/07/10	ALZ
Benzene	ND	mg/kg	0.016	0.025	1		06/07/10	ALZ
Ethylbenzene	ND	mg/kg	0.018	0.025	1		06/07/10	ALZ
m&p-Xylene	ND	mg/kg	0.021	0.025	1		06/07/10	ALZ
Methyl Tert Butyl Ether	ND	mg/kg	0.011	0.025	1		06/07/10	ALZ
Naphthalene	ND	mg/kg	0.018	0.025	1		06/07/10	ALZ
o-Xylene	ND	mg/kg	0.016	0.025	1		06/07/10	ALZ
Toluene	ND	mg/kg	0.017	0.025	1		06/07/10	ALZ

SIEMENS

Qualifier Descriptions

D1 The chromatogram is characteristic for a fuel oil/diesel (i.e. #1 or #2 Diesel, Jet Fuel, Kerosene, weathered Diesel, etc.).

Definitions

LOD = Limit of Detection (Dilution Corrected)
LOQ = Limit of Quantitation (Dilution Corrected)
Reporting Limit = LOQ (Dilution Corrected)
ND = Not Detected
COMP = Complete
SUBCON = Subcontracted analysis
mv = millivolts
pci/L = picocuries per Liter
mL/L = milliliters per Liter
mg = milligram

When the word "dry" follows the units on the result page the sample results are dry weight corrected.

LODs and LOQs are dry weight corrected for all soils except WI GRO and EPA 8021 methanol and WI DNR methylene chloride preserved soils.

ug/l = Micrograms per Liter = parts per billion (ppb)
ug/kg = Micrograms per kilogram = parts per billion (ppb)
mg/l = Milligrams per liter = parts per million (ppm)
mg/kg = Milligrams per kilogram = parts per million (ppm)
NOT PRES = Not Present
ppth = Parts per thousand
* = Result outside established limits.
mg/m3 = Milligrams per meter cubed
ng/L = Nanograms per Liter = Parts per trillion (ppt)
> = Greater Than

Methanol Soils for WI GRO and EPA 8021 are reported to the LOQ.

LABORATORY'S QUALITY VERIFICATION STATEMENT

Laboratory must provide a signed copy of this form with each deliverable specified in the Work Order or the deliverable will not be accepted. Laboratory must provide Gannett Fleming with a true copy of its internal QA/QC review and approval forms related to the deliverable.

This form must be signed by the Laboratory's Quality Control/Quality Assurance Officer

Project Name: Allied

Gannett Fleming Project Number: 52865.001

Deliverable Description: Analytical Report

I, Cindy Varga, warrant and represent that the project deliverable described above and attached to this form was developed in accordance with the project scope of work and that all elements relating to the quality of the deliverable were verified in accordance with the requirements of my firm's internal quality management/quality assurance system. This deliverable satisfies all requirements of our Contract with Gannett Fleming.

Signature: Cindy Varga
(by Laboratory's QC/QA Officer)

Date: 6/14/10

Laboratory: Siemens Water Technologies

'Deliverable' shall mean all aspects of design including, without limitation, drawings, calculations, maps, materials and specifications, reports, data bases, logs and other information developed from wells, borings and cores, laboratory data, materials schedules, instrument calibration data and all other items developed, prepared and delivered to Gannett Fleming by Contractor as specified in the Scope of Work in any media.

bw 10.2.09

Company Name GANNETT FLEMING		Project 52865.001 - ALLIED	
Report Mailing Address TONY MILLER - GANNETT FLEMING 8025 EXCELSIOR DR. MADISON WI 53717		Contact Name, Phone, Fax, Email TONY MILLER a.miller@gfnet.com P 608-836-1500 (x16) F-608-831-3337	
Invoice Address SAME AS ABOVE		Purchase Order # 2010 TIER 1	Invoice Contact and Phone No. SAME AS ABOVE

Matrix: Drinking Water Groundwater Wastewater Soil/Solid Other: _____

Wis. PECFA Project subject to U&C? Yes ☐ No ☒

For Compliance Monitoring? ☒ Yes ☐ No State: WI
(If Yes, please specify Agency or Regulation) Agency/Reg.: WMR

Turnaround Request: ☒ Normal (10 Bus. Days)
☐ Rush (Must be pre-approved by Lab and is subject to surcharges)
Date Needed: _____

WO No. 1005500

Lab Use Only	Sample		No. of Containers		Sample ID	Analyses Requested				Comments
	Date	Time	Comp	Grab		DRD	AVOC	NAP	HTH	
-01	5/27	12:00		3	1	✓	✓	✓		207 AG jar w/ McOH,
-02		12:25		3	2	✓	✓	✓		202 AG jar np
-03		12:30		3	3	✓	✓	✓		TS cup.
-04		12:45		3	4	✓	✓	✓		
-05		13:15		3	5	✓	✓	✓		
-06		13:35		3	6	✓	✓	✓		
-07		13:50		3	7	✓	✓	✓		
-08		13:55		3	8	✓	✓	✓		
-09		14:10		3	9	✓	✓	✓		
-10	✓	14:40		3	10	✓	✓	✓		

Lab Use Only		
Delivered by	Walk-in	Courier
Ship. Cont. OK?	☒ Y	☐ N
Samples Leaking?	☐ Y	☒ N
Seals OK?	☒ Y	☐ N
Rec'd on Ice?	☒ Y	☐ N
Sample Receiving Comments: 3.8°C		

Dunham

Chain of Custody
Record

Relinquished By:	Date	Time	Received By:
<i>Tony Miller</i>	5/27/10	17:30	
	5/28/10	18:00	<i>Manish K. Pant</i>

Company Name GANNETT FLEMING	Project 52865.001 - ALLIED
Report Mailing Address SEE PG 1	Contact Name, Phone, Fax, Email SEE PG 1
Invoice Address SEE PG 1	Purchase Order # SEE PG 1

Matrix: Drinking Water Groundwater Wastewater Soil/Solid Other: _____

Wis. PECFA Project subject to U&C? Yes No

For Compliance Monitoring: Yes No State: WI
(If Yes, please specify Agency or Regulation) Agency/Reg.: WMR

Turnaround Request: ☒ Normal (10 Bus. Days)
☐ Rush (Must be pre-approved by Lab and is subject to surcharges)
Date Needed: _____

WO No. 1005500

Lab Use Only	Sample		No. of Containers		Sample ID	Analyses Requested										Lab Use Only		
	Date	Time	Comp	Grab		PRO	PVOC	NAPHTHALENE								Delivered by	Walk-in	Courier
-11	5/27	14:50			11	✓	✓	✓								Ship. Cont. OK?	<u>Y</u>	N
-12		15:05			12	✓	✓	✓								Samples Leaking?	<u>Y</u>	N
-13		15:30			13	✓	✓	✓								Seals OK?	<u>Y</u>	N
-14		15:35			14	✓	✓	✓								Rec'd on Ice?	<u>Y</u>	N
-15		15:50			15	✓	✓	✓								Sample Receiving Comments: 3.8°C		
-16		15:55			16	✓	✓	✓										
-17	1/21/10			1	TRIP BLANK		✓	✓								meoH Blank # 033 1/21/10		

Chain of Custody
Record

Relinquished By:	Date	Time	Received By:
<i>[Signature]</i>	5/27/10	17:30	
	5/28/10	18:00	<i>[Signature]</i>

SIEMENS

Client: Gannett Fleming

Date Received: 5 / 28 / 10

Analytical Number: 100500 - 1 through 17

Check all deviations from the EPA or WDNR sample protocol.

- ☐ Sample(s) received at _____ °C which is above the EPA and WDNR limit of 4°C.
- ☐ VOC vial(s) received with headspace.
- ☐ Sample(s) received in bottles not furnished by Siemens Water Technologies. The preservation method, if used, is unknown.
- ☐ Sample(s) were not properly preserved per EPA or WDNR protocol for the following analyses:
 - _____
- ☐ Sample(s) were received beyond the EPA/WDNR holding time for the following analyses:
 - _____
- ☐ Sample date/time not supplied by client. Actual holding time is unknown.
- ☐ GRO / PVOC / VOC / DRO (circle) sample(s) are <19.5 grams. This report is the qualifier flag for that QC failure. The client has been contacted for further instructions. Analytical number(s) of the sample(s) under weight are:
 - _____
- ☒ GRO / PVOC / VOC (circle) sample(s) were between 26.4 and 35.4 grams. Methanol was added in a 1:1 ratio in the lab. Analytical number(s) of the sample(s) affected are:
 - 1005500 - 8B + 2ml, -9B + 2ml, -10B + 4ml, -11B + 3ml
- ☐ GRO / PVOC / VOC / DRO (circle) sample(s) are >35.4 grams and are required to be rejected. This report is the qualifier flag for that QC failure. The client has been contacted for further instructions. Analytical number(s) of the sample(s) affected are:
 - _____
- ☐ Other problems:
 - _____

Client contacted concerning the above deviations:

_____ notified of the above deviation(s) on ____ / ____ / ____ @

_____ contact name
_____ am/pm by _____ and the client ordered the following:
initial

- ☐ Proceed with analyses as ordered.
- ☐ Proceed with analyses after taking the following corrective action:
 - _____
- ☐ Do NOT proceed with analyses.

Siemens Water Technologies Corp.

301 West Military Road
Rothschild, WI 54474

Tel: (800)338-7226
Fax: (715)355-3221

SIEMENS

June 23, 2010

Gannett Fleming, Inc.
8025 Excelsior Drive
Madison, WI 53717

Attn: Tony Miller

REPORT NO.: 1006085

PROJECT NO.: 52865.001 Allied

Please find enclosed the analytical report, including the Sample Summary, Sample Narrative and Chain of Custody for your sample set received June 3, 2010.

All analyses were performed in accordance with NELAC Standards using approved methods as indicated on this report.

If you have any questions about the results, please call. Thank you for using Siemens Water Technologies for your analytical needs.

Sincerely,

Siemens Water Technologies


Bruce Schertz
Lab Manager
Enviroscan Analytical™ Services

I certify that the data contained in this report has been generated and reviewed in accordance with the Siemens Water Technologies Quality Assurance Program. Exceptions, if any, are discussed in the sample narrative. Samples will be retained for 30 days from the date of this report, then disposed in an appropriate manner. Siemens Water Technologies Corp. reserves the right to return samples identified as hazardous. Release of this Final Report is authorized as verified by the following signature. The contents of this report apply to the sample(s) analyzed. No duplication of this report is allowed except in its entirety.

Reviewed by: 

Certifications:

Wisconsin 737053130
Minnesota 055-999-302
Illinois 100317



Siemens Water Technologies Corp.

301 West Military Road
Rothschild, WI 54474

Tel: 800-338-7226
Fax: 715-355-3221

www.siemens.com/enviroscan

SIEMENS

SAMPLE SUMMARY

<u>Lab Id</u>	<u>Client Sample Id</u>	<u>Date/Time</u>	<u>Matrix</u>
1006085-01	17	05/28/10 17:50	Solid
1006085-02	18	05/28/10 17:55	Solid
1006085-03	19	05/28/10 18:00	Solid
1006085-04	20	05/28/10 18:05	Solid
1006085-05	21	05/28/10 18:10	Solid
1006085-06	22	05/28/10 18:15	Solid
1006085-07	23	05/28/10 18:20	Solid
1006085-08	24	05/28/10 18:25	Solid
1006085-09	25	06/01/10 14:35	Solid
1006085-10	26	06/01/10 14:40	Solid
1006085-11	27	06/01/10 14:45	Solid
1006085-12	28	06/01/10 14:50	Solid
1006085-13	29	06/01/10 14:55	Solid
1006085-14	30	06/01/10 15:00	Solid
1006085-15	31	06/01/10 15:05	Solid
1006085-16	Stockpile	06/01/10 15:10	Solid
1006085-17	MeOH Blank	06/01/10 00:00	Solid

SIEMENS

Gannett Fleming, Inc.
8025 Excelsior Drive
Madison, WI 53717

PROJECT NO. : 52865.001 Allied
REPORT NO. : 1006085
DATE REC'D: 06/03/10 15:44
REPORT DATE : 06/23/10 15:31
PREPARED BY : BMS

Attn: Tony Miller

Sample ID: 17

Matrix: Solid

Sample Date/Time: 05/28/10 17:50

Lab No. : 1006085-01

	<u>Results</u>	<u>Units</u>	<u>LOD</u>	<u>LOQ</u>	<u>Dilution Factor</u>	<u>Qualifiers</u>	<u>Date Analyzed</u>	<u>Analyst</u>
<u>EPA 8021B</u>								
1,2,4-Trimethylbenzene	ND	mg/kg dry	0.014	0.027	1.1		06/09/10	ALZ
1,3,5-Trimethylbenzene	ND	mg/kg dry	0.020	0.027	1.1		06/09/10	ALZ
Benzene	ND	mg/kg dry	0.018	0.027	1.1		06/09/10	ALZ
Ethylbenzene	ND	mg/kg dry	0.020	0.027	1.1		06/09/10	ALZ
m&p-Xylene	ND	mg/kg dry	0.023	0.027	1.1		06/09/10	ALZ
Methyl Tert Butyl Ether	ND	mg/kg dry	0.012	0.027	1.1		06/09/10	ALZ
Naphthalene	ND	mg/kg dry	0.020	0.027	1.1		06/09/10	ALZ
o-Xylene	ND	mg/kg dry	0.018	0.027	1.1		06/09/10	ALZ
Toluene	ND	mg/kg dry	0.019	0.027	1.1		06/09/10	ALZ

WI DNR DRO

Prep Method: WI DNR Soil Extraction

By: KAM

Date Prepared: 06/08/10

Diesel Range Organics	ND	mg/kg dry	4.29	4.29	0.858		06/10/10	LMP
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Sample ID: 18

Matrix: Solid

Sample Date/Time: 05/28/10 17:55

Lab No. : 1006085-02

	<u>Results</u>	<u>Units</u>	<u>LOD</u>	<u>LOQ</u>	<u>Dilution Factor</u>	<u>Qualifiers</u>	<u>Date Analyzed</u>	<u>Analyst</u>
<u>EPA 8021B</u>								
1,2,4-Trimethylbenzene	ND	mg/kg dry	0.014	0.026	1.04		06/09/10	ALZ
1,3,5-Trimethylbenzene	ND	mg/kg dry	0.019	0.026	1.04		06/09/10	ALZ
Benzene	ND	mg/kg dry	0.017	0.026	1.04		06/09/10	ALZ
Ethylbenzene	ND	mg/kg dry	0.019	0.026	1.04		06/09/10	ALZ
m&p-Xylene	ND	mg/kg dry	0.022	0.026	1.04		06/09/10	ALZ
Methyl Tert Butyl Ether	ND	mg/kg dry	0.011	0.026	1.04		06/09/10	ALZ
Naphthalene	ND	mg/kg dry	0.019	0.026	1.04		06/09/10	ALZ
o-Xylene	ND	mg/kg dry	0.017	0.026	1.04		06/09/10	ALZ
Toluene	ND	mg/kg dry	0.018	0.026	1.04		06/09/10	ALZ

WI DNR DRO

Prep Method: WI DNR Soil Extraction

By: KAM

Date Prepared: 06/08/10

Diesel Range Organics	ND	mg/kg dry	4.35	4.35	0.871		06/10/10	LMP
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SIEMENS

Gannett Fleming, Inc.
8025 Excelsior Drive
Madison, WI 53717

PROJECT NO. : 52865.001 Allied
REPORT NO. : 1006085
DATE REC'D: 06/03/10 15:44
REPORT DATE : 06/23/10 15:31
PREPARED BY : BMS

Attn: Tony Miller

Sample ID: 19

Matrix: Solid

Sample Date/Time: 05/28/10 18:00

Lab No. : 1006085-03

	<u>Results</u>	<u>Units</u>	<u>LOD</u>	<u>LOQ</u>	<u>Dilution Factor</u>	<u>Qualifiers</u>	<u>Date Analyzed</u>	<u>Analyst</u>
<u>EPA 8021B</u>								
1,2,4-Trimethylbenzene	ND	mg/kg dry	0.013	0.025	1		06/09/10	ALZ
1,3,5-Trimethylbenzene	ND	mg/kg dry	0.018	0.025	1		06/09/10	ALZ
Benzene	ND	mg/kg dry	0.016	0.025	1		06/09/10	ALZ
Ethylbenzene	ND	mg/kg dry	0.018	0.025	1		06/09/10	ALZ
m&p-Xylene	ND	mg/kg dry	0.021	0.025	1		06/09/10	ALZ
Methyl Tert Butyl Ether	ND	mg/kg dry	0.011	0.025	1		06/09/10	ALZ
Naphthalene	ND	mg/kg dry	0.018	0.025	1		06/09/10	ALZ
o-Xylene	ND	mg/kg dry	0.016	0.025	1		06/09/10	ALZ
Toluene	ND	mg/kg dry	0.017	0.025	1		06/09/10	ALZ

WI DNR DRO

Prep Method: WI DNR Soil Extraction

By: KAM

Date Prepared: 06/08/10

Diesel Range Organics

ND

mg/kg dry

5.00

5.00

0.992

06/10/10

LMP

Sample ID: 20

Matrix: Solid

Sample Date/Time: 05/28/10 18:05

Lab No. : 1006085-04

	<u>Results</u>	<u>Units</u>	<u>LOD</u>	<u>LOQ</u>	<u>Dilution Factor</u>	<u>Qualifiers</u>	<u>Date Analyzed</u>	<u>Analyst</u>
<u>EPA 8021B</u>								
1,2,4-Trimethylbenzene	ND	mg/kg dry	0.014	0.027	1.06		06/09/10	ALZ
1,3,5-Trimethylbenzene	ND	mg/kg dry	0.019	0.027	1.06		06/09/10	ALZ
Benzene	ND	mg/kg dry	0.017	0.027	1.06		06/09/10	ALZ
Ethylbenzene	ND	mg/kg dry	0.019	0.027	1.06		06/09/10	ALZ
m&p-Xylene	ND	mg/kg dry	0.022	0.027	1.06		06/09/10	ALZ
Methyl Tert Butyl Ether	ND	mg/kg dry	0.012	0.027	1.06		06/09/10	ALZ
Naphthalene	ND	mg/kg dry	0.019	0.027	1.06		06/09/10	ALZ
o-Xylene	ND	mg/kg dry	0.017	0.027	1.06		06/09/10	ALZ
Toluene	ND	mg/kg dry	0.018	0.027	1.06		06/09/10	ALZ

WI DNR DRO

Prep Method: WI DNR Soil Extraction

By: KAM

Date Prepared: 06/08/10

Diesel Range Organics

ND

mg/kg dry

4.08

4.08

0.817

06/10/10

LMP

SIEMENS

Gannett Fleming, Inc.
8025 Excelsior Drive
Madison, WI 53717

PROJECT NO. : 52865.001 Allied
REPORT NO. : 1006085
DATE REC'D: 06/03/10 15:44
REPORT DATE : 06/23/10 15:31
PREPARED BY : BMS

Attn: Tony Miller

Sample ID: 21

Matrix: Solid

Sample Date/Time: 05/28/10 18:10

Lab No. : 1006085-05

	<u>Results</u>	<u>Units</u>	<u>LOD</u>	<u>LOQ</u>	<u>Dilution Factor</u>	<u>Qualifiers</u>	<u>Date Analyzed</u>	<u>Analyst</u>
<u>EPA 8021B</u>								
1,2,4-Trimethylbenzene	ND	mg/kg dry	0.013	0.025	1		06/09/10	ALZ
1,3,5-Trimethylbenzene	ND	mg/kg dry	0.018	0.025	1		06/09/10	ALZ
Benzene	ND	mg/kg dry	0.016	0.025	1		06/09/10	ALZ
Ethylbenzene	ND	mg/kg dry	0.018	0.025	1		06/09/10	ALZ
m&p-Xylene	ND	mg/kg dry	0.021	0.025	1		06/09/10	ALZ
Methyl Tert Butyl Ether	ND	mg/kg dry	0.011	0.025	1		06/09/10	ALZ
Naphthalene	ND	mg/kg dry	0.018	0.025	1		06/09/10	ALZ
o-Xylene	ND	mg/kg dry	0.016	0.025	1		06/09/10	ALZ
Toluene	ND	mg/kg dry	0.017	0.025	1		06/09/10	ALZ

WI DNR DRO

Prep Method: WI DNR Soil Extraction

By: KAM

Date Prepared: 06/08/10

Diesel Range Organics	ND	mg/kg dry	4.32	4.32	0.864		06/10/10	LMP
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Sample ID: 22

Matrix: Solid

Sample Date/Time: 05/28/10 18:15

Lab No. : 1006085-06

	<u>Results</u>	<u>Units</u>	<u>LOD</u>	<u>LOQ</u>	<u>Dilution Factor</u>	<u>Qualifiers</u>	<u>Date Analyzed</u>	<u>Analyst</u>
<u>EPA 8021B</u>								
1,2,4-Trimethylbenzene	ND	mg/kg dry	0.014	0.026	1.04		06/09/10	ALZ
1,3,5-Trimethylbenzene	ND	mg/kg dry	0.019	0.026	1.04		06/09/10	ALZ
Benzene	ND	mg/kg dry	0.017	0.026	1.04		06/09/10	ALZ
Ethylbenzene	ND	mg/kg dry	0.019	0.026	1.04		06/09/10	ALZ
m&p-Xylene	ND	mg/kg dry	0.022	0.026	1.04		06/09/10	ALZ
Methyl Tert Butyl Ether	ND	mg/kg dry	0.011	0.026	1.04		06/09/10	ALZ
Naphthalene	ND	mg/kg dry	0.019	0.026	1.04		06/09/10	ALZ
o-Xylene	ND	mg/kg dry	0.017	0.026	1.04		06/09/10	ALZ
Toluene	ND	mg/kg dry	0.018	0.026	1.04		06/09/10	ALZ

WI DNR DRO

Prep Method: WI DNR Soil Extraction

By: KAM

Date Prepared: 06/08/10

Diesel Range Organics	ND	mg/kg dry	4.28	4.28	0.855		06/10/10	LMP
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SIEMENS

Gannett Fleming, Inc.
8025 Excelsior Drive
Madison, WI 53717

PROJECT NO. : 52865.001 Allied
REPORT NO. : 1006085
DATE REC'D: 06/03/10 15:44
REPORT DATE : 06/23/10 15:31
PREPARED BY : BMS

Attn: Tony Miller

Sample ID: 23

Matrix: Solid

Sample Date/Time: 05/28/10 18:20

Lab No. : 1006085-07

	<u>Results</u>	<u>Units</u>	<u>LOD</u>	<u>LOQ</u>	<u>Dilution Factor</u>	<u>Qualifiers</u>	<u>Date Analyzed</u>	<u>Analyst</u>
<u>EPA 8021B</u>								
1,2,4-Trimethylbenzene	ND	mg/kg dry	0.013	0.025	1		06/09/10	ALZ
1,3,5-Trimethylbenzene	ND	mg/kg dry	0.018	0.025	1		06/09/10	ALZ
Benzene	ND	mg/kg dry	0.016	0.025	1		06/09/10	ALZ
Ethylbenzene	ND	mg/kg dry	0.018	0.025	1		06/09/10	ALZ
m&p-Xylene	ND	mg/kg dry	0.021	0.025	1		06/09/10	ALZ
Methyl Tert Butyl Ether	ND	mg/kg dry	0.011	0.025	1		06/09/10	ALZ
Naphthalene	ND	mg/kg dry	0.018	0.025	1		06/09/10	ALZ
o-Xylene	ND	mg/kg dry	0.016	0.025	1		06/09/10	ALZ
Toluene	ND	mg/kg dry	0.017	0.025	1		06/09/10	ALZ

WI DNR DRO

Prep Method: WI DNR Soil Extraction

By: KAM

Date Prepared: 06/08/10

Diesel Range Organics	ND	mg/kg dry	4.39	4.39	0.879		06/10/10	LMP
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Sample ID: 24

Matrix: Solid

Sample Date/Time: 05/28/10 18:25

Lab No. : 1006085-08

	<u>Results</u>	<u>Units</u>	<u>LOD</u>	<u>LOQ</u>	<u>Dilution Factor</u>	<u>Qualifiers</u>	<u>Date Analyzed</u>	<u>Analyst</u>
<u>EPA 8021B</u>								
1,2,4-Trimethylbenzene	ND	mg/kg dry	0.013	0.025	1		06/09/10	ALZ
1,3,5-Trimethylbenzene	ND	mg/kg dry	0.018	0.025	1		06/09/10	ALZ
Benzene	ND	mg/kg dry	0.016	0.025	1		06/09/10	ALZ
Ethylbenzene	ND	mg/kg dry	0.018	0.025	1		06/09/10	ALZ
m&p-Xylene	ND	mg/kg dry	0.021	0.025	1		06/09/10	ALZ
Methyl Tert Butyl Ether	ND	mg/kg dry	0.011	0.025	1		06/09/10	ALZ
Naphthalene	ND	mg/kg dry	0.018	0.025	1		06/09/10	ALZ
o-Xylene	ND	mg/kg dry	0.016	0.025	1		06/09/10	ALZ
Toluene	ND	mg/kg dry	0.017	0.025	1		06/09/10	ALZ

WI DNR DRO

Prep Method: WI DNR Soil Extraction

By: KAM

Date Prepared: 06/08/10

Diesel Range Organics	ND	mg/kg dry	4.69	4.69	0.939		06/10/10	LMP
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SIEMENS

Gannett Fleming, Inc.
8025 Excelsior Drive
Madison, WI 53717

PROJECT NO. : 52865.001 Allied
REPORT NO. : 1006085
DATE REC'D: 06/03/10 15:44
REPORT DATE : 06/23/10 15:31
PREPARED BY : BMS

Attn: Tony Miller

Sample ID: 25

Matrix: Solid

Sample Date/Time: 06/01/10 14:35

Lab No. : 1006085-09

	<u>Results</u>	<u>Units</u>	<u>LOD</u>	<u>LOQ</u>	<u>Dilution Factor</u>	<u>Qualifiers</u>	<u>Date Analyzed</u>	<u>Analyst</u>
<u>EPA 8021B</u>								
1,2,4-Trimethylbenzene	30.0	mg/kg dry	0.130	0.250	10	SH	06/15/10	ALZ
1,3,5-Trimethylbenzene	10.3	mg/kg dry	0.180	0.250	10	SH	06/15/10	ALZ
Benzene	ND	mg/kg dry	0.160	0.250	10	SH	06/15/10	ALZ
Ethylbenzene	2.71	mg/kg dry	0.180	0.250	10	SH	06/15/10	ALZ
m&p-Xylene	8.30	mg/kg dry	0.210	0.250	10	SH	06/15/10	ALZ
Methyl Tert Butyl Ether	ND	mg/kg dry	0.110	0.250	10	SH	06/15/10	ALZ
Naphthalene	19.8	mg/kg dry	0.180	0.250	10	SH	06/15/10	ALZ
o-Xylene	2.64	mg/kg dry	0.160	0.250	10	SH	06/15/10	ALZ
Toluene	ND	mg/kg dry	0.170	0.250	10	SH	06/15/10	ALZ

WI DNR DRO

Prep Method: WI DNR Soil Extraction

By: KAM

Date Prepared: 06/09/10

Diesel Range Organics	6170	mg/kg dry	237	237	47.5	D1	06/11/10	LMP
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Sample ID: 26

Matrix: Solid

Sample Date/Time: 06/01/10 14:40

Lab No. : 1006085-10

	<u>Results</u>	<u>Units</u>	<u>LOD</u>	<u>LOQ</u>	<u>Dilution Factor</u>	<u>Qualifiers</u>	<u>Date Analyzed</u>	<u>Analyst</u>
<u>EPA 8021B</u>								
1,2,4-Trimethylbenzene	16.1	mg/kg dry	0.130	0.250	10		06/15/10	ALZ
1,3,5-Trimethylbenzene	6.02	mg/kg dry	0.180	0.250	10		06/15/10	ALZ
Benzene	ND	mg/kg dry	0.160	0.250	10		06/15/10	ALZ
Ethylbenzene	2.23	mg/kg dry	0.180	0.250	10		06/15/10	ALZ
m&p-Xylene	7.53	mg/kg dry	0.210	0.250	10		06/15/10	ALZ
Methyl Tert Butyl Ether	ND	mg/kg dry	0.110	0.250	10		06/15/10	ALZ
Naphthalene	8.69	mg/kg dry	0.180	0.250	10		06/15/10	ALZ
o-Xylene	3.18	mg/kg dry	0.160	0.250	10		06/15/10	ALZ
Toluene	ND	mg/kg dry	0.170	0.250	10		06/15/10	ALZ

WI DNR DRO

Prep Method: WI DNR Soil Extraction

By: KAM

Date Prepared: 06/09/10

Diesel Range Organics	1860	mg/kg dry	83.6	83.6	16.7	D1	06/11/10	LMP
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SIEMENS

Gannett Fleming, Inc.
8025 Excelsior Drive
Madison, WI 53717

PROJECT NO. : 52865.001 Allied
REPORT NO. : 1006085
DATE REC'D: 06/03/10 15:44
REPORT DATE : 06/23/10 15:31
PREPARED BY : BMS

Attn: Tony Miller

Sample ID: 27

Matrix: Solid

Sample Date/Time: 06/01/10 14:45

Lab No. : 1006085-11

	<u>Results</u>	<u>Units</u>	<u>LOD</u>	<u>LOQ</u>	<u>Dilution Factor</u>	<u>Qualifiers</u>	<u>Date Analyzed</u>	<u>Analyst</u>
EPA 8021B								
1,2,4-Trimethylbenzene	ND	mg/kg dry	0.013	0.025	1		06/15/10	ALZ
1,3,5-Trimethylbenzene	ND	mg/kg dry	0.018	0.025	1		06/15/10	ALZ
Benzene	ND	mg/kg dry	0.016	0.025	1		06/15/10	ALZ
Ethylbenzene	ND	mg/kg dry	0.018	0.025	1		06/15/10	ALZ
m&p-Xylene	ND	mg/kg dry	0.021	0.025	1		06/15/10	ALZ
Methyl Tert Butyl Ether	ND	mg/kg dry	0.011	0.025	1		06/15/10	ALZ
Naphthalene	ND	mg/kg dry	0.018	0.025	1		06/15/10	ALZ
o-Xylene	ND	mg/kg dry	0.016	0.025	1		06/15/10	ALZ
Toluene	ND	mg/kg dry	0.017	0.025	1		06/15/10	ALZ

WI DNR DRO

Prep Method: WI DNR Soil Extraction

By: KAM

Date Prepared: 06/09/10

Diesel Range Organics	21.3	mg/kg dry	4.13	4.13	0.826	D1	06/10/10	LMP
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Sample ID: 28

Matrix: Solid

Sample Date/Time: 06/01/10 14:50

Lab No. : 1006085-12

	<u>Results</u>	<u>Units</u>	<u>LOD</u>	<u>LOQ</u>	<u>Dilution Factor</u>	<u>Qualifiers</u>	<u>Date Analyzed</u>	<u>Analyst</u>
EPA 8021B								
1,2,4-Trimethylbenzene	ND	mg/kg dry	0.013	0.025	1		06/15/10	ALZ
1,3,5-Trimethylbenzene	ND	mg/kg dry	0.018	0.025	1		06/15/10	ALZ
Benzene	ND	mg/kg dry	0.016	0.025	1		06/15/10	ALZ
Ethylbenzene	ND	mg/kg dry	0.018	0.025	1		06/15/10	ALZ
m&p-Xylene	ND	mg/kg dry	0.021	0.025	1		06/15/10	ALZ
Methyl Tert Butyl Ether	ND	mg/kg dry	0.011	0.025	1		06/15/10	ALZ
Naphthalene	ND	mg/kg dry	0.018	0.025	1		06/15/10	ALZ
o-Xylene	ND	mg/kg dry	0.016	0.025	1		06/15/10	ALZ
Toluene	ND	mg/kg dry	0.017	0.025	1		06/15/10	ALZ

WI DNR DRO

Prep Method: WI DNR Soil Extraction

By: KAM

Date Prepared: 06/09/10

Diesel Range Organics	ND	mg/kg dry	4.40	4.40	0.879		06/10/10	LMP
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SIEMENS

Gannett Fleming, Inc.
8025 Excelsior Drive
Madison, WI 53717

PROJECT NO. : 52865.001 Allied
REPORT NO. : 1006085
DATE REC'D: 06/03/10 15:44
REPORT DATE : 06/23/10 15:31
PREPARED BY : BMS

Attn: Tony Miller

Sample ID: 29

Matrix: Solid

Sample Date/Time: 06/01/10 14:55

Lab No. : 1006085-13

	<u>Results</u>	<u>Units</u>	<u>LOD</u>	<u>LOQ</u>	<u>Dilution Factor</u>	<u>Qualifiers</u>	<u>Date Analyzed</u>	<u>Analyst</u>
EPA 8021B								
1,2,4-Trimethylbenzene	ND	mg/kg dry	0.013	0.025	1		06/10/10	ALZ
1,3,5-Trimethylbenzene	ND	mg/kg dry	0.018	0.025	1		06/10/10	ALZ
Benzene	ND	mg/kg dry	0.016	0.025	1		06/10/10	ALZ
Ethylbenzene	ND	mg/kg dry	0.018	0.025	1		06/10/10	ALZ
m&p-Xylene	ND	mg/kg dry	0.021	0.025	1		06/10/10	ALZ
Methyl Tert Butyl Ether	ND	mg/kg dry	0.011	0.025	1		06/10/10	ALZ
Naphthalene	ND	mg/kg dry	0.018	0.025	1		06/10/10	ALZ
o-Xylene	ND	mg/kg dry	0.016	0.025	1		06/10/10	ALZ
Toluene	ND	mg/kg dry	0.017	0.025	1		06/10/10	ALZ

WI DNR DRO

Prep Method: WI DNR Soil Extraction

By: KAM

Date Prepared: 06/09/10

Diesel Range Organics	ND	mg/kg dry	4.33	4.33	0.866		06/10/10	LMP
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Sample ID: 30

Matrix: Solid

Sample Date/Time: 06/01/10 15:00

Lab No. : 1006085-14

	<u>Results</u>	<u>Units</u>	<u>LOD</u>	<u>LOQ</u>	<u>Dilution Factor</u>	<u>Qualifiers</u>	<u>Date Analyzed</u>	<u>Analyst</u>
EPA 8021B								
1,2,4-Trimethylbenzene	ND	mg/kg dry	0.065	0.125	5	NT	06/15/10	ALZ
1,3,5-Trimethylbenzene	ND	mg/kg dry	0.090	0.125	5	NT	06/15/10	ALZ
Benzene	ND	mg/kg dry	0.080	0.125	5	NT	06/15/10	ALZ
Ethylbenzene	ND	mg/kg dry	0.090	0.125	5	NT	06/15/10	ALZ
m&p-Xylene	ND	mg/kg dry	0.105	0.125	5	NT	06/15/10	ALZ
Methyl Tert Butyl Ether	ND	mg/kg dry	0.055	0.125	5	NT	06/15/10	ALZ
Naphthalene	1.25	mg/kg dry	0.090	0.125	5	NT	06/15/10	ALZ
o-Xylene	ND	mg/kg dry	0.080	0.125	5	NT	06/15/10	ALZ
Toluene	ND	mg/kg dry	0.085	0.125	5	NT	06/15/10	ALZ

WI DNR DRO

Prep Method: WI DNR Soil Extraction

By: KAM

Date Prepared: 06/09/10

Diesel Range Organics	485	mg/kg dry	25.4	25.4	5.08	D1	06/11/10	LMP
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SIEMENS

Gannett Fleming, Inc.
8025 Excelsior Drive
Madison, WI 53717

PROJECT NO. : 52865.001 Allied
REPORT NO. : 1006085
DATE REC'D: 06/03/10 15:44
REPORT DATE : 06/23/10 15:31
PREPARED BY : BMS

Attn: Tony Miller

Sample ID: 31

Matrix: Solid

Sample Date/Time: 06/01/10 15:05

Lab No. : 1006085-15

	<u>Results</u>	<u>Units</u>	<u>LOD</u>	<u>LOQ</u>	<u>Dilution Factor</u>	<u>Qualifiers</u>	<u>Date Analyzed</u>	<u>Analyst</u>
EPA 8021B								
1,2,4-Trimethylbenzene	ND	mg/kg dry	0.065	0.125	5	NT	06/15/10	ALZ
1,3,5-Trimethylbenzene	ND	mg/kg dry	0.090	0.125	5	NT	06/15/10	ALZ
Benzene	ND	mg/kg dry	0.080	0.125	5	NT	06/15/10	ALZ
Ethylbenzene	ND	mg/kg dry	0.090	0.125	5	NT	06/15/10	ALZ
m&p-Xylene	ND	mg/kg dry	0.105	0.125	5	NT	06/15/10	ALZ
Methyl Tert Butyl Ether	ND	mg/kg dry	0.055	0.125	5	NT	06/15/10	ALZ
Naphthalene	0.863	mg/kg dry	0.090	0.125	5	NT	06/15/10	ALZ
o-Xylene	ND	mg/kg dry	0.080	0.125	5	NT	06/15/10	ALZ
Toluene	ND	mg/kg dry	0.085	0.125	5	NT	06/15/10	ALZ

WI DNR DRO

Prep Method: WI DNR Soil Extraction

By: KAM

Date Prepared: 06/09/10

Diesel Range Organics	740	mg/kg dry	44.9	44.9	8.97	D1	06/11/10	LMP
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Sample ID: Stockpile

Matrix: Solid

Sample Date/Time: 06/01/10 15:10

Lab No. : 1006085-16

	<u>Results</u>	<u>Units</u>	<u>LOD</u>	<u>LOQ</u>	<u>Dilution Factor</u>	<u>Qualifiers</u>	<u>Date Analyzed</u>	<u>Analyst</u>
EPA 8021B								
1,2,4-Trimethylbenzene	0.867	mg/kg dry	0.065	0.125	5	NT	06/15/10	ALZ
1,3,5-Trimethylbenzene	ND	mg/kg dry	0.090	0.125	5	NT	06/15/10	ALZ
Benzene	ND	mg/kg dry	0.080	0.125	5	NT	06/15/10	ALZ
Ethylbenzene	ND	mg/kg dry	0.090	0.125	5	NT	06/15/10	ALZ
m&p-Xylene	ND	mg/kg dry	0.105	0.125	5	NT	06/15/10	ALZ
Methyl Tert Butyl Ether	ND	mg/kg dry	0.055	0.125	5	NT	06/15/10	ALZ
Naphthalene	1.05	mg/kg dry	0.090	0.125	5	NT	06/15/10	ALZ
o-Xylene	ND	mg/kg dry	0.080	0.125	5	NT	06/15/10	ALZ
Toluene	ND	mg/kg dry	0.085	0.125	5	NT	06/15/10	ALZ

WI DNR DRO

Prep Method: WI DNR Soil Extraction

By: KAM

Date Prepared: 06/09/10

Diesel Range Organics	910	mg/kg dry	42.5	42.5	8.5	D1	06/11/10	LMP
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SIEMENS

Gannett Fleming, Inc.
8025 Excelsior Drive
Madison, WI 53717

PROJECT NO. : 52865.001 Allied
REPORT NO. : 1006085
DATE REC'D: 06/03/10 15:44
REPORT DATE : 06/23/10 15:31
PREPARED BY : BMS

Attn: Tony Miller

Sample ID: MeOH Blank

Matrix: Solid

Sample Date/Time: 06/01/10 0:00

Lab No. : 1006085-17

	<u>Results</u>	<u>Units</u>	<u>LOD</u>	<u>LOQ</u>	<u>Dilution Factor</u>	<u>Qualifiers</u>	<u>Date Analyzed</u>	<u>Analyst</u>
<u>EPA 8021B</u>								
1,2,4-Trimethylbenzene	ND	mg/kg	0.013	0.025	1		06/15/10	ALZ
1,3,5-Trimethylbenzene	ND	mg/kg	0.018	0.025	1		06/15/10	ALZ
Benzene	ND	mg/kg	0.016	0.025	1		06/15/10	ALZ
Ethylbenzene	ND	mg/kg	0.018	0.025	1		06/15/10	ALZ
m&p-Xylene	ND	mg/kg	0.021	0.025	1		06/15/10	ALZ
Methyl Tert Butyl Ether	ND	mg/kg	0.011	0.025	1		06/15/10	ALZ
Naphthalene	ND	mg/kg	0.018	0.025	1		06/15/10	ALZ
o-Xylene	ND	mg/kg	0.016	0.025	1		06/15/10	ALZ
Toluene	ND	mg/kg	0.017	0.025	1		06/15/10	ALZ

SIEMENS

Qualifier Descriptions

SH	Surrogate recovery was high. Result for sample may be biased high.
NT	The sample was diluted due to the presence of high levels of non-target analytes resulting in elevated LOD/LOQ reporting levels for other analytes. Running the samples at a smaller dilution would cause instrument contamination/carryover problems.
D1	The chromatogram is characteristic for a fuel oil/diesel (i.e. #1 or #2 Diesel, Jet Fuel, Kerosene, weathered Diesel, etc.).

Definitions

LOD = Limit of Detection (Dilution Corrected)
LOQ = Limit of Quantitation (Dilution Corrected)
Reporting Limit = LOQ (Dilution Corrected)

ND = Not Detected

COMP = Complete

SUBCON = Subcontracted analysis

mv = millivolts

pci/L = picocuries per Liter

mL/L = milliliters per Liter

mg = milligram

When the word "dry" follows the units on the result page the sample results are dry weight corrected.

LODs and LOQs are dry weight corrected for all soils except WI GRO and EPA 8021 methanol and WI DNR methylene chloride preserved soils.

ug/l = Micrograms per Liter = parts per billion (ppb)
ug/kg = Micrograms per kilogram = parts per billion (ppb)
mg/l = Milligrams per liter = parts per million (ppm)
mg/kg = Milligrams per kilogram = parts per million (ppm)
NOT PRES = Not Present
ppth = Parts per thousand
* = Result outside established limits.
mg/m3 = Milligrams per meter cubed
ng/L = Nanograms per Liter = Parts per trillion (ppt)
> = Greater Than

Methanol Soils for WI GRO and EPA 8021 are reported to the LOQ.

Company Name GANNETT FLEMING		Project 52865.001 - ALUED	
Report Mailing Address TONY MILLER - GANNETT FLEMING 8025 EXCELSIOR DR MADISON, WI 53717		Contact Name, Phone, Fax, Email TONY MILLER ph 608-836-1500 fax 608-831-3337 awmiller@gfnet.com	
Invoice Address SAME AS ABOVE		Purchase Order # 2010 TIER 1 PRICES	Invoice Contact and Phone No. SAME AS ABOVE

Matrix: Drinking Water Groundwater Wastewater Soil/Solid Other: _____

Wis. PECFA Project subject to U&C? Yes No

For Compliance Monitoring? Yes No State: WI
(If Yes, please specify Agency or Regulation) Agency/Reg.: WDNR

Turnaround Request: ☒ Normal (10 Bus. Days)
☐ Rush (Must be pre-approved by Lab and is subject to surcharges)
Date Needed: _____

WO No. 1006085

Lab Use Only	Sample		No. of Containers		Sample ID	Analyses Requested										Lab Use Only		
	Date	Time	Comp	Grab		DRD	AVOC	NAPATHALCANE								Delivered by	Walk-in	Courier
-01	5/30	17:50		3	17	✓	✓	✓								Ship. Cont. Ok?	<u>Y</u>	N
-02		17:55		3	18	✓	✓	✓								Samples Leaking?	Y	<u>N</u>
-03		18:00		3	19	✓	✓	✓								Seals OK?	<u>Y</u>	N
-04		18:05		3	20	✓	✓	✓								Rec'd on Ice?	<u>Y</u>	N
-05		18:10		3	21	✓	✓	✓								Sample Receiving Comments: 3.4°C		
-06		18:15		3	22	✓	✓	✓										
-07		18:20		3	23	✓	✓	✓										
-08	✓	18:25		3	24	✓	✓	✓										
-09	6/1	14:35		3	25	✓	✓	✓										
-10	✓	14:40		3	26	✓	✓	✓								Comments		
																TS cup		
																2oz AG w/ MCH		
																2oz AG np		

Chain of Custody
Record

Relinquished By:

Date Time Received By:

<i>Tony Miller</i>	6/2/10	12:15	
	6/3/10	15:44	<i>Mariah K. Reints</i>

Company Name GANNETT FLEMING	Project 52865.001 - ALLIED
Report Mailing Address	Contact Name, Phone, Fax, Email
Invoice Address SEE PG 1	Purchase Order # SEE PG 1 Invoice Contact and Phone No.

Matrix: Drinking Water Groundwater Wastewater Soil/Solid Other: _____Wis. PECFA Project subject to U&C? Yes NoFor Compliance Monitoring? Yes No
(If Yes, please specify Agency or Regulation)State: WI
Agency/Reg.: WONRTurnaround Request: ☒ Normal (10 Bus. Days)
☐ Rush (Must be pre-approved by Lab and is subject to surcharges)
Date Needed: _____WO No. 1006085

Lab Use Only	Sample		No. of Containers		Sample ID	Analyses Requested										Lab Use Only		
	Date	Time	Comp	Grab		DRO	PVOC	NAPHTHALENE								Delivered by	Walk-in	Courier
-11	6/1	14:45		3	27	✓	✓	✓								Ship. Cont. Ok?	<u>Y</u>	N
-12		14:50		3	28	✓	✓	✓								Samples Leaking?	<u>Y</u>	<u>N</u>
-13		14:55		3	29	✓	✓	✓								Seals OK?	<u>Y</u>	N
-14		15:00		3	30	✓	✓	✓								Rec'd on Ice?	<u>Y</u>	N
-15		15:05		3	31	✓	✓	✓								Sample Receiving Comments:		
-16	✓	15:10	3		STOCKPILE	✓	✓	✓								3.4°C		
-17				1	TRIP BZAK	✓	✓	✓								Comments		
-18	6/1	15:05	1		STOCKPILE											TB 033 1/21/10		
																HOLD FOR POSSIBLE ANALYSIS		
																8 oz glass jar unless.		

Chain of Custody
Record

Relinquished By:

Date Time Received By:

<i>[Signature]</i>	6/2/10	12:15	
	6/3/10	15:44	<i>[Signature]</i>

SIEMENS

Client: Gannett Fleming

Date Received: 6 / 3 / 10

Analytical Number: 1006085 through _____

Check all deviations from the EPA or WDNR sample protocol.

- ☐ Sample(s) received at _____ °C which is above the EPA and WDNR limit of 4°C.
- ☐ VOC vial(s) received with headspace.
- ☐ Sample(s) received in bottles not furnished by Siemens Water Technologies. The preservation method, if used, is unknown.
- ☐ Sample(s) were not properly preserved per EPA or WDNR protocol for the following analyses:
 - _____
- ☐ Sample(s) were received beyond the EPA/WDNR holding time for the following analyses:
 - _____
- ☐ Sample date/time not supplied by client. Actual holding time is unknown.
- ☐ GRO / PVOC / VOC / DRO (circle) sample(s) are <19.5 grams. This report is the qualifier flag for that QC failure. The client has been contacted for further instructions. Analytical number(s) of the sample(s) under weight are:
 - _____
- ☒ GRO / ~~PVOC~~ / VOC (circle) sample(s) were between 26.4 and 35.4 grams. Methanol was added in a 1:1 ratio in the lab. Analytical number(s) of the sample(s) affected are:
 - -03 + 3 mL, -07 + 3 mL, -10 + 2 mL, -11 + 2 mL, -12 + 6 mL, -15 + 2 mL
- ☐ GRO / PVOC / VOC / DRO (circle) sample(s) are >35.4 grams and are required to be rejected. This report is the qualifier flag for that QC failure. The client has been contacted for further instructions. Analytical number(s) of the sample(s) affected are:
 - _____
- ☐ Other problems:
 - _____

Client contacted concerning the above deviations:

_____ notified of the above deviation(s) on ____/____/____ @

_____ contact name
_____ am/pm by _____ and the client ordered the following:

_____ initial

- ☐ Proceed with analyses as ordered.
- ☐ Proceed with analyses after taking the following corrective action:
 - _____
- ☐ Do NOT proceed with analyses.

Siemens Water Technologies Corp.

301 West Military Road
Rothschild, WI 54474

Tel: (800)338-7226
Fax: (715)355-3221

ATTACHMENT B

GROUNDWATER USE RESTRICTION

To: Larry Lester

From: Hanefeld

Re: Groundwater Use Restriction
GIS Registry Data

Site Name/Address:

Complete Auto Transit
544 Kellogg Ave.
Spencerille

BRRTS #: 03-54-000405

Date of Closure Decision:

10/26/99

☐ Off-site Contamination
☐ Right-of-way Contamination

Packet Contains:

- ☒ 1. Closure Letter
2. Conditional closure letter
- ☒ 3. All property deeds with 140 ES exceedances
4. Metes/bounds legal description (certified survey)
5. Tax parcel number
6. GPS data for each affected property *needed*
- ☒ 7. General location map
8. Detailed location map, showing all parcels affected by 140 ES exceedances, property boundaries, buildings, etc.
9. Latest map showing gw flow direction, MW, potable wells. [optional: Isoconcentration maps of compounds $\rightarrow$ ES]
- ☒ 10. Latest map showing extent or outline of contamination plume and gw flow direction
- ☒ 11. Latest table of analytical results
- ☒ 12. Geologic cross section



State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Tommy G. Thompson, Governor
George E. Meyer, Secretary
Ruthe E. Badger, Regional Director

South Central Region Headquarters
3911 Fish Hatchery Road
Fitchburg, Wisconsin 53711-5397
Telephone 608-275-3266
FAX 608-275-3338
TDD 608-275-3231

October 26, 1999

File Ref: 03-54-000405

Mr. Jim Colvin
Allied Industries, Inc.
160 Clairemont Ave., Suite 410
Decatur, GA 30030

Subject: Final Closure - Complete Auto Transport, 544 Kellogg Ave., Janesville

Dear Mr. Colvin:

On June 3, 1999, your site was reviewed for closure by the South Central Region Closure Committee. This committee reviews environmental remediation cases for compliance with state laws and standards to maintain consistency in the closure of these cases. On June 15, 1999, you were notified that the Closure Committee had granted conditional closure to this case.

On October 1, 1999 and October 21, 1999, the Department received correspondence indicating that the site's monitoring wells have been abandoned and the deed restriction filed with Rock County. This deed restriction states that groundwater contamination remains at this site. Based on the correspondence and data provided, it appears that your site has been remediated to Department standards in accordance with s. NR 726.05, Wis. Adm. Code. The Department considers this case closed and no further investigation, remediation or other action is required at this time.

NOTICE OF REMAINING SOIL CONTAMINATION Although one soil confirmation boring, B-14 suggests that documented soil contamination was remediated via the air sparging /SVE system, residual soil contamination may remain in the vicinity of the former tank beds, dispenser islands, and perimeter borings B-3, B-4, B-5, B-7, from the ground surface to the water table (located approximately 62 feet below ground surface) at this site, as indicated in the information submitted to the Department. If site conditions change in the future and residual contaminated soil is excavated, the property owner at that time will be required to sample and analyze the excavated soil in order to determine whether the contamination still remains. Depending upon the results of that characterization, the owner may also have to properly store, treat, or dispose of any excavated materials, and/or take special precautions during excavation activities to prevent a direct contact threat to humans.

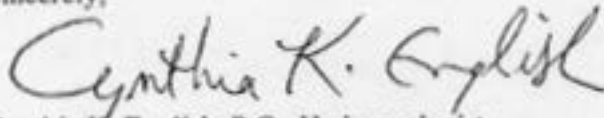


Mr. Jim Colvin – October 26, 1999

Please be aware that this case may be reopened pursuant to s. NR 726.09, Wis. Adm. Code, if additional information regarding site conditions indicates that contamination on or from the site poses a threat to public health, safety or welfare, or the environment.

The Department appreciates your efforts to restore the environment at this site. If you have any questions regarding this letter, please contact me at the number below.

Sincerely,

A handwritten signature in cursive script that reads "Cynthia K. English". The signature is written in dark ink and is positioned above the printed name and title.

Cynthia K. English, P.G., Hydrogeologist
Remediation and Redevelopment Program
South Central Region
(608) 275-3240

cc: Margaret Blanchard, Montgomery Watson, P.O. Box 5385, Madison, WI, 53705-0385

Document Number

GROUNDWATER USE RESTRICTION

1434932

Declaration of Restrictions

In Re: See attached warranty deed as "Exhibit A", which is attached and incorporated by reference.

STATE OF WISCONSIN)

) ss

COUNTY OF ROCK)

WHEREAS, Allied Systems, Ltd. is the owner of the above-described property.

WHEREAS, one or more petroleum discharges have occurred at this property. Residual groundwater contamination remains on this property. Groundwater contaminated with naphthalene, benzo(a)pyrene, chrysene, fluoranthene and pyrene above ch. NR 140, Wis. Adm. Code enforcement standards exists on this property at MW-1. Groundwater contaminated with chrysene above the ch. NR 140, Wis. Adm. Code enforcement standard exists on this property at MW-2. Groundwater contaminated with naphthalene, chrysene, fluoranthene and pyrene above ch. NR 140, Wis. Adm. Code enforcement standards exists on this property at MW-3. These locations are shown on "Exhibit B", which is attached and incorporated by reference.

WHEREAS, it is the desire and intention of the property owner to impose on the property restrictions which will make it unnecessary to conduct additional soil or groundwater remediation activities on the property at the present time.

WHEREAS, natural attenuation has been approved by the Department of Natural Resources to remediate groundwater exceeding ch. NR 140 groundwater standards within the boundaries of this property.

WHEREAS, construction of wells where the water quality exceeds the drinking water standards in ch. NR 809 is restricted by ch. NR 811 and ch. NR 812. Special well construction standards or water treatment requirements, or both, or well construction prohibitions may apply.

NOW THEREFORE, the owner hereby declares that all of the property described above is held and shall be held, conveyed or encumbered, leased, rented, used, occupied and improved subject to the following limitation and restrictions:

Anyone who proposes to construct or reconstruct a well on this property is required to contact the Department of Natural Resources' Bureau of Drinking Water and Groundwater, or its successor agency, to determine what specific requirements are applicable, prior to constructing or reconstructing a well on this property. No well may be constructed or reconstructed on this property unless applicable requirements are met.

This restriction is hereby declared to be a covenant running with the land and shall be fully binding upon all persons acquiring the above-described property whether by descent, devise, purchase or otherwise. This restriction benefits and is enforceable by, the Wisconsin Department of Natural Resources, its successors and assigns. The Department, its successors or assigns, may initiate proceedings at law or in equity against any person or persons who violate or are proposing to violate this covenant, to prevent the proposed violation or to recover damages for such violation.

Any person who is or becomes owner of the property described above may request that the Wisconsin Department of Natural Resources or its successor issue a determination that the restrictions set forth in this covenant are no longer required. Upon receipt of such a request, the Wisconsin Department of Natural Resources shall determine whether or not

RECORDED

*99 SEP 20 AM 11 09

K. RANDAL LEYES
REGISTER OF DEEDS
ROCK CO. WI 53545
Recording Area

Name and Return Address

Allied Systems, Ltd.
160 Clairemont Avenue
Suite 410, Attn: Jim Colvin
Decatur, GA 30030

Parcel Identification Number (PIN)

Know All Men by These Presents:

THAT THE W. H. Arthur & Co., Inc., an Illinois corporation duly licensed to do business in Wisconsin and having its principal office in the City of ~~Madison~~ ^{Janesville} and State of Wisconsin, party of the first part, in consideration of the sum of One Dollar and other good and valuable consideration to it duly paid, the receipt whereof is hereby acknowledged, does hereby certify, release, sell, convey and quitclaim unto ~~the City of Madison~~ ^{Janesville Auto Transport Company, a Delaware corporation duly licensed to do business in Wisconsin, having its principal office at Janesville, Wisconsin,} party of the second part, but to its successors and assigns, forever, all the right, title, interest, claim and demand, which said party of the first part has in and to the following described real estate situated in the County of ~~Rock~~ ^{Rock} in the State of ~~Wisconsin~~ ^{Wisconsin} to wit:

No. 1

The East $\frac{1}{2}$ of the N.W. $\frac{1}{4}$ of Section 12, T. 2N., R. 12 E., Except the North 10 acres thereof, described as follows: Commencing at the North $\frac{1}{4}$ corner of said Section; thence South $0^{\circ}22'45''$ East (Astronomic Bearing) along the North and South centerline of said Section, 329.0 feet to an iron pipe monument found at the place of beginning for the land to be herein described; thence continuing S. $0^{\circ}22'45''$ E. along said centerline, 232.74 feet to an iron pipe monument found at the center of said Section; thence N. $88^{\circ}56'56''$ W. along the East and West centerline of said Section, 1322.20 feet to an iron pipe monument found at the S. U. corner of the East $\frac{1}{2}$ of the N.W. $\frac{1}{4}$ of said Section aforesaid; thence N. $0^{\circ}24'30''$ W. along the West line of said East $\frac{1}{2}$ of the N.W. $\frac{1}{4}$, 2322.67 feet to a point 329.0 feet South of the North line of said Section; thence S. $88^{\circ}56'56''$ E. along a line parallel to said North line, 1323.36 feet to the place of beginning.

Containing 70.51 Acres.

No. 2

Part of the West $\frac{1}{2}$ of the N. E. $\frac{1}{4}$ of said Section 12, T. 2N., R. 12 E., described as follows: Commencing at the North $\frac{1}{4}$ corner of said Section 12; thence South $0^{\circ}22'45''$ East (Astronomic Bearing) along the North and South centerline of said Section, 330.0 feet to an iron pipe monument found at the place of beginning for the land to be herein described; thence S. $88^{\circ}54'45''$ E. along a line parallel to the North line of said Section, 232.20 feet to the West line of the former interurban right of way; thence E. $0^{\circ}35'45''$ E. along said West line, 1028.52 feet to an iron pipe monument; thence N. $88^{\circ}51'15''$ W. 256.0 feet to a point on the North and South centerline of said Section aforesaid; thence N. $0^{\circ}22'45''$ W. along said line, 1028.20 feet to the place of beginning.

Containing 5.995 Acres.

No. 3

Part of the S. W. $\frac{1}{4}$ of the S. E. $\frac{1}{4}$ of Section 1 and Part of the West $\frac{1}{2}$ of the N. E. $\frac{1}{4}$ of Section 12, T. 2 N., R. 12 E., described as follows: Commencing at the North $\frac{1}{4}$ corner of said Section 12; thence S. $88^{\circ}54'45''$ E. along the North line of said Section, 231.0 feet to an iron pipe monument found on the West line of the former interurban right of way and the place of beginning for the land to herein be described; thence N. $0^{\circ}35'45''$ W., and into Section 1 aforesaid, 160.0 feet to an iron pipe monument found at a point of curve; thence Northeasterly along a curve convex Northwesterly, 210.44 feet, said curve having a Radius of 257.71 feet and not tangent to the last mentioned line, the chord thereof bearing N. $28^{\circ}02'35''$ E., 204.64 feet to an iron pipe monument found on the Southwesterly line of the Chicago & Northwestern Railroad Co. property; thence S. $36^{\circ}33'30''$ E. along said line, 80.0 feet to a point of curve; thence Southwesterly along a curve convex Northwesterly and Radial to the last described line, 139.87 feet, said curve having a Radius of 176.52 feet and a chord bearing S. $28^{\circ}59'45''$ W., 136.32 feet to an iron pipe monument found at the end of said curve; thence S. $0^{\circ}35'45''$ E., along a line not tangent to the last mentioned curve, 160.34 feet to an iron pipe monument found on the North line of Section 12 aforesaid; thence continuing S. $0^{\circ}35'45''$ E. along said line, and into Section 12, 928.62 feet to the North line of a perpetual easement granted to the City of Janesville for Street purposes; thence N. $88^{\circ}51'15''$ W. along said North line, 50.03 feet to the West line of the former interurban right of way aforesaid; thence N. $0^{\circ}35'45''$ W. along said line, 928.52 feet to the place of beginning.

Containing 2.284 Acres.

Use both and to both, the same together with all and singular the appurtenances and privileges thereunto belonging or in anywise thereunto appertaining, and all the estate, right, title, interest and claim whatsoever, of the said party of the first part, either in law or equity, either in possession or expectancy, to the only proper use, benefit and behoof of said party of the second part, his successors and assigns forever.

In Witness Whereof, the said party of the first part hath caused these presents to be signed by Walter R. Arthur its president, countersigned by

Hazel G. Arthur its secretary and its corporate seal to be hereunto affixed, this 9th day of April, 1962.

In Presence of
Robert C. Lovejoy } H. R. Arthur & Co., Inc.
 (Robert G. Lovejoy) }
Mary C. Knipp } (Walter R. Arthur)
 (Mary C. Knipp) }
 Countersigned by Hazel G. Arthur Secretary.

[Signature]

State of Wisconsin, }
 Rock County, }

Personally came before me this 9th day of April, 1962, Walter R. Arthur, the president of the U. R. Arthur & Co., Inc., Hazel G. Arthur the secretary thereof, to me known to be the persons who as such officers executed the above and foregoing instrument in the name of such corporation, affixed its corporate seal thereto and acknowledged said instrument to be the duly authorized act of said corporation.



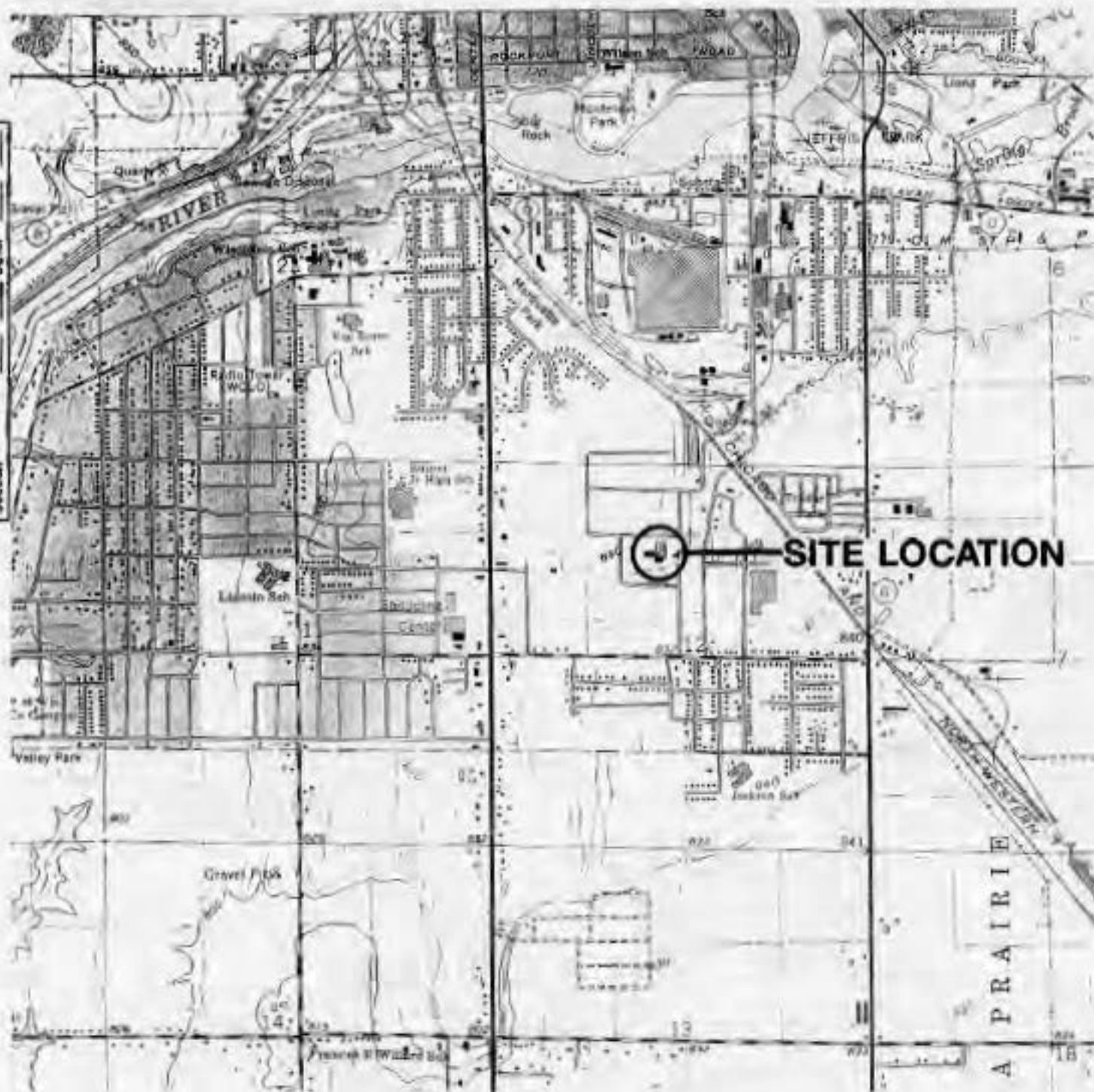
Robert C. Lovejoy
 (Robert C. Lovejoy)

NOTARY PUBLIC FOR ROCK COUNTY, WISCONSIN
 My commission expires 15 permanent

THIS INSTRUMENT DRAFTED BY
 ROBERT C. LOVEJOY
 JAMESVILLE, WISCONSIN

This conveyance is to correct certain alleged minor errors in the description of the foregoing property as previously conveyed; the consideration for the conveyance is nominal; and therefore no U. S. Internal Revenue documentary stamps are required.

The Grantee is	W. R. Arthur & Co., Inc.	to	Jamesville Auto Storage Company	for	QUITCLAIM DEED	50	RECORDING OFFICE, Rock County, Wis.	Required for Record this 14th day of April, 1962, at 2:00 PM.	Booked - 14th and recorded in Vol. 143	P. at Jamesville, Wis.	Jamesville W. Wisconsin	Register of Deeds	46	350	15
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NOTE

1. BASE MAP DEVELOPED FROM THE JANESVILLE WEST, WISCONSIN 7½ MINUTE U.S.G.S. TOPOGRAPHIC QUADRANGLE MAP, DATED 1961, PHOTOREVISED 1971 AND 1976.



SITE LOCATION MAP

UNDERGROUND FUEL STORAGE TANK
CLOSURE AND ASSESSMENT
JANESVILLE AUTO TRANSPORT COMPANY
JANESVILLE, WISCONSIN

Drawn *DLF*

Revisions

Checked *MCB*

App'd. *MGC*

Date *6-6-90*

15158

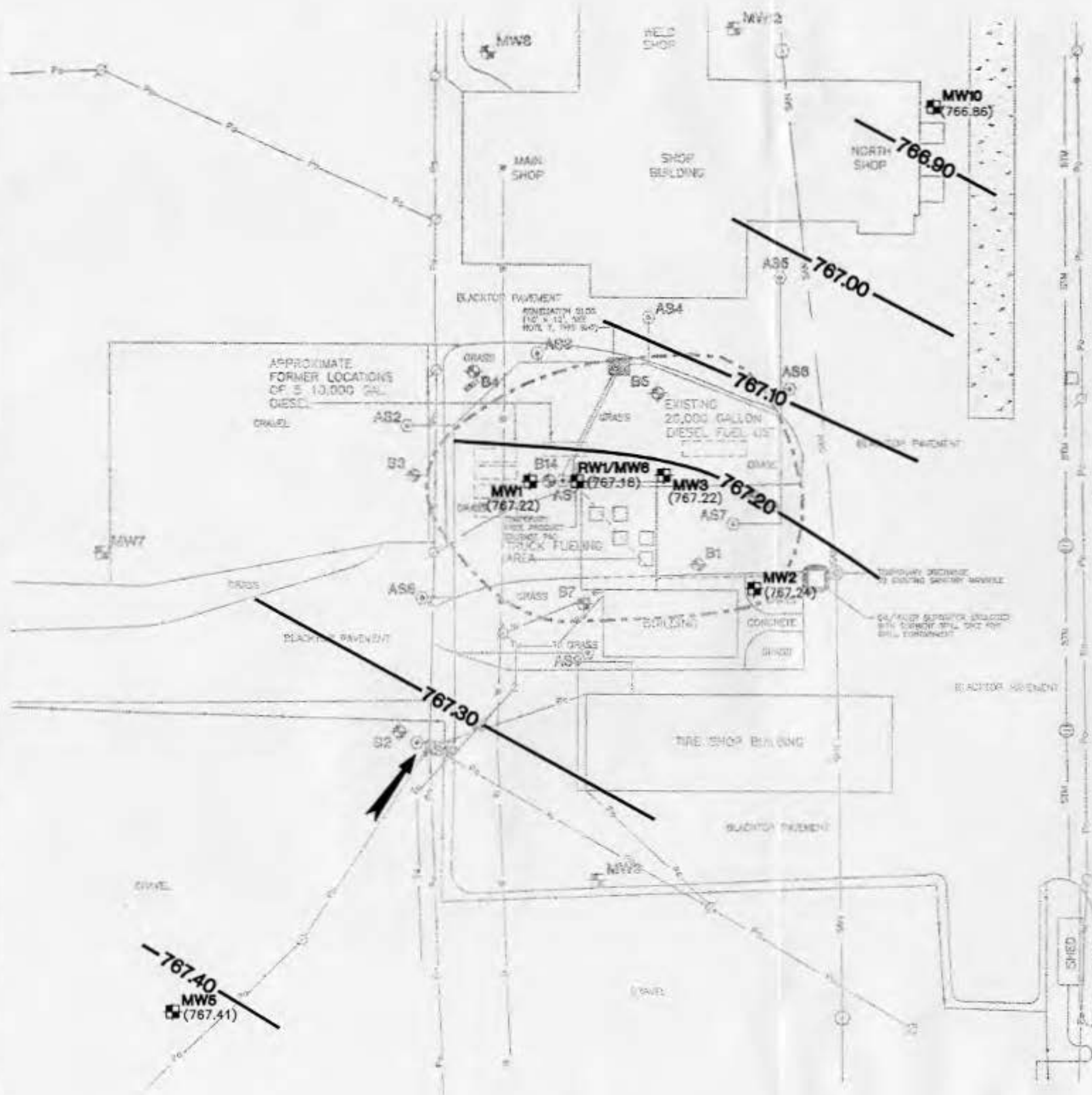
A3

This document has been developed for a specific application and may not be used without the written approval of Montgomery Watson.

QUALITY CONTROL

Graphic Standards DLT 3-30-99
Lead Professional MCB 3-30-99

Technical Review Project Manager MCB 3-30-99
Management Review Other



LEGEND

- FUEL PUMP
- POWER/LIGHT POLE
- MANHOLE
- CATCH BASIN
- FIRE HYDRANT
- OVERHEAD POWER LINE
- STORM SEWER
- SANITARY SEWER
- WATER MAIN
- UNDERGROUND TELEPHONE LINE
- FENCE LINE
- POTENTIAL AREA OF FREE PRODUCT OCCURRENCE
- SOIL BORING LOCATION AND NUMBER
- AIR SPARGE WELL LOCATION AND NUMBER
- ABANDONED MONITORING WELL LOCATION AND NUMBER
- AIR SPARGE PIPING
- MONITORING WELL LOCATION, NUMBER, AND WATER TABLE ELEVATION
- 767.10- WATER TABLE CONTOUR (CONTOUR INTERVAL: 0.10 FT)
- GROUNDWATER FLOW DIRECTION

NOTES

1. BASE MAP DEVELOPED FROM A LOCATION MAP PREPARED BY BIRRENKOTT SURVEYING, SUN PRAIRIE, WISCONSIN, DATED JULY 1, 1992.
2. WELLS MW04, MW07, MW08, MW09, MW11, AND MW12 ABANDONED BY BOART LONGYEAR IN FEBRUARY AND MARCH 1998 UNDER MONTGOMERY WATSON SUPERVISION.
3. WATER TABLE ELEVATIONS OBTAINED BY MONTGOMERY WATSON ON FEBRUARY 18, 1999.



Drawn By DLE
Approved By Margaret M. Ward 4/8/99
Reference 1242207.01160101-B2
Revisions

WATER TABLE MAP (FEBRUARY 18, 1999)
COMMERCIAL CARRIERS, INC./ALLIED
544 KELLOGG AVENUE
JANESVILLE, WISCONSIN

Growing Number
1242207
01160101 B3
MONTGOMERY WATSON

Table 1
Summary of Groundwater Organic Analytical Results
Allied Industries/CCI Facility
544 Kellogg Street
Janesville, Wisconsin

Analyte (ug/L)	NR 140		MW01				MW02				MW03				MW05			MW10			
	ES	PAL	12/10/97	6/2/98	11/17/98	2/18/99	12/10/97	6/2/98	11/17/98	2/18/99	12/10/97	6/2/98	11/17/98	2/18/99	12/10/97	6/2/98	2/18/99	12/10/97	6/2/98	11/17/98	2/18/99
Benzene	5	0.5	<150	<30	1.4	<4.0	<30	<0.30	<0.2	<0.4	<75	<1.0	<5.0	<4.0	<0.3	<0.3	<0.2	<0.5	<0.3	<0.2	<0.2
Ethylbenzene	700	140	<100	<20	8.7	40	<20	<0.20	<0.3	<0.6	<50	9.0	28.0	24.0	<0.2	<0.2	<0.3	<0.2	<0.2	<0.3	<0.3
Toluene	343	68.6	<100	<20	0.9	<4.0	<20	<0.20	<0.2	<0.4	<50	<2.0	<5.0	<4.0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Xylenes, Total	620	124	2000	420	19.6	102	<80	<0.80	<0.9	<1.8	<195	43	38	30	<0.8	<0.8	<0.9	<0.8	<0.8	<0.9	<0.9
Methyl tert-butyl ether	60	12	<100	<20	<0.2	<4.0	<20	<0.20	<0.2	<0.4	<50	<2.0	<5.0	<4.0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total Trimethylbenzenes	480	96	6000	1380	32.7	272	<90	1.3	2.6	0.8	1180	47	90	260	<0.9	<0.9	<0.6	<0.9	<0.9	<0.6	<0.6
Naphthalene (VOC)	40	8	5500*	NA	25	440	750	NA	18	8.6	2500	NA	350	220	<1.1	NA	<1.7	<1.1	NA	<1.7	<1.7
Naphthalene (PAH)	40	8	<23	<120	<12	190	<12	<2.3	<1.2	<1.2	<23	<24	<2.3	76	<0.23	<0.23	<0.25	<0.23	<0.24	<0.23	<0.25
Carbon tetrachloride	5	0.5	<200	NA	NA	NA	<40	NA	NA	NA	<100	NA	NA	NA	<0.4	NA	NA	<0.4	NA	NA	NA
Chloroform	6	0.6	<100	NA	NA	NA	<20	NA	NA	NA	<50	NA	NA	NA	<0.2	NA	NA	<0.2	NA	NA	NA
1,2-Dichloroethane	5	0.5	<100	NA	NA	NA	<20	NA	NA	NA	<50	NA	NA	NA	<0.2	NA	NA	<0.2	NA	NA	NA
n-Butylbenzene	NS	NS	9000	NA	NA	NA	120	NA	NA	NA	1800	NA	NA	NA	<0.3	NA	NA	<0.3	NA	NA	NA
n-Propylbenzene	NS	NS	100*	NA	NA	NA	<20	NA	NA	NA	120	NA	NA	NA	<0.2	NA	NA	<0.2	NA	NA	NA
sec-Butylbenzene	NS	NS	1800	NA	NA	NA	250	NA	NA	NA	280	NA	NA	NA	<0.2	NA	NA	<0.2	NA	NA	NA
Tetrachloroethene	5	0.5	<300	NA	NA	NA	<60	NA	NA	NA	<150	NA	NA	NA	1.3	NA	NA	<0.6	NA	NA	NA
Bromobenzene	NS	NS	<100	NA	NA	NA	<20	NA	NA	NA	<50	NA	NA	NA	0.5	NA	NA	<0.2	NA	NA	NA
1-Methyl Naphthalene	NS	NS	270	<140	<14	940	<14	<2.7	<1.4	<1.4	<27	380	210	530	<0.27	<0.28	<0.3	<0.27	<0.28	<0.27	<0.29
2-Methyl Naphthalene	NS	NS	650	3200	<15	810	<15	<2.9	<1.5	<1.5	350	220	100	270	<0.29	<0.30	<0.32	<0.29	<0.30	<0.29	<0.31
Benzo(a)anthracene	NS	NS	660	<3.8	<0.36	<0.37	<0.37	<0.073	<0.037	<0.037	1100	<0.75	<0.073	<0.37	<0.0073	<0.0074	<0.0080	<0.0073	<0.0075	<0.0073	<0.0078
Benzo(a)pyrene	0.2	0.02	<1.8	<9.3	<0.90	13	<0.90	<0.18	<0.090	<0.09	<1.8	<1.9	<0.18	<0.9	<0.018	<0.018	<0.02	<0.018	<0.019	<0.018	<0.019
Benzo(k)fluoranthene	NS	NS	<2.3	<12	<1.2	97	<1.2	<0.23	<0.12	3.8	<2.3	<2.4	<0.23	<1.2	<0.023	<0.023	<0.025	<0.023	<0.024	0.094	<0.025
Chrysene	0.2	0.02	120	<26	<2.6	500	<2.6	<0.51	11	10	570	<5.3	24	100	<0.051	<0.052	<0.056	<0.051	<0.053	<0.051	<0.055
Isopropylbenzene	NS	NS	400	NA	NA	NA	<20	NA	NA	NA	50	NA	NA	NA	<0.20	NA	NA	<0.20	NA	NA	NA
p-Isopropyltoluene	NS	NS	300	NA	NA	NA	300	NA	NA	NA	850	NA	NA	NA	<0.20	NA	NA	<0.20	NA	NA	NA
Phenanthrene	NS	NS	<9.6	1300	140	420	76	7.9	4.3	3.0	<9.6	160	<0.96	190	<0.096	<0.098	<0.11	<0.096	<0.099	<0.096	<0.10
Fluoranthene	400	80	<1.8	<9.3	350	1300	190	<0.18	18	22	<1.8	<1.9	92	480	<0.018	<0.018	<0.020	<0.018	<0.019	<0.018	<0.019
Pyrene	250	50	<1.7	7600	<8.5	3400	400	93	52	55	<1.7	1000	<1.7	1300	<0.017	<0.017	<0.19	<0.017	<0.018	<0.17	<0.18

Notes: 1. ES - Enforcement Standard.
2. PAL - Preventive Action Limit.
3. * - Concentration reported is estimated.
4. NS - No standard established.
5. NA - Not analyzed.

Table 2
Summary of Indicators of Natural Attenuation
Allied Industries/CCI Facility
544 Kellogg Street
Janesville, Wisconsin

Analyte	Units	NR 140		MW01	MW02	MW03	MW05	MW10
		ES	PAL					
				2/18/99	2/18/99	2/18/99	2/18/99	2/18/99
Iron, Dissolved	mg/L	0.3	0.15	3.39	1.07	22.6	<0.020	<0.020
Manganese, Dissolved	ug/L	0.05	0.025	679	570	647	2.3	29.5
Nitrate-Nitrogen	mg/L	10	2	0.320	10.9	0.21	4.12	5.44
Sulfate	mg/L	250	125	27.6	39.1	27.4	22.4	28.2
Bicarbonate Alkalinity	mg/L	NS	NS	558	373	466	429	397
Carbonate Alkalinity	mg/L	NS	NS	<20	<20	<20	<20	<20
Dissolved Oxygen	mg/L	NS	NS	5.8	6.3	5.1	8.3	5.7
Redox Potential	millivolts	NS	NS	-42	-9	-132	231	113
pH	pH units	NS	NS	6.92	7.26	7.02	7.21	7.28
Sp. Conductance @ 25C	umhos/cm	NS	NS	2510	1140	2190	1130	1550
Temperature	Celcius	NS	NS	12	11.1	11.6	10	10.8

Notes:

1. NR 140 = Wisc. Adm. Code Chapter NR 140
2. ES = Enforcement Standard
3. PAL = Preventive Action Limit
4. NS = No standard establish in NR 140
5. < = Compound not detected, concentration is less than the detection limit.

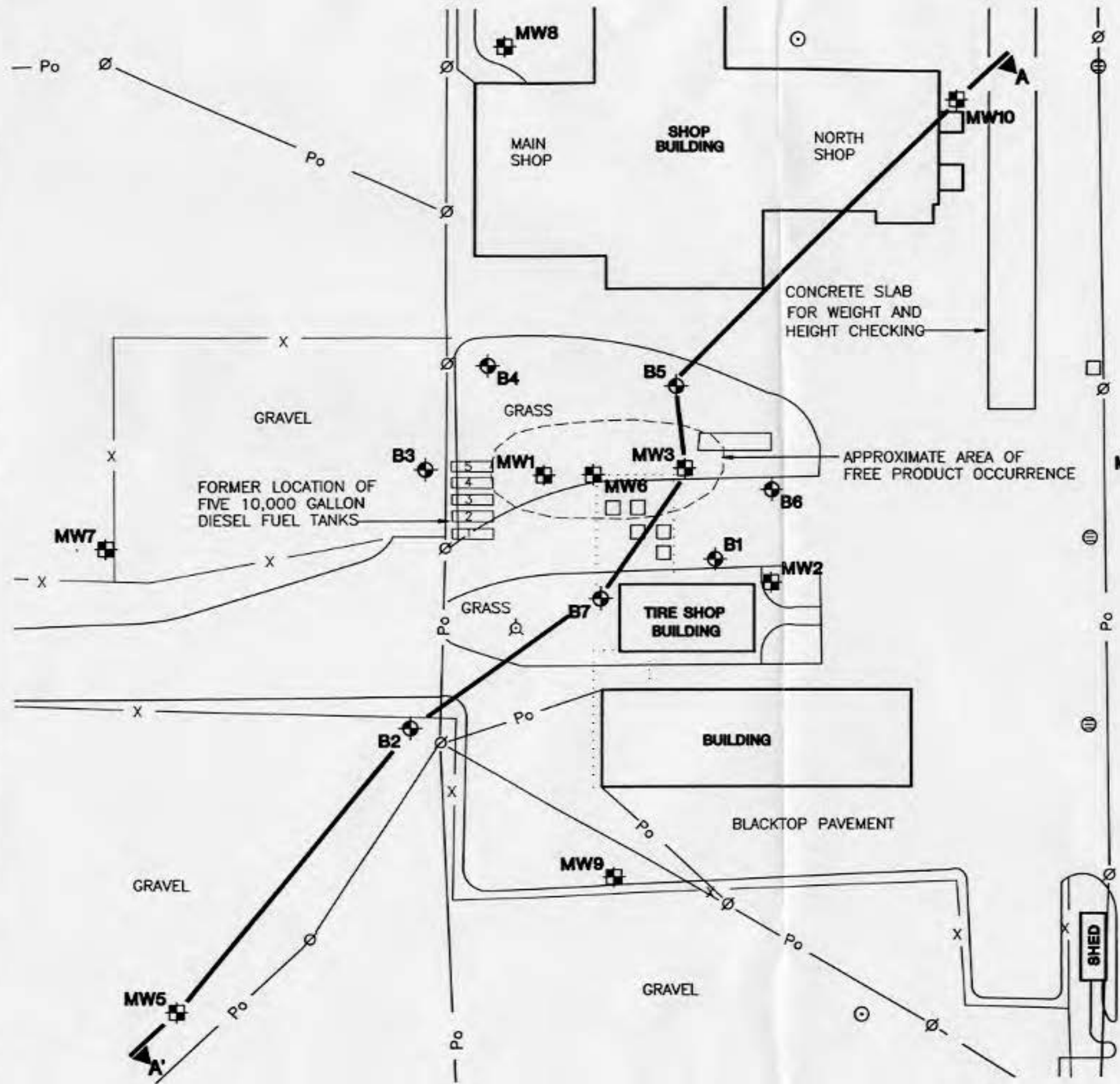
Table 1
Summary of Groundwater Organic Analytical Results
Commercial Carriers, Inc.
544 Kellogg Street
Janesville, Wisconsin

Analyte (ug/L)	NR 140		MW02				MW12				Analyte (ug/L)	NR 140		MW01			
	ES	PAL	3/27/96	6/28/96	9/11/96	11/11/96	3/27/96	6/28/96	9/11/96	11/11/96		ES	PAL	3/27/96	6/28/96	9/11/96	11/11/96
Benzene	5	0.5	<0.5	<5	<0.5	<10	<0.5	0.61*	<0.5	<0.5	Benzene	5	0.5	<10	<130	<1.0	<10
Ethylbenzene	700	140	<1.0	<10	<1.0	<20	<1.0	<1.0	<1.0	<1.0	Ethylbenzene	700	140	31	<250	6.9	25
Toluene	343	68.6	<1.0	<10	<1.0	<20	<1.0	<1.0	<1.0	<1.0	Toluene	343	68.6	<20	<250	<2.0	<20
Xylenes	620	124	<3.0	<30	<3.0	<60	<3.0	<3.0	<3.0	<3.0	Xylenes	620	124	130*	<750	16	68
Methyl tert-butyl ether	60	12	<1.0	<10	<1.0	<20	<1.0	<1.0	<1.0	<1.0	Methyl tert-butyl ether	60	12	<20	<250	<2.0	<20
1,2,4-Trimethylbenzene	NS	NS	<1.0	<10	<1.0	<20	<1.0	<1.0	<1.0	<1.0	1,2,4-Trimethylbenzene	NS	NS	160	420	21	61
1,3,5-Trimethylbenzene	NS	NS	<1.0	<10	<1.0	<20	<1.0	<1.0	<1.0	<1.0	1,3,5-Trimethylbenzene	NS	NS	<150	<250	4.8	<20
Naphthalene	40	8	<1.0	<10	2.7	<20	<1.0	<1.0	<1.0	<1.0							
Carbon tetrachloride	5	0.5	<1.0	<10	<1.0	<20	<1.0	<1.0	<1.0	<1.0							
Chloroform	6	0.6	<1.0	<10	<1.0	<20	<1.0	<1.0	<1.0	<1.0							
1,2-Dichloroethane	5	0.5	<1.0	<10	<1.0	<20	<1.0	<1.0	<1.0	<1.0							
n-Butylbenzene	NS	NS	<1.0	610	2.9	54	<1.0	<1.0	<1.0	<1.0							
Methylene Chloride	5	0.5	<5.0	170	<5.0	110 ⁽¹⁾	<5.0	<5.0	<5.0	9.5 ⁽¹⁾							
n-Propylbenzene	NS	NS	<1.0	99	<1.0	<20	<1.0	<1.0	<1.0	<1.0							
sec-Butylbenzene	NS	NS	<1.0	<10	<1.0	<20	<1.0	<1.0	1.1	1.1							

Analyte (ug/L)	NR 140		MW03				MW05		MW07		MW08		MW09		MW10		MW11	
	ES	PAL	3/27/96	6/28/96	9/11/96	11/11/96	9/11/96	11/11/96	9/11/96	11/11/96	9/11/96	11/11/96	9/11/96	11/11/96	9/11/96	11/11/96	9/11/96	11/11/96
Benzene	5	0.5	<120	<130	<2.5	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	700	140	<250	<250	22	25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Toluene	343	68.6	<250	<250	<5.0	<20	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Xylenes	620	124	<750	<750	32	<60	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
Methyl tert-butyl ether	60	12	<250	<250	<5.0	<20	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2,4-Trimethylbenzene	NS	NS	<250	680	75	200	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,3,5-Trimethylbenzene	NS	NS	<250	280	39	88	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

- Notes: 1. ES = Enforcement Standard.
2. PAL = Preventive Action Limit.
3. * = Concentration exceeds the NR 140 PAL.
4. NS = No standard established.
5. NA = Not analyzed.

Footnotes: (1) Methylene Chloride detected at wells MW02 and MW12 is a common laboratory solvent and contaminant.

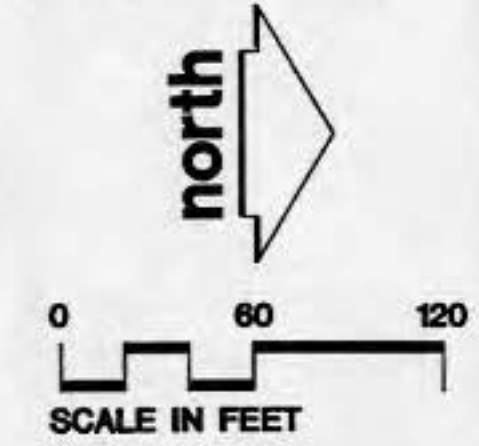


LEGEND

- MW2 MONITORING WELL LOCATION AND NUMBER
- B1 SOIL BORING LOCATION AND NUMBER
- FUEL PUMP
- POWER/LIGHT POLE
- MANHOLE COVER
- CATCH BASIN
- OVERHEAD POWER LINE
- FENCE LINE
- FIRE HYDRANT

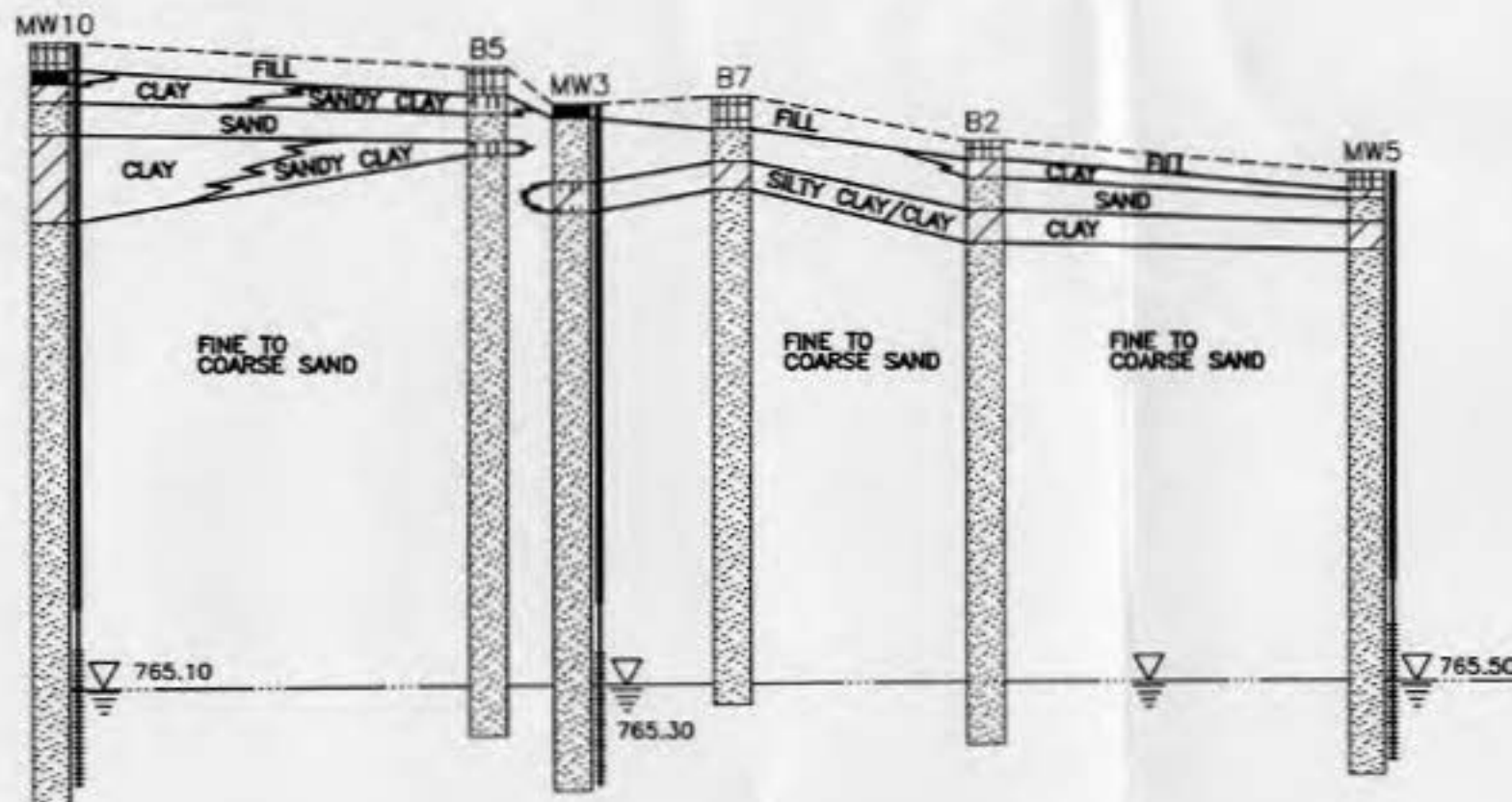
NOTES

1. BASE MAP DEVELOPED FROM A LOCATION MAP PREPARED BY BIRRENKOTT SURVEYING, SUN PRAIRIE, WISCONSIN ON JUNE 1, 1992.
2. MONITORING WELLS MW1, MW2, MW3 AND MW4 INSTALLED JUNE 5-7, 1991. MONITORING WELLS MW5 THROUGH MW11 AND BORINGS B1 THROUGH B7 INSTALLED APRIL 6 THROUGH 21, 1992. DRILLING PERFORMED BY ENVIRONMENTAL AND FOUNDATION DRILLING, INC. UNDER WARZYN SUPERVISION.
3. MONITORING WELL MW4 IS LOCATED NORTH OF THE AREA SHOWN ON THIS MAP. MW4 IS AT NORTHING 242,040, EASTING 2,262,569.



A
NORTHWEST
ELEVATION

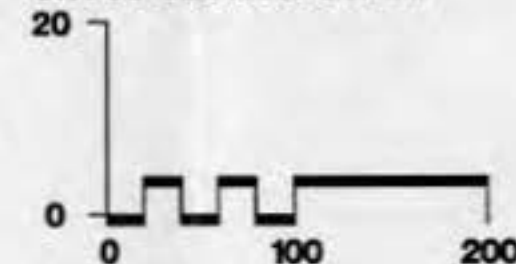
840
820
800
780
760
740



A'
SOUTHEAST
ELEVATION

840
820
800
780
760
740

CROSS SECTION SCALE



SCALE IN FEET

VERTICAL EXAGGERATION: FIVE TIMES

LEGEND

- LEAN CLAY
- SANDY LEAN CLAY
- CLEAN SAND
- FILL
- SILT
- TOPSOIL
- SILTY CLAY

NOTES

1. THE STRATUM LINES ARE BASED ON INTERPOLATION BETWEEN BORINGS AND MAY NOT REPRESENT ACTUAL SUBSURFACE CONDITIONS.
2. REFER TO DRAWING 1515810-D1 FOR ADDITIONAL NOTES.
3. CROSS SECTION LOCATION IS SHOWN ON DRAWING 1515810-B5.
4. FOR THE PURPOSE OF ILLUSTRATING SUBSOIL CONDITIONS ON THE CROSS SECTIONS, SOME OF THE BORING LOGS HAVE BEEN SIMPLIFIED. FOR A DETAILED DESCRIPTION OF SUBSURFACE CONDITIONS AT INDIVIDUAL BORINGS, REFER TO SOIL BORING LOGS, APPENDIX A OF TEXT.
5. FOR COMPLETE MONITORING WELL INSTALLATION DETAILS REFER TO APPENDIX D OF TEXT.
6. HORIZONTAL DISTANCES ARE MEASURED WITH RESPECT TO THE CENTER OF EACH SOIL BORING LOCATION.
7. ELEVATIONS ARE SHOWN IN REFERENCE TO U.S.G.S. DATUM.
8. THE WATER TABLE ELEVATIONS ARE BASED ON MEASUREMENTS OBTAINED BY WARZYN INC. ON APRIL 30, 1992.

Developed By: MCB
Drawn By: JJJ
Approved By: [Signature]
Reference: [Signature]
Revisions: [Signature]

GEOLOGIC CROSS SECTION A-A'
PHASE II SOIL AND GROUNDWATER INVESTIGATION
JANESVILLE AUTO TRANSPORT COMPANY
JANESVILLE, WISCONSIN

Drawing Number:
1515810 B6



ATTACHMENT C

SUMMARY OF SOIL ANALYTICAL RESULTS

SOIL ANALYTICAL RESULTS SUMMARY
FORMER HAUL-AWAY YARD
JANESVILLE, WISCONSIN

Sample Location		⁽¹⁾ Wisconsin Administrative Code				⁽²⁾ RR-519-97			1	2	3	4	5	6	7	8	9	10	11	12
Sample Identification									1	2	3	4	5	6	7	8	9	10	11	12
Sample Date			Protection of	Direct Contact		Suggested Generic RCLs			5/27/2010	5/27/2010	5/27/2010	5/27/2010	5/27/2010	5/27/2010	5/27/2010	5/27/2010	5/27/2010	5/27/2010	5/27/2010	5/27/2010
Sample Depth		Generic	Groundwater	RCLs	Non-Industrial	Groundwater	Direct Contact Pathway	Industrial	(4.5-5) ft BGS	(4.5-5) ft BGS	(4.5-5) ft BGS	(4.5-5) ft BGS	(4.5-5) ft BGS	(4.5-5) ft BGS	(3-) ft BGS	(4.5-5) ft BGS	(3.5-) ft BGS	(4-4.5) ft BGS	(3.5-4) ft BGS	(3.5-4) ft BGS
	Units	RCLs	RCLs			Pathway														
		a	b	c	d	e	f	g												
Total Petroleum Hydrocarbons (TPH)																				
Total Petroleum Hydrocarbons - Extractable (DRO)	mg/kg	100	NV	NV	NV	NV	NV	NV	4.29 U	5.58 U	4.64 U	4.56 U	5.32 U	5.06 U	4.53 U	61.6	5.15 U	5.41 U	4.04 U	4.44 U
Volatile Organic Compounds (VOCs)																				
1,2,4-Trimethylbenzene	mg/kg	NV	NV	NV	NV	NV	NV	NV	0.013 U	0.014 U	0.013 U	0.014 U	0.013 U	0.014 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U
1,3,5-Trimethylbenzene	mg/kg	NV	NV	NV	NV	NV	NV	NV	0.018 U	0.020 U	0.019 U	0.019 U	0.018 U	0.019 U	0.018 U	0.018 U	0.018 U	0.018 U	0.018 U	0.018 U
Benzene	mg/kg	NV	0.0055	NV	NV	NV	NV	NV	0.016 U	0.017 U	0.017 U	0.017 U	0.016 U	0.017 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U
Ethylbenzene	mg/kg	NV	2.9	NV	NV	NV	NV	NV	0.018 U	0.020 U	0.019 U	0.019 U	0.018 U	0.019 U	0.018 U	0.018 U	0.018 U	0.018 U	0.018 U	0.018 U
m&p-Xylenes	mg/kg	NV	NV	NV	NV	NV	NV	NV	0.021 U	0.023 U	0.022 U	0.022 U	0.021 U	0.023 U	0.021 U	0.021 U	0.021 U	0.021 U	0.021 U	0.021 U
Methyl tert butyl ether (MTBE)	mg/kg	NV	NV	NV	NV	NV	NV	NV	0.011 U	0.012 U	0.011 U	0.011 U	0.011 U	0.012 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U
Naphthalene	mg/kg	NV	NV	NV	NV	0.4	20	110	0.018 U	0.020 U	0.019 U	0.019 U	0.018 U	0.019 U	0.018 U	0.148	0.018 U	0.018 U	0.018 U	0.018 U
o-Xylene	mg/kg	NV	NV	NV	NV	NV	NV	NV	0.016 U	0.017 U	0.017 U	0.017 U	0.016 U	0.017 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U
Toluene	mg/kg	NV	1.5	NV	NV	NV	NV	NV	0.017 U	0.019 U	0.018 U	0.018 U	0.017 U	0.018 U	0.017 U	0.017 U	0.017 U	0.017 U	0.017 U	0.017 U
Total Xylenes ⁽³⁾	mg/kg	NV	4.1	NV	NV	NV	NV	NV	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

⁽¹⁾ Wisconsin Administrative Code Chapter (ch.) NR 720 Generic RCLs

⁽²⁾ Wisconsin Department of Natural Resouces, Bureau for Remediation and Redevelopment Publication RR-519-97, April 1997, Soil Cleanup Levels for Polycyclic Aromatic Hydrocarbons (PAHs) Interim Guidance (RR-519-97)

⁽³⁾ The sum of detected concentrations of m&p- Xylenes and o-Xylenes for comparison purposes only

ft bgs - feet below ground surface

mg/kg - milligrams per kilogram

ND - m&p- Xylenes and o-Xylenes were both not detected

NV -No value, criteria is not promulgated

RCL - Residual Contaminant Level

U - Not present at or above the associated value.

TABLE C1

SOIL ANALYTICAL RESULTS SUMMARY

FORMER HAUL-AWAY YARD

JANESVILLE, WISCONSIN

Sample Location	⁽¹⁾ Wisconsin Administrative Code					⁽²⁾ RR-519-97			13	14	15	16	17	18	19	20	21	22	23	24
Sample Identification									13	14	15	16	17	18	19	20	21	22	23	24
Sample Date						Suggested Generic RCLs			5/27/2010	5/27/2010	5/27/2010	5/27/2010	5/28/2010	5/28/2010	5/28/2010	5/28/2010	5/28/2010	5/28/2010	5/28/2010	5/28/2010
Sample Depth	Units	Generic RCLs	Protection of Groundwater	Direct Contact RCLs		Groundwater Pathway	Direct Contact Pathway		(4.5-5) ft BGS	(2.5-3) ft BGS	(4.5-5) ft BGS	(4.5-5) ft BGS	(22-24) ft BGS	(14-16) ft BGS	(15-17) ft BGS	(22-24) ft BGS	(16-18) ft BGS	(16-18) ft BGS	(22-24) ft BGS	(16-18) ft BGS
		a	b	c	d	e	f	g												
Total Petroleum Hydrocarbons (TPH)																				
Total Petroleum Hydrocarbons - Extractable (DRO)	mg/kg	100	NV	NV	NV	NV	NV	NV	5.00 U	36.2	4.30 U	4.43 U	4.29 U	4.35 U	5.00 U	4.08 U	4.32 U	4.28 U	4.39 U	4.69 U
Volatile Organic Compounds (VOCs)																				
1,2,4-Trimethylbenzene	mg/kg	NV	NV	NV	NV	NV	NV	NV	0.013 U	0.173	0.013 U	0.013 U	0.014 U	0.014 U	0.013 U	0.014 U	0.013 U	0.014 U	0.013 U	0.013 U
1,3,5-Trimethylbenzene	mg/kg	NV	NV	NV	NV	NV	NV	NV	0.018 U	0.161	0.018 U	0.019 U	0.020 U	0.019 U	0.018 U	0.019 U	0.018 U	0.019 U	0.018 U	0.018 U
Benzene	mg/kg	NV	0.0055	NV	NV	NV	NV	NV	0.016 U	0.017 U	0.016 U	0.017 U	0.018 U	0.017 U	0.016 U	0.017 U	0.016 U	0.017 U	0.016 U	0.016 U
Ethylbenzene	mg/kg	NV	2.9	NV	NV	NV	NV	NV	0.018 U	0.071	0.018 U	0.019 U	0.020 U	0.019 U	0.018 U	0.019 U	0.018 U	0.019 U	0.018 U	0.018 U
m&p-Xylenes	mg/kg	NV	NV	NV	NV	NV	NV	NV	0.021 U	0.186	0.021 U	0.022 U	0.023 U	0.022 U	0.021 U	0.022 U	0.021 U	0.022 U	0.021 U	0.021 U
Methyl tert butyl ether (MTBE)	mg/kg	NV	NV	NV	NV	NV	NV	NV	0.011 U	0.012 U	0.011 U	0.011 U	0.012 U	0.011 U	0.011 U	0.012 U	0.011 U	0.011 U	0.011 U	0.011 U
Naphthalene	mg/kg	NV	NV	NV	NV	0.4	20	110	0.018 U	0.345	0.018 U	0.019 U	0.020 U	0.019 U	0.018 U	0.019 U	0.018 U	0.019 U	0.018 U	0.018 U
o-Xylene	mg/kg	NV	NV	NV	NV	NV	NV	NV	0.016 U	0.017 U	0.016 U	0.017 U	0.018 U	0.017 U	0.016 U	0.017 U	0.016 U	0.017 U	0.016 U	0.016 U
Toluene	mg/kg	NV	1.5	NV	NV	NV	NV	NV	0.017 U	0.019 U	0.017 U	0.018 U	0.019 U	0.018 U	0.017 U	0.018 U	0.017 U	0.018 U	0.017 U	0.017 U
Total Xylenes ⁽³⁾	mg/kg	NV	4.1	NV	NV	NV	NV	NV	ND	0.186	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

⁽¹⁾ Wisconsin Administrative Code Chapter (ch.) NR 720 Generic RCLs

⁽²⁾ Wisconsin Department of Natural Resouces, Bureau for Remediation and Redevelopment Publication RR-519-97, April 1997, Soil Cleanup Levels for Polycyclic Aromatic Hydrocarbons (PAHs) Interim Guidance (RR-519-97)

⁽³⁾ The sum of detected concentrations of m&p- Xylenes and o-Xylenes for comparison purposes only

ft bgs - feet below ground surface

mg/kg - milligrams per kilogram

ND - m&p- Xylenes and o-Xylenes were both not detected

NV -No value, criteria is not promulgated

RCL - Residual Contaminant Level

U - Not present at or above the associated value.

TABLE C1
SOIL ANALYTICAL RESULTS SUMMARY
FORMER HAUL-AWAY YARD
JANESVILLE, WISCONSIN

Sample Location	⁽¹⁾ Wisconsin Administrative Code					⁽²⁾ RR-519-97			25	26	27	28	29	30	31
Sample Identification									25	26	27	28	29	30	31
Sample Date						Suggested Generic RCLs			1/10/2006	1/10/2006	1/10/2006	1/10/2006	1/10/2006	1/10/2006	1/10/2006
Sample Depth						Direct Contact Pathway			(5.5-) ft BGS	(6.5-7) ft BGS	(3.5-4) ft BGS	(3.5-4) ft BGS	(4.5-5) ft BGS	(2.5-3) ft BGS	(6.5-7) ft BGS
	Units	Generic RCLs	Protection of Groundwater RCLs	Non-Industrial	Industrial	Groundwater Pathway	Non-Industrial	Industrial							
		a	b	c	d	e	f	g							
Total Petroleum Hydrocarbons (TPH)															
Total Petroleum Hydrocarbons - Extractable (DRO)	mg/kg	100	NV	NV	NV	NV	NV	NV	6170 ^a	1860 ^a	21.3	4.40 U	4.33 U	485 ^a	740 ^a
Volatile Organic Compounds (VOCs)															
1,2,4-Trimethylbenzene	mg/kg	NV	NV	NV	NV	NV	NV	NV	30.0	16.1	0.013 U	0.013 U	0.013 U	0.065 U	0.065 U
1,3,5-Trimethylbenzene	mg/kg	NV	NV	NV	NV	NV	NV	NV	10.3	6.02	0.018 U	0.018 U	0.018 U	0.090 U	0.090 U
Benzene	mg/kg	NV	0.0055	NV	NV	NV	NV	NV	0.160 U	0.160 U	0.016 U	0.016 U	0.016 U	0.080 U	0.080 U
Ethylbenzene	mg/kg	NV	2.9	NV	NV	NV	NV	NV	2.71	2.23	0.018 U	0.018 U	0.018 U	0.090 U	0.090 U
m&p-Xylenes	mg/kg	NV	NV	NV	NV	NV	NV	NV	8.30	7.53	0.021 U	0.021 U	0.021 U	0.105 U	0.105 U
Methyl tert butyl ether (MTBE)	mg/kg	NV	NV	NV	NV	NV	NV	NV	0.110 U	0.110 U	0.011 U	0.011 U	0.011 U	0.055 U	0.055 U
Naphthalene	mg/kg	NV	NV	NV	NV	0.4	20	110	19.8 ^a	8.69 ^a	0.018 U	0.018 U	0.018 U	1.25 ^a	0.863 ^a
o-Xylene	mg/kg	NV	NV	NV	NV	NV	NV	NV	2.64	3.18	0.016 U	0.016 U	0.016 U	0.080 U	0.080 U
Toluene	mg/kg	NV	1.5	NV	NV	NV	NV	NV	0.170 U	0.170 U	0.017 U	0.017 U	0.017 U	0.085 U	0.085 U
Total Xylenes ⁽³⁾	mg/kg	NV	4.1	NV	NV	NV	NV	NV	10.94 ^b	10.71 ^b	ND	ND	ND	ND	ND

Notes:

⁽¹⁾ Wisconsin Administrative Code Chapter (ch.) NR 720 Generic RCLs

⁽²⁾ Wisconsin Department of Natural Resouces, Bureau for Remediation and Redevelopment Publication RR-519-97, April 1997, Soil Cleanup Levels for Polycyclic Aromatic Hydrocarbons (PAHs) Interim Guidance (RR-519-97)

⁽³⁾ The sum of detected concentrations of m&p- Xylenes and o-Xylenes for comparison purposes only

ft bgs - feet below ground surface

mg/kg - milligrams per kilogram

ND - m&p- Xylenes and o-Xylenes were both not detected

NV -No value, criteria is not promulgated

RCL - Residual Contaminant Level

U - Not present at or above the associated value.

ATTACHMENT D

WASTE DISPOSAL DOCUMENTATION

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Canton

4101 Shuffel Street NW

North Canton, OH 44720

Tel: (330)497-9396

TestAmerica Job ID: 240-12965-1

Client Project/Site: 77493, Janesville WI, SSOW 108006

For:

Conestoga-Rovers & Associates, Inc.

14496 Sheldon Road, Suite 200

Plymouth, Michigan 48170

Attn: Mr. Paul Wiseman



Authorized for release by:

7/13/2012 4:16:34 PM

Denise Heckler

Project Manager II

denise.heckler@testamericainc.com

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www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 77493, Janesville WI, SSOW 108006

TestAmerica Job ID: 240-12965-1

Job ID: 240-12965-1

Laboratory: TestAmerica Canton

Narrative

CASE NARRATIVE

Client: Conestoga-Rovers & Associates, Inc.

Project: 77493, Janesville WI, SSOW 108006

Report Number: 240-12965-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

TestAmerica North Canton attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

RECEIPT

The samples were received on 07/06/2012; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 2.7° C and 3.7° C.

Samples were composited prior to analysis per the instruction on the chain of custody.

TCLP VOLATILE ORGANIC COMPOUNDS (GC-MS)

Samples SO-070512-AK-01-05 COMP (240-12965-6), SO-070512-AK-06-10 COMP (240-12965-12), SO-070512-AK-11-15 COMP (240-12965-18) and WG-070512-AK-01 (240-12965-19) were analyzed for TCLP volatile organic compounds (GC-MS) in accordance with EPA SW-846 Methods 1311/8260B. The samples were leached on 07/10/2012 and analyzed on 07/10/2012, 07/11/2012 and 07/12/2012.

No difficulties were encountered during the VOCs analyses.

All quality control parameters were within the acceptance limits.

TCLP SEMIVOLATILE ORGANIC COMPOUNDS (GC-MS)

Samples SO-070512-AK-01-05 COMP (240-12965-6), SO-070512-AK-06-10 COMP (240-12965-12), SO-070512-AK-11-15 COMP (240-12965-18) and WG-070512-AK-01 (240-12965-19) were analyzed for TCLP semivolatile organic compounds (GC-MS) in accordance with EPA SW-846 Methods 1311/8270C. The samples were leached on 07/09/2012, prepared on 07/10/2012 and analyzed on 07/11/2012.

Case Narrative

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 77493, Janesville WI, SSOW 108006

TestAmerica Job ID: 240-12965-1

Job ID: 240-12965-1 (Continued)

Laboratory: TestAmerica Canton (Continued)

No difficulties were encountered during the SVOCs analyses.

All quality control parameters were within the acceptance limits.

GASOLINE RANGE ORGANICS (GRO)

Samples SO-070512-AK-01-05 COMP (240-12965-6), SO-070512-AK-06-10 COMP (240-12965-12) and SO-070512-AK-11-15 COMP (240-12965-18) were analyzed for gasoline range organics (GRO) in accordance with EPA SW-846 Method 8015B - GRO. The samples were analyzed on 07/11/2012.

Per Wisconsin method requirements, samples should be field preserved. Since samples were composited in the lab prior to analysis, method 8015 was used in place of Wisconsin GRO.

No difficulties were encountered during the GRO analyses.

All quality control parameters were within the acceptance limits.

POLYCHLORINATED BIPHENYLS (PCBS)

Samples SO-070512-AK-01-05 COMP (240-12965-6), SO-070512-AK-06-10 COMP (240-12965-12) and SO-070512-AK-11-15 COMP (240-12965-18) were analyzed for polychlorinated biphenyls (PCBs) in accordance with EPA SW-846 Method 8082. The samples were prepared on 07/07/2012 and analyzed on 07/10/2012.

All samples required a tetrabutylammonium sulfite (TBA) clean-up to reduce matrix interferences caused by sulfur.

No difficulties were encountered during the PCBs analyses.

All quality control parameters were within the acceptance limits.

WISCONSIN DRO

Samples SO-070512-AK-01-05 COMP (240-12965-6), SO-070512-AK-06-10 COMP (240-12965-12) and SO-070512-AK-11-15 COMP (240-12965-18) were analyzed for Wisconsin DRO in accordance with Wisconsin DNR Modified DRO. The samples were prepared on 07/10/2012 and analyzed on 07/11/2012.

WI Diesel Range Organics (C10-C28) was detected in method blank MB 240-50327/4-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged "J". If the associated sample reported a result above the MDL and/or RL, the result has been "B" flagged.

Samples SO-070512-AK-01-05 COMP (240-12965-6)[5X], SO-070512-AK-06-10 COMP (240-12965-12)[10X] and SO-070512-AK-11-15 COMP (240-12965-18)[5X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

Due to in-laboratory sample compositing, the samples were not received in pre-weighed containers from the field per method requirements. Aliquots were taken from composite jars and extracted per the Wisconsin method.

No other difficulties were encountered during the WI-DRO analyses.

All other quality control parameters were within the acceptance limits.

TCLP METALS (ICP)

Samples SO-070512-AK-01-05 COMP (240-12965-6), SO-070512-AK-06-10 COMP (240-12965-12), SO-070512-AK-11-15 COMP (240-12965-18) and WG-070512-AK-01 (240-12965-19) were analyzed for TCLP metals (ICP) in accordance with EPA SW-846 Methods 1311/ 6010B. The samples were leached on 07/09/2012, prepared on 07/10/2012 and analyzed on 07/11/2012.

Barium and Selenium were detected in method blank LB 240-50262/1-B at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged "J". If the associated sample reported a result above the MDL and/or RL, the result has been "B" flagged.

Case Narrative

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 77493, Janesville WI, SSOW 108006

TestAmerica Job ID: 240-12965-1

Job ID: 240-12965-1 (Continued)

Laboratory: TestAmerica Canton (Continued)

No other difficulties were encountered during the metals analyses.

All other quality control parameters were within the acceptance limits.

TCLP MERCURY

Sample WG-070512-AK-01 (240-12965-19) was analyzed for TCLP mercury in accordance with EPA SW-846 Methods 1311/7470A. The samples were leached on 07/09/2012, and prepared and analyzed on 07/10/2012.

No difficulties were encountered during the mercury analysis.

All quality control parameters were within the acceptance limits.

FLASHPOINT

Samples SO-070512-AK-01-05 COMP (240-12965-6), SO-070512-AK-06-10 COMP (240-12965-12) and SO-070512-AK-11-15 COMP (240-12965-18) were analyzed for flashpoint in accordance with EPA SW-846 Method 1010. The samples were analyzed on 07/11/2012 and 07/12/2012.

No difficulties were encountered during the flashpoint analyses.

All quality control parameters were within the acceptance limits.

FLASHPOINT

Samples WG-070512-AK-01 (240-12965-19) and WG-070512-AK-02 (240-12965-20) were analyzed for flashpoint in accordance with EPA SW-846 Method 1010. The samples were analyzed on 07/11/2012.

No difficulties were encountered during the flashpoint analyses.

All quality control parameters were within the acceptance limits.

TOTAL CYANIDE

Samples SO-070512-AK-01-05 COMP (240-12965-6), SO-070512-AK-06-10 COMP (240-12965-12) and SO-070512-AK-11-15 COMP (240-12965-18) were analyzed for total cyanide in accordance with EPA SW-846 Method 9012A. The samples were prepared and analyzed on 07/13/2012.

Cyanide, Total was detected in method blank MB 240-50710/3-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged "J". If the associated sample reported a result above the MDL and/or RL, the result has been "B" flagged.

No other difficulties were encountered during the cyanide analyses.

All other quality control parameters were within the acceptance limits.

SULFIDE

Samples SO-070512-AK-01-05 COMP (240-12965-6), SO-070512-AK-06-10 COMP (240-12965-12) and SO-070512-AK-11-15 COMP (240-12965-18) were analyzed for sulfide in accordance with EPA SW-846 Method 9034. The samples were prepared and analyzed on 07/12/2012.

No difficulties were encountered during the sulfide analyses.

All quality control parameters were within the acceptance limits.

PH

Samples WG-070512-AK-01 (240-12965-19) and WG-070512-AK-02 (240-12965-20) were analyzed for pH in accordance with EPA SW-846 Method 9040B. The samples were analyzed past the method recommended 15 minute holding time on 07/06/2012.

Case Narrative

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 77493, Janesville WI, SSOW 108006

TestAmerica Job ID: 240-12965-1

Job ID: 240-12965-1 (Continued)

Laboratory: TestAmerica Canton (Continued)

No difficulties were encountered during the pH analyses.

All quality control parameters were within the acceptance limits.

PH

Samples SO-070512-AK-01-05 COMP (240-12965-6), SO-070512-AK-06-10 COMP (240-12965-12) and SO-070512-AK-11-15 COMP (240-12965-18) were analyzed for pH in accordance with EPA SW-846 Method 9045C. The samples were analyzed on 07/10/2012.

No difficulties were encountered during the pH analyses.

All quality control parameters were within the acceptance limits.

PAINT FILTER

Samples SO-070512-AK-01-05 COMP (240-12965-6), SO-070512-AK-06-10 COMP (240-12965-12) and SO-070512-AK-11-15 COMP (240-12965-18) were analyzed for paint filter in accordance with EPA SW-846 Method 9095A. The samples were analyzed on 07/12/2012.

No difficulties were encountered during the paint filter analyses.

All quality control parameters were within the acceptance limits.

Definitions/Glossary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 77493, Janesville WI, SSOW 108006

TestAmerica Job ID: 240-12965-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.
B	Compound was found in the blank and sample.

General Chemistry

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
H	Sample was prepped or analyzed beyond the specified holding time

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
EDL	Estimated Detection Limit
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RL	Reporting Limit
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Sample Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 77493, Janesville WI, SSOW 108006

TestAmerica Job ID: 240-12965-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-12965-6	SO-070512-AK-01-05 COMP	Solid	07/05/12 10:45	07/06/12 10:15
240-12965-12	SO-070512-AK-06-10 COMP	Solid	07/05/12 12:00	07/06/12 10:15
240-12965-18	SO-070512-AK-11-15 COMP	Solid	07/05/12 13:25	07/06/12 10:15
240-12965-19	WG-070512-AK-01	Water	07/05/12 13:45	07/06/12 10:15
240-12965-20	WG-070512-AK-02	Water	07/05/12 14:20	07/06/12 10:15

Detection Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 77493, Janesville WI, SSOW 108006

TestAmerica Job ID: 240-12965-1

Client Sample ID: SO-070512-AK-01-05 COMP

Lab Sample ID: 240-12965-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
WI Diesel Range Organics (C10-C28)	69	B	62	6.2	mg/Kg	5	✱	WI-DRO	Total/NA
C28-C36	29	J	62	6.2	mg/Kg	5	✱	WI-DRO	Total/NA
Cadmium	0.00075	J	0.10	0.00066	mg/L	1		6010B	TCLP
Flashpoint	>180		1.00	1.00	Degrees F	1		1010	Total/NA
Cyanide, Total	0.23	J B	0.53	0.11	mg/Kg	1	✱	9012A	Total/NA
pH	10.9		0.100	0.100	SU	1		9045C	Total/NA
Free Liquid	NEG		0.10	0.10	NONE	1		9095A	Total/NA

Client Sample ID: SO-070512-AK-06-10 COMP

Lab Sample ID: 240-12965-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
WI Diesel Range Organics (C10-C28)	130	B	130	13	mg/Kg	10	✱	WI-DRO	Total/NA
C28-C36	170		130	13	mg/Kg	10	✱	WI-DRO	Total/NA
Cadmium	0.00075	J	0.10	0.00066	mg/L	1		6010B	TCLP
Flashpoint	>180		1.00	1.00	Degrees F	1		1010	Total/NA
Cyanide, Total	0.11	J B	0.54	0.11	mg/Kg	1	✱	9012A	Total/NA
pH	10.8		0.100	0.100	SU	1		9045C	Total/NA
Free Liquid	NEG		0.10	0.10	NONE	1		9095A	Total/NA

Client Sample ID: SO-070512-AK-11-15 COMP

Lab Sample ID: 240-12965-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
WI Diesel Range Organics (C10-C28)	92	B	61	6.1	mg/Kg	5	✱	WI-DRO	Total/NA
C28-C36	27	J	61	6.1	mg/Kg	5	✱	WI-DRO	Total/NA
Cadmium	0.0012	J	0.10	0.00066	mg/L	1		6010B	TCLP
Flashpoint	>180		1.00	1.00	Degrees F	1		1010	Total/NA
pH	9.95		0.100	0.100	SU	1		9045C	Total/NA
Free Liquid	NEG		0.10	0.10	NONE	1		9095A	Total/NA

Client Sample ID: WG-070512-AK-01

Lab Sample ID: 240-12965-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloroform	0.085		0.025	0.0080	mg/L	1		8260B	TCLP
Trichloroethene	0.020	J	0.025	0.0085	mg/L	1		8260B	TCLP
Arsenic	0.0048	J	0.50	0.0032	mg/L	1		6010B	TCLP
Barium	0.057	J B	10	0.00067	mg/L	1		6010B	TCLP
Cadmium	0.0026	J	0.10	0.00066	mg/L	1		6010B	TCLP
Lead	0.011	J	0.50	0.0019	mg/L	1		6010B	TCLP
Flashpoint	>180		1.00	1.00	Degrees F	1		1010	Total/NA
Corrosivity	9.05	H	0.100	0.100	SU	1		9040B	Total/NA

Client Sample ID: WG-070512-AK-02

Lab Sample ID: 240-12965-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Flashpoint	>180		1.00	1.00	Degrees F	1		1010	Total/NA
Corrosivity	12.0	H	0.100	0.100	SU	1		9040B	Total/NA

Method Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 77493, Janesville WI, SSOW 108006

TestAmerica Job ID: 240-12965-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL NC
8270C	Semivolatile Organic Compounds (GC/MS)	SW846	TAL NC
8015B	Gasoline Range Organics - (GC)	SW846	TAL NC
8082	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL NC
WI-DRO	Wisconsin - Diesel Range Organics (GC)	WI-DRO	TAL NC
6010B	Metals (ICP)	SW846	TAL NC
7470A	Mercury (CVAA)	SW846	TAL NC
1010	Ignitability, Pensky-Martens Closed-Cup Method	SW846	TAL NC
9012A	Cyanide, Total and/or Amenable	SW846	TAL NC
9034	Sulfide, Acid soluble and Insoluble (Titrimetric)	SW846	TAL NC
9040B	pH	SW846	TAL NC
9045C	pH	SW846	TAL NC
9095A	Paint Filter	SW846	TAL NC
Moisture	Percent Moisture	EPA	TAL NC

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

WI-DRO = "Modified DRO: Method For Determining Diesel Range Organics", Wisconsin DNR, Publ-SW-141, September, 1995.

Laboratory References:

TAL NC = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 77493, Janesville WI, SSOW 108006

TestAmerica Job ID: 240-12965-1

Method: 8260B - Volatile Organic Compounds (GC/MS) - TCLP

Client Sample ID: SO-070512-AK-01-05 COMP

Lab Sample ID: 240-12965-6

Date Collected: 07/05/12 10:45

Matrix: Solid

Date Received: 07/06/12 10:15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	0.025	U	0.025	0.0095	mg/L			07/11/12 23:16	1
1,2-Dichloroethane	0.025	U	0.025	0.011	mg/L			07/11/12 23:16	1
2-Butanone (MEK)	0.25	U	0.25	0.029	mg/L			07/11/12 23:16	1
Benzene	0.025	U	0.025	0.0065	mg/L			07/11/12 23:16	1
Carbon tetrachloride	0.025	U	0.025	0.0065	mg/L			07/11/12 23:16	1
Chlorobenzene	0.025	U	0.025	0.0075	mg/L			07/11/12 23:16	1
Chloroform	0.025	U	0.025	0.0080	mg/L			07/11/12 23:16	1
Tetrachloroethene	0.025	U	0.025	0.015	mg/L			07/11/12 23:16	1
Trichloroethene	0.025	U	0.025	0.0085	mg/L			07/11/12 23:16	1
Vinyl chloride	0.025	U	0.025	0.011	mg/L			07/11/12 23:16	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		80 - 121					07/11/12 23:16	1
4-Bromofluorobenzene (Surr)	92		70 - 124					07/11/12 23:16	1
Toluene-d8 (Surr)	105		90 - 115					07/11/12 23:16	1
Dibromofluoromethane (Surr)	113		84 - 128					07/11/12 23:16	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 77493, Janesville WI, SSOW 108006

TestAmerica Job ID: 240-12965-1

Method: 8260B - Volatile Organic Compounds (GC/MS) - TCLP

Client Sample ID: SO-070512-AK-06-10 COMP

Lab Sample ID: 240-12965-12

Date Collected: 07/05/12 12:00

Matrix: Solid

Date Received: 07/06/12 10:15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	0.025	U	0.025	0.0095	mg/L			07/11/12 23:41	1
1,2-Dichloroethane	0.025	U	0.025	0.011	mg/L			07/11/12 23:41	1
2-Butanone (MEK)	0.25	U	0.25	0.029	mg/L			07/11/12 23:41	1
Benzene	0.025	U	0.025	0.0065	mg/L			07/11/12 23:41	1
Carbon tetrachloride	0.025	U	0.025	0.0065	mg/L			07/11/12 23:41	1
Chlorobenzene	0.025	U	0.025	0.0075	mg/L			07/11/12 23:41	1
Chloroform	0.025	U	0.025	0.0080	mg/L			07/11/12 23:41	1
Tetrachloroethene	0.025	U	0.025	0.015	mg/L			07/11/12 23:41	1
Trichloroethene	0.025	U	0.025	0.0085	mg/L			07/11/12 23:41	1
Vinyl chloride	0.025	U	0.025	0.011	mg/L			07/11/12 23:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		80 - 121		07/11/12 23:41	1
4-Bromofluorobenzene (Surr)	95		70 - 124		07/11/12 23:41	1
Toluene-d8 (Surr)	106		90 - 115		07/11/12 23:41	1
Dibromofluoromethane (Surr)	119		84 - 128		07/11/12 23:41	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 77493, Janesville WI, SSOW 108006

TestAmerica Job ID: 240-12965-1

Method: 8260B - Volatile Organic Compounds (GC/MS) - TCLP

Client Sample ID: SO-070512-AK-11-15 COMP

Lab Sample ID: 240-12965-18

Date Collected: 07/05/12 13:25

Matrix: Solid

Date Received: 07/06/12 10:15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	0.025	U	0.025	0.0095	mg/L			07/12/12 00:06	1
1,2-Dichloroethane	0.025	U	0.025	0.011	mg/L			07/12/12 00:06	1
2-Butanone (MEK)	0.25	U	0.25	0.029	mg/L			07/12/12 00:06	1
Benzene	0.025	U	0.025	0.0065	mg/L			07/12/12 00:06	1
Carbon tetrachloride	0.025	U	0.025	0.0065	mg/L			07/12/12 00:06	1
Chlorobenzene	0.025	U	0.025	0.0075	mg/L			07/12/12 00:06	1
Chloroform	0.025	U	0.025	0.0080	mg/L			07/12/12 00:06	1
Tetrachloroethene	0.025	U	0.025	0.015	mg/L			07/12/12 00:06	1
Trichloroethene	0.025	U	0.025	0.0085	mg/L			07/12/12 00:06	1
Vinyl chloride	0.025	U	0.025	0.011	mg/L			07/12/12 00:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		80 - 121		07/12/12 00:06	1
4-Bromofluorobenzene (Surr)	94		70 - 124		07/12/12 00:06	1
Toluene-d8 (Surr)	106		90 - 115		07/12/12 00:06	1
Dibromofluoromethane (Surr)	117		84 - 128		07/12/12 00:06	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 77493, Janesville WI, SSOW 108006

TestAmerica Job ID: 240-12965-1

Method: 8260B - Volatile Organic Compounds (GC/MS) - TCLP

Client Sample ID: WG-070512-AK-01

Date Collected: 07/05/12 13:45

Date Received: 07/06/12 10:15

Lab Sample ID: 240-12965-19

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	0.025	U	0.025	0.0095	mg/L			07/10/12 23:19	1
1,2-Dichloroethane	0.025	U	0.025	0.011	mg/L			07/10/12 23:19	1
2-Butanone (MEK)	0.25	U	0.25	0.029	mg/L			07/10/12 23:19	1
Benzene	0.025	U	0.025	0.0065	mg/L			07/10/12 23:19	1
Carbon tetrachloride	0.025	U	0.025	0.0065	mg/L			07/10/12 23:19	1
Chlorobenzene	0.025	U	0.025	0.0075	mg/L			07/10/12 23:19	1
Chloroform	0.085		0.025	0.0080	mg/L			07/10/12 23:19	1
Tetrachloroethene	0.025	U	0.025	0.015	mg/L			07/10/12 23:19	1
Trichloroethene	0.020	J	0.025	0.0085	mg/L			07/10/12 23:19	1
Vinyl chloride	0.025	U	0.025	0.011	mg/L			07/10/12 23:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		80 - 121		07/10/12 23:19	1
4-Bromofluorobenzene (Surr)	93		70 - 124		07/10/12 23:19	1
Toluene-d8 (Surr)	107		90 - 115		07/10/12 23:19	1
Dibromofluoromethane (Surr)	116		84 - 128		07/10/12 23:19	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 77493, Janesville WI, SSOW 108006

TestAmerica Job ID: 240-12965-1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) - TCLP

Client Sample ID: SO-070512-AK-01-05 COMP

Date Collected: 07/05/12 10:45

Date Received: 07/06/12 10:15

Lab Sample ID: 240-12965-6

Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	0.0040	U	0.0040	0.00034	mg/L		07/10/12 09:47	07/11/12 12:46	1
2,4,5-Trichlorophenol	0.020	U	0.020	0.00030	mg/L		07/10/12 09:47	07/11/12 12:46	1
2,4,6-Trichlorophenol	0.020	U	0.020	0.00080	mg/L		07/10/12 09:47	07/11/12 12:46	1
2,4-Dinitrotoluene	0.020	U	0.020	0.00027	mg/L		07/10/12 09:47	07/11/12 12:46	1
Hexachlorobenzene	0.020	U	0.020	0.00010	mg/L		07/10/12 09:47	07/11/12 12:46	1
Hexachlorobutadiene	0.020	U	0.020	0.00027	mg/L		07/10/12 09:47	07/11/12 12:46	1
Hexachloroethane	0.020	U	0.020	0.00080	mg/L		07/10/12 09:47	07/11/12 12:46	1
3 & 4 Methylphenol	0.040	U	0.040	0.00075	mg/L		07/10/12 09:47	07/11/12 12:46	1
2-Methylphenol	0.0040	U	0.0040	0.00080	mg/L		07/10/12 09:47	07/11/12 12:46	1
Nitrobenzene	0.0040	U	0.0040	0.000040	mg/L		07/10/12 09:47	07/11/12 12:46	1
Pentachlorophenol	0.040	U	0.040	0.0024	mg/L		07/10/12 09:47	07/11/12 12:46	1
Pyridine	0.020	U	0.020	0.00035	mg/L		07/10/12 09:47	07/11/12 12:46	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	50		22 - 110				07/10/12 09:47	07/11/12 12:46	1
2-Fluorophenol (Surr)	55		10 - 110				07/10/12 09:47	07/11/12 12:46	1
2,4,6-Tribromophenol (Surr)	73		17 - 117				07/10/12 09:47	07/11/12 12:46	1
Nitrobenzene-d5 (Surr)	58		29 - 111				07/10/12 09:47	07/11/12 12:46	1
Phenol-d5 (Surr)	54		10 - 110				07/10/12 09:47	07/11/12 12:46	1
Terphenyl-d14 (Surr)	74		40 - 119				07/10/12 09:47	07/11/12 12:46	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 77493, Janesville WI, SSOW 108006

TestAmerica Job ID: 240-12965-1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) - TCLP

Client Sample ID: SO-070512-AK-06-10 COMP

Date Collected: 07/05/12 12:00

Date Received: 07/06/12 10:15

Lab Sample ID: 240-12965-12

Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	0.0040	U	0.0040	0.00034	mg/L		07/10/12 09:47	07/11/12 13:23	1
2,4,5-Trichlorophenol	0.020	U	0.020	0.00030	mg/L		07/10/12 09:47	07/11/12 13:23	1
2,4,6-Trichlorophenol	0.020	U	0.020	0.00080	mg/L		07/10/12 09:47	07/11/12 13:23	1
2,4-Dinitrotoluene	0.020	U	0.020	0.00027	mg/L		07/10/12 09:47	07/11/12 13:23	1
Hexachlorobenzene	0.020	U	0.020	0.00010	mg/L		07/10/12 09:47	07/11/12 13:23	1
Hexachlorobutadiene	0.020	U	0.020	0.00027	mg/L		07/10/12 09:47	07/11/12 13:23	1
Hexachloroethane	0.020	U	0.020	0.00080	mg/L		07/10/12 09:47	07/11/12 13:23	1
3 & 4 Methylphenol	0.040	U	0.040	0.00075	mg/L		07/10/12 09:47	07/11/12 13:23	1
2-Methylphenol	0.0040	U	0.0040	0.00080	mg/L		07/10/12 09:47	07/11/12 13:23	1
Nitrobenzene	0.0040	U	0.0040	0.000040	mg/L		07/10/12 09:47	07/11/12 13:23	1
Pentachlorophenol	0.040	U	0.040	0.0024	mg/L		07/10/12 09:47	07/11/12 13:23	1
Pyridine	0.020	U	0.020	0.00035	mg/L		07/10/12 09:47	07/11/12 13:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	54		22 - 110	07/10/12 09:47	07/11/12 13:23	1
2-Fluorophenol (Surr)	54		10 - 110	07/10/12 09:47	07/11/12 13:23	1
2,4,6-Tribromophenol (Surr)	75		17 - 117	07/10/12 09:47	07/11/12 13:23	1
Nitrobenzene-d5 (Surr)	65		29 - 111	07/10/12 09:47	07/11/12 13:23	1
Phenol-d5 (Surr)	55		10 - 110	07/10/12 09:47	07/11/12 13:23	1
Terphenyl-d14 (Surr)	77		40 - 119	07/10/12 09:47	07/11/12 13:23	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 77493, Janesville WI, SSOW 108006

TestAmerica Job ID: 240-12965-1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) - TCLP

Client Sample ID: SO-070512-AK-11-15 COMP

Date Collected: 07/05/12 13:25

Date Received: 07/06/12 10:15

Lab Sample ID: 240-12965-18

Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	0.0040	U	0.0040	0.00034	mg/L		07/10/12 09:47	07/11/12 13:42	1
2,4,5-Trichlorophenol	0.020	U	0.020	0.00030	mg/L		07/10/12 09:47	07/11/12 13:42	1
2,4,6-Trichlorophenol	0.020	U	0.020	0.00080	mg/L		07/10/12 09:47	07/11/12 13:42	1
2,4-Dinitrotoluene	0.020	U	0.020	0.00027	mg/L		07/10/12 09:47	07/11/12 13:42	1
Hexachlorobenzene	0.020	U	0.020	0.00010	mg/L		07/10/12 09:47	07/11/12 13:42	1
Hexachlorobutadiene	0.020	U	0.020	0.00027	mg/L		07/10/12 09:47	07/11/12 13:42	1
Hexachloroethane	0.020	U	0.020	0.00080	mg/L		07/10/12 09:47	07/11/12 13:42	1
3 & 4 Methylphenol	0.040	U	0.040	0.00075	mg/L		07/10/12 09:47	07/11/12 13:42	1
2-Methylphenol	0.0040	U	0.0040	0.00080	mg/L		07/10/12 09:47	07/11/12 13:42	1
Nitrobenzene	0.0040	U	0.0040	0.000040	mg/L		07/10/12 09:47	07/11/12 13:42	1
Pentachlorophenol	0.040	U	0.040	0.0024	mg/L		07/10/12 09:47	07/11/12 13:42	1
Pyridine	0.020	U	0.020	0.00035	mg/L		07/10/12 09:47	07/11/12 13:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	48		22 - 110	07/10/12 09:47	07/11/12 13:42	1
2-Fluorophenol (Surr)	50		10 - 110	07/10/12 09:47	07/11/12 13:42	1
2,4,6-Tribromophenol (Surr)	63		17 - 117	07/10/12 09:47	07/11/12 13:42	1
Nitrobenzene-d5 (Surr)	57		29 - 111	07/10/12 09:47	07/11/12 13:42	1
Phenol-d5 (Surr)	49		10 - 110	07/10/12 09:47	07/11/12 13:42	1
Terphenyl-d14 (Surr)	72		40 - 119	07/10/12 09:47	07/11/12 13:42	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 77493, Janesville WI, SSOW 108006

TestAmerica Job ID: 240-12965-1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) - TCLP

Client Sample ID: WG-070512-AK-01

Date Collected: 07/05/12 13:45

Date Received: 07/06/12 10:15

Lab Sample ID: 240-12965-19

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	0.0040	U	0.0040	0.00034	mg/L		07/10/12 09:47	07/11/12 14:01	1
2,4,5-Trichlorophenol	0.020	U	0.020	0.00030	mg/L		07/10/12 09:47	07/11/12 14:01	1
2,4,6-Trichlorophenol	0.020	U	0.020	0.00080	mg/L		07/10/12 09:47	07/11/12 14:01	1
2,4-Dinitrotoluene	0.020	U	0.020	0.00027	mg/L		07/10/12 09:47	07/11/12 14:01	1
Hexachlorobenzene	0.020	U	0.020	0.00010	mg/L		07/10/12 09:47	07/11/12 14:01	1
Hexachlorobutadiene	0.020	U	0.020	0.00027	mg/L		07/10/12 09:47	07/11/12 14:01	1
Hexachloroethane	0.020	U	0.020	0.00080	mg/L		07/10/12 09:47	07/11/12 14:01	1
3 & 4 Methylphenol	0.040	U	0.040	0.00075	mg/L		07/10/12 09:47	07/11/12 14:01	1
2-Methylphenol	0.0040	U	0.0040	0.00080	mg/L		07/10/12 09:47	07/11/12 14:01	1
Nitrobenzene	0.0040	U	0.0040	0.000040	mg/L		07/10/12 09:47	07/11/12 14:01	1
Pentachlorophenol	0.040	U	0.040	0.0024	mg/L		07/10/12 09:47	07/11/12 14:01	1
Pyridine	0.020	U	0.020	0.00035	mg/L		07/10/12 09:47	07/11/12 14:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	48		22 - 110	07/10/12 09:47	07/11/12 14:01	1
2-Fluorophenol (Surr)	48		10 - 110	07/10/12 09:47	07/11/12 14:01	1
2,4,6-Tribromophenol (Surr)	65		17 - 117	07/10/12 09:47	07/11/12 14:01	1
Nitrobenzene-d5 (Surr)	53		29 - 111	07/10/12 09:47	07/11/12 14:01	1
Phenol-d5 (Surr)	54		10 - 110	07/10/12 09:47	07/11/12 14:01	1
Terphenyl-d14 (Surr)	73		40 - 119	07/10/12 09:47	07/11/12 14:01	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 77493, Janesville WI, SSOW 108006

TestAmerica Job ID: 240-12965-1

Method: 8015B - Gasoline Range Organics - (GC)

Client Sample ID: SO-070512-AK-01-05 COMP

Date Collected: 07/05/12 10:45

Date Received: 07/06/12 10:15

Lab Sample ID: 240-12965-6

Matrix: Solid

Percent Solids: 95.7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	100	U	100	48	ug/Kg	☼		07/11/12 21:12	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	61		10 - 150					07/11/12 21:12	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 77493, Janesville WI, SSOW 108006

TestAmerica Job ID: 240-12965-1

Method: 8015B - Gasoline Range Organics - (GC)

Client Sample ID: SO-070512-AK-06-10 COMP

Date Collected: 07/05/12 12:00

Date Received: 07/06/12 10:15

Lab Sample ID: 240-12965-12

Matrix: Solid

Percent Solids: 92.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	110	U	110	50	ug/Kg	☼		07/11/12 21:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	64		10 - 150		07/11/12 21:48	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 77493, Janesville WI, SSOW 108006

TestAmerica Job ID: 240-12965-1

Method: 8015B - Gasoline Range Organics - (GC)

Client Sample ID: SO-070512-AK-11-15 COMP

Date Collected: 07/05/12 13:25

Date Received: 07/06/12 10:15

Lab Sample ID: 240-12965-18

Matrix: Solid

Percent Solids: 96.1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	100	U	100	48	ug/Kg	☼		07/11/12 22:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	55		10 - 150		07/11/12 22:25	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 77493, Janesville WI, SSOW 108006

TestAmerica Job ID: 240-12965-1

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Sample ID: SO-070512-AK-01-05 COMP

Date Collected: 07/05/12 10:45

Date Received: 07/06/12 10:15

Lab Sample ID: 240-12965-6

Matrix: Solid

Percent Solids: 95.7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	34	U	34	22	ug/Kg	☼	07/07/12 09:20	07/10/12 13:17	1
Aroclor-1221	34	U	34	17	ug/Kg	☼	07/07/12 09:20	07/10/12 13:17	1
Aroclor-1232	34	U	34	15	ug/Kg	☼	07/07/12 09:20	07/10/12 13:17	1
Aroclor-1242	34	U	34	14	ug/Kg	☼	07/07/12 09:20	07/10/12 13:17	1
Aroclor-1248	34	U	34	18	ug/Kg	☼	07/07/12 09:20	07/10/12 13:17	1
Aroclor-1254	34	U	34	18	ug/Kg	☼	07/07/12 09:20	07/10/12 13:17	1
Aroclor-1260	34	U	34	18	ug/Kg	☼	07/07/12 09:20	07/10/12 13:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	65		29 - 151	07/07/12 09:20	07/10/12 13:17	1
DCB Decachlorobiphenyl	73		14 - 163	07/07/12 09:20	07/10/12 13:17	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 77493, Janesville WI, SSOW 108006

TestAmerica Job ID: 240-12965-1

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Sample ID: SO-070512-AK-06-10 COMP

Date Collected: 07/05/12 12:00

Date Received: 07/06/12 10:15

Lab Sample ID: 240-12965-12

Matrix: Solid

Percent Solids: 92.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	36	U	36	23	ug/Kg	☼	07/07/12 09:20	07/10/12 13:32	1
Aroclor-1221	36	U	36	17	ug/Kg	☼	07/07/12 09:20	07/10/12 13:32	1
Aroclor-1232	36	U	36	15	ug/Kg	☼	07/07/12 09:20	07/10/12 13:32	1
Aroclor-1242	36	U	36	14	ug/Kg	☼	07/07/12 09:20	07/10/12 13:32	1
Aroclor-1248	36	U	36	18	ug/Kg	☼	07/07/12 09:20	07/10/12 13:32	1
Aroclor-1254	36	U	36	18	ug/Kg	☼	07/07/12 09:20	07/10/12 13:32	1
Aroclor-1260	36	U	36	18	ug/Kg	☼	07/07/12 09:20	07/10/12 13:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	59		29 - 151	07/07/12 09:20	07/10/12 13:32	1
DCB Decachlorobiphenyl	69		14 - 163	07/07/12 09:20	07/10/12 13:32	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 77493, Janesville WI, SSOW 108006

TestAmerica Job ID: 240-12965-1

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Sample ID: SO-070512-AK-11-15 COMP

Lab Sample ID: 240-12965-18

Date Collected: 07/05/12 13:25

Matrix: Solid

Date Received: 07/06/12 10:15

Percent Solids: 96.1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	35	U	35	22	ug/Kg	⚠	07/07/12 09:20	07/10/12 13:47	1
Aroclor-1221	35	U	35	17	ug/Kg	⚠	07/07/12 09:20	07/10/12 13:47	1
Aroclor-1232	35	U	35	15	ug/Kg	⚠	07/07/12 09:20	07/10/12 13:47	1
Aroclor-1242	35	U	35	14	ug/Kg	⚠	07/07/12 09:20	07/10/12 13:47	1
Aroclor-1248	35	U	35	18	ug/Kg	⚠	07/07/12 09:20	07/10/12 13:47	1
Aroclor-1254	35	U	35	18	ug/Kg	⚠	07/07/12 09:20	07/10/12 13:47	1
Aroclor-1260	35	U	35	18	ug/Kg	⚠	07/07/12 09:20	07/10/12 13:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	67		29 - 151	07/07/12 09:20	07/10/12 13:47	1
DCB Decachlorobiphenyl	70		14 - 163	07/07/12 09:20	07/10/12 13:47	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 77493, Janesville WI, SSOW 108006

TestAmerica Job ID: 240-12965-1

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Client Sample ID: SO-070512-AK-01-05 COMP

Date Collected: 07/05/12 10:45

Date Received: 07/06/12 10:15

Lab Sample ID: 240-12965-6

Matrix: Solid

Percent Solids: 95.7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	69	B	62	6.2	mg/Kg	☼	07/10/12 09:19	07/11/12 17:06	5
C28-C36	29	J	62	6.2	mg/Kg	☼	07/10/12 09:19	07/11/12 17:06	5

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 77493, Janesville WI, SSOW 108006

TestAmerica Job ID: 240-12965-1

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Client Sample ID: SO-070512-AK-06-10 COMP

Date Collected: 07/05/12 12:00

Date Received: 07/06/12 10:15

Lab Sample ID: 240-12965-12

Matrix: Solid

Percent Solids: 92.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	130	B	130	13	mg/Kg	☼	07/10/12 09:19	07/11/12 15:03	10
C28-C36	170		130	13	mg/Kg	☼	07/10/12 09:19	07/11/12 15:03	10

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 77493, Janesville WI, SSOW 108006

TestAmerica Job ID: 240-12965-1

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Client Sample ID: SO-070512-AK-11-15 COMP

Date Collected: 07/05/12 13:25

Date Received: 07/06/12 10:15

Lab Sample ID: 240-12965-18

Matrix: Solid

Percent Solids: 96.1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	92	B	61	6.1	mg/Kg	☼	07/10/12 09:19	07/11/12 17:37	5
C28-C36	27	J	61	6.1	mg/Kg	☼	07/10/12 09:19	07/11/12 17:37	5

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 77493, Janesville WI, SSOW 108006

TestAmerica Job ID: 240-12965-1

Method: 6010B - Metals (ICP) - TCLP

Client Sample ID: SO-070512-AK-01-05 COMP

Date Collected: 07/05/12 10:45

Date Received: 07/06/12 10:15

Lab Sample ID: 240-12965-6

Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.00075	J	0.10	0.00066	mg/L		07/10/12 08:33	07/11/12 18:14	1
Lead	0.50	U	0.50	0.0019	mg/L		07/10/12 08:33	07/11/12 18:14	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 77493, Janesville WI, SSOW 108006

TestAmerica Job ID: 240-12965-1

Method: 6010B - Metals (ICP) - TCLP

Client Sample ID: SO-070512-AK-06-10 COMP

Date Collected: 07/05/12 12:00

Date Received: 07/06/12 10:15

Lab Sample ID: 240-12965-12

Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.00075	J	0.10	0.00066	mg/L		07/10/12 08:33	07/11/12 18:20	1
Lead	0.50	U	0.50	0.0019	mg/L		07/10/12 08:33	07/11/12 18:20	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 77493, Janesville WI, SSOW 108006

TestAmerica Job ID: 240-12965-1

Method: 6010B - Metals (ICP) - TCLP

Client Sample ID: SO-070512-AK-11-15 COMP

Date Collected: 07/05/12 13:25

Date Received: 07/06/12 10:15

Lab Sample ID: 240-12965-18

Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.0012	J	0.10	0.00066	mg/L		07/10/12 08:33	07/11/12 18:25	1
Lead	0.50	U	0.50	0.0019	mg/L		07/10/12 08:33	07/11/12 18:25	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 77493, Janesville WI, SSOW 108006

TestAmerica Job ID: 240-12965-1

Method: 6010B - Metals (ICP) - TCLP

Client Sample ID: WG-070512-AK-01

Date Collected: 07/05/12 13:45

Date Received: 07/06/12 10:15

Lab Sample ID: 240-12965-19

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0048	J	0.50	0.0032	mg/L		07/10/12 08:33	07/11/12 18:31	1
Barium	0.057	J B	10	0.00067	mg/L		07/10/12 08:33	07/11/12 18:31	1
Cadmium	0.0026	J	0.10	0.00066	mg/L		07/10/12 08:33	07/11/12 18:31	1
Chromium	0.50	U	0.50	0.0022	mg/L		07/10/12 08:33	07/11/12 18:31	1
Lead	0.011	J	0.50	0.0019	mg/L		07/10/12 08:33	07/11/12 18:31	1
Selenium	0.25	U	0.25	0.0041	mg/L		07/10/12 08:33	07/11/12 18:31	1
Silver	0.50	U	0.50	0.0022	mg/L		07/10/12 08:33	07/11/12 18:31	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 77493, Janesville WI, SSOW 108006

TestAmerica Job ID: 240-12965-1

Method: 7470A - Mercury (CVAA) - TCLP

Client Sample ID: WG-070512-AK-01

Date Collected: 07/05/12 13:45

Date Received: 07/06/12 10:15

Lab Sample ID: 240-12965-19

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0020	U	0.0020	0.00012	mg/L		07/10/12 13:40	07/10/12 17:17	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 77493, Janesville WI, SSOW 108006

TestAmerica Job ID: 240-12965-1

General Chemistry

Client Sample ID: SO-070512-AK-01-05 COMP

Lab Sample ID: 240-12965-6

Date Collected: 07/05/12 10:45

Matrix: Solid

Date Received: 07/06/12 10:15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Flashpoint	>180		1.00	1.00	Degrees F			07/11/12 10:14	1
Cyanide, Total	0.23	J B	0.53	0.11	mg/Kg	☼	07/13/12 10:10	07/13/12 10:38	1
Sulfide	31	U	31	23	mg/Kg	☼	07/12/12 11:38	07/12/12 16:18	1
pH	10.9		0.100	0.100	SU			07/10/12 16:27	1
Free Liquid	NEG		0.10	0.10	NONE			07/12/12 06:50	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 77493, Janesville WI, SSOW 108006

TestAmerica Job ID: 240-12965-1

General Chemistry

Client Sample ID: SO-070512-AK-06-10 COMP

Date Collected: 07/05/12 12:00

Date Received: 07/06/12 10:15

Lab Sample ID: 240-12965-12

Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Flashpoint	>180		1.00	1.00	Degrees F			07/11/12 10:39	1
Cyanide, Total	0.11	J B	0.54	0.11	mg/Kg	⚠	07/13/12 10:10	07/13/12 10:38	1
Sulfide	32	U	32	24	mg/Kg	⚠	07/12/12 11:38	07/12/12 16:21	1
pH	10.8		0.100	0.100	SU			07/10/12 16:33	1
Free Liquid	NEG		0.10	0.10	NONE			07/12/12 06:56	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 77493, Janesville WI, SSOW 108006

TestAmerica Job ID: 240-12965-1

General Chemistry

Client Sample ID: SO-070512-AK-11-15 COMP

Date Collected: 07/05/12 13:25

Date Received: 07/06/12 10:15

Lab Sample ID: 240-12965-18

Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Flashpoint	>180		1.00	1.00	Degrees F			07/12/12 10:41	1
Cyanide, Total	0.52	U	0.52	0.10	mg/Kg	⚠	07/13/12 10:10	07/13/12 10:38	1
Sulfide	31	U	31	23	mg/Kg	⚠	07/12/12 11:38	07/12/12 16:23	1
pH	9.95		0.100	0.100	SU			07/10/12 16:35	1
Free Liquid	NEG		0.10	0.10	NONE			07/12/12 07:02	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 77493, Janesville WI, SSOW 108006

TestAmerica Job ID: 240-12965-1

General Chemistry

Client Sample ID: WG-070512-AK-01

Date Collected: 07/05/12 13:45

Date Received: 07/06/12 10:15

Lab Sample ID: 240-12965-19

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Flashpoint	>180		1.00	1.00	Degrees F			07/11/12 07:48	1
Corrosivity	9.05	H	0.100	0.100	SU			07/06/12 16:19	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 77493, Janesville WI, SSOW 108006

TestAmerica Job ID: 240-12965-1

General Chemistry

Client Sample ID: WG-070512-AK-02

Date Collected: 07/05/12 14:20

Date Received: 07/06/12 10:15

Lab Sample ID: 240-12965-20

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Flashpoint	>180		1.00	1.00	Degrees F			07/11/12 08:13	1
Corrosivity	12.0	H	0.100	0.100	SU			07/06/12 16:27	1

QC Association Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 77493, Janesville WI, SSOW 108006

TestAmerica Job ID: 240-12965-1

GC/MS VOA

Leach Batch: 50259

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-12965-19	WG-070512-AK-01	TCLP	Water	1311	
LB 240-50259/1-A MB	Method Blank	TCLP	Water	1311	

Analysis Batch: 50403

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-12965-19	WG-070512-AK-01	TCLP	Water	8260B	
LB 240-50259/1-A MB	Method Blank	TCLP	Water	8260B	
LCS 240-50403/9	Lab Control Sample	Total/NA	Water	8260B	

Leach Batch: 50421

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-12965-6	SO-070512-AK-01-05 COMP	TCLP	Solid	1311	
240-12965-12	SO-070512-AK-06-10 COMP	TCLP	Solid	1311	
240-12965-18	SO-070512-AK-11-15 COMP	TCLP	Solid	1311	
LB 240-50421/1-A MB	Method Blank	TCLP	Solid	1311	

Analysis Batch: 50542

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-12965-6	SO-070512-AK-01-05 COMP	TCLP	Solid	8260B	
240-12965-12	SO-070512-AK-06-10 COMP	TCLP	Solid	8260B	
240-12965-18	SO-070512-AK-11-15 COMP	TCLP	Solid	8260B	
LB 240-50421/1-A MB	Method Blank	TCLP	Solid	8260B	
LCS 240-50542/5	Lab Control Sample	Total/NA	Solid	8260B	

GC/MS Semi VOA

Leach Batch: 50262

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-12965-6	SO-070512-AK-01-05 COMP	TCLP	Solid	1311	
240-12965-6 MS	SO-070512-AK-01-05 COMP	TCLP	Solid	1311	
240-12965-12	SO-070512-AK-06-10 COMP	TCLP	Solid	1311	
240-12965-18	SO-070512-AK-11-15 COMP	TCLP	Solid	1311	
240-12965-19	WG-070512-AK-01	TCLP	Water	1311	

Prep Batch: 50334

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-12965-6	SO-070512-AK-01-05 COMP	TCLP	Solid	3510C	50262
240-12965-6 MS	SO-070512-AK-01-05 COMP	TCLP	Solid	3510C	50262
240-12965-12	SO-070512-AK-06-10 COMP	TCLP	Solid	3510C	50262
240-12965-18	SO-070512-AK-11-15 COMP	TCLP	Solid	3510C	50262
240-12965-19	WG-070512-AK-01	TCLP	Water	3510C	50262
LCS 240-50334/9-A	Lab Control Sample	Total/NA	Solid	3510C	
MB 240-50334/8-A	Method Blank	Total/NA	Solid	3510C	

Analysis Batch: 50430

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-12965-6	SO-070512-AK-01-05 COMP	TCLP	Solid	8270C	50334
240-12965-6 MS	SO-070512-AK-01-05 COMP	TCLP	Solid	8270C	50334
240-12965-12	SO-070512-AK-06-10 COMP	TCLP	Solid	8270C	50334
240-12965-18	SO-070512-AK-11-15 COMP	TCLP	Solid	8270C	50334
240-12965-19	WG-070512-AK-01	TCLP	Water	8270C	50334
LCS 240-50334/9-A	Lab Control Sample	Total/NA	Solid	8270C	50334

QC Association Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 77493, Janesville WI, SSOW 108006

TestAmerica Job ID: 240-12965-1

GC/MS Semi VOA (Continued)

Analysis Batch: 50430 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 240-50334/8-A	Method Blank	Total/NA	Solid	8270C	50334

GC VOA

Analysis Batch: 50446

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-12965-6	SO-070512-AK-01-05 COMP	Total/NA	Solid	8015B	
240-12965-12	SO-070512-AK-06-10 COMP	Total/NA	Solid	8015B	
240-12965-18	SO-070512-AK-11-15 COMP	Total/NA	Solid	8015B	
LCS 240-50446/8	Lab Control Sample	Total/NA	Solid	8015B	
MB 240-50446/7	Method Blank	Total/NA	Solid	8015B	

GC Semi VOA

Prep Batch: 50147

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-12965-6	SO-070512-AK-01-05 COMP	Total/NA	Solid	3540C	
240-12965-12	SO-070512-AK-06-10 COMP	Total/NA	Solid	3540C	
240-12965-18	SO-070512-AK-11-15 COMP	Total/NA	Solid	3540C	
240-12965-18 MS	SO-070512-AK-11-15 COMP	Total/NA	Solid	3540C	
240-12965-18 MSD	SO-070512-AK-11-15 COMP	Total/NA	Solid	3540C	
LCS 240-50147/24-A	Lab Control Sample	Total/NA	Solid	3540C	
MB 240-50147/23-A	Method Blank	Total/NA	Solid	3540C	

Analysis Batch: 50290

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-12965-6	SO-070512-AK-01-05 COMP	Total/NA	Solid	8082	50147
240-12965-12	SO-070512-AK-06-10 COMP	Total/NA	Solid	8082	50147
240-12965-18	SO-070512-AK-11-15 COMP	Total/NA	Solid	8082	50147
240-12965-18 MS	SO-070512-AK-11-15 COMP	Total/NA	Solid	8082	50147
240-12965-18 MSD	SO-070512-AK-11-15 COMP	Total/NA	Solid	8082	50147
LCS 240-50147/24-A	Lab Control Sample	Total/NA	Solid	8082	50147
MB 240-50147/23-A	Method Blank	Total/NA	Solid	8082	50147

Prep Batch: 50327

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-12965-6	SO-070512-AK-01-05 COMP	Total/NA	Solid	WI DRO PREP	
240-12965-12	SO-070512-AK-06-10 COMP	Total/NA	Solid	WI DRO PREP	
240-12965-18	SO-070512-AK-11-15 COMP	Total/NA	Solid	WI DRO PREP	
LCS 240-50327/5-A	Lab Control Sample	Total/NA	Solid	WI DRO PREP	
LCSD 240-50327/6-A	Lab Control Sample Dup	Total/NA	Solid	WI DRO PREP	
MB 240-50327/4-A	Method Blank	Total/NA	Solid	WI DRO PREP	

Analysis Batch: 50490

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-12965-6	SO-070512-AK-01-05 COMP	Total/NA	Solid	WI-DRO	50327
240-12965-12	SO-070512-AK-06-10 COMP	Total/NA	Solid	WI-DRO	50327
240-12965-18	SO-070512-AK-11-15 COMP	Total/NA	Solid	WI-DRO	50327
LCS 240-50327/5-A	Lab Control Sample	Total/NA	Solid	WI-DRO	50327
LCSD 240-50327/6-A	Lab Control Sample Dup	Total/NA	Solid	WI-DRO	50327
MB 240-50327/4-A	Method Blank	Total/NA	Solid	WI-DRO	50327

QC Association Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 77493, Janesville WI, SSOW 108006

TestAmerica Job ID: 240-12965-1

Metals

Leach Batch: 50262

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-12965-6	SO-070512-AK-01-05 COMP	TCLP	Solid	1311	
240-12965-12	SO-070512-AK-06-10 COMP	TCLP	Solid	1311	
240-12965-18	SO-070512-AK-11-15 COMP	TCLP	Solid	1311	
240-12965-19	WG-070512-AK-01	TCLP	Water	1311	
LB 240-50262/1-B LB	Method Blank	TCLP	Water	1311	
LB 240-50262/1-C LB	Method Blank	TCLP	Water	1311	

Prep Batch: 50316

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-12965-6	SO-070512-AK-01-05 COMP	TCLP	Solid	3010A	50262
240-12965-12	SO-070512-AK-06-10 COMP	TCLP	Solid	3010A	50262
240-12965-18	SO-070512-AK-11-15 COMP	TCLP	Solid	3010A	50262
240-12965-19	WG-070512-AK-01	TCLP	Water	3010A	50262
LB 240-50262/1-B LB	Method Blank	TCLP	Water	3010A	50262
LCS 240-50316/3-A	Lab Control Sample	Total/NA	Water	3010A	
MB 240-50316/2-A	Method Blank	Total/NA	Water	3010A	

Prep Batch: 50318

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-12965-19	WG-070512-AK-01	TCLP	Water	7470A	50262
LB 240-50262/1-C LB	Method Blank	TCLP	Water	7470A	50262
LCS 240-50318/3-A	Lab Control Sample	Total/NA	Water	7470A	
MB 240-50318/2-A	Method Blank	Total/NA	Water	7470A	

Analysis Batch: 50437

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-12965-19	WG-070512-AK-01	TCLP	Water	7470A	50318
LB 240-50262/1-C LB	Method Blank	TCLP	Water	7470A	50318
LCS 240-50318/3-A	Lab Control Sample	Total/NA	Water	7470A	50318
MB 240-50318/2-A	Method Blank	Total/NA	Water	7470A	50318

Analysis Batch: 50581

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-12965-6	SO-070512-AK-01-05 COMP	TCLP	Solid	6010B	50316
240-12965-12	SO-070512-AK-06-10 COMP	TCLP	Solid	6010B	50316
240-12965-18	SO-070512-AK-11-15 COMP	TCLP	Solid	6010B	50316
240-12965-19	WG-070512-AK-01	TCLP	Water	6010B	50316
LB 240-50262/1-B LB	Method Blank	TCLP	Water	6010B	50316
LCS 240-50316/3-A	Lab Control Sample	Total/NA	Water	6010B	50316
MB 240-50316/2-A	Method Blank	Total/NA	Water	6010B	50316

General Chemistry

Analysis Batch: 50114

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-12965-19	WG-070512-AK-01	Total/NA	Water	9040B	
240-12965-20	WG-070512-AK-02	Total/NA	Water	9040B	
LCS 240-50114/2	Lab Control Sample	Total/NA	Water	9040B	

Analysis Batch: 50250

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-12965-6	SO-070512-AK-01-05 COMP	Total/NA	Solid	Moisture	

QC Association Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 77493, Janesville WI, SSOW 108006

TestAmerica Job ID: 240-12965-1

General Chemistry (Continued)

Analysis Batch: 50250 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-12965-12	SO-070512-AK-06-10 COMP	Total/NA	Solid	Moisture	
240-12965-18	SO-070512-AK-11-15 COMP	Total/NA	Solid	Moisture	

Analysis Batch: 50402

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-12965-6	SO-070512-AK-01-05 COMP	Total/NA	Solid	9045C	
240-12965-6 DU	SO-070512-AK-01-05 COMP	Total/NA	Solid	9045C	
240-12965-12	SO-070512-AK-06-10 COMP	Total/NA	Solid	9045C	
240-12965-18	SO-070512-AK-11-15 COMP	Total/NA	Solid	9045C	
LCS 240-50402/2	Lab Control Sample	Total/NA	Solid	9045C	

Analysis Batch: 50434

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-12965-6	SO-070512-AK-01-05 COMP	Total/NA	Solid	1010	
240-12965-12	SO-070512-AK-06-10 COMP	Total/NA	Solid	1010	
240-12965-19	WG-070512-AK-01	Total/NA	Water	1010	
240-12965-19 DU	WG-070512-AK-01	Total/NA	Water	1010	
240-12965-20	WG-070512-AK-02	Total/NA	Water	1010	
LCS 240-50434/1	Lab Control Sample	Total/NA	Water	1010	

Analysis Batch: 50557

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-12965-6	SO-070512-AK-01-05 COMP	Total/NA	Solid	9095A	
240-12965-6 DU	SO-070512-AK-01-05 COMP	Total/NA	Solid	9095A	
240-12965-12	SO-070512-AK-06-10 COMP	Total/NA	Solid	9095A	
240-12965-18	SO-070512-AK-11-15 COMP	Total/NA	Solid	9095A	

Prep Batch: 50582

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-12965-6	SO-070512-AK-01-05 COMP	Total/NA	Solid	9030B	
240-12965-12	SO-070512-AK-06-10 COMP	Total/NA	Solid	9030B	
240-12965-18	SO-070512-AK-11-15 COMP	Total/NA	Solid	9030B	
LCS 240-50582/14-A	Lab Control Sample	Total/NA	Solid	9030B	
MB 240-50582/13-A	Method Blank	Total/NA	Solid	9030B	

Analysis Batch: 50619

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-12965-18	SO-070512-AK-11-15 COMP	Total/NA	Solid	1010	
LCS 240-50619/1	Lab Control Sample	Total/NA	Solid	1010	

Analysis Batch: 50626

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-12965-6	SO-070512-AK-01-05 COMP	Total/NA	Solid	9034	50582
240-12965-12	SO-070512-AK-06-10 COMP	Total/NA	Solid	9034	50582
240-12965-18	SO-070512-AK-11-15 COMP	Total/NA	Solid	9034	50582
LCS 240-50582/14-A	Lab Control Sample	Total/NA	Solid	9034	50582
MB 240-50582/13-A	Method Blank	Total/NA	Solid	9034	50582

Prep Batch: 50710

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-12965-6	SO-070512-AK-01-05 COMP	Total/NA	Solid	9012A	
240-12965-12	SO-070512-AK-06-10 COMP	Total/NA	Solid	9012A	

QC Association Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 77493, Janesville WI, SSOW 108006

TestAmerica Job ID: 240-12965-1

General Chemistry (Continued)

Prep Batch: 50710 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-12965-18	SO-070512-AK-11-15 COMP	Total/NA	Solid	9012A	
LCS 240-50710/4-A	Lab Control Sample	Total/NA	Solid	9012A	
MB 240-50710/3-A	Method Blank	Total/NA	Solid	9012A	

Analysis Batch: 50758

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-12965-6	SO-070512-AK-01-05 COMP	Total/NA	Solid	9012A	50710
240-12965-12	SO-070512-AK-06-10 COMP	Total/NA	Solid	9012A	50710
240-12965-18	SO-070512-AK-11-15 COMP	Total/NA	Solid	9012A	50710
LCS 240-50710/4-A	Lab Control Sample	Total/NA	Solid	9012A	50710
MB 240-50710/3-A	Method Blank	Total/NA	Solid	9012A	50710
MRL 240-50758/6 MRL	Lab Control Sample	Total/NA	Solid	9012A	

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 77493, Janesville WI, SSOW 108006

TestAmerica Job ID: 240-12965-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: LCS 240-50403/9

Matrix: Water

Analysis Batch: 50403

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	1.00	0.990		mg/L		99	71 - 133
1,2-Dichloroethane	1.00	0.955		mg/L		96	81 - 114
2-Butanone (MEK)	2.00	1.88		mg/L		94	49 - 120
Benzene	1.00	0.980		mg/L		98	84 - 120
Carbon tetrachloride	1.00	1.10		mg/L		110	54 - 122
Chlorobenzene	1.00	0.965		mg/L		97	86 - 111
Chloroform	1.00	0.975		mg/L		98	87 - 123
Tetrachloroethene	1.00	1.07		mg/L		107	79 - 134
Trichloroethene	1.00	1.05		mg/L		105	78 - 130
Vinyl chloride	1.00	0.965		mg/L		97	56 - 111

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	111		80 - 121
4-Bromofluorobenzene (Surr)	92		70 - 124
Toluene-d8 (Surr)	109		90 - 115
Dibromofluoromethane (Surr)	120		84 - 128

Lab Sample ID: LCS 240-50542/5

Matrix: Solid

Analysis Batch: 50542

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	1.00	0.975		mg/L		98	71 - 133
1,2-Dichloroethane	1.00	0.955		mg/L		96	81 - 114
2-Butanone (MEK)	2.00	2.00		mg/L		100	49 - 120
Benzene	1.00	0.920		mg/L		92	84 - 120
Carbon tetrachloride	1.00	1.12		mg/L		112	54 - 122
Chlorobenzene	1.00	0.945		mg/L		95	86 - 111
Chloroform	1.00	0.940		mg/L		94	87 - 123
Tetrachloroethene	1.00	1.06		mg/L		106	79 - 134
Trichloroethene	1.00	1.02		mg/L		102	78 - 130
Vinyl chloride	1.00	0.920		mg/L		92	56 - 111

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	106		80 - 121
4-Bromofluorobenzene (Surr)	96		70 - 124
Toluene-d8 (Surr)	109		90 - 115
Dibromofluoromethane (Surr)	118		84 - 128

Lab Sample ID: LB 240-50259/1-A MB

Matrix: Water

Analysis Batch: 50403

Client Sample ID: Method Blank

Prep Type: TCLP

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	0.025	U	0.025	0.0095	mg/L			07/10/12 19:14	1
1,2-Dichloroethane	0.025	U	0.025	0.011	mg/L			07/10/12 19:14	1
2-Butanone (MEK)	0.25	U	0.25	0.029	mg/L			07/10/12 19:14	1
Benzene	0.025	U	0.025	0.0065	mg/L			07/10/12 19:14	1
Carbon tetrachloride	0.025	U	0.025	0.0065	mg/L			07/10/12 19:14	1

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 77493, Janesville WI, SSOW 108006

TestAmerica Job ID: 240-12965-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LB 240-50259/1-A MB

Matrix: Water

Analysis Batch: 50403

Client Sample ID: Method Blank

Prep Type: TCLP

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	0.025	U	0.025	0.0075	mg/L			07/10/12 19:14	1
Chloroform	0.025	U	0.025	0.0080	mg/L			07/10/12 19:14	1
Tetrachloroethene	0.025	U	0.025	0.015	mg/L			07/10/12 19:14	1
Trichloroethene	0.025	U	0.025	0.0085	mg/L			07/10/12 19:14	1
Vinyl chloride	0.025	U	0.025	0.011	mg/L			07/10/12 19:14	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		80 - 121		07/10/12 19:14	1
4-Bromofluorobenzene (Surr)	93		70 - 124		07/10/12 19:14	1
Toluene-d8 (Surr)	106		90 - 115		07/10/12 19:14	1
Dibromofluoromethane (Surr)	118		84 - 128		07/10/12 19:14	1

Lab Sample ID: LB 240-50421/1-A MB

Matrix: Solid

Analysis Batch: 50542

Client Sample ID: Method Blank

Prep Type: TCLP

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	0.025	U	0.025	0.0095	mg/L			07/11/12 18:40	1
1,2-Dichloroethane	0.025	U	0.025	0.011	mg/L			07/11/12 18:40	1
2-Butanone (MEK)	0.25	U	0.25	0.029	mg/L			07/11/12 18:40	1
Benzene	0.025	U	0.025	0.0065	mg/L			07/11/12 18:40	1
Carbon tetrachloride	0.025	U	0.025	0.0065	mg/L			07/11/12 18:40	1
Chlorobenzene	0.025	U	0.025	0.0075	mg/L			07/11/12 18:40	1
Chloroform	0.025	U	0.025	0.0080	mg/L			07/11/12 18:40	1
Tetrachloroethene	0.025	U	0.025	0.015	mg/L			07/11/12 18:40	1
Trichloroethene	0.025	U	0.025	0.0085	mg/L			07/11/12 18:40	1
Vinyl chloride	0.025	U	0.025	0.011	mg/L			07/11/12 18:40	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		80 - 121		07/11/12 18:40	1
4-Bromofluorobenzene (Surr)	94		70 - 124		07/11/12 18:40	1
Toluene-d8 (Surr)	111		90 - 115		07/11/12 18:40	1
Dibromofluoromethane (Surr)	117		84 - 128		07/11/12 18:40	1

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-50334/8-A

Matrix: Solid

Analysis Batch: 50430

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 50334

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	0.0040	U	0.0040	0.00034	mg/L		07/10/12 09:47	07/11/12 09:20	1
2,4,5-Trichlorophenol	0.020	U	0.020	0.00030	mg/L		07/10/12 09:47	07/11/12 09:20	1
2,4,6-Trichlorophenol	0.020	U	0.020	0.00080	mg/L		07/10/12 09:47	07/11/12 09:20	1
2,4-Dinitrotoluene	0.020	U	0.020	0.00027	mg/L		07/10/12 09:47	07/11/12 09:20	1
Hexachlorobenzene	0.020	U	0.020	0.00010	mg/L		07/10/12 09:47	07/11/12 09:20	1
Hexachlorobutadiene	0.020	U	0.020	0.00027	mg/L		07/10/12 09:47	07/11/12 09:20	1
Hexachloroethane	0.020	U	0.020	0.00080	mg/L		07/10/12 09:47	07/11/12 09:20	1
3 & 4 Methylphenol	0.040	U	0.040	0.00075	mg/L		07/10/12 09:47	07/11/12 09:20	1

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 77493, Janesville WI, SSOW 108006

TestAmerica Job ID: 240-12965-1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-50334/8-A

Matrix: Solid

Analysis Batch: 50430

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 50334

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	0.0040	U	0.0040	0.00080	mg/L		07/10/12 09:47	07/11/12 09:20	1
Nitrobenzene	0.0040	U	0.0040	0.000040	mg/L		07/10/12 09:47	07/11/12 09:20	1
Pentachlorophenol	0.040	U	0.040	0.0024	mg/L		07/10/12 09:47	07/11/12 09:20	1
Pyridine	0.020	U	0.020	0.00035	mg/L		07/10/12 09:47	07/11/12 09:20	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	52		22 - 110	07/10/12 09:47	07/11/12 09:20	1
2-Fluorophenol (Surr)	57		10 - 110	07/10/12 09:47	07/11/12 09:20	1
2,4,6-Tribromophenol (Surr)	71		17 - 117	07/10/12 09:47	07/11/12 09:20	1
Nitrobenzene-d5 (Surr)	58		29 - 111	07/10/12 09:47	07/11/12 09:20	1
Phenol-d5 (Surr)	54		10 - 110	07/10/12 09:47	07/11/12 09:20	1
Terphenyl-d14 (Surr)	79		40 - 119	07/10/12 09:47	07/11/12 09:20	1

Lab Sample ID: LCS 240-50334/9-A

Matrix: Solid

Analysis Batch: 50430

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 50334

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,4,5-Trichlorophenol	0.0800	0.0548		mg/L		69	35 - 111
2,4,6-Trichlorophenol	0.0800	0.0486		mg/L		61	32 - 110
2,4-Dinitrotoluene	0.0800	0.0497		mg/L		62	45 - 126
Hexachlorobenzene	0.0800	0.0521		mg/L		65	47 - 116
Hexachlorobutadiene	0.0800	0.0434		mg/L		54	10 - 110
Hexachloroethane	0.0800	0.0463		mg/L		58	10 - 110
3 & 4 Methylphenol	0.160	0.105		mg/L		66	27 - 110
2-Methylphenol	0.0800	0.0640		mg/L		80	24 - 110
Nitrobenzene	0.0800	0.0478		mg/L		60	35 - 117
Pentachlorophenol	0.0800	0.0457		mg/L		57	12 - 110
Pyridine	0.0800	0.0427		mg/L		53	10 - 110

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl (Surr)	52		22 - 110
2-Fluorophenol (Surr)	49		10 - 110
2,4,6-Tribromophenol (Surr)	70		17 - 117
Nitrobenzene-d5 (Surr)	56		29 - 111
Phenol-d5 (Surr)	47		10 - 110
Terphenyl-d14 (Surr)	70		40 - 119

Lab Sample ID: 240-12965-6 MS

Matrix: Solid

Analysis Batch: 50430

Client Sample ID: SO-070512-AK-01-05 COMP

Prep Type: TCLP

Prep Batch: 50334

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
2,4,5-Trichlorophenol	0.020	U	0.0800	0.0536		mg/L		67	24 - 143
2,4,6-Trichlorophenol	0.020	U	0.0800	0.0526		mg/L		66	36 - 135
2,4-Dinitrotoluene	0.020	U	0.0800	0.0506		mg/L		63	31 - 131
Hexachlorobenzene	0.020	U	0.0800	0.0532		mg/L		67	36 - 132
Hexachlorobutadiene	0.020	U	0.0800	0.0460		mg/L		58	18 - 116
Hexachloroethane	0.020	U	0.0800	0.0508		mg/L		64	18 - 110

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 77493, Janesville WI, SSOW 108006

TestAmerica Job ID: 240-12965-1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-12965-6 MS

Matrix: Solid

Analysis Batch: 50430

Client Sample ID: SO-070512-AK-01-05 COMP

Prep Type: TCLP

Prep Batch: 50334

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
3 & 4 Methylphenol	0.040	U	0.160	0.120		mg/L		75	46 - 110
2-Methylphenol	0.0040	U	0.0800	0.0600		mg/L		75	33 - 115
Nitrobenzene	0.0040	U	0.0800	0.0549		mg/L		69	19 - 199
Pentachlorophenol	0.040	U	0.0800	0.0298	J	mg/L		37	10 - 140
Pyridine	0.020	U	0.0800	0.0537		mg/L		67	10 - 148

Surrogate	MS %Recovery	MS Qualifier	Limits
2-Fluorobiphenyl (Surr)	57		22 - 110
2-Fluorophenol (Surr)	60		10 - 110
2,4,6-Tribromophenol (Surr)	71		17 - 117
Nitrobenzene-d5 (Surr)	65		29 - 111
Phenol-d5 (Surr)	60		10 - 110
Terphenyl-d14 (Surr)	72		40 - 119

Method: 8015B - Gasoline Range Organics - (GC)

Lab Sample ID: MB 240-50446/7

Matrix: Solid

Analysis Batch: 50446

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	100	U	100	46	ug/Kg			07/11/12 13:13	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	35		10 - 150					07/11/12 13:13	1

Lab Sample ID: LCS 240-50446/8

Matrix: Solid

Analysis Batch: 50446

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
C6-C10	800	844		ug/Kg		106	60 - 142
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
Trifluorotoluene (Surr)	86		10 - 150				

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 240-50147/23-A

Matrix: Solid

Analysis Batch: 50290

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 50147

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	33	U	33	21	ug/Kg		07/07/12 09:20	07/10/12 10:29	1
Aroclor-1221	33	U	33	16	ug/Kg		07/07/12 09:20	07/10/12 10:29	1
Aroclor-1232	33	U	33	14	ug/Kg		07/07/12 09:20	07/10/12 10:29	1
Aroclor-1242	33	U	33	13	ug/Kg		07/07/12 09:20	07/10/12 10:29	1
Aroclor-1248	33	U	33	17	ug/Kg		07/07/12 09:20	07/10/12 10:29	1

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 77493, Janesville WI, SSOW 108006

TestAmerica Job ID: 240-12965-1

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: MB 240-50147/23-A

Matrix: Solid

Analysis Batch: 50290

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 50147

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1254	33	U	33	17	ug/Kg		07/07/12 09:20	07/10/12 10:29	1
Aroclor-1260	33	U	33	17	ug/Kg		07/07/12 09:20	07/10/12 10:29	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	82		29 - 151	07/07/12 09:20	07/10/12 10:29	1
DCB Decachlorobiphenyl	85		14 - 163	07/07/12 09:20	07/10/12 10:29	1

Lab Sample ID: LCS 240-50147/24-A

Matrix: Solid

Analysis Batch: 50290

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 50147

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aroclor-1016	333	269		ug/Kg		81	62 - 120
Aroclor-1260	333	281		ug/Kg		84	56 - 122

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Tetrachloro-m-xylene	88		29 - 151
DCB Decachlorobiphenyl	81		14 - 163

Lab Sample ID: 240-12965-18 MS

Matrix: Solid

Analysis Batch: 50290

Client Sample ID: SO-070512-AK-11-15 COMP

Prep Type: Total/NA

Prep Batch: 50147

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aroclor-1016	35	U	344	256		ug/Kg	☼	75	22 - 157
Aroclor-1260	35	U	344	284		ug/Kg	☼	83	13 - 161

Surrogate	MS %Recovery	MS Qualifier	Limits
Tetrachloro-m-xylene	62		29 - 151
DCB Decachlorobiphenyl	84		14 - 163

Lab Sample ID: 240-12965-18 MSD

Matrix: Solid

Analysis Batch: 50290

Client Sample ID: SO-070512-AK-11-15 COMP

Prep Type: Total/NA

Prep Batch: 50147

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aroclor-1016	35	U	347	240		ug/Kg	☼	69	22 - 157	7	30
Aroclor-1260	35	U	347	243		ug/Kg	☼	70	13 - 161	16	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Tetrachloro-m-xylene	75		29 - 151
DCB Decachlorobiphenyl	73		14 - 163

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 77493, Janesville WI, SSOW 108006

TestAmerica Job ID: 240-12965-1

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Lab Sample ID: MB 240-50327/4-A

Matrix: Solid

Analysis Batch: 50490

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 50327

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	1.30	J	12	1.2	mg/Kg		07/10/12 09:19	07/11/12 13:31	1
C28-C36	12	U	12	1.2	mg/Kg		07/10/12 09:19	07/11/12 13:31	1

Lab Sample ID: LCS 240-50327/5-A

Matrix: Solid

Analysis Batch: 50490

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 50327

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
WI Diesel Range Organics (C10-C28)	20.0	19.6		mg/Kg		98	70 - 120

Lab Sample ID: LCSD 240-50327/6-A

Matrix: Solid

Analysis Batch: 50490

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 50327

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
WI Diesel Range Organics (C10-C28)	20.0	19.1		mg/Kg		96	70 - 120	2	20

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 240-50316/2-A

Matrix: Water

Analysis Batch: 50581

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 50316

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.50	U	0.50	0.0032	mg/L		07/10/12 08:33	07/11/12 17:29	1
Barium	10	U	10	0.00067	mg/L		07/10/12 08:33	07/11/12 17:29	1
Cadmium	0.10	U	0.10	0.00066	mg/L		07/10/12 08:33	07/11/12 17:29	1
Chromium	0.50	U	0.50	0.0022	mg/L		07/10/12 08:33	07/11/12 17:29	1
Lead	0.50	U	0.50	0.0019	mg/L		07/10/12 08:33	07/11/12 17:29	1
Selenium	0.25	U	0.25	0.0041	mg/L		07/10/12 08:33	07/11/12 17:29	1
Silver	0.50	U	0.50	0.0022	mg/L		07/10/12 08:33	07/11/12 17:29	1

Lab Sample ID: LCS 240-50316/3-A

Matrix: Water

Analysis Batch: 50581

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 50316

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	2.00	2.11		mg/L		106	50 - 150
Barium	2.00	2.19	J	mg/L		109	50 - 150
Cadmium	0.0500	0.0535	J	mg/L		107	50 - 150
Chromium	0.200	0.209	J	mg/L		105	50 - 150
Lead	0.500	0.521		mg/L		104	50 - 150
Selenium	2.00	2.10		mg/L		105	50 - 150
Silver	0.0500	0.0558	J	mg/L		112	50 - 150

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 77493, Janesville WI, SSOW 108006

TestAmerica Job ID: 240-12965-1

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LB 240-50262/1-B LB

Matrix: Water

Analysis Batch: 50581

Client Sample ID: Method Blank

Prep Type: TCLP

Prep Batch: 50316

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.50	U	0.50	0.0032	mg/L		07/10/12 08:33	07/11/12 17:23	1
Barium	0.00306	J	10	0.00067	mg/L		07/10/12 08:33	07/11/12 17:23	1
Cadmium	0.10	U	0.10	0.00066	mg/L		07/10/12 08:33	07/11/12 17:23	1
Chromium	0.50	U	0.50	0.0022	mg/L		07/10/12 08:33	07/11/12 17:23	1
Lead	0.50	U	0.50	0.0019	mg/L		07/10/12 08:33	07/11/12 17:23	1
Selenium	0.00658	J	0.25	0.0041	mg/L		07/10/12 08:33	07/11/12 17:23	1
Silver	0.50	U	0.50	0.0022	mg/L		07/10/12 08:33	07/11/12 17:23	1

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 240-50318/2-A

Matrix: Water

Analysis Batch: 50437

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 50318

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0020	U	0.0020	0.00012	mg/L		07/10/12 13:40	07/10/12 17:10	1

Lab Sample ID: LCS 240-50318/3-A

Matrix: Water

Analysis Batch: 50437

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 50318

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00500	0.00486		mg/L		97	50 - 150

Lab Sample ID: LB 240-50262/1-C LB

Matrix: Water

Analysis Batch: 50437

Client Sample ID: Method Blank

Prep Type: TCLP

Prep Batch: 50318

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0020	U	0.0020	0.00012	mg/L		07/10/12 13:40	07/10/12 17:09	1

Method: 1010 - Ignitability, Pensky-Martens Closed-Cup Method

Lab Sample ID: LCS 240-50434/1

Matrix: Water

Analysis Batch: 50434

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Flashpoint	81.0	80.00		Degrees F		99	97 - 103

Lab Sample ID: 240-12965-19 DU

Matrix: Water

Analysis Batch: 50434

Client Sample ID: WG-070512-AK-01

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Flashpoint	>180		>180		Degrees F		NC	20

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 77493, Janesville WI, SSOW 108006

TestAmerica Job ID: 240-12965-1

Method: 1010 - Ignitability, Pensky-Martens Closed-Cup Method (Continued)

Lab Sample ID: LCS 240-50619/1

Matrix: Solid

Analysis Batch: 50619

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Flashpoint	81.0	81.00		Degrees F		100	97 - 103

Method: 9012A - Cyanide, Total and/or Amenable

Lab Sample ID: MB 240-50710/3-A

Matrix: Solid

Analysis Batch: 50758

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 50710

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	0.308	J	0.51	0.10	mg/Kg		07/13/12 10:10	07/13/12 11:12	1

Lab Sample ID: LCS 240-50710/4-A

Matrix: Solid

Analysis Batch: 50758

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 50710

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	2.27	2.23		mg/Kg		98	68 - 123

Lab Sample ID: MRL 240-50758/6 MRL

Matrix: Solid

Analysis Batch: 50758

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.0100	0.00950	J	mg/L		95	70 - 130

Method: 9034 - Sulfide, Acid soluble and Insoluble (Titrimetric)

Lab Sample ID: MB 240-50582/13-A

Matrix: Solid

Analysis Batch: 50626

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 50582

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	30	U	30	22	mg/Kg		07/12/12 09:09	07/12/12 13:14	1

Lab Sample ID: LCS 240-50582/14-A

Matrix: Solid

Analysis Batch: 50626

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 50582

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide	89.3	65.3		mg/Kg		73	70 - 130

Method: 9040B - pH

Lab Sample ID: LCS 240-50114/2

Matrix: Water

Analysis Batch: 50114

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Corrosivity	7.49	7.510		SU		100	97 - 103

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 77493, Janesville WI, SSOW 108006

TestAmerica Job ID: 240-12965-1

Method: 9045C - pH

Lab Sample ID: LCS 240-50402/2

Matrix: Solid

Analysis Batch: 50402

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.49	7.520		SU		100	97 - 103

Lab Sample ID: 240-12965-6 DU

Matrix: Solid

Analysis Batch: 50402

Client Sample ID: SO-070512-AK-01-05 COMP

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	10.9		10.99		SU		1	20

Method: 9095A - Paint Filter

Lab Sample ID: 240-12965-6 DU

Matrix: Solid

Analysis Batch: 50557

Client Sample ID: SO-070512-AK-01-05 COMP

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Free Liquid	NEG		NEG		NONE		NC	20

Surrogate Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 77493, Janesville WI, SSOW 108006

TestAmerica Job ID: 240-12965-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		12DCE (80-121)	BFB (70-124)	TOL (90-115)	DBFM (84-128)
LCS 240-50542/5	Lab Control Sample	106	96	109	118
Surrogate Legend					
12DCE = 1,2-Dichloroethane-d4 (Surr)					
BFB = 4-Bromofluorobenzene (Surr)					
TOL = Toluene-d8 (Surr)					
DBFM = Dibromofluoromethane (Surr)					

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: TCLP

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		12DCE (80-121)	BFB (70-124)	TOL (90-115)	DBFM (84-128)
240-12965-6	SO-070512-AK-01-05 COMP	108	92	105	113
240-12965-12	SO-070512-AK-06-10 COMP	108	95	106	119
240-12965-18	SO-070512-AK-11-15 COMP	111	94	106	117
LB 240-50421/1-A MB	Method Blank	107	94	111	117
Surrogate Legend					
12DCE = 1,2-Dichloroethane-d4 (Surr)					
BFB = 4-Bromofluorobenzene (Surr)					
TOL = Toluene-d8 (Surr)					
DBFM = Dibromofluoromethane (Surr)					

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		12DCE (80-121)	BFB (70-124)	TOL (90-115)	DBFM (84-128)
LCS 240-50403/9	Lab Control Sample	111	92	109	120
Surrogate Legend					
12DCE = 1,2-Dichloroethane-d4 (Surr)					
BFB = 4-Bromofluorobenzene (Surr)					
TOL = Toluene-d8 (Surr)					
DBFM = Dibromofluoromethane (Surr)					

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: TCLP

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		12DCE (80-121)	BFB (70-124)	TOL (90-115)	DBFM (84-128)
240-12965-19	WG-070512-AK-01	106	93	107	116
LB 240-50259/1-A MB	Method Blank	108	93	106	118
Surrogate Legend					
12DCE = 1,2-Dichloroethane-d4 (Surr)					
BFB = 4-Bromofluorobenzene (Surr)					
TOL = Toluene-d8 (Surr)					

Surrogate Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 77493, Janesville WI, SSOW 108006

TestAmerica Job ID: 240-12965-1

DBFM = Dibromofluoromethane (Surr)

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		FBP (22-110)	2FP (10-110)	TBP (17-117)	NBZ (29-111)	PHL (10-110)	TPH (40-119)
LCS 240-50334/9-A	Lab Control Sample	52	49	70	56	47	70
MB 240-50334/8-A	Method Blank	52	57	71	58	54	79

Surrogate Legend

FBP = 2-Fluorobiphenyl (Surr)
2FP = 2-Fluorophenol (Surr)
TBP = 2,4,6-Tribromophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL = Phenol-d5 (Surr)
TPH = Terphenyl-d14 (Surr)

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: TCLP

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		FBP (22-110)	2FP (10-110)	TBP (17-117)	NBZ (29-111)	PHL (10-110)	TPH (40-119)
240-12965-6	SO-070512-AK-01-05 COMP	50	55	73	58	54	74
240-12965-6 MS	SO-070512-AK-01-05 COMP	57	60	71	65	60	72
240-12965-12	SO-070512-AK-06-10 COMP	54	54	75	65	55	77
240-12965-18	SO-070512-AK-11-15 COMP	48	50	63	57	49	72

Surrogate Legend

FBP = 2-Fluorobiphenyl (Surr)
2FP = 2-Fluorophenol (Surr)
TBP = 2,4,6-Tribromophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL = Phenol-d5 (Surr)
TPH = Terphenyl-d14 (Surr)

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: TCLP

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		FBP (22-110)	2FP (10-110)	TBP (17-117)	NBZ (29-111)	PHL (10-110)	TPH (40-119)
240-12965-19	WG-070512-AK-01	48	48	65	53	54	73

Surrogate Legend

FBP = 2-Fluorobiphenyl (Surr)
2FP = 2-Fluorophenol (Surr)
TBP = 2,4,6-Tribromophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL = Phenol-d5 (Surr)
TPH = Terphenyl-d14 (Surr)

Surrogate Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 77493, Janesville WI, SSOW 108006

TestAmerica Job ID: 240-12965-1

Method: 8015B - Gasoline Range Organics - (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)					
Lab Sample ID	Client Sample ID	TFT2 (10-150)					
240-12965-6	SO-070512-AK-01-05 COMP	61					
240-12965-12	SO-070512-AK-06-10 COMP	64					
240-12965-18	SO-070512-AK-11-15 COMP	55					
LCS 240-50446/8	Lab Control Sample	86					
MB 240-50446/7	Method Blank	35					
Surrogate Legend							
TFT = Trifluorotoluene (Surr)							

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)					
Lab Sample ID	Client Sample ID	TCX1 (29-151)	DCB1 (14-163)				
240-12965-6	SO-070512-AK-01-05 COMP	65	73				
240-12965-12	SO-070512-AK-06-10 COMP	59	69				
240-12965-18	SO-070512-AK-11-15 COMP	67	70				
240-12965-18 MS	SO-070512-AK-11-15 COMP	62	84				
240-12965-18 MSD	SO-070512-AK-11-15 COMP	75	73				
LCS 240-50147/24-A	Lab Control Sample	88	81				
MB 240-50147/23-A	Method Blank	82	85				
Surrogate Legend							
TCX = Tetrachloro-m-xylene							
DCB = DCB Decachlorobiphenyl							

Lab Chronicle

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 77493, Janesville WI, SSOW 108006

TestAmerica Job ID: 240-12965-1

Client Sample ID: SO-070512-AK-01-05 COMP

Lab Sample ID: 240-12965-6

Date Collected: 07/05/12 10:45

Matrix: Solid

Date Received: 07/06/12 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			50421	07/10/12 17:44	DJ	TAL NC
TCLP	Analysis	8260B		1	50542	07/11/12 23:16	TL	TAL NC
TCLP	Leach	1311			50262	07/09/12 15:10	BF	TAL NC
TCLP	Prep	3510C			50334	07/10/12 09:47	SE	TAL NC
TCLP	Analysis	8270C		1	50430	07/11/12 12:46	MU	TAL NC
Total/NA	Analysis	8015B		1	50446	07/11/12 21:12	HMB	TAL NC
Total/NA	Prep	3540C			50147	07/07/12 09:20	BM	TAL NC
Total/NA	Analysis	8082		1	50290	07/10/12 13:17	CJ	TAL NC
Total/NA	Prep	WI DRO PREP			50327	07/10/12 09:19	SE	TAL NC
Total/NA	Analysis	WI-DRO		5	50490	07/11/12 17:06	DB	TAL NC
TCLP	Leach	1311			50262	07/09/12 15:10	BF	TAL NC
TCLP	Prep	3010A			50316	07/10/12 08:33	LM	TAL NC
TCLP	Analysis	6010B		1	50581	07/11/12 18:14	NJM	TAL NC
Total/NA	Analysis	Moisture		1	50250	07/09/12 14:41	JK	TAL NC
Total/NA	Analysis	9045C		1	50402	07/10/12 16:27	JM	TAL NC
Total/NA	Analysis	1010		1	50434	07/11/12 10:14	TH	TAL NC
Total/NA	Analysis	9095A		1	50557	07/12/12 06:50	TH	TAL NC
Total/NA	Prep	9030B			50582	07/12/12 11:38	AM	TAL NC
Total/NA	Analysis	9034		1	50626	07/12/12 16:18	AM	TAL NC
Total/NA	Prep	9012A			50710	07/13/12 10:10	CN	TAL NC
Total/NA	Analysis	9012A		1	50758	07/13/12 10:38	CN	TAL NC

Client Sample ID: SO-070512-AK-06-10 COMP

Lab Sample ID: 240-12965-12

Date Collected: 07/05/12 12:00

Matrix: Solid

Date Received: 07/06/12 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			50421	07/10/12 17:44	DJ	TAL NC
TCLP	Analysis	8260B		1	50542	07/11/12 23:41	TL	TAL NC
TCLP	Leach	1311			50262	07/09/12 15:10	BF	TAL NC
TCLP	Prep	3510C			50334	07/10/12 09:47	SE	TAL NC
TCLP	Analysis	8270C		1	50430	07/11/12 13:23	MU	TAL NC
Total/NA	Analysis	8015B		1	50446	07/11/12 21:48	HMB	TAL NC
Total/NA	Prep	3540C			50147	07/07/12 09:20	BM	TAL NC
Total/NA	Analysis	8082		1	50290	07/10/12 13:32	CJ	TAL NC
Total/NA	Prep	WI DRO PREP			50327	07/10/12 09:19	SE	TAL NC
Total/NA	Analysis	WI-DRO		10	50490	07/11/12 15:03	DB	TAL NC
TCLP	Leach	1311			50262	07/09/12 15:10	BF	TAL NC
TCLP	Prep	3010A			50316	07/10/12 08:33	LM	TAL NC
TCLP	Analysis	6010B		1	50581	07/11/12 18:20	NJM	TAL NC
Total/NA	Analysis	Moisture		1	50250	07/09/12 14:41	JK	TAL NC
Total/NA	Analysis	9045C		1	50402	07/10/12 16:33	JM	TAL NC
Total/NA	Analysis	1010		1	50434	07/11/12 10:39	TH	TAL NC
Total/NA	Analysis	9095A		1	50557	07/12/12 06:56	TH	TAL NC

Lab Chronicle

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 77493, Janesville WI, SSOW 108006

TestAmerica Job ID: 240-12965-1

Client Sample ID: SO-070512-AK-06-10 COMP

Lab Sample ID: 240-12965-12

Date Collected: 07/05/12 12:00

Matrix: Solid

Date Received: 07/06/12 10:15

Percent Solids: 92.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	9030B			50582	07/12/12 11:38	AM	TAL NC
Total/NA	Analysis	9034		1	50626	07/12/12 16:21	AM	TAL NC
Total/NA	Prep	9012A			50710	07/13/12 10:10	CN	TAL NC
Total/NA	Analysis	9012A		1	50758	07/13/12 10:38	CN	TAL NC

Client Sample ID: SO-070512-AK-11-15 COMP

Lab Sample ID: 240-12965-18

Date Collected: 07/05/12 13:25

Matrix: Solid

Date Received: 07/06/12 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			50421	07/10/12 17:44	DJ	TAL NC
TCLP	Analysis	8260B		1	50542	07/12/12 00:06	TL	TAL NC
TCLP	Leach	1311			50262	07/09/12 15:10	BF	TAL NC
TCLP	Prep	3510C			50334	07/10/12 09:47	SE	TAL NC
TCLP	Analysis	8270C		1	50430	07/11/12 13:42	MU	TAL NC
Total/NA	Analysis	8015B		1	50446	07/11/12 22:25	HMB	TAL NC
Total/NA	Prep	3540C			50147	07/07/12 09:20	BM	TAL NC
Total/NA	Analysis	8082		1	50290	07/10/12 13:47	CJ	TAL NC
Total/NA	Prep	WI DRO PREP			50327	07/10/12 09:19	SE	TAL NC
Total/NA	Analysis	WI-DRO		5	50490	07/11/12 17:37	DB	TAL NC
TCLP	Leach	1311			50262	07/09/12 15:10	BF	TAL NC
TCLP	Prep	3010A			50316	07/10/12 08:33	LM	TAL NC
TCLP	Analysis	6010B		1	50581	07/11/12 18:25	NJM	TAL NC
Total/NA	Analysis	Moisture		1	50250	07/09/12 14:41	JK	TAL NC
Total/NA	Analysis	9045C		1	50402	07/10/12 16:35	JM	TAL NC
Total/NA	Analysis	9095A		1	50557	07/12/12 07:02	TH	TAL NC
Total/NA	Analysis	1010		1	50619	07/12/12 10:41	BW	TAL NC
Total/NA	Prep	9030B			50582	07/12/12 11:38	AM	TAL NC
Total/NA	Analysis	9034		1	50626	07/12/12 16:23	AM	TAL NC
Total/NA	Prep	9012A			50710	07/13/12 10:10	CN	TAL NC
Total/NA	Analysis	9012A		1	50758	07/13/12 10:38	CN	TAL NC

Client Sample ID: WG-070512-AK-01

Lab Sample ID: 240-12965-19

Date Collected: 07/05/12 13:45

Matrix: Water

Date Received: 07/06/12 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			50259	07/10/12 08:59	BF	TAL NC
TCLP	Analysis	8260B		1	50403	07/10/12 23:19	TL	TAL NC
TCLP	Leach	1311			50262	07/09/12 15:10	BF	TAL NC
TCLP	Prep	3510C			50334	07/10/12 09:47	SE	TAL NC
TCLP	Analysis	8270C		1	50430	07/11/12 14:01	MU	TAL NC
TCLP	Leach	1311			50262	07/09/12 15:10	BF	TAL NC
TCLP	Prep	7470A			50318	07/10/12 13:40	LM	TAL NC
TCLP	Analysis	7470A		1	50437	07/10/12 17:17	AS	TAL NC

Lab Chronicle

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 77493, Janesville WI, SSOW 108006

TestAmerica Job ID: 240-12965-1

Client Sample ID: WG-070512-AK-01

Lab Sample ID: 240-12965-19

Date Collected: 07/05/12 13:45

Matrix: Water

Date Received: 07/06/12 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Prep	3010A			50316	07/10/12 08:33	LM	TAL NC
TCLP	Analysis	6010B		1	50581	07/11/12 18:31	NJM	TAL NC
Total/NA	Analysis	9040B		1	50114	07/06/12 16:19	JM	TAL NC
Total/NA	Analysis	1010		1	50434	07/11/12 07:48	TH	TAL NC

Client Sample ID: WG-070512-AK-02

Lab Sample ID: 240-12965-20

Date Collected: 07/05/12 14:20

Matrix: Water

Date Received: 07/06/12 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9040B		1	50114	07/06/12 16:27	JM	TAL NC
Total/NA	Analysis	1010		1	50434	07/11/12 08:13	TH	TAL NC

Laboratory References:

TAL NC = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Certification Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 77493, Janesville WI, SSOW 108006

TestAmerica Job ID: 240-12965-1

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Canton	California	NELAC	9	01144CA
TestAmerica Canton	Connecticut	State Program	1	PH-0590
TestAmerica Canton	Florida	NELAC	4	E87225
TestAmerica Canton	Georgia	State Program	4	N/A
TestAmerica Canton	Illinois	NELAC	5	200004
TestAmerica Canton	Kansas	NELAC	7	E-10336
TestAmerica Canton	Kentucky	State Program	4	58
TestAmerica Canton	L-A-B	DoD ELAP		L2315
TestAmerica Canton	Minnesota	NELAC	5	039-999-348
TestAmerica Canton	Nevada	State Program	9	OH-000482008A
TestAmerica Canton	New Jersey	NELAC	2	OH001
TestAmerica Canton	New York	NELAC	2	10975
TestAmerica Canton	Ohio VAP	State Program	5	CL0024
TestAmerica Canton	Pennsylvania	NELAC	3	68-00340
TestAmerica Canton	USDA	Federal		P330-11-00328
TestAmerica Canton	Virginia	NELAC	3	460175
TestAmerica Canton	Washington	State Program	10	C971
TestAmerica Canton	West Virginia DEP	State Program	3	210
TestAmerica Canton	Wisconsin	State Program	5	999518190

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.



14496 Sheldon Road, Suite #200, Plymouth, Michigan 48170

Phone: (734) 453-5123

Fax: (734) 453-5201

COC NO.: PL-09b

PAGE 1 OF 3

(See Reverse Side for Instructions)

Project No/Phase/Task Code: 077493				Laboratory Name: TEST AMERICA				Lab Location: 4101 SHUFFEL DR NW NORTH CANTON, OH 44720				SSOW ID: 108006													
Project Name: FORMER HAUL-AWAY YARD				Lab Contact:				Lab Quote No:				Cooler No:													
Project Location: JANESVILLE WI				SAMPLE TYPE				CONTAINER QUANTITY & PRESERVATION				ANALYSIS REQUESTED (See Back of COC for Definitions)													
Chemistry Contact: PAUL WISEMAN												Carrier:													
Sampler(s): ANDY KEEIN												Airbill No:													
												Date Shipped: 7/5/12													
												COMMENTS/ SPECIAL INSTRUCTIONS:													
Item	SAMPLE IDENTIFICATION (Containers for each sample may be combined on one line)	DATE (mm/dd/yyyy)	TIME (hh:mm)	Matrix Code (see back of COC)	Grab (G) or Comp (C)	Unpreserved	Hydrochloric Acid (HCl)	Nitric Acid (HNO ₃)	Sulfuric Acid (H ₂ SO ₄)	Sodium Hydroxide (NaOH)	Methanol/Water (Soil VOC)	EnCores 3x5-g, 1x25-g	Other:	Total Containers/Sample	TCLP VOL	TCLP SVOL	TCLP PB	TCLP CA	REACTIVE SULFATE	REACTIVE CHLORIDE	TPH DRUG/PCB	TPH PCB	PCB's	HUMIDITY	MS/MSD Request
1	SO - 070512 - AK-01	07/05/12	9:45	SO	C	X								1	X	X	X	X	X	X	X	X	X	X	
2	SO - 070512 - AK-02		10:00	SO	C	X								1	X	X	X	X	X	X	X	X	X	X	
3	SO - 070512 - AK-03		10:10	SO	C	X								1	X	X	X	X	X	X	X	X	X	X	
4	SO - 070512 - AK-04		10:20	SO	C	X								1	X	X	X	X	X	X	X	X	X	X	
5	SO - 070512 - AK-05		10:45	SO	C	X								1	X	X	X	X	X	X	X	X	X	X	
6	SO - 070512 - AK-06		11:00	SO	C	X								1	X	X	X	X	X	X	X	X	X	X	
7	SO - 070512 - AK-07		11:15	SO	C	X								1	X	X	X	X	X	X	X	X	X	X	
8	SO - 070512 - AK-08		11:30	SO	C	X								1	X	X	X	X	X	X	X	X	X	X	
9	SO - 070512 - AK-09		11:45	SO	C	X								1	X	X	X	X	X	X	X	X	X	X	
10	SO - 070512 - AK-10		12:00	SO	C	X								1	X	X	X	X	X	X	X	X	X	X	
11	SO - 070512 - AK-11		12:30	SO	C	X								1	X	X	X	X	X	X	X	X	X	X	
12	SO - 070512 - AK-12		12:40	SO	C	X								1	X	X	X	X	X	X	X	X	X	X	
13	SO - 070512 - AK-13		12:55	SO	C	X								1	X	X	X	X	X	X	X	X	X	X	
14	SO - 070512 - AK-14		13:10	SO	C	X								1	X	X	X	X	X	X	X	X	X	X	
15	SO - 070512 - AK-15		13:25	SO	C	X								1	X	X	X	X	X	X	X	X	X	X	
TAT Required in business days (use separate COCs for different TATs): ☐ 1 Day ☐ 2 Days ☐ 3 Days ☒ 1 Week ☐ 2 Week ☐ Other:				Total Number of Containers: 15				Notes/ Special Requirements:				* * *													
All Samples in Cooler must be on COC																									
RELINQUISHED BY		COMPANY		DATE		TIME		RECEIVED BY		COMPANY		DATE		TIME											
1. [Signature]		CRA		7/5/12		16:45		1. [Signature]		TA		7-6-12		1015											
2.								2.																	
3.								3.																	

THE CHAIN OF CUSTODY IS A LEGAL DOCUMENT – ALL FIELDS MUST BE COMPLETED ACCURATELY

Distribution:

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GOLDENROD – Sampling Crew

CRA Form: COC-10A (20110804)

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7/13/2012

1984-85



14496 Sheldon Road, Suite #200, Plymouth, Michigan 48170

Phone: (734) 453-5123

Fax: (734) 453-5201

COC NO. 09686

PAGE 2 OF 3

(See Reverse Side for Instructions)

Project No/ Phase/Task Code: 077493				Laboratory Name: TEST AMERICA						Lab Location: 4101 SHUFFEL Dr. NW NORTH CANTON OH 44720						SSOW ID: 108006			
Project Name: FORMER HAUL-AWAY TARD				Lab Contact:						Lab Quote No:						Cooler No:			
Project Location: JANESVILLE, WI				SAMPLE TYPE		CONTAINER QUANTITY & PRESERVATION						ANALYSIS REQUESTED (See Back of COC for Definitions)						Carrier:	
Chemistry Contact: PAUL WISEMAN				Matrix Code (see back of COC)	Grab (G) or Comp (C)	Unpreserved	Hydrochloric Acid (HCl)	Nitric Acid (HNO₃)	Sulfuric Acid (H₂SO₄)	Sodium Hydroxide (NaOH)	Methanol/Water (Soil VOC)	EnCores 3x5-g 1x25-g	Other:	Total Containers/Sample	CORROSIONITY	PAINT FILTER	MS/MSD Request	Airbill No:	
Sampler(s): ANDY KREIN																		Date Shipped: 7/5/12	
				COMMENTS/ SPECIAL INSTRUCTIONS:															

Item	SAMPLE IDENTIFICATION (Containers for each sample may be combined on one line)	DATE (mm/dd/yyyy)	TIME (hh:mm)	Matrix Code (see back of COC)	Grab (G) or Comp (C)	Unpreserved	Hydrochloric Acid (HCl)	Nitric Acid (HNO ₃)	Sulfuric Acid (H ₂ SO ₄)	Sodium Hydroxide (NaOH)	Methanol/Water (Soil VOC)	EnCores 3x5-g 1x25-g	Other:	Total Containers/Sample	CORROSIONITY	PAINT FILTER	MS/MSD Request	
1	SO-070512-AK-01	07/05/12	9:45	SO	C	X								1	X	X		
2	SO-070512-AK-02		10:00	SO	C	X								1	X	X		
3	SO-070512-AK-03		10:10	SO	C	X								1	X	X		
4	SO-070512-AK-04		10:20	SO	C	X								1	X	X		
5	SO-070512-AK-05		10:45	SO	C	X								1	X	X		
6	SO-070512-AK-06		11:00	SO	C	X								1	X	X		
7	SO-070512-AK-07		11:15	SO	C	X								1	X	X		
8	SO-070512-AK-08		11:30	SO	C	X								1	X	X		
9	SO-070512-AK-09		11:45	SO	C	X								1	X	X		
10	SO-070512-AK-10		12:00	SO	C	X								1	X	X		
11	SO-070512-AK-11		12:30	SO	C	X								1	X	X		
12	SO-070512-AK-12		12:40	SO	C	X								1	X	X		
13	SO-070512-AK-13		12:55	SO	C	X								1	X	X		
14	SO-070512-AK-14		13:10	SO	C	X								1	X	X		
15	SO-070512-AK-15		13:25	SO	C	X								1	X	X		

TAT Required in business days (use separate COCs for different TATs):
☐ 1 Day ☐ 2 Days ☐ 3 Days ☒ 1 Week ☐ 2 Week ☐ Other: _____

Total Number of Containers: 15 **Notes/ Special Requirements:**

All Samples in Cooler must be on COC

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME
1. [Signature]	CKA	7/5/12	16:45	1. [Signature]	TA	7-1-12	1015
2.				2.			
3.				3.			

THE CHAIN OF CUSTODY IS A LEGAL DOCUMENT --- ALL FIELDS MUST BE COMPLETED ACCURATELY

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CRA Form: COC-10A (20110804)

7/13/2012



14496 Sheldon Road, Suite #200, Plymouth, Michigan 48170

Phone: (734) 453-5123

Fax: (734) 453-5201

COC NO. ~~D~~ - 09688

PAGE 3 OF 3

(See Reverse Side for Instructions)

Project No/ Phase/Task Code: 077493				Laboratory Name: TEST AMERICA				Lab Location: 4101 SHUFFEL DR NW NORTH CANTON, OH 44720				SSOW ID: 108006			
Project Name: FORMER HAUL-AWAY YARD				Lab Contact:				Lab Quote No:				Cooler No:			
Project Location: JAVESVILLE, WI				SAMPLE TYPE				CONTAINER QUANTITY & PRESERVATION				ANALYSIS REQUESTED (See Back of COC for Definitions)			
Chemistry Contact: PAUL WISEMAN				Matrix Code (see back of COC) Grab (G) or Comp (C) Unpreserved Hydrochloric Acid (HCl) Nitric Acid (HNO ₃) Sulfuric Acid (H ₂ SO ₄) Sodium Hydroxide (NaOH) Methanol/Water (Soil VOC) EnCores 3x5-g, 1x25-g Other: Total Containers/Sample				TOLP VOC TOLP SVOC REA METALS CHLOROSOLVENTS PESTICIDES PCBs (21 HCBs) MS/MSD Request				Carrier:			
Sampler(s): ANDY KREIN												Airbill No:			
SAMPLE IDENTIFICATION (Containers for each sample may be combined on one line)				DATE (mm/dd/yyyy)				TIME (hh:mm)				Date Shipped: 7/05/12			
1 W6 - 070512 - AK - 01				07/05/12				13:45				COMMENTS/ SPECIAL INSTRUCTIONS:			
2 W6 - 070512 - AK - 02				07/05/12				14:20							
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80															

THE CHAIN OF CUSTODY IS A LEGAL DOCUMENT — ALL FIELDS MUST BE COMPLETED ACCURATELY

Distribution: WHITE — Fully Executed Copy (CRA)

YELLOW – Receiving Laboratory Copy

PINK—Shipper

GOLDENROD — Sampling Crew

CRA Form: COC-10A (20110804)

Page 61 of 62

7/13/2011

Login # : 12965

1. Cooler temperature upon receipt

IR GUN# 1	(CF 0°C)	Observed Sample Temp. _____ °C	Corrected Sample Temp. _____ °C
IR GUN# 4G	(CF -1°C)	Observed Sample Temp. _____ °C	Corrected Sample Temp. _____ °C
IR GUN# 5G	(CF -1°C)	Observed Sample Temp. _____ °C	Corrected Sample Temp. _____ °C
IR GUN# 8	(CF 0°C)	Observed Sample Temp. _____ °C	Corrected Sample Temp. _____ °C

☐ Multiple
on Back

- | | | | |
|--|--------------------------|---|--|
| 2. Were custody seals on the outside of the cooler(s)? | If Yes Quantity <u>2</u> | ☒ Yes | ☐ No |
| -Were custody seals on the outside of the cooler(s) signed & dated? | | ☒ Yes | ☐ No NA |
| -Were custody seals on the bottle(s)? | | ☐ Yes | ☒ No |
| 3. Shippers' packing slip attached to the cooler(s)? | | ☒ Yes | ☐ No |
| 4. Did custody papers accompany the sample(s)? | | ☒ Yes | ☐ No |
| 5. Were the custody papers relinquished & signed in the appropriate place? | | ☒ Yes | ☐ No |
| 6. Did all bottles arrive in good condition (Unbroken)? | | ☒ Yes | ☐ No |
| 7. Could all bottle labels be reconciled with the COC? | | ☒ Yes | ☐ No |
| 8. Were correct bottle(s) used for the test(s) indicated? | | ☒ Yes | ☐ No |
| 9. Sufficient quantity received to perform indicated analyses? | | ☒ Yes | ☐ No |
| 10. Were sample(s) at the correct pH upon receipt? | | ☐ Yes | ☐ No ☒ NA |
| 11. Were VOAs on the COC? | | ☐ Yes | ☒ No |
| 12. Were air bubbles >6 mm in any VOA vials? | | ☐ Yes | ☐ No ☒ NA |
| 13. Was a trip blank present in the cooler(s)? | | ☐ Yes | ☒ No |

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____
Concerning _____

[illegible]

Sample(s)	_____	were received after the recommended holding time had expired.
Sample(s)	_____	were received in a broken container.
Sample(s)	_____	were received with bubble >6 mm in diameter. (Notify PM)

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

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Login Sample Receipt Checklist

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 240-12965-1

Login Number: 12965

List Source: TestAmerica Canton

List Number: 1

Creator: Sutek, Nick

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

From: [Charlton, Julie](#)
To: [Charlton, Julie](#)
Subject: FW: Conestoga-Rovers & Associates / Former GM Janesville C-Soils ~COR-077493~
Date: Tuesday, July 24, 2012 4:20:48 PM

From: Bonneville, Mandy [<mailto:bonnevillem@ci.janesville.wi.us>]
Sent: Monday, July 23, 2012 3:09 PM
To: VanAssche, James E.
Cc: Charlton, Julie; Project Email Hold
Subject: RE: Conestoga-Rovers & Associates / Former GM Janesville C-Soils ~COR-077493~

James,

Thank you for forwarding the analytical results for the soils. The results for all 3 samples are within the landfill's acceptable limits for disposal. Therefore the waste is approved for disposal at the City's sanitary landfill. The disposal rate is \$35.00 per ton.

The landfill does not require you to fill out a profile form for the waste, nor are shipper tickets required. However, if you would like to send shipper tickets this would help ensure the waste is charged to CRA versus the hauler, Veolia. I will leave this to your discretion.

We will expect disposal later this week. Should this change, please let me know. Thank you.

Mandy Bonneville

Solid Waste Manager

City of Janesville Operations Division

Phone: 608-755-3110

Fax: 608-755-3106

bonnevillem@ci.janesville.wi.us

From: VanAssche, James E. [<mailto:jvanassche@croworld.com>]
Sent: Monday, July 23, 2012 1:35 PM
To: Bonneville, Mandy
Cc: Swieca, Kerri; Charlton, Julie; Project Email Hold
Subject: RE: Conestoga-Rovers & Associates / Former GM Janesville C-Soils ~COR-077493~

Hi Mandy,

Attached you will find the analytical report from our soil boxes. We have 15 boxes all together so we collected a total of 3 composites (1 per 5 boxes). Only the first three samples correspond to the waste in boxes. Sample IDs SO-070512-AK-01-05 COMP, SO-070512-AK-06-10 COMP, SO-070512-AK-11-15 COMP represent this waste. Please disregard the other two liquid samples there, those are for some drummed liquids we are shipping elsewhere. Can you please review this data and confirm that this soil waste is acceptable at the City Sanitary landfill?

I have not seen any profile forms, so if there is one, please forward for us to complete. Also, do we need any special shippers to get through the gate?

I understand we are still awaiting credit approval but it should be done today or tomorrow. If this meets your approval, I'm tentatively looking to start shipping this later this week – possibly Thursday and/or Friday to give you heads up.

Any questions, please let me know.

Thank you!

James

James VanAssche, CHMM
Conestoga-Rovers & Associates (CRA)
14496 Sheldon Rd. Suite 200
Plymouth, MI 48170

Phone: 734.453.5123
Fax: 734.453.5201
Cell: 517.214.2598
Email: jvanassche@CRAworld.com
www.CRAworld.com

Think before you print 🖨️

Perform every task the safe way, the right way, every time!



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Date Requested / Issued: 7/26/12

SHIPPED TO:

Company	GM JAVESVILLE	Company	CITY OF JAVESVILLE LANDFILL
Delivery Address	1000 GENERAL MOTORS DRIVE	Delivery Address	525 BLACK BRIDGE ROAD
City, State, Zip Code	JAVESVILLE, WI 53546	City, State, Zip Code	JAVESVILLE, WI 53545
Dock	HAUL AWAY YARD	Attention	

Carrier: VEOLIA	Charge to: ☐ Our Delivery	☐ Collect / Prepaid by:
Truck / Car No.	☐ F.O.B. Destination DUNS*	Company
Shipment to be weighed (Yes/No) No	☒ Their pick up	Delivery Address
	☐ Free Return	City, State, Zip Code

[illegible]

Pieces
Containers
Baskets
Etc.

Auction sales	Lot #	AD #	AD line item #
Metal scrap	P.O. (\$ number)	Item (CF number)	Gate Pass #
Tagged assets and owned computer equipment	Equip description	Tag number	AD #
Indirect material	Manufacturer	Common Code #	RMA #
Other (racks, tooling, lease returns, Joint Training, etc.)	Equip description	AD #	ID #

STEW HERBEL Phone: 608-208-5303 Date: 7/26/12

Hewart E. Hobel Phone: 608-208-5303 Date: 7/26/12

Booked: W. J. Wood Badge #: 211 Date: 7/26/12

Date: 7/26/12

Green – Dock

Date Requested / Issued: 7/26/12

SHIPPED TO:

Company GM JAMESVILLE	Company CITY OF JAMESVILLE LANDFILL
Delivery Address 1000 GENERAL MOTORS DRIVE	Delivery Address 575 BLACK BRIDGE ROAD
City, State, Zip Code JAMESVILLE, WI 53546	City, State, Zip Code JAMESVILLE, WI 53545
Dock HAUL AWAY YARD	Attention

Carrier: <u>VEOLIA</u>	Charge to: ☐ Our Delivery	☐ Collect / Prepaid by:
Truck / Car No.	☐ F.O.B. Destination DUNS*	Company
Shipment to be weighed (Yes / No) <u>(No)</u>	☒ Their pick up	Delivery Address
	☐ Free Return	City, State, Zip Code

[illegible]

Pieces
Containers
Baskets
Etc.

Auction sales	Lot #	AD #	AD line item #
Metal scrap	P.O. (S number)	Item (CF number)	Gate Pass #
Tagged assets and owned computer equipment	Equip description	Tag number	AD #
Indirect material	Manufacturer	Common Code #	RMA #
Other (racks, tooling, lease returns, Joint Traning, etc.)	Equip description	AD #	ID #

STEW HEBEL Phone: 608-208-5303 Date: 7/26/12

Stewart E. Heibel Phone: 608-208-5303 Date: 7/26/12

Booky Wifford Badge #: _____ Date: 7/26/12

Signature: [Signature] Date: 7/26/12

Green – Dock

Date Requested / Issued: 7/26/12

SHIPPED TO:

Carrier: VEOLIA	Charge to: ☐ Our Delivery	☐ Collect / Prepaid by:
Truck / Car No.	☐ F.O.B. Destination DUNS*	Company
Shipment to be weighed (Yes / No)	☒ Their pick up	Delivery Address
	☐ Free Return	City, State, Zip Code

[illegible]

Pieces
Containers
Baskets
Etc.

Auction sales	Lot #	AD #	AD line item #
Metal scrap	P.O. (\$ number)	Item (CF number)	Gate Pass #
Tagged assets and owned computer equipment	Equip description	Tag number	AD #
Indirect material	Manufacturer	Common Code #	RMA #
Other (racks, tooling, lease returns, Joint Training, etc.)	Equip description	AD #	ID #

STEW HEBEL Phone: 608-208-5303 Date: 7/26/12

Hamid E Hebel Phone: 609-208-5303 Date: 7/26/17

Bosnyk W. W. W. Badge #: Date: 7/26/17

Date: 7/26/12

Green – Dock



Shipper No.: 1437

Date Requested / Issued: 7/26/12

SHIPPED FROM:

Company	Gm JAMESVILLE
Delivery Address	1000 GENERAL MOTORS DRIVE
City, State, Zip Code	JAMESVILLE, WI 53546
Dock	Haul Away YARD

SHIPPED TO:

Company	CITY OF JAMESVILLE LANDFILL
Delivery Address	525 BUCK BRIDGE ROAD
City, State, Zip Code	JAMESVILLE, WI 53545
Attention	

Carrier: VEOLIA	Charge to: ☐ Our Delivery	☐ Collect / Prepaid by:
Truck / Car No.	☐ F.O.B. Destination DUNS*	Company
Shipment to be weighed (Yes/No) (No)	☒ Their pick up	Delivery Address
	☐ Free Return	City, State, Zip Code

[illegible]

Examples of data by column:

Pieces	
Containers	
Baskets	
Etc.	

Auction sales	Lot #	AD #	AD line item #
Metal scrap	P.O. (\$ number)	Item (CF number)	Gate Pass #
Tagged assets and owned computer equipment	Equip description	Tag number	AD #
Indirect material	Manufacturer	Common Code #	RMA #
Other (racks, tooling, lease returns, Joint Traning, etc.)	Equip description	AD #	ID #

Request or loaded by:

STEW HERBEL

Phone: 608-708-5303

Date: 7/26/12

Authorized by:

Stewart E. Habel

Phone: 608-708-5303

Date: 9/26/17

Gate Security:

Bobby as a boy

Badge #:

Date: 7/26/18

Accepted by Driver:

B. H.

Date: 7/26/12

* The GM receiving location's DUNS number is required if F.O.B. Destination is arranged by the GM sending location.

White – Carrier

Canary – Carrier 2nd

Pink – Packing slip

Gold – Security

Green—Dock...

Date Requested / Issued: 7/30/12

SHIPPED TO:

[illegible]

Pieces
Containers
Baskets
Etc.

Auction sales	Lot #	AD #	AD line item #
Metal scrap	P.O. (S number)	Item (CF number)	Gate Pass #
Tagged assets and owned computer equipment	Equip description	Tag number	AD #
Indirect material	Manufacturer	Common Code #	RMA #
Other (racks, tooling, lease returns, Joint Training, etc.)	Equip description	AD #	ID #

STEW HEBEL Phone: 608-208-5303 Date: 7/30/12

Phone: 608-208-5303 Date: 7/30/12

Badge #: _____ Date: 7/50/12

Date: 7/20/12

Green – Dock

Date Requested / Issued: 7/30/12

SHIPPED TO:

Company GM JANESVILLE	Company CITY OF JANESVILLE LANDFILL
Delivery Address 1000 GENERAL MOTORS DRIVE	Delivery Address 525 BLACK BRIDGE ROAD
City, State, Zip Code JANESVILLE, WI 53546	City, State, Zip Code JANESVILLE, WI 53545
Dock HAUL AWAY YARD	Attention

Carrier: VEOLIA	Charge to: ☐ Our Delivery	☐ Collect / Prepaid by:
Truck / Car No.	☐ F.O.B. Destination DUNS*	Company
Shipment to be weighed (Yes/No) (No)	☒ Their pick up	Delivery Address
	☐ Free Return	City, State, Zip Code

[illegible]

Examples of data by column:

Pieces
Containers
Baskets
Etc.

Auction sales	Lot #	AD #	AD line item #
Metal scrap	P.O. (S number)	Item (CF number)	Gate Pass #
Tagged assets and owned computer equipment	Equip description	Tag number	AD #
Indirect material	Manufacturer	Common Code #	RMA #
Other (racks, tooling, lease returns, Joint Traning, etc.)	Equip description	AD #	ID #

Request or loaded by:

STEW HEBEL Phone: 608-208-5303

Date: 7/30/12

Authorized by:

Stewart E. Hebel Phone: 608-708-5303

Date: 7/30/12

Gate Security:

Kurt Kockers Badge #: _____

Date: 7/30/12

Accepted by Driver:

[Signature]

Date: 7/30/12

* The GM receiving location's DUNS number is required if F.O.B. Destination is arranged by the GM sending location.

White — Carrier

Canary – Carrier 2nd

Pink – Packing slip

Gold – Security

Green – Dock

Date Requested / Issued: 7/30/12

SHIPPED TO:

Carrier: VEOLIA	Charge to: ☐ Our Delivery	☐ Collect / Prepaid by:
Truck / Car No.	☐ F.O.B. Destination DUNS*	Company
Shipment to be weighed (Yes/No)	☒ Their pick up	Delivery Address
	☐ Free Return	City, State, Zip Code

Examples of data by column:

Pieces
Containers
Baskets
Etc.

Auction sales	Lot #	AD #	AD line item #
Metal scrap	P.O. (\$ number)	Item (CF number)	Gate Pass #
Tagged assets and owned computer equipment	Equip description	Tag number	AD #
Indirect material	Manufacturer	Common Code #	RMA #
Other (racks, tooling, lease returns, Joint Traning, etc.)	Equip description	AD #	ID #

STEW HEBEL Phone: 608-708-5303 Date: 7/30/12

Stewart E. Hebel Phone: 608-708-5303 Date: 7/30/12


 Badge #: _____ Date: 7/30/12

Date: 7/30/12

Green – Dock

Date Requested / Issued: 7/30/12

SHIPPED TO:

Carrier: <u>VEOLIA</u>	Charge to: ☐ Our Delivery	☐ Collect / Prepaid by:
Truck / Car No.	☐ F.O.B. Destination DUNS*	Company
Shipment to be weighed (Yes / No) <u>0</u>	☒ Their pick up	Delivery Address
	☐ Free Return	City, State, Zip Code

[illegible]

Pieces
Containers
Baskets
Etc.

Auction sales	Lot #	AD #	AD line item #
Metal scrap	P.O. (S number)	Item (CF number)	Gate Pass #
Tagged assets and owned computer equipment	Equip description	Tag number	AD #
Indirect material	Manufacturer	Common Code #	RMA #
Other (racks, tooling, lease returns, Joint Training, etc.)	Equip description	AD #	ID #

STEW HEBEL Phone: 608-708-5303 Date: 7/30/12

Hewart C Hebel Phone: 608-708-5303 Date: 7/30/12

Old RVF Badge #: Date: 7/30/12

Date: 7/30/12

Green – Dock



Shipper No.: 1442

Date Requested / Issued: 7/30/12

SHIPPED FROM:

SHIPPED TO:

Company GM JANESVILLE	Company CITY OF JANESVILLE LANDFILL
Delivery Address 1000 GENERAL MOTORS DRIVE	Delivery Address 525 BLACK BRIDGE ROAD
City, State, Zip Code JANESVILLE, WI 53546	City, State, Zip Code JANESVILLE, WI 53545
Dock HAUL AWAY YARD	Attention

Carrier: VEOLIA	Charge to: ☐ Our Delivery	☐ Collect / Prepaid by:
Truck / Car No.	☐ F.O.B. Destination DUNS*	Company
Shipment to be weighed (Yes / No) (Yes)	☒ Their pick up	Delivery Address
	☐ Free Return	City, State, Zip Code

[illegible]

Examples of data by column:

Pieces
Containers
Baskets
Etc.

Auction sales	Lot #	AD #	AD line item #
Metal scrap	P.O. (S number)	Item (CF number)	Gate Pass #
Tagged assets and owned computer equipment	Equip description	Tag number	AD #
Indirect material	Manufacturer	Common Code #	RMA #
Other (racks, tooling, lease returns, Joint Training, etc.)	Equip description	AD #	ID #

Request or loaded by:

STEW HEBEL Phone: 608-708-5303 Date: 7/30/12

Authorized by:

Hewart E. Hibel Phone: 608-208-5303 Date: 7/30/12

Gate Security:

Booker W. Wapard Badge #: _____ Date: 7/30/12

Accepted by Driver:

Date: 7/30/12

* The GM receiving location's DUNS number is required if F.O.B. Destination is arranged by the GM sending location.

White – Carrier

Canary – Carrier 2nd

Pink – Packing slip

Gold – Security

Green – Dock



Date Requested / Issued: 1/27/12

SHIPPED TO:

Company GM JANESVILLE	Company CITY OF JANESVILLE LANDFILL
Delivery Address 1000 GENERAL MOTORS DRIVE	Delivery Address 525 BLACK BRIDGE ROAD
City, State, Zip Code JANESVILLE, WI 53546	City, State, Zip Code JANESVILLE, WI 53545
Dock HAUL AWAY YARD	Attention

Carrier: VEOLIA	Charge to: ☐ Our Delivery	☐ Collect / Prepaid by:
Truck / Car No.	☐ F.O.B. Destination DUNS*	Company
Shipment to be weighed (Yes / No) (No)	☒ Their pick up	Delivery Address
	☐ Free Return	City, State, Zip Code

[illegible]

Pieces
Containers
Baskets
Etc.

Auction sales	Lot #	AD #	AD line item #
Metal scrap	P.O. (S number)	Item (CF number)	Gate Pass #
Tagged assets and owned computer equipment	Equip description	Tag number	AD #
Indirect material	Manufacturer	Common Code #	RMA #
Other (racks, tooling, lease returns, Joint Traning, etc.)	Equip description	AD #	ID #

STEW HEBEL Phone: 608-208-5303 Date: 7/27/12

Stewart E. Hobel Phone: 608-208-5303 Date: 7/27/12

Booker W. Wood Badge #: _____ Date: 7/27/12

Date: 7/27/12

Green – Dock

Date Requested / Issued: 7/30/12

SHIPPED TO:

Company GM JANESVILLE	Company CITY OF JANESVILLE LANDFILL
Delivery Address 1000 GENERAL MOTORS DRIVE	Delivery Address 525 BLACK BRIDGE ROAD
City, State, Zip Code JANESVILLE, WI 53546	City, State, Zip Code JANESVILLE, WI 53545
Dock HAUL AWAY YARD	Attention

Carrier: VEOLIA	Charge to: ☐ Our Delivery	☐ Collect / Prepaid by:
Truck / Car No.	☐ F.O.B. Destination DUNS*	Company
Shipment to be weighed (Yes / No)	☒ Their pick up	Delivery Address
	☐ Free Return	City, State, Zip Code

[illegible]

Pieces
Containers
Baskets
Etc.

Auction sales	Lot #	AD #	AD line item #
Metal scrap	P.O. (S number)	Item (CF number)	Gate Pass #
Tagged assets and owned computer equipment	Equip description	Tag number	AD #
Indirect material	Manufacturer	Common Code #	RMA #
Other (racks, tooling, lease returns, Joint Traning, etc.)	Equip description	AD #	ID #

STEW HEBEL Phone: 408-208-5303 Date: 7/27/12

Stewart E Hebl Phone: 608-708-5303 Date: 7/27/12

Becky Wapner Badge #: _____ Date: 7/27/12

Walter Jennings Date: 7/27/12

Green – Dock

Date Requested / Issued: 7/30/12

SHIPPED TO:

Company GM JAMESVILLE	Company CITY OF JAMESVILLE LANDFILL
Delivery Address 1000 GENERAL MOTORS DRIVE	Delivery Address 525 BLACKBRIDGE ROAD
City, State, Zip Code JAMESVILLE, WI 53546	City, State, Zip Code JAMESVILLE, WI 53545
Dock HAUL AWAY YARD	Attention

Carrier: VEOLIA	Charge to: ☐ Our Delivery	☐ Collect / Prepaid by:
Truck / Car No.	☐ F.O.B. Destination DUNS*	Company
Shipment to be weighed (Yes/No) (No)	☒ Their pick up	Delivery Address
	☐ Free Return	City, State, Zip Code

[illegible]

Pieces	
Containers	
Baskets	
Etc.	

Auction sales	Lot #	AD #	AD line item #
Metal scrap	P.O. (\$ number)	Item (CF number)	Gate Pass #
Tagged assets and owned computer equipment	Equip description	Tag number	AD #
Indirect material	Manufacturer	Common Code #	RMA #
Other (racks, tooling, lease returns, Joint Traning, etc.)	Equip description	AD #	ID #

STEW HEBEL Phone: 608-208-5303

Date: 7/27/12

Herwin E. Hebel Phone: 608-208-5303

Date: 7/27/12

Ma. Dolan Badge #:

Date: 7/27/17

Milk Depositor

Date: 7/7/13

White – Carrier

Canary – Carrier 2nd

Pink – Packing slip

Gold – Security

Green – Dock

ATTACHMENT E

HUMAN HEALTH RISK ASSESSMENT SUPPORTING INFORMATION AND
CALCULATIONS

Contents

	Page
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E1 Introduction

This attachment provides information and calculations that support the human health risk assessment presented in the *Former 20,000 Gallon Diesel Underground Storage Tank* for the Janesville Haul Away Yard located in Janesville, Wisconsin. The methods and assumptions used in the human health risk assessment are based on the proposed regulations presented in ch. NR 720, Wis. Adm. Code, Soil Cleanup Standards, WDNR *Addressing Vapor Intrusion at Remediation & Redevelopment Sites in Wisconsin* (2010), USEPA risk assessment guidance, and agreements between USEPA and GM on approaches for streamlining risk assessments at GM sites (ENVIRON 2010).

The information in this attachment is organized in sections that correspond to the following potentially exposed populations, discussed in the Section 5, and summarized in Table 2:

- Industrial Workers
- Maintenance Workers
- Construction Workers
- Adolescent Trespassers
- Nonindustrial Receptor

The toxicity values used in this human health risk assessment were compiled from USEPA's hierarchy of sources (USEPA 2003). Route-to-route extrapolation of toxicity values was made following USEPA guidance (USEPA 2004b, 2009a). The toxicity values and physical and chemical properties used in the risk calculations are provided in Attachment E1. The toxicity values used in this risk assessment are current as of February 2012.

E2 Exposure Assessment

The potential exposures that are relevant under current and reasonably expected future land use at and around the Site are discussed in Section 5.

For potential exposures via ingestion and dermal contact, as discussed in this section, exposure is quantified in terms of a dose, as follows:

$$Dose = Concentration \cdot Intake$$

The dose for evaluating cancer risk is averaged over a lifetime and is called the lifetime average daily dose (LADD). For evaluating long term (or chronic) noncancer effects, the dose is averaged over the duration of potential exposure and is called the average daily dose (ADD). The concentration term in the dose equation refers to the average chemical concentration in an environmental medium to which a population is exposed over a specified duration. The intake term refers to the intake rate of the contaminated environmental medium, which is a function of the magnitude, frequency, and duration of exposure. The exposure factors that are used to quantify the magnitude, frequency, and duration of potential exposures are discussed in Section E2.1.

E2.1 Exposure Factors

The exposure factors for evaluating the scenarios for potential exposure (see Table 2) and discussed in Section 5 are discussed in this section. A table of these exposure factors is presented in Attachment E1. In this risk assessment, standard default exposure factors recommended by WDNR in ch. NR 720, Wis. Adm. Code, Soil Cleanup Standards (proposed) for industrial workers and nonindustrial receptors were used. Consistent with the documentation of agreements between USEPA and GM for streamlining risk assessments at GM sites (ENVIRON 2010), maintenance worker, construction worker and trespasser exposure were also evaluated using standard default exposure factors recommended by USEPA for estimating reasonable maximum exposure (RME) where available and appropriate. Where standard default exposure factors are not available or appropriate for an exposure scenario, the evaluation is conducted using similarly conservative exposure factors that are based on site-specific considerations and professional judgment.

E2.1.1 Industrial Workers

In this risk assessment, potential exposure of industrial workers to soil is conservatively evaluated using the standard default exposure factors recommended by WDNR (March 2012).

Soil Ingestion Rate

The soil ingestion rate of 100 mg/day is WDNR's default value for evaluating exposure in commercial/industrial settings (WDNR 2012).

Soil Dermal Contact Rate and Absorption

The dermal contact rate is the product of the exposed skin surface area and the soil-to-skin adherence factor. The exposed skin surface area of 3,300 cm²/day and the soil-to-skin adherence factor of 0.2 mg/cm² are WDNR's as well as USEPA's recommended values for evaluating RME in commercial/industrial settings (WDNR 2012, USEPA 2004b). The exposed skin surface area is based on the 50th percentile area of the head, hands, and forearms. The soil-to-skin adherence factor is based on the 50th percentile weighted soil-to-skin adherence factor for utility workers, which EPA has determined to be a high-end contact activity in commercial/industrial settings (USEPA 2004b). The absorbed dose from dermal contact with soil is estimated by multiplying the dermal contact rate by USEPA-recommended absorption factors for absorption from soil (USEPA 2004b).

Soil PM₁₀/Vapor Exposure Time

Industrial workers are assumed to be at the site and inhale vapors and particulates from site-related sources for 8 hours per day, which is the WDNR and USEPA recommended value for full-time workers (WDNR 2012, USEPA 2009a).

Exposure Frequency and Duration

The exposure frequency of 250 days/year is WDNR's and USEPA's standard default value for evaluating RME in commercial/industrial settings (WDNR 2012, USEPA 1991a). It is based on a 5-day work week and 50 weeks per year. The exposure duration of 25 years is EPA's standard default value for evaluating RME in

commercial/industrial settings (USEPA 1991a). It is the 95th percentile job tenure of workers in manufacturing. This combination of exposure frequency and exposure duration is expected to be conservative for the amount of time that workers are actually exposed to soil during outdoor activities, as industrial workers spend the majority of their time indoors. USEPA has recommended the use of these values for evaluating high-end industrial worker exposures (USEPA 1991a).

Body Weight

The body weight of 70 kg is WDNR's and EPA's standard value for assessing exposure of adults (WDNR 2012, USEPA 1991a).

Averaging Time

The averaging time for evaluating cancer risk is equal to a lifetime of 70 years, and the averaging time for evaluating noncancer risk is equal to the exposure duration (WDNR 2012, USEPA 1989).

E2.1.2 Maintenance Workers

The exposure factors used for evaluating potential exposure of maintenance workers to soil are as follows:

Soil Ingestion Rate

The ingestion rate of 100 mg/day is based on professional judgment regarding the mix of soil contact activities. The value assumes 1/3 of the activities will be similar to those of construction workers (with soil ingestion rate of 200 mg/day) and 2/3 of the activities will be similar to those of industrial workers (with soil ingestion rate of 50 mg/day).

Soil Dermal Contact Rate and Absorption

The dermal contact rate is the product of the exposed skin surface area and soil-to-skin adherence factor. The exposed skin surface area of 3,300 cm²/day and the soil-to-skin adherence factor of 0.2 mg/cm² are USEPA's recommended values for evaluating RME in commercial/industrial settings (USEPA 2004b). The exposed skin surface area is based on the 50th percentile area of the head, hands, and forearms. The soil-to-skin adherence factor is based on the 50th percentile weighted soil-to-skin adherence factor for utility workers, which EPA has determined to be a high-end contact activity, and is higher than or equal to the 50th percentile weighted soil-to-skin adherence factor for grounds keepers, landscapers, irrigation installers, gardeners, construction workers, and heavy equipment operators (USEPA 2004b, Exhibit 3-3).

Soil Exposure Frequency

USEPA Region 5 suggested an exposure frequency of 30 days per year be used for workers performing occasional maintenance work that involves excavation into the soil. These exposure frequencies are expected to be conservative for the amount of time that workers are actually exposed to soil (as opposed to the total time for maintenance or construction, which typically includes time not associated with excavation).

Soil PM₁₀/Vapor Inhalation Exposure Time

Maintenance workers are assumed to be at the site and inhale vapors and particulates from soil for 8 hours per day, the USEPA recommended value for full-time workers (USEPA 2009a).

Exposure Duration

The exposure duration of 10 years is between the 90th percentile and 95th percentile job tenure of workers in construction (Burmaster 2000). Burmaster (2000) showed that the 90th and 95th percentiles are 7.7 years and 12.5 years, respectively. He used the same data to confirm that the 95th percentile job tenure for manufacturing workers match USEPA's industrial worker ED of 25 years (USEPA 1991a).

Body Weight

The BW of 70 kg is USEPA's standard value for assessing exposure of adults (USEPA 1991a).

Averaging Time

The averaging time for evaluating cancer risk is equal to a lifetime of 70 years, and the averaging time for evaluating noncancer risk is equal to the exposure duration (USEPA 1989).

E2.1.3 Construction Workers

The exposure factors used for evaluating potential exposure of construction workers to soil during excavations associated with redevelopment construction activities are as follows:

Soil Ingestion Rate

The ingestion rate of 200 mg/day is the 90th percentile from the adult soil ingestion study published by Stanek et al. (1997). It is more appropriate than the 95th percentile (330 mg/day) from the same study because in a study of only 10 adults, the 95th percentile is at or beyond the highest observed ingestion rate, and as such, has far more uncertainty than the 90th percentile. Using the 90th percentile is also consistent with EPA guidance on selecting exposure factors for estimating the RME. Since the 330 mg/day ingestion rate is based on very limited data that might not be appropriate for representing actual exposure, risk estimates for construction worker exposure to soil calculated using the higher ingestion rate are included in the uncertainty analysis.

Soil Dermal Contact Rate and Absorption

The dermal contact rate is the product of exposed skin surface area and soil-to-skin adherence factor. The exposed skin surface area of 3,300 cm²/day and the soil-to-skin adherence factor of 0.2 mg/cm² are EPA's recommended values for evaluating RME in commercial/industrial settings (USEPA 2004b). The exposed skin surface area is based on the 50th percentile area of the head, hands, and forearms. The soil-to-skin adherence factor is based on the 50th percentile weighted soil-to-skin adherence factor for utility workers, which USEPA has determined to be a high-end contact activity, and is higher than or equal to the 50th percentile weighted soil-to-skin adherence factor for grounds

keepers, landscapers, irrigation installers, gardeners, construction workers, and heavy equipment operators (USEPA 2004b, Exhibit 3-3).

Soil Exposure Frequency

The exposure frequency of 250 days/year is based on professional judgment regarding the number of days of soil excavation or other high-intensity soil contact activities. This exposure frequency is expected to be conservative for the amount of time that workers are actually exposed to soil in excavations or during other high-intensity soil contact activities (as opposed to the total time for construction, which typically includes time not associated with high-intensity soil contact activities). It is based on a 5-day work week and 50 weeks per year.

Exposure Time

Construction workers are assumed to be at the site and inhale vapors and particulates from site-related sources for 8 hours per day, the USEPA recommended value for full-time workers (USEPA 2009a).

Exposure Duration

The exposure duration of 1 year is based on professional judgment regarding the duration of site redevelopment activities.

Body Weight

The BW of 70 kg is EPA's standard value for assessing exposure of adults (USEPA 1991a).

Averaging Time

The averaging time for evaluating cancer risk is equal to a lifetime of 70 years, and the averaging time for evaluating noncancer risk is equal to the exposure duration (USEPA 1989).

E2.1.4 Trespassers

Exposure factors for trespassers are discussed below to show that a trespasser's exposures to soil are expected to be lower than an industrial worker's exposures, which are discussed in Section E2.1.1, and therefore, quantitative evaluation of a trespasser's exposures is unnecessary. The following exposure factors for a trespasser are conservatively assumed to be equal to those of an adolescent age 6 to 16 years old.

Soil Ingestion Rate

A soil ingestion rate of 100 mg/day is used for adolescent trespassers. USEPA has recommended the use of this value for evaluating high-end exposures of adolescent and adult residents to soil (USEPA 1991a).

Soil Dermal Contact Rate and Absorption

The exposed skin area of 4,200 cm²/day is based on the 50th percentile male and female areas of forearms, lower legs, hands and head for ages 6 to 16. The soil-to-skin

adherence factor of 0.2 mg/cm² is the value recommended by USEPA for evaluating high-end exposures of child and adolescent residents to soil (USEPA 2004b). The absorbed dose from dermal contact with soil is estimated by multiplying the dermal contact rate by USEPA-recommended absorption factors for absorption from soil (USEPA 2004b).

Exposure Time

Trespassers are assumed to be at the Site and inhale vapors and particulates from site-related sources for 2 hours per day while trespassing.

Exposure Frequency and Duration

The exposure frequency of 24 days/year for contact with soil is based on a conservative assumption that trespassers visit the Site 2 days/weeks for the three months of the year when the temperature is above 65 degrees F in Milwaukee, Wisconsin (which is the nearest city to Janesville, Wisconsin with an extensive data record). The exposure duration of 10 years is based on the assumed age range of the trespassers.

Body Weight

The body weight of 39 kg is the mean body weight of 6 to 16 year olds (USEPA 1997a).

Averaging Time

The averaging time for evaluating cancer risk is equal to a lifetime of 70 years, and the averaging time for evaluating noncancer risk is equal to the exposure duration (USEPA 1989).

These exposure factors are included in Attachment E1 to allow comparison with the exposure factors for industrial workers that are discussed in Section E2.1.1. A review of Attachment E1 shows that the intakes for a trespasser's exposure to soil are lower than those for the industrial worker being evaluated in the risk assessment. Therefore, a quantitative evaluation of a trespasser's exposures to soil is not necessary and is not included.

E2.1.5 Off-Site Nonindustrial Receptors

In this risk assessment, potential exposure of off-site nonindustrial receptors (e.g. residents) to on-site soil is conservatively evaluated using the standard default exposure factors recommended by WDNR (March 2012).

Soil PM₁₀/Vapor Exposure Time

Nonindustrial receptors are assumed to be inhaling vapors and particulates from site-related sources for 24 hours per day, which is the WDNR and USEPA recommended value for full-time workers (WDNR 2012, USEPA 2009a).

Exposure Frequency and Duration

Nonindustrial receptors are assumed to be exposed to on-site soil via inhalation at off-site areas for 350 days per year for 30 years (6 years as children and 24 years as

adults) for cancer risk calculations and 6 years for noncancer risk calculations (WDNR 2012).

Averaging Time

The averaging time for evaluating cancer risk is equal to a lifetime of 70 years, and the averaging time for evaluating noncancer risk is equal to the exposure duration (WDNR 2012, USEPA 1989).

E3 Toxicity Assessment

A toxicity assessment identifies potential adverse health effects that are associated with exposure to chemicals, and determines the dose response relationship between exposure and the occurrence of adverse effects. The toxicity values used in this risk assessment were compiled from USEPA's hierarchy of sources (USEPA 2003a), as follows:

1. Integrated Risk Information System (IRIS);
2. Provisional Peer Reviewed Toxicity Values (PPRTV); and
3. Other Toxicity Values.

When a toxicity value was not available from the first two tiers of the hierarchy, other USEPA and non-USEPA sources (e.g., Agency for Toxic Substances and Disease Registry (ATSDR)) of toxicity values were consulted. The toxicity values used in the risk assessment and their sources are summarized in Attachment E1 and are discussed below. The toxicity values used in this risk assessment are current as of February 2012.

E3.1 Cancer Toxicity Values

For chemicals that USEPA assessed prior to the 2005 *Guidelines for Carcinogen Risk Assessment* (USEPA 2005), USEPA considers chemicals belonging to the following cancer weight of evidence groups as human carcinogens:

- Group A - Known Human Carcinogen: Sufficient evidence of carcinogenicity in humans;
- Group B1 - Probable Human Carcinogen: Limited evidence of carcinogenicity in humans;
- Group B2 - Probable Human Carcinogen: Sufficient evidence of carcinogenicity in animals with inadequate or lack of evidence in humans; and
- Group C - Possible Human Carcinogen: Limited evidence of carcinogenicity in animals and inadequate or lack of evidence in humans.

For chemicals that USEPA assessed after the 2005 *Guidelines for Carcinogen Risk Assessment* (USEPA 2005), USEPA uses the following cancer weight of evidence groups:

- Carcinogenic to Humans
- Likely to be Carcinogenic to Humans
- Suggestive Evidence of Carcinogenic Potential

- Inadequate Information to Assess Carcinogenic Potential

As shown in Attachment E1, many of the constituents in this risk assessment are not designated as Group A or as being “Carcinogenic to Humans”, which means USEPA acknowledges that there is either inadequate evidence or a lack of evidence that these constituents cause cancer in humans. Therefore, evaluating these constituents as human carcinogens in the risk assessment is highly conservative.

Cancer slope factors (SFs) and unit risk factors (URFs) for these constituents and their sources are shown in Attachment E1. The oral SFs and inhalation URFs represent 95% upper confidence bounds on the probability of getting cancer over a lifetime per unit dose. As recognized by USEPA, there is significant scientific evidence that some of the SFs and URFs may be overly conservative and may ignore the potential existence of threshold doses. Nonetheless, they are used here as conservative assessment tools.

E3.2 Noncancer Toxicity Values

Constituents designated by USEPA as belonging to the cancer weight-of-evidence Group D (Not Classifiable as to Human Carcinogenicity) are considered noncarcinogens. Constituents not designated as belonging to any cancer group are also treated as noncarcinogens. Chronic and subchronic reference doses (RfDs) and chronic and subchronic inhalation reference concentrations (RfCs) and their sources are shown in Attachment E1.

The oral RfDs and inhalation RfCs represent conservative estimates of the daily exposure to the human population, including sensitive subpopulations (e.g., children), which are likely to be without an appreciable risk of deleterious effects during a lifetime. These RfDs and RfCs typically incorporate several safety factors to account for uncertainties in their derivation, which in combination often result in overall uncertainty factors of 1,000 or more. Furthermore, for many constituents, there is significant scientific debate about the validity of these RfDs and RfCs, and the association of these doses and concentrations to potential adverse health consequences. Nonetheless, the RfDs and RfCs are used here as conservative assessment tools.

E3.3 Extrapolation of Toxicity Values

The USEPA sources of toxicity values listed above do not provide dermal toxicity values for any of the constituents. Therefore, oral toxicity values (i.e., oral SFs and RfDs) are used as dermal toxicity values in this risk assessment. Adjustments to the oral toxicity values, where appropriate, are made in this route-to-route extrapolation following USEPA guidance (USEPA 2004b).

The USEPA sources of toxicity values listed above do not provide inhalation toxicity values (URFs and RfCs) for all of the constituents. Route-to-route extrapolation from oral toxicity values was not performed to obtain inhalation toxicity values for these constituents consistent with USEPA guidance on performing inhalation risk assessments (USEPA 2009a).

E3.4 Lead

Exposure of nonindustrial receptors to lead in soil during outdoor activities is evaluated using a residential screening level of 400 mg/kg (40 CFR Part 745, Federal Register Volume 66, No. 4, January 5, 2001). Exposure of industrial workers to lead in soil during outdoor activities is evaluated using an industrial screening level of 2,240 mg/kg. These screening levels are calculated following USEPA guidance (USEPA 2003b), including updates (USEPA 2009b). The industrial screening level is intended to protect female workers of child-bearing age who contact soil. The derivation of the industrial soil screening level is presented in Attachment E3.

E4 Risk Estimation Methodology

For the ingestion and dermal exposure routes, estimates of cancer risk and noncancer hazard quotient (*HQ*) are calculated as follows:

$$Risk = LADD \cdot SF$$

$$HQ = \frac{ADD}{RfD}$$

where *LADD* is the lifetime average daily dose, *SF* is the cancer slope factor, *ADD* is the average daily dose, and *RfD* is the reference dose.

For the inhalation route, the inhalation cancer risk and noncancer *HQ* are calculated using the chemical concentration in air (*C_{air}*), as follows:

$$Risk = C_{air} \cdot URF \cdot \frac{ET \cdot ED \cdot EF}{AT_c}$$

$$HQ = \frac{C_{air}}{RfC} \cdot \frac{ET \cdot ED \cdot EF}{AT_{nc}}$$

where *URF* is the inhalation unit risk, *RfC* is the reference concentration, *ET* is the exposure time, *EF* is the exposure frequency, *ED* is the exposure duration, *AT_c* is the averaging time for carcinogens, and *AT_{nc}* is the averaging time for non-carcinogens. The exposure factors used in the risk calculations and their bases are provided in Attachment E1.

In this risk assessment, unit cancer risks and unit *HQs* were calculated for a unit chemical concentration (*C_{unit}*). *C_{unit}* is 1 mg/kg for soil and 1 mg/L for groundwater. Because risk estimates scale directly with the chemical concentration (except for cancer risk estimates at very high doses), these unit risks and unit *HQs* can be calculated once and combined with the chemical concentrations from different locations to calculate risk estimates efficiently for a large number of areas. The unit risks and unit *HQs* for all routes of exposure (incidental ingestion, dermal contact, vapor inhalation, and/or particulate inhalation) to chemicals in a given

environmental medium are summed to produce a single unit risk and unit HQ for each chemical. The cancer risk and noncancer HQ for a particular chemical is calculated as follows:

$$Risk_i = \frac{C_i \cdot UnitRisk_i}{C_{unit}}$$

$$HQ_i = \frac{C_i \cdot UnitHQ_i}{C_{unit}}$$

The media-specific cumulative cancer risk and noncancer hazard index (HI) for exposure to a combination of chemicals were conservatively estimated according to USEPA guidance (1989), as follows:

$$Cumulative\ Risk = \sum_i Risk_i$$

$$HI = \sum_i HQ_i$$

This approach may result in estimates of media-specific cumulative cancer risk and HI that are more conservative than necessary. For example, different chemicals may cause different and unrelated noncancer health effects, so summing the HQs for their individual effects would overestimate the significance of their combined effects. Nonetheless, this approach is used here as a conservative assessment tool.

Media-specific cumulative cancer risk and HIs for each receptor population are compared with Wisconsin's cancer risk limit of 10^{-5} and HI limit of 1, respectively, to determine whether engineering controls or remediation are warranted for a particular area of the Site (WDNR 2012).

The site-related soil risk estimates were calculated using maximum detected concentrations for each soil sample location and accounting for the background risks from exposure to background metals in soil, to streamline the identification of locations with potentially significant risks and the constituents that drive the risk estimates, even though such concentrations overestimate the RME.

E5 Background Soil Risks

The background concentration for metals used to calculate site-related risk estimates were calculated using a 95% bootstrap UCL¹. For each receptor, estimates of chemical-specific and cumulative cancer risk and HI associated with exposure to background concentrations of metals in soil, are shown in Attachment E2. These background cancer and noncancer risk estimates were calculated using the exposure factors discussed in Section E2.1 and toxicity values discussed in Section E3. As indicated on Attachment E2, the background cumulative cancer risk among the four receptors range from 3×10^{-6} (for maintenance workers) to 3×10^{-5} (for industrial workers). The background HIs among these receptors range from 0.09 (for industrial workers) to 1 (for construction workers).

E6 Industrial Workers

This human health risk assessment evaluates the following industrial worker exposures to constituents in soil: (1) during outdoor activities and (2) via volatilization into indoor air from soil. Computation of the risk estimates for these exposures is discussed in Sections E6.1 and E6.2, respectively.

E6.1 Potential Exposure to Soil During Outdoor Activities

Industrial workers could be exposed to surface soil via incidental ingestion, dermal contact, and inhalation of vapors and particulates during industrial outdoor activities. Risk estimates are calculated using the approach discussed in Section E4. The receptor specific calculations are discussed in this section.

The LADDs for soil ingestion ($LADD_{ing}$) and soil dermal contact ($LADD_{derm}$) are calculated as follows, using the exposure factors for industrial worker soil contact, shown in Attachment E1:

$$LADD_{ing} = C_{soil} \cdot \frac{IR \cdot FC \cdot EF \cdot ED}{BW \cdot AT_c}$$

$$LADD_{derm} = C_{soil} \cdot \frac{SA \cdot AF \cdot ABS_{derm} \cdot FC \cdot EF \cdot ED}{BW \cdot AT_c}$$

where C_{soil} is the constituent concentration in soil, IR is the ingestion rate, FC is the fraction of the soil that is contaminated, SA is the exposed skin surface area, AF is the soil-to-skin adherence factor, and ABS_{derm} is the chemical-specific dermal absorption factor.

¹ The 95% UCL on the mean for each chemical was calculated using a nonparametric method (Efron and Tibshirani 1998) using the background data sets for Wisconsin published in Shacklette (1984). Nonparametric bootstrap UPLs were calculated from 6,000 bootstrap replications and at $\alpha = 0.05$ level of significance. Nonparametric bootstrap statistical limits are more reliable than parametric statistical limits because, unlike parametric limits, they do not rely on assumptions about distribution shapes that are often difficult to justify. Common earth metals (i.e., aluminum, calcium, iron, magnesium, potassium, and sodium) are not considered site-related.

The ADDs for soil ingestion (ADD_{ing}) and soil dermal contact (ADD_{derm}) are calculated as follows:

$$ADD_{ing} = C_{soil} \cdot \frac{IR \cdot FC \cdot EF \cdot ED}{BW \cdot AT_{nc}}$$

$$ADD_{derm} = C_{soil} \cdot \frac{SA \cdot AF \cdot ABS_{derm} \cdot FC \cdot EF \cdot ED}{BW \cdot AT_{nc}}$$

For the inhalation route, the air concentrations of vapors from soil are calculated as follows:

$$C_{air} = J \cdot C / Q$$

where $J \cdot C / Q$ is an air concentration that is normalized to unit concentration in soil. The J term is the normalized average vapor (J_v) and the C / Q term is the air concentration normalized to a unit flux (i.e., C / Q is an air dispersion factor).

The normalized average vapor flux J_v of a constituent from unsaturated soil is conservatively estimated using an unsteady-state model derived by Jury et al. (1983). This model conservatively assumes that volatile constituents are present in the soil to a finite depth, in this case the depth to the water table. The equation for J_v is given by:

$$J_v = \frac{C_{s,0}}{T} \left(2 \left(\exp\left(\frac{-Z_1^2}{4D_E T}\right) - \exp\left(\frac{-Z_2^2}{4D_E T}\right) \right) \sqrt{\frac{D_E T}{\pi}} - Z_1 \operatorname{erfc}\left(\frac{Z_1}{2\sqrt{D_E T}}\right) + Z_2 \operatorname{erfc}\left(\frac{Z_2}{2\sqrt{D_E T}}\right) \right)$$

where

$$D_E = \frac{D_G H + D_L}{\rho_b K_d + \theta_w + \theta_a H}$$

$$D_G = D_{air} \cdot \frac{\theta_a^{10/3}}{n^2}$$

$$D_L = D_{water} \cdot \frac{\theta_w^{10/3}}{n^2}$$

Derivation of this equation and definition of the equation parameters can be found in the Jury et al. 1983 journal article and in USEPA guidance (1996), and therefore, are not repeated here. The use of the Jury model to calculate J_v is discussed in Section 2.4.1 of the USEPA's *Soil Screening Guidance* (USEPA 1996). Also, as discussed in USEPA's *Soil Screening Guidance*, the Jury model is the model used to calculate the volatilization factor (VF) referenced in USEPA

guidance. The calculation of J_v was performed using values for chemical-specific parameters and default soil parameters recommended in the USEPA guidance (2004a), using a soil type of sand. The calculation of J_v is shown in Attachment E3.

Emission of respirable soil particulates (PM_{10}) for industrial worker exposures to outdoor soil are calculated using the PEF listed in Chapter 720 of WDNR's proposed guidance on soil cleanup standards (WDNR 2012) of $1.36 \times 10^9 \text{ m}^3/\text{kg}$. This PEF is identical to the PEF calculated in Section 2.4.5 of the *USEPA Soil Screening Guidance Technical Background Document* (USEPA 1996). The PEF calculation includes at Q/C value of 90.8 ($\text{g}/\text{m}^2\text{-s}$ per kg/m^3) that is calculated using the correlation coefficients for Minneapolis, Minnesota and a half acre source area.

The air dispersion for industrial workers is the inverse of the Q/C value of 90.8 ($\text{g}/\text{m}^2\text{-s}$ per kg/m^3), which is used by WDNR to calculate the PEF, as discussed above, for dust emission.

The unit risk calculations are shown in Attachment E3. The computation of the upper-bound site-related single-chemical cancer risk and noncancer HQ estimates for on-site locations, which were summed to estimate the media-specific cumulative cancer risk and noncancer HI, are shown in Attachment E7.

Screening levels were developed to support the evaluation of the spatial distribution of potentially significant concentrations at the Site which may have resulted from releases to the environment from the Site. These screening levels used include generic criteria from WDNR (e.g., NR 740 Indicators of Residual Petroleum Product in Soil Pores Criteria) and site-specific risk-based criteria (RBC) developed with consideration for current and reasonable future exposure scenarios relevant to the Site. The site-specific RBCs were calculated using the same exposure factors and methodologies as discussed for the unit risk estimates above.

The RBC associated with potential exposure via ingestion and dermal contact are calculated, as follows:

$$RBC_{ca} = \frac{TR}{LADD * SF}$$

$$RBC_{nc} = \frac{THQ \cdot RfD}{ADD *}$$

where TR is the target cancer risk (10^{-6}), THQ is the target hazard quotient (0.1), $LADD^*$ is the lifetime average daily dose normalized to a unit concentration, ADD^* is the average daily dose normalized to a unit concentrations, SF is the cancer slope factor, and RfD is the noncancer reference dose.

For the inhalation route, the *RBC* associated with potential inhalation exposure is calculated as follows:

$$RBC_{ca} = \frac{TR \cdot AT_c}{URF \cdot ET \cdot EF \cdot ED} (J \cdot C / Q)^{-1}$$

$$RBC_{nc} = \frac{THQ \cdot RfC \cdot AT_{nc}}{ET \cdot EF \cdot ED} (J \cdot C / Q)^{-1}$$

where *ET* is the exposure time, *URF* is the unit risk factor, and the product *J·C/Q* is an air concentration that is normalized to unit concentration in soil.

The *RBC* calculations are shown in Attachment E3.

E6.2 Soil Volatilization into Indoor Air

For the vapor intrusion exposure pathway, estimates of cancer risk and noncancer HQ are calculated as follows:

$$Risk = C_{building} \cdot URF \cdot \frac{ET \cdot EF \cdot ED}{AT_c}$$

$$HQ = \frac{C_{building}}{RfC} \cdot \frac{ET \cdot EF \cdot ED}{AT_{nc}}$$

where *C_{building}* is concentration in indoor air and *ET* is exposure time. For assessing industrial worker exposures, chronic *RfCs* were used. The indoor air concentration is based on the modeling approach and input parameter values discussed below.

The indoor air concentrations are estimated using the following relationships described by Johnson and Ettinger (1991):

$$C_{building} = \alpha C_{source}$$

where *C_{building}* is the indoor air concentration, *α* is an attenuation coefficient, and *C_{source}* is the source vapor concentration that is given by the following equation:

$$C_{source} = C_{soil} \left(\frac{K_d}{H} + \frac{\theta_w}{\rho_b H} + \frac{\theta_a}{\rho_b} \right)^{-1}$$

where *K_d* is the equilibrium-partitioning coefficient, *H* is the Henry's law constant, *θ_w* is the water-filled soil porosity, *ρ_b* is the soil bulk density, and *θ_a* is the air-filled soil porosity. For this risk assessment, the Henry's law constant is adjusted to a subsurface temperature of 10°C, which is

the approximate average groundwater temperature of Janesville, Wisconsin (USEPA 2004a, Figure 8).

An conservative generic attenuation coefficient of 0.01 for estimating indoor air concentrations from sub-slab soil gas was used to calculate conservative vapor intrusion risk estimates. Per WDNR guidance (December 2010), this conservative generic attenuation factor can be used for vapor intrusion screening assessments of large commercial/industrial buildings.

The unit risk calculations, and the computation of the upper-bound site-related single-chemical cancer risk and noncancer HQ estimates for on-site locations, which were summed to estimate the media-specific cumulative cancer risk and noncancer HI, are shown in Attachment E7.

These calculations included a mass balance check to ensure that the assumed mass of a chemical infiltrating into the building over the assumed exposure period does not exceed an upper-bound estimate of the chemical's mass in the vadose zone underlying the building. The upper-bound estimate of the constituent's mass in the vadose zone was conservatively estimated using a 21.3 ft contaminant thickness, which is the depth from the bottom of the slab to the maximum depth of the contamination observed in the soil borings (i.e. higher PID readings). The attenuation coefficient α_{ML} used in the mass balance check is given by the following equation:

$$\alpha_{ML} = \left(\frac{\rho_b \cdot K_d}{H} + \frac{\theta_w}{H} + \theta_a \right) \cdot \left(\frac{A_B \cdot \Delta H}{Q_{building} \cdot ED} \right)$$

where A_B is the area of the building footprint, ΔH is the contaminant thickness, and $Q_{building}$ is the air flow rate through the building. These parameters are shown in Attachment E3.

The unit risk calculations are shown in Attachment E3. The computation of the site-related single-chemical cancer risk and noncancer HQ estimates for on-site locations, which were summed to estimate the media-specific cumulative cancer risk and noncancer HI, are shown in Attachment E7.

As discussed in Section E6.1, site-specific vapor intrusion RBC were one of the site-specific screening levels used to evaluate the data. These site-specific RBCs were calculated using the same exposure factors, building parameters, and methodology as discussed for the unit risk estimates above.

$$RBC_{ca} = \frac{TR \cdot AT_c \cdot \left(\frac{K_d}{H} + \frac{\theta_w}{\rho_b H} + \frac{\theta_a}{\rho_b} \right)}{\alpha \cdot RF \cdot ET \cdot EF \cdot ED}$$

$$RBC_{nc} = \frac{THQ \cdot RfC \cdot AT_c \cdot \left(\frac{K_d}{H} + \frac{\theta_w}{\rho_b H} + \frac{\theta_a}{\rho_b} \right)}{\alpha \cdot ET \cdot EF \cdot ED}$$

where TR is the target cancer risk (10^{-6}), THQ is the target hazard quotient (0.1), K_d is the equilibrium-partitioning coefficient, H is the Henry's law constant (which is adjusted to subsurface temperature of 10 °C), θ_w is the water-filled soil porosity, ρ_b is the soil bulk density, θ_a is the air-filled soil porosity, and α is an attenuation coefficient.

The RBC calculations are shown in Attachment E3.

E7 Maintenance Workers

The computation of risk estimates for maintenance worker exposure to on-site soil via incidental ingestion, dermal contact, and inhalation of vapors and particulates is analogous to the computations discussed in Section E6.1 for industrial workers, except the soil exposure factors for maintenance workers are used, as presented in Attachment E1, and the airborne dust concentrations are estimated as discussed below.

The air concentration of respirable soil particulates during maintenance activities is conservatively set at 50 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$). The PM_{10} level of $50 \text{ ug}/\text{m}^3$ is based on a time-weighted average assuming maintenance workers spend 1/3 of their exposure period excavating into the subsurface and 2/3 of their exposure period conducting maintenance activities that do not involve excavation into the subsurface. In calculating the time-weighted average, the 24-hour average NAAQS for PM_{10} of $150 \text{ ug}/\text{m}^3$ was used as the PM_{10} concentration during excavations and a PM_{10} concentration of $1 \text{ ug}/\text{m}^3$ was used for the time during maintenance activities that do not involve excavation. The PM_{10} concentration during non-excavation maintenance activities is expected to be less than $1 \text{ ug}/\text{m}^3$, based on the wind erosion model recommended by USEPA (1996).

The unit risk calculations are shown in Attachment E4. The computation of the upper-bound site-related single-chemical cancer risk and noncancer HQ estimates for on-site locations, which were summed to estimate the media-specific cumulative cancer risk and noncancer HI, are shown in Attachment E7.

The computation of RBC for maintenance worker exposure to on-site soil via incidental ingestion, dermal contact, and inhalation of vapors and particulates is analogous to the computations discussed in Section E6.1 for industrial workers, except the soil exposure factors for maintenance workers are used, as presented in Attachment E1, and the airborne dust concentrations are estimated as discussed above. The RBC calculations are shown in Attachment E4.

E8 Construction Workers

The computation of risk estimates for construction worker exposure to on-site soil via incidental ingestion, dermal contact, and inhalation of vapors and particulates is analogous to the computations discussed in Section E6.1 for industrial workers, except the soil exposure factors for construction workers are used, as presented in Attachment E1, subchronic noncancer toxicity values are used instead of chronic values, and the airborne dust concentrations are estimated as discussed below.

The PM₁₀ level for construction activities is set at 50 ug/m³, which is the former annual average NAAQS for PM₁₀, since construction workers are assumed to be performing excavations for a work year. It is conservatively assumed that the PM₁₀ concentration would be at this limit every day for the entire period of construction worker exposure.

The unit risk calculations are shown in Attachment E5. The computation of the upper-bound site-specific single-chemical cancer risk and noncancer HQ estimates for on-site locations, which were summed to estimate the media-specific cumulative cancer risk and noncancer HI, are shown in Attachment E7.

The computation of RBC for construction worker exposure to on-site soil via incidental ingestion, dermal contact, and inhalation of vapors and particulates is analogous to the computations discussed in Section E6.1 for industrial workers, except the soil exposure factors for construction workers are used, as presented in Attachment E1, and the airborne dust concentrations are estimated as discussed above. The RBC calculations are shown in Attachment E5.

E9 Trespassers

Trespasser exposures to soil in this risk assessment are indirectly and conservatively evaluated using exposure estimates for industrial workers for on-site exposures to outdoor soil and groundwater. The estimation of industrial workers' exposures is discussed in Section E6.1. Use of an indirect evaluation streamlines the risk assessment and is conservative because trespasser exposures, including use of USEPA recommended use of age-dependent adjustment factors (ADAFs), would be much lower than industrial worker exposures to these media as shown in the comparison of intakes in Attachment E1.

E10 Off-Site Nonindustrial Receptor

The computation of risk estimates for residential exposure to on-site soil via inhalation of vapors and particulates during outdoor activities is analogous to the computations discussed in Section E6.1 for industrial workers, except the exposure factors for residents are used, as presented in Attachment E1.

For carcinogens with a mutagenic mode of action for which USEPA guidance (USEPA 2005) recommends the use of age-dependent adjustment factors (ADAFs), cancer risk estimates for exposures from 0 to 2 years of age and from 2 to 16 years of age are multiplied by the USEPA-recommended ADAFs before summation, as follows:

$$Inhalation\ Risk = C_{air} \cdot URF \cdot \left(\frac{ET \cdot ED_{0-2} \cdot EF}{AT_c} \cdot ADAF_{0-2} + \frac{ET \cdot ED_{2-6} \cdot EF}{AT_c} \cdot ADAF_{2-16} + \frac{ET \cdot ED_{6-16} \cdot EF}{AT_c} \cdot ADAF_{2-16} + \frac{ET \cdot ED_{16-30} \cdot EF}{AT_c} \right)$$

where IR, ED, BW, SA and AF are the values for identified age-groups (Attachment E1); $ADAF_{0-2}$ is 10; and $ADAF_{2-16}$ is 3 (USEPA 2005).

The unit risk calculations are shown in Attachment E6. The computation of the upper-bound site-related single-chemical cancer risk and noncancer HQ estimates for on-sites locations, which were summed to estimate the media-specific cumulative cancer risk and noncancer HI, are shown in Attachment E7.

E11References

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Attachment E1

Toxicity Values, Physical and Chemical Properties, and High-End Exposure Factors

Contents

- Toxicity Values
- Physical and Chemical Properties
- Physical and Chemical Information - Temperature-Adjusted Henry's Law Constant
- High-End Exposure Factors
- High-End Exposure Factors Comparison
- General Assumptions to Support Human Health Risk Calculations

Attachment E1: Toxicity Values
GM Janesville Haul Away Yard, Janesville, Wisconsin

Chem Group	Chemical	CASRN	Cancer Classification			ADAF		SF _{oral} (mg/kg/d) ⁻¹			SF _{dermal} (mg/kg/d) ⁻¹			URF (mg/m ³) ⁻¹			RfD _{oral} (mg/kg/d)				RfD _{dermal} (mg/kg/d)				RfC (mg/m ³)				SRfD _{oral} (mg/kg/d)				SRfD _{dermal} (mg/kg/d)				SRfC (mg/m ³)				
			Group	Ref	Note	Y/N	f _{oral}	f _{inh}	Value	Ref	Notes	Value	Ref	Notes	Value	Ref	Notes	Value	UF	Ref	Notes	Value	UF	Ref	Notes	Value	UF	Ref	Notes	Value	UF	Ref	Notes	Value	UF	Ref	Notes				
VOC	Benzene	71-43-2	A	1		N			5.5E-02	1	68	5.5E-02	125	104	7.8E-03	1	60	4.0E-03	300	1		4.0E-03	300	125	104	3.0E-02	300	1		1.0E-02	100	126		1.0E-02	100	125	104	9.0E-02	100	1	110
VOC	2-Butanone	78-93-3	ID	1		N												6.0E-01	1,000	1		6.0E-01	1,000	125	104	5.0E+00	300	1		2.0E+00	1,000	2		2.0E+00	1000	125	104	5.0E+00	300	1	62
VOC	Carbon Disulfide	75-15-0				N												1.0E-01	100	1		1.0E-01	100	125	104	7.0E-01	30	1		1.0E-01	100	2	2	1.0E-01	100	125	104	7.0E-01	30	2	2
VOC	Carbon Tetrachloride	56-23-5	LC	1		N			7.0E-02	1		7.0E-02	125	104	6.0E-03	1		4.0E-03	1,000	1		4.0E-03	1,000	125	104	1.0E-01	100	1		1.0E-02	300	1	110	1.0E-02	300	125	104	1.9E-01	30	129	111
VOC	Chloroform	67-66-3	B2	1		N			1.9E-02	135		1.9E-02	125	104	2.3E-02	1		1.0E-02	1,000	1		1.0E-02	1,000	125	104	5.0E-02	100	117		1.0E-01	100	129	111	1.0E-01	100	125	104	5.0E-02	100	117	
VOC	Cumene	98-82-8	D	1		N												1.0E-01	1,000	1		1.0E-01	1,000	125	104	4.0E-01	1,000	1		4.0E-01	300	2		4.0E-01	300	125	104	4.0E-01	1,000	1	62
VOC	Dichlorodifluoromethane	75-71-8				N												2.0E-01	100	1		2.0E-01	100	125	104	2.0E-01	10,000	2		9.0E-01	100	2		9.0E-01	100	125	104	2.0E+00	1,000	2	
VOC	Ethyl Benzene	100-41-4	D	1		N												1.0E-01	1,000	1		1.0E-01	1,000	125	104	1.0E+00	300	1		1.0E-01	1,000	1	62	1.0E-01	1000	125	104	9.0E+00	100	126	
VOC	Methyl Acetate	79-20-9				N												1.0E+00	1,000	2		1.0E+00	1,000	125	104					1.0E+01	100	2		1.0E+01	100	125	104				
VOC	Methylcyclohexane	108-87-2				N																			3.0E+00	100	2											3.0E+00	100	2	
VOC	Toluene	108-88-3	ID	1		N												8.0E-02	3,000	1		8.0E-02	3,000	125	104	5.0E+00	10	1		8.0E-01	300	1	110	8.0E-01	300	125	104	5.0E+00	10	126	
VOC	1,2,4-Trichlorobenzene	120-82-1	LC	126		N			2.9E-02	126		2.9E-02	125	104				1.0E-02	1,000	1		1.0E-02	1,000	125	104	2.0E-03	3,000	126		9.0E-02	100	126		9.0E-02	100	125	104	2.0E-02	300	126	
VOC	Trichloroethene	79-01-6	HC	1		Y	0.202	0.244	4.6E-02	1		4.6E-02	125	104	4.1E-03	1		5.0E-04	1,000	1		5.0E-04	1,000	125	104	2.0E-03	100	1		5.0E-04	1,000	1	62	5.0E-04	1000	125	104	5.4E-01	300	129	111
VOC	1,2,4-Trimethylbenzene	95-63-6	ID	126		N														126		90		125	104	7.0E-03	3,000	126			126		90		125	104	7.0E-02	300	126	118	
VOC	1,3,5-Trimethylbenzene	108-67-8	ID	126		N												1.0E-02	10,000	126	114	1.0E-02	10,000	125	104	6.0E-03	3,000	126	143	1.0E-01	1,000	126	114	1.0E-01	1000	125	104	1.0E-02	3,000	126	
VOC	Xylenes (total)	1330-20-7	ID	1		N												2.0E-01	1,000	1		2.0E-01	1,000	125	104	1.0E-01	300	1		2.0E-01	1,000	1	110	2.0E-01	1000	125	104	3.0E-01	100	1	110
SVOC	Acenaphthene	83-32-9	ID	126		N				126	90		125	104		126	90	6.0E-02	3,000	1		6.0E-02	3,000	125	104			126	90	2.0E-01	1,000	126		2.0E-01	1000	125	104		126	90	
SVOC	Anthracene	120-12-7	ID	1		N												3.0E-01	3,000	1		3.0E-01	3,000	125	104			2	90	1.0E+00	1,000	126		1.0E+00	1000	125	104		2	90, 62	
SVOC	Biphenyl	92-52-4	SC	126		N			8.0E-03	126	114	8.0E-03	125	104				5.0E-02	1,000	1		5.0E-02	1,000	125	104	4.0E-03	300	126	6, 157, 1	1.0E-01	100	126		1.0E-01	100	125	104	4.0E-03	300	126	114
SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	B2	1		N			1.4E-02	1		1.4E-02	125	104				2.0E-02	1,000	1		2.0E-02	1,000	125	104					1.0E-01	100	129	111	1.0E-01	100	125	104				
SVOC	Dibenzofuran	132-64-9	D	1		N												1.0E-03	10,000	126	114	1.0E-03	10,000	125	104			126	90	4.0E-03	3,000	126		4.0E-03	3000	125	104		126	90	
SVOC	Di-n-butylphthalate	84-74-2	D	1		N												1.0E-01	1,000	1	6	1.0E-01	1,000	125	104			1	90	1.0E+00	100	2		1.0E+00	100	125	104		1	90, 62	
SVOC	Fluorene	86-73-7	D	1		N												4.0E-02	3,000	1		4.0E-02	3,000	125	104					4.0E-01	300	129	111	4.0E-01	300	125	104				
SVOC	2-Methylnaphthalene	91-57-6	ID	126		N												4.0E-03	1,000	1		4.0E-03	1,000	125	104			126	90	4.0E-03	1,000	126		4.0E-03	1000	125	104		126	90, 62	
SVOC	Naphthalene	91-20-3	C	1		N									3.4E-02	135		2.0E-02	3,000	1		2.0E-02	3,000	125	104	3.0E-03	3,000	1		2.0E-01	300	1	110	2.0E-01	300	125	104	3.0E-03	3,000	1	62
SVOC	Phenanthrene	85-01-8	D	1		N												0.03	3000	1	20	3.0E-02	3,000	125	104					0.3	300	126	20	3.0E-01	300	125	104				
SVOC	Pyrene	129-00-0	NC	126		N												3.0E-02	3,000	1		3.0E-02	3,000	125	104					3.0E-01	300	126		3.0E-01	300	125	104				
INORG	Arsenic	7440-38-2	A	1		N			1.5E+00	1		1.5E+00	125	104	4.3E+00	1		3.0E-04	3	1		3.0E-04	3	125	104	1.5E-05		131		5.0E-03	10	100		5.0E-03	10	125	104	1.5E-05		131	62
INORG	Barium	7440-39-3	NC	1		N												2.0E-01	300	1		1.4E-02	300	125	104			1	90	2.0E-01	100	129	111	1.4E-02	100	125	104		1	90, 62	
INORG	Cadmium	7440-43-9	B1	1		N									1.8E+00	1		1.0E-03	10	1	95	2.5E-05	10	125	104	1.0E-05	9	129	111	1.0E-03	10	1	95, 62	2.5E-05	10	125	104	9.0E-04		122	102
INORG	Chromium (total)	7440-47-3				N			5.0E-01	141	8	2.0E+01	125	104	1.2E+01	1	8	3.0E-03	900	1	8	7.5E-05	900	125	104	1.0E-04	300	1	59, 8	5.0E-03	100	129	111, 8	1.3E-04	100	125	104	1.0E-03	30	1	110, 8
INORG	Lead	7439-92-1	B2	1		N																																			
INORG	Mercury	7439-97-6	D	1		N												3.0E-04	1,000	1	51	2.1E-05	1,000	125	104	3.0E-04	30	1		3.0E-03	100	1	110, 51	2.1E-04	100	125	104	3.0E-04	30	2	
INORG	Selenium	7782-49-2	D	1		N												5.0E-03	3	1		5.0E-03	3	125	104	2.0E-02		131		5.0E-03	3	2	2	5.0E-03	3	125	104	2.0E-02		131	62
INORG	Silver	7440-22-4	D	1		N												5.0E-03	3	1		2.0E-04	3	125	104	1.0E-05	1,000	83		5.0E-03	3	2	2	2.0E-04	3	125	104	1.0E-05	1,000	83	62

Attachment E1: Toxicity Values
GM Janesville Haul Away Yard, Janesville, Wisconsin

References:

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83	USEPA. NCEA. 1994. Risk Assessment Issue Paper for: Derivation of a Provisional RfC for Silver [CASRN 7440-22-4]. June 30.
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117	USEPA. NCEA. 2003. Risk Assessment Issue Paper for: Derivation of Provisional Subchronic and Chronic RfCs for Chloroform [CASRN 67-66-3]. January 23.
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125	USEPA. 2004. Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment) Final. July.
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129	ATSDR. 2010. Minimal Risk Levels. December.
131	CalEPA. ARB. 2009. Consolidated Table of OEHHA/ARB Approved Risk Assessment Health Values. February 9.
135	CalEPA. OEHHA. 2009. Technical Support Document for Cancer Potency Factors. Appendix H. May.
141	NJDEP. 2009. Derivation of Ingestion-Based Soil Remediation Criteria for Cr+6 Based on the NTP Chronic Bioassay Data for Sodium Dichromate Dihydrate. April.

Notes:

2	USEPA adopted chronic value as subchronic value.
6	Under review, according to IRIS.
8	ENVIRON used Chromium VI [CASRN 18540-29-9] value from the indicated reference as a surrogate.
20	ENVIRON used Pyrene [CASRN 129-00-0] value from the indicated reference as a surrogate.
51	ENVIRON used Mercuric Chloride [CASRN 7487-94-7] value from the indicated reference as a surrogate.
59	This RfC is for particulates. The RfC for chromic acid mists and dissolved Chromium VI aerosols is 0.000008 mg/m3.
60	IRIS provides a range of 2.2E-6 to 7.8E-6 (ug/m3)-1 as the inhalation URF for Benzene.
62	ENVIRON used chronic value as a surrogate for the subchronic value.
68	IRIS provides a range of 1.5E-2 to 5.5E-2 (mg/kg/d)-1 as the oral Slope Factor for Benzene.
90	Inadequate data exist to derive a toxicity value, according to the indicated reference.
95	This RfD is used to evaluate dietary exposures. A RfD of 0.0005 mg/kg/day is used to evaluate water ingestion exposures.
102	USEPA applied a dose equivalency factor of 4.5 to the chronic RfC to derive the subchronic RfC.
104	Dermal toxicity value is extrapolated from oral toxicity value in accordance with the referenced USEPA guidance.
110	The value is based on discussion in the indicated reference regarding the principal study USEPA used in extrapolating from subchronic to chronic.
111	Value as published is an MRL in the indicated reference.
114	This PPRTV appendix value does not qualify as a source per USEPA's 3-tier source hierarchy in OSWER Dir. 9285.7-53. Per USEPA, PPRTV appendix values lack sufficient technical support and should not be used as a primary basis for site cleanup decisions.
116	ENVIRON used subchronic value as a surrogate for the chronic value.
118	Alternate subchronic RfC of 0.1 mg/m3 is also provided in the reference.
143	The most recent PPRTV paper for this chemical does not include a toxicity value for this route of exposure and exposure duration.
157	Inadequate data exist to derive a chronic toxicity value.

Attachment E1: Physical and Chemical Properties GM Janesville Haul Away Yard; Janesville, Wisconsin																																																					
Chem Group	Chemical	CASRN	MW (g/mole)			K _{ow} (unitless)			K _{oc} (L/kg)			K _d (L/kg)			H (unitless)			s (mg/L)			VP (mm Hg)			D _{air} (m ² /d)			D _{water} (m ² /d)			K _p (cm/hr)			ABS _d (unitless)			FA (unitless)			ΔH _{v,b} (cal/mol)			T _c (Kelvin)			T _b (Kelvin)			HENRY Ref Temp (°C)	VP Ref Temp (°C)				
			Value	Ref	Notes	Value	Ref	Notes	Value	Ref	Notes	Value	Ref	Notes	Value	Ref	Notes	Value	Ref	Notes	Value	Ref	Notes	Value	Ref	Notes	Value	Ref	Notes	Value	Ref	Notes	Value	Ref	Notes	Value	Ref	Notes	Value	Ref	Notes	Value	Ref	Notes									
VOC	Benzene	71-43-2	7.8E+01	50.1		1.3E+02	44		5.8E+01	44	111				2.3E-01	44		1.8E+03	44		9.5E+01	50.1	92	7.6E-01	44		8.5E-05	44		1.5E-02	44	115		62			1.0E+00	62		7.3E+03	44	118	5.6E+02	44	118	3.5E+02	44	118	2.5E+01	2.5E+01			
VOC	2-Butanone	78-93-3	7.2E+01	50.1		1.9E+00	69		2.0E+00	69	111				2.3E-03	50.1	92, 123	2.2E+05	50.2		9.5E+01	50.1	92	7.0E-01	69		8.5E-05	69		9.6E-04	69	115		62			1.0E+00	62		7.5E+03	70		5.4E+02	70		3.5E+02	70		2.0E+01	2.5E+01			
VOC	Carbon Disulfide	75-15-0	7.6E+01	50.1		1.0E+02	44		4.6E+01	44	111				1.2E+00	44		1.2E+03	44		3.6E+02	50.1	92	9.0E-01	44		8.6E-05	44		1.2E-02	44	115		62			1.0E+00	62		6.4E+03	44	118	5.5E+02	44	118	3.2E+02	44	118	2.5E+01	2.5E+01			
VOC	Carbon Tetrachloride	56-23-5	1.5E+02	50.1		5.4E+02	44		1.7E+02	44	111				1.3E+00	44		7.9E+02	44		1.2E+02	50.1	92	6.7E-01	44		7.6E-05	44		1.4E-02	44	115		62			1.0E+00	62		7.1E+03	44	118	5.6E+02	44	118	3.5E+02	44	118	2.5E+01	2.5E+01			
VOC	Chloroform	67-66-3	1.2E+02	50.1		8.3E+01	44		4.0E+01	44	111				1.5E-01	44		7.9E+03	44		2.0E+02	50.1	92	9.0E-01	44		8.6E-05	44		6.3E-03	44	115		62			1.0E+00	62		7.0E+03	44	118	5.4E+02	44	118	3.3E+02	44	118	2.5E+01	2.5E+01			
VOC	Cumene	98-82-8	1.2E+02	50.1		3.1E+03	69		7.1E+02	69	111				5.3E-01	69		6.1E+01	50.1	92	4.5E+00	50.1	92	5.6E-01	69		6.1E-05	69		6.8E-02	69	115		62			1.0E+00	62	114	1.0E+04	70		6.3E+02	70		4.3E+02	70		2.5E+01	2.5E+01			
VOC	Dichlorodifluoromethane	75-71-8	1.2E+02	50.1		1.4E+02	1		6.2E+01	1	111				1.4E+01	50.1	92, 123	2.8E+02	50.1	92	4.8E+03	50.1	92	6.9E-01	40		6.9E-05	40		8.9E-03	1	115		62			1.0E+00	62		9.4E+03	70		3.8E+02	70		2.4E+02	70		2.0E+01	2.5E+01			
VOC	Ethyl Benzene	100-41-4	1.1E+02	50.1		1.4E+03	44		3.7E+02	44	111				3.2E-01	44		1.7E+02	44		9.6E+00	50.1	92	6.5E-01	44		6.7E-05	44		4.8E-02	44	115		62			1.0E+00	62		8.5E+03	44	118	6.2E+02	44	118	4.1E+02	44	118	2.5E+01	2.5E+01			
VOC	Methyl Acetate	79-20-9	7.4E+01	55		1.5E+00	39		1.7E+00	39	111				3.7E-03	69		2.4E+05	39		2.2E+02	39		8.3E-01	69		9.5E-05	69		8.0E-04	39	115		62			1.0E+00	62	114	7.3E+03	70		5.1E+02	70		3.3E+02	70		2.5E+01	2.5E+01			
VOC	Methylcyclohexane	108-87-2	9.8E+01	55		9.2E+02	69		2.7E+02	69	111				1.8E+01	69		1.4E+01	69		4.3E+01	69		6.4E-01	69		7.4E-05	69		4.0E-02	69	115		62			1.0E+00	62	114	7.5E+03	70		5.7E+02	70		3.7E+02	70		2.5E+01	2.5E+01			
VOC	Toluene	108-88-3	9.2E+01	50.1		5.6E+02	44		1.8E+02	44	111				2.7E-01	44		5.3E+02	44		2.8E+01	50.1	92	7.5E-01	44		7.4E-05	44		3.2E-02	44	115		62			1.0E+00	62		7.9E+03	44	118	5.9E+02	44	118	3.8E+02	44	118	2.5E+01	2.5E+01			
VOC	1,2,4-Trichlorobenzene	120-82-1	1.8E+02	50.1		1.0E+04	44		1.8E+03	44	111				5.8E-02	44		3.0E+02	44		4.3E-01	50.1	92	2.6E-01	44		7.1E-05	44		6.8E-02	44	115		62			1.0E+00	62		1.0E+04	44	118	7.3E+02	44	118	4.9E+02	44	118	2.5E+01	2.5E+01			
VOC	Trichloroethene	79-01-6	1.3E+02	50.1		5.1E+02	44		1.7E+02	44	111				4.2E-01	44		1.1E+03	44		7.3E+01	50.1	92	6.8E-01	44		7.9E-05	44		1.8E-02	44	115		62			1.0E+00	62		7.5E+03	44	118	5.4E+02	44	118	3.6E+02	44	118	2.5E+01	2.5E+01			
VOC	1,2,4-Trimethylbenzene	95-63-6	1.2E+02	46		6.0E+03	39		1.2E+03	39	111				2.5E-01	69		5.7E+01	39		2.1E+00	39		5.2E-01	69		6.8E-05	69		1.1E-01	39	115		62			1.0E+00	62		9.4E+03	70		6.5E+02	70		4.4E+02	70		2.5E+01	2.5E+01			
VOC	1,3,5-Trimethylbenzene	108-67-8	1.2E+02	39		1.0E+04	69		1.8E+03	69	111				2.4E-01	69		4.8E+01	68		2.5E+00	68		5.2E-01	69		7.5E-05	69		1.5E-01	69	115		62			1.0E+00	62		9.3E+03	70		6.4E+02	70		4.4E+02	70		2.5E+01	2.5E+01			
VOC	Xylenes (total)	1330-20-7	1.1E+02	50.1		1.5E+03	44		3.9E+02	44	111				2.8E-01	44		1.7E+02	44		8.0E+00	50.1	92	6.7E-01	44		7.6E-05	44		5.0E-02	44	115		62			1.0E+00	62	114	8.6E+03	44	118	6.2E+02	44	118	4.1E+02	44	118	2.5E+01	2.5E+01			
SVOC	Acenaphthene	83-32-9	1.5E+02	1		8.3E+03	44		7.1E+03	44	82				6.4E-03	44		4.2E+00	44		2.5E-03	50.1	92	3.6E-01	44		6.6E-05	44		8.4E-02	44	115	1.3E-01	62			1.0E+00	62	117	1.2E+04	44	118	8.0E+02	44	118	5.5E+02	44	118	2.5E+01	2.5E+01			
SVOC	Anthracene	120-12-7	1.8E+02	50.1		3.5E+04	44		3.0E+04	44	82				2.7E-03	44		4.3E-02	44		2.7E-06	50.1	92	2.8E-01	44		6.7E-05	44		1.6E-01	44	115	1.3E-01	62			1.0E+00	62	117	1.3E+04	44	118	8.7E+02	44	118	6.2E+02	44	118	2.5E+01	2.5E+01			
SVOC	Biphenyl	92-52-4	1.5E+02	50.1		1.2E+04	39		1.0E+04	39	82				1.2E-02	50.1	92, 123	6.0E+00	50.1	93	9.6E-03	50.1	92	3.5E-01	69		7.0E-05	69		1.1E-01	39	115	1.0E-01	62			1.0E+00	62	117	1.1E+04	70		7.9E+02	70		5.3E+02	70		2.0E+01	2.5E+01			
SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	3.9E+02	50.1		2.0E+07	44		1.5E+07	44	82				4.2E-06	44		3.4E-01	44		6.5E-06	50.1	94	3.0E-01	44		3.2E-05	44		6.8E-01	44	115	1.0E-01	62			1.0E+00	62	117	1.6E+04	44	118	8.1E+02	44	118	6.6E+02	44	118	2.5E+01	2.5E+01			
SVOC	Dibenzofuran	132-64-9	1.7E+02	50.1		2.5E+04	69		2.1E+04	69	82				5.1E-04	50.1	92, 123	1.0E+01	50.1	93	1.8E-04	50.1	92	2.1E-01	69		5.2E-05	69		1.4E-01	69	115	1.0E-01	62			1.0E+00	62	117	6.6E+04	70		8.2E+02	70		5.6E+02	70		2.0E+01	2.5E+01			
SVOC	Di-n-butylphthalate	84-74-2	2.8E+02	50.1		4.1E+04	44		3.4E+04	44	82				3.9E-08	44		1.1E+01	44		7.3E-05	50.1	92	3.8E-01	44		6.8E-05	44		4.8E-02	44	115	1.0E-01	62			1.0E+00	62		9.0E-01	62		1.5E+04	44	118	8.0E+02	44	118	6.1E+02	44	118	2.5E+01	2.5E+01
SVOC	Fluorene	86-73-7	1.7E+02	50.1		1.6E+04	44		1.4E+04	44	82				2.6E-03	44		2.0E+00	44		6.3E-04	50.1	92	3.1E-01	44		6.8E-05	44		1.1E-01	44	115	1.3E-01	62			1.0E+00	62	117	1.3E+04	44	118	8.7E+02	44	118	5.7E+02	44	118	2.5E+01	2.5E+01			
SVOC	2-Methylnaphthalene	91-57-6	1.4E+02	50.1		7.2E+03	39		6.2E+03	39	82				2.1E-02	50.1	92, 123	2.5E+01	50.1	92	5.5E-02	50.1	92	4.5E-01	69		6.7E-05	69		8.9E-02	39	115	1.0E-01	62			1.0E+00	62	117	1.3E+04	70		7.6E+02	70		5.1E+02	70		2.0E+01	2.5E+01			
SVOC	Naphthalene	91-20-3	1.3E+02	50.1		2.3E+03	44		2.0E+03	44	82				2.0E-02	44		3.1E+01	44		8.5E-02	50.1	92	5.1E-01	44		6.5E-05	44		5.0E-02	44	115	1.3E-01	62			1.0E+00	62		1.0E+04	44	118											

**Attachment E1: Physical and Chemical Properties
GM Janesville Haul Away Yard; Janesville, Wisconsin**

References:

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39	CHEMFATE data base. Syracuse Research Corporation.
40	Research Triangle Institute, Center for Environmental Analysis. 1995. Supplemental Technical Support Document for Hazardous Waste Identification Rule: Risk Assessment for Human and Ecological Receptors--Volume 1, TABLE A-1. November 1995.
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55	W.G. Mallard and P.J. Linstrom, Eds., NIST Chemistry WebBook, NIST Standard Reference Database Number 69, March, 2003, National Institute of Standards and Technology, Gaithersburg MD, 20899
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67	USEPA. 1997. Mercury Study Report to Congress. EPA's Office of Air Quality Planning and Standards and Office of Research and Development. December.
68	PHYSPROP data base. Syracuse Research Corporation.
69	USEPA. 2004. WATER9. Version 2.0.0. Office of Air Quality Planning and Standards. July.
70	USEPA. 2003. User's Guide for Evaluating Subsurface Vapor Intrusion into Buildings. June 19.

Notes:

43	The value is associated with pH 6.8.
45	ENVIRON used the value for Chromium VI [CASRN 18540-29-9] presented in indicated reference as a surrogate.
48	Not Available or Not Applicable
61	Insoluble
82	ENVIRON used Equation (70) from Reference 44 to calculate Koc value using Log Kow value from indicated reference.
92	Indicated source cites CHEMFATE.
93	Indicated source cites FATE.
94	Indicated source cites LIVECHEM.
111	ENVIRON used Equation (71) from Reference 44 to calculate Koc value using Log Kow value from indicated reference.
114	A value of 1 is conservatively used because EPA guidance does not provide a default value.
115	ENVIRON calculated Kp value using equation 3.8 (p.3-7) in reference 62 with log Kow from the indicated reference and the MW presented in table.
117	ENVIRON derived the FA based on Exhibit A-4 in the indicated reference.
118	From the 2001 Fact Sheet, "Correcting the Henry's Law Constant for Soil Temperature".
123	Value has been assigned a default reference temperature.

Attachment E1: Physical and Chemical Information - Temperature-Adjusted Henry's Law Constant
GM Janesville Haul Away Yard; Janesville, Wisconsin

Chem Group	Chemical	CASRN	$\Delta H_{v,b}$ (cal/mol)	T _c (K)	T _b (K)	H Ref Temp (K)	Source H (unitless)	T _b /T _c Ratio	Exponent n	$\Delta H_{v,TS}$ (cal/mol)	Henry Extrapolation Multiplier	Adjusted H (unitless)
WQ	Ammonia	7664-41-7				293.15	1.31E-02					1.85E-03
WQ	Sulfate	14808-79-8										
VOC	Acetone	67-64-1	6.96E+03	5.08E+02	3.29E+02	298.15	1.59E-03	6.48E-01	3.63E-01	7.56E+03	5.36E-01	8.52E-04
VOC	Benzene	71-43-2	7.34E+03	5.62E+02	3.53E+02	298.15	2.28E-01	6.28E-01	3.49E-01	8.12E+03	5.09E-01	1.16E-01
VOC	Bromomethane	74-83-9	5.71E+03	4.67E+02	2.77E+02	298.15	2.56E-01	5.93E-01	3.22E-01	5.65E+03	6.35E-01	1.63E-01
VOC	2-Butanone	78-93-3	7.48E+03	5.37E+02	3.53E+02	293.15	2.28E-03	6.57E-01	3.70E-01	8.42E+03	6.21E-01	1.42E-03
VOC	n-Butylbenzene	104-51-8	9.29E+03	6.61E+02	4.56E+02	298.15	5.11E-01	6.91E-01	3.95E-01	1.18E+04	3.65E-01	1.87E-01
VOC	sec-Butylbenzene	135-98-8	8.87E+04	6.79E+02	4.47E+02	298.15	4.66E-01	6.58E-01	3.71E-01	1.08E+05	6.70E-05	3.12E-05
VOC	tert-Butylbenzene	98-06-6	8.98E+03	1.22E+03	4.42E+02	298.15	4.78E-01	3.62E-01	3.00E-01	9.50E+03	4.51E-01	2.15E-01
VOC	Carbon Disulfide	75-15-0	6.39E+03	5.52E+02	3.19E+02	298.15	1.24E+00	5.78E-01	3.12E-01	6.68E+03	5.79E-01	7.18E-01
VOC	Chloromethane	74-87-3	5.11E+03	4.16E+02	2.49E+02	293.15	3.60E-01	5.98E-01	3.27E-01	4.75E+03	7.76E-01	2.80E-01
VOC	Cumene	98-82-8	1.03E+04	6.31E+02	4.26E+02	298.15	5.32E-01	6.74E-01	3.83E-01	1.26E+04	3.40E-01	1.81E-01
VOC	Cyclohexane	110-82-7				293.15	7.97E+00					3.90E+00
VOC	p-Cymene	99-87-6				298.15	3.14E-01					1.54E-01
VOC	1,1-Dichloroethane	75-34-3	6.90E+03	5.23E+02	3.31E+02	298.15	2.30E-01	6.32E-01	3.52E-01	7.45E+03	5.41E-01	1.24E-01
VOC	cis-1,2-Dichloroethene	156-59-2	7.19E+03	5.44E+02	3.34E+02	298.15	1.67E-01	6.13E-01	3.38E-01	7.73E+03	5.27E-01	8.81E-02
VOC	Ethyl Benzene	100-41-4	8.50E+03	6.17E+02	4.09E+02	298.15	3.23E-01	6.63E-01	3.75E-01	1.02E+04	4.25E-01	1.37E-01
VOC	Ethylene Glycol	107-21-1			4.71E+02	293.15	2.45E-06					1.20E-06
VOC	Methyl tert-butyl ether	1634-04-4	6.68E+03	4.97E+02	3.28E+02	298.15	2.40E-02	6.60E-01	3.73E-01	7.29E+03	5.48E-01	1.32E-02
VOC	Methylcyclohexane	108-87-2	7.47E+03	5.72E+02	3.74E+02	298.15	1.76E+01	6.53E-01	3.68E-01	8.58E+03	4.89E-01	8.58E+00
VOC	Methylene Chloride	75-09-2	6.71E+03	5.10E+02	3.13E+02	298.15	8.98E-02	6.14E-01	3.38E-01	7.03E+03	5.61E-01	5.04E-02
VOC	Diisopropyl ether	108-20-3				298.15	8.34E-02					4.08E-02
VOC	n-Propylbenzene	103-65-1	9.12E+03	6.30E+02	4.32E+02	298.15	4.17E-01	6.86E-01	3.92E-01	1.14E+04	3.81E-01	1.59E-01
VOC	Ethane, tetrachloro-	25322-20-7				298.15	4.21E-02					2.06E-02
VOC	Tetrachloroethene	127-18-4	8.29E+03	6.20E+02	3.94E+02	298.15	7.54E-01	6.36E-01	3.55E-01	9.55E+03	4.48E-01	3.38E-01
VOC	Toluene	108-88-3	7.93E+03	5.92E+02	3.84E+02	298.15	2.72E-01	6.49E-01	3.64E-01	9.15E+03	4.64E-01	1.26E-01
VOC	1,1,1-Trichloroethane	71-55-6	7.14E+03	5.45E+02	3.47E+02	298.15	7.05E-01	6.37E-01	3.55E-01	7.88E+03	5.20E-01	3.67E-01
VOC	Trichloroethene	79-01-6	7.51E+03	5.44E+02	3.60E+02	298.15	4.22E-01	6.62E-01	3.74E-01	8.56E+03	4.90E-01	2.07E-01
VOC	1,2,4-Trimethylbenzene	95-63-6	9.37E+03	6.49E+02	4.42E+02	298.15	2.52E-01	6.81E-01	3.88E-01	1.17E+04	3.70E-01	9.32E-02
VOC	1,3,5-Trimethylbenzene	108-67-8	9.32E+03	6.37E+02	4.38E+02	298.15	2.40E-01	6.87E-01	3.92E-01	1.17E+04	3.71E-01	8.91E-02
VOC	Xylenes (total)	1330-20-7	8.57E+03	6.21E+02	4.14E+02	298.15	2.76E-01	6.66E-01	3.77E-01	1.03E+04	4.19E-01	1.16E-01
SVOC	Acenaphthene	83-32-9	1.22E+04	8.03E+02	5.51E+02	298.15	6.36E-03	6.85E-01	3.91E-01	1.61E+04	2.49E-01	1.58E-03
SVOC	Anthracene	120-12-7	1.31E+04	8.73E+02	6.15E+02	298.15	2.67E-03	7.05E-01	4.05E-01	1.84E+04	2.04E-01	5.45E-04
SVOC	Benzo(a)anthracene	56-55-3	1.60E+04	1.00E+03	7.08E+02	298.15	1.37E-04	7.05E-01	4.06E-01	2.29E+04	1.35E-01	1.85E-05
SVOC	Benzo(a)pyrene	50-32-8	1.90E+04	9.69E+02	7.16E+02	298.15	4.63E-05	7.39E-01	4.10E-01	2.86E+04	8.17E-02	3.78E-06
SVOC	Benzo(b)fluoranthene	205-99-2	1.70E+04	9.69E+02	7.16E+02	298.15	4.55E-03	7.39E-01	4.10E-01	2.56E+04	1.07E-01	4.87E-04
SVOC	Benzo(g,h,i)perylene	191-24-2				293.15	5.76E-06					8.17E-07
SVOC	Benzo(k)fluoranthene	207-08-9	1.80E+04	1.02E+03	7.53E+02	298.15	3.40E-05	7.39E-01	4.10E-01	2.73E+04	9.16E-02	3.12E-06
SVOC	Biphenyl	92-52-4	1.09E+04	7.89E+02	5.29E+02	293.15	1.23E-02	6.71E-01	3.80E-01	1.40E+04	4.42E-01	5.42E-03
SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	1.60E+04	8.06E+02	6.57E+02	298.15	4.18E-06	8.15E-01	4.10E-01	2.68E+04	9.61E-02	4.02E-07
SVOC	Butylbenzylphthalate	85-68-7	1.40E+04	8.40E+02	6.61E+02	298.15	5.17E-05	7.87E-01	4.10E-01	2.23E+04	1.44E-01	7.42E-06
SVOC	Chrysene	218-01-9	1.65E+04	9.79E+02	7.14E+02	298.15	3.88E-03	7.29E-01	4.10E-01	2.45E+04	1.18E-01	4.59E-04
SVOC	Dibenz(a,h)anthracene	53-70-3	3.00E+04	9.90E+02	7.43E+02	298.15	6.03E-07	7.50E-01	4.10E-01	4.62E+04	1.70E-02	1.02E-08
SVOC	Dibenzofuran	132-64-9	6.64E+04	8.24E+02	5.60E+02	293.15	5.15E-04	6.80E-01	3.87E-01	8.76E+04	5.10E-03	2.63E-06
SVOC	Di-n-butylphthalate	84-74-2	1.48E+04	7.99E+02	6.13E+02	298.15	3.85E-08	7.68E-01	4.10E-01	2.24E+04	1.42E-01	5.46E-09
SVOC	Fluoranthene	206-44-0	1.38E+04	9.05E+02	6.56E+02	298.15	6.60E-04	7.25E-01	4.10E-01	2.01E+04	1.74E-01	1.15E-04
SVOC	Fluorene	86-73-7	1.27E+04	8.70E+02	5.70E+02	298.15	2.61E-03	6.56E-01	3.69E-01	1.62E+04	2.47E-01	6.44E-04
SVOC	Indeno(1,2,3-cd)pyrene	193-39-5	1.90E+04	1.08E+03	8.09E+02	298.15	6.56E-05	7.50E-01	4.10E-01	2.96E+04	7.45E-02	4.89E-06
SVOC	2-Methylnaphthalene	91-57-6	1.26E+04	7.61E+02	5.14E+02	293.15	2.12E-02	6.76E-01	3.84E-01	1.62E+04	3.87E-01	8.19E-03
SVOC	Naphthalene	91-20-3	1.04E+04	7.48E+02	4.91E+02	298.15	1.98E-02	6.56E-01	3.70E-01	1.29E+04	3.32E-01	6.57E-03
SVOC	Phenanthrene	85-01-8				293.15	9.52E-04					1.35E-04
SVOC	Phenolics, Recoverable (total)	64743-03-9										
SVOC	Pyrene	129-00-0	1.44E+04	9.36E+02	6.68E+02	298.15	4.51E-04	0.713622	0.41	2.07E+04	1.65E-01	7.46E-05
OTHER	1-Methyl-2-isopropylbenzene	527-84-4										
INORG	Aluminum	7429-90-5										
INORG	Arsenic	7440-38-2										
INORG	Barium	7440-39-3										
INORG	Beryllium	7440-41-7										
INORG	Cadmium	7440-43-9										
INORG	Chromium (total)	7440-47-3										
INORG	Chromium III	16065-83-1										
INORG	Cobalt	7440-48-4										
INORG	Copper	7440-50-8										
INORG	Cyanide (total)	57-12-5				293.15	2.43E-03					3.44E-04
INORG	Iron	7439-89-6										
INORG	Lead	7439-92-1										
INORG	Manganese	7439-96-5										
INORG	Mercury	7439-97-6	1.41E+04	1.75E+03	6.30E+02	293.15	2.90E-01	0.359931	0.3	1.53E+04	4.09E-01	1.19E-01
INORG	Nickel	7440-02-0										
INORG	Nitrate	14797-55-8										
INORG	Selenium	7782-49-2										
INORG	Silver	7440-22-4										
INORG	Vanadium	7440-62-2										
INORG	Zinc	7440-66-6										
	Subsurface temperature:	10 °C										
	Subsurface temperature:	283.15 K										
	Gas constant	1.9872 cal/mol K										

Attachment E1: High-End Exposure Factors
GM Janesville Haul Away Yard, Janesville, Wisconsin

		Industrial Worker		Maintenance Worker		Construction Worker		Adolescent Trespasser (Age 6-16)		Off-Site Nonindustrial Receptor					
										Age 0-2	Age 2-6	Age 6-16	Age 16-30		
Soil Ingestion															
Ingestion Rate (mg/d)	IR	100	i	100	f	200	f	100	f						
Conversion Factor (kg/mg)	CF	1E-06		1E-06		1E-06		1E-06							
Exposure Frequency (d/yr)	EF	250	i, b	30	f	250	b	24	f						
Exposure Duration (yr)	ED	25	i, b	10	e	1	f	10	b						
Body Weight (kg-bw)	BW	70	i, a	70	a	70	a	39.4	h						
Averaging Time, carc (d)	AT _c	25,550	i, a	25,550	a	25,550	a	25,550	a						
Averaging Time, noncarc (d)	AT _{nc}	9,125	i, a	3,650	a	365	a	3,650	a						
ADAFs (unitless)		1	g	1	g	1	g	3	g						
Soil Dermal Contact															
Adherence Factor (mg/cm ²)	AD	0.2	i, c	0.2	c	0.2	c	0.2	c						
Skin Surface Area (cm ² /d)	SA	3,300	i, c	3,300	c	3,300	c	4,200	h						
Conversion Factor (kg/mg)	CF	1E-06		1E-06		1E-06		1E-06							
Exposure Frequency (d/yr)	EF	250	i, b	30	f	250	b	24	f						
Exposure Duration (yr)	ED	25	i, b	10	e	1	f	10	b						
Body Weight (kg-bw)	BW	70	a	70	a	70	a	39.4	h						
Averaging Time, carc (d)	AT _c	25,550	i, a	25,550	a	25,550	a	25,550	a						
Averaging Time, noncarc (d)	AT _{nc}	9,125	i, a	3,650	a	365	a	3,650	a						
ADAFs (unitless)		1	g	1	g	1	g	3	g						
Soil Outdoor Air Inhalation of Vapor and Particulates															
Exposure Time (h/d)	ET	8	i, d	8	d	8	d	2	d	24	24	24	24	i, d	
Exposure Frequency (d/yr)	EF	250	i, b	30	f	250	b	24	f	350	350	350	350	i, b	
Exposure Duration (yr)	ED	25	i, b	10	e	1	f	10	b	2	4	10	14	i, b	
Averaging Time, carc (h)	AT _c	613,200	i, a	613,200	a	613,200	a	613,200	a	613,200	613,200	613,200	613,200	i, a	
Averaging Time, noncarc (h)	AT _{nc}	219,000	i, a	87,600	a	8,760	a	87,600	a	52,560	52,560	NA	NA	i, a	
ADAFs (unitless)		1	g	1	g	1	g	3	g	10	3	3	1	g	
References:															
a. Risk Assessment Guidance for Superfund, Volume I: Human Health Evaluation Manual (Part A) Interim Final (EPA 1989).															
b. Standard default exposure factors. OSWER Directive 9285.6-03 (EPA 1991).															
c. Risk Assessment Guidance for Superfund, Volume I: Human Health Evaluation Manual: Part E, Supplemental Guidance for Dermal Risk Assessment, (EPA 2004).															
d. Risk Assessment Guidance for Superfund, Volume I: Human Health Evaluation Manual: Part F, Supplemental Guidance for Inhalation Risk Assessment (EPA 2009).															
e. The 90th to 95th percentile job tenure for workers in construction (Burmester 2000).															
f. Based on professional judgment and site-specific considerations discussed in the text.															
g. Supplemental Guidance for Assessing Susceptibility from Early-Life Exposure to Carcinogens (USEPA 2005).															
h. Exposure Factors Handbook (EPA 1997).															
i. WDNR Chapter NR 720 (Proposed) 2012															
NA - Per WDNR Chapter 720 (Proposed), noncancer risks estimates for nonindustrial receptors were calculated for a 0 to 6 year old child only.															

Attachment E1: High-End Exposure Factors Comparison GM Janesville Haul Away Yard, Janesville, Wisconsin					
		Industrial Worker		Adolescent Trespasser (6-16)	
Soil Ingestion					
Ingestion Rate (mg/d)	IR	100	i	100	f
Conversion Factor (kg/mg)	CF	1E-06		1E-06	
Exposure Frequency (d/yr)	EF	250	i, b	24	f
Exposure Duration (yr)	ED	25	i, b	10	b
Body Weight (kg-bw)	BW	70	i, a	39.4	h
Averaging Time, carc (d)	AT _c	25,550	i, a	25,550	a
Averaging Time, noncarc (d)	AT _{nc}	9,125	i, a	3,650	a
Intake, carc (kg-soil/kg-bw per d)		3.49E-07		2.38E-08	
Intake, noncarc (kg-soil/kg-bw per d)		9.78E-07		1.67E-07	
ADAFs (unitless)		1	g	3	g
Intake, carc with ADAFs (kg-soil/kg-bw per d)		3.49E-07		7.15E-08	
Soil Dermal Contact					
Adherence Factor (mg/cm ²)	AD	0.2	i, c	0.2	c
Skin Surface Area (cm ² /d)	SA	3,300	i, c	4,200	h
Conversion Factor (kg/mg)	CF	1E-06		1E-06	
Exposure Frequency (d/yr)	EF	250	i, b	24	f
Exposure Duration (yr)	ED	25	i, b	10	b
Body Weight (kg-bw)	BW	70	a	39.4	h
Averaging Time, carc (d)	AT _c	25,550	i, a	25,550	a
Averaging Time, noncarc (d)	AT _{nc}	9,125	i, a	3,650	a
Intake, carc (kg-soil/kg-bw per d)		2.31E-06		2.00E-07	
Intake, noncarc (kg-soil/kg-bw per d)		6.46E-06		1.40E-06	
ADAFs (unitless)		1	g	3	g
Intake, carc with ADAFs (kg-soil/kg-bw per d)		2.31E-06		6.01E-07	
Soil Outdoor Air Inhalation of Vapor and Particulates					
Exposure Time (h/d)	ET	8	i, d	2	d
Exposure Frequency (d/yr)	EF	250	i, b	24	f
Exposure Duration (yr)	ED	25	i, b	10	b
Averaging Time, carc (h)	AT _c	613,200	i, a	613,200	a
Averaging Time, noncarc (h)	AT _{nc}	219,000	i, a	87,600	a
EC*, carc (unitless)		8.15E-02		7.83E-04	
EC*, noncarc (unitless)		2.28E-01		5.48E-03	
ADAFs (unitless)		1	g	3	g
EC*, carc with ADAFs (unitless)		8.15E-02		2.35E-03	
References:					
a. Risk Assessment Guidance for Superfund, Volume I: Human Health Evaluation Manual (Part A) Interim Final (EPA 1989).					
b. Standard default exposure factors. OSWER Directive 9285.6-03 (EPA 1991).					
c. Risk Assessment Guidance for Superfund, Volume I: Human Health Evaluation Manual: Part E, Supplemental Guidance for Dermal Risk Assessment, (EPA 2004).					
d. Risk Assessment Guidance for Superfund, Volume I: Human Health Evaluation Manual: Part F, Supplemental Guidance for Inhalation Risk Assessment (EPA 2009).					
e. The 90th to 95th percentile job tenure for workers in construction (Burmaster 2000).					
f. Based on professional judgment and site-specific considerations discussed in the text.					
g. Supplemental Guidance for Assessing Susceptibility from Early-Life Exposure to Carcinogens (USEPA 2005).					
h. Exposure Factors Handbook (EPA 1997).					
i. WDNR Chapter NR 720 (Proposed) 2012					
EC* - Normalized exposure concentration					

Attachment E1: General Assumptions to Support Derivation of Risk-Based Screening Levels and Human Health Risk Calculations			
Parameter	Value	Units	Source/Basis
PM ₁₀ concentration in excavations	50	ug/m ³	Conservatively assumed former annual National Ambient Air Quality Standard for PM ₁₀
Particulate emissions factor	1.36E+09	m ³ /kg	⁶ For industrial workers and nonindustrial receptors per WDNR (2012).
Soil emission area	80	acres	Conservatively assumed based on the operational area at the Site
Dispersion parameter A	16.2302	dimensionless	³ Exhibit D-2 from USEPA 2002. Values for Minneapolis, MN (city used by WDNR in determining PEF (WDNR 2012)
Dispersion parameter B	18.7762	dimensionless	
Dispersion parameter C	216.108	dimensionless	
Subsurface temperature	10	°C	² Approximate annual average groundwater temperature for Wisconsin
Soil bulk density	1.66	kg/L	² Soil parameters for sand.
Soil total porosity	0.375	dimensionless	
Soil residual saturation	0.053	dimensionless	
Soil van Genuchten α parameter	0.0352	1/cm	
Soil van Genuchten N parameter	3.177	dimensionless	
Soil hydraulic conductivity	7.44E-03	cm/s	
Fraction organic carbon	0.002	dimensionless	Assumed value for sand
Thickness of contaminated soil	21.38	ft	Conservatively assumed based on depth to contamination observed in soil borings.
Crack soil total porosity	0.375	dimensionless	² Conservatively assumed sand parameters based on professional judgment
Crack soil residual saturation	0.053	dimensionless	
Crack soil van Genuchten α parameter	0.0352	1/cm	
Crack soil van Genuchten N parameter	3.177	dimensionless	
Crack soil hydraulic conductivity	7.44E-03	cm/s	
Intrinsic permeability	9.9E-08	cm ²	
Industrial Building Parameters (Slab on Grade)			
Generic default soil gas-indoor air attenuation factor	0.01	dimensionless	⁵ Per WDNR (2010)
Distance from groundwater to foundation	6.50	m	Equal to maximum depth to the water table minus occupied depth below ground minus building foundation thickness
Building foundation thickness	0.15	m	⁴ Conservatively assumed nonresidential default building dimensions from MDEQ (1998)
Building foundation length	19.29	m	
Building foundation width	19.29	m	
Building occupied height	2.44	m	
Occupied depth below ground	0	m	
Air exchange rate	2	1/hr	Conservatively assumed 2/hr as long-term air exchange rate for commercial/industrial buildings
Crack radius	0.0005	m	⁴ Per MDEQ (1998)
Indoor-outdoor pressure difference	1	kg/s ² m	Conservatively assumed long-term pressure differential for commercial/industrial buildings
References:			
1. National Oceanic and Atmospheric Administration (NOAA). 2010. Comparative Climatic Data for the United States Through 2010.			
2. United States Environmental Protection Agency (USEPA). 2004. Office of Emergency and Remedial Response. User's Guide for Evaluating Subsurface Vapor Intrusion into Buildings. Washington, DC. February.			
3. United States Environmental Protection Agency (USEPA). 2002. Office of Solid Waste and Emergency Response (OSWER). Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites. Washington, DC. OSWER Directive 9355.4-24. December.			
4. Michigan Department of Environmental Quality (MDEQ). 1998. Part 201 Generic Groundwater and Soil Volatilization to Indoor Air Inhalation Criteria: Technical Support Document			
5. Wisconsin Department of Natural Resources (WDNR). 2010. Addressing Vapor Intrusion at Remediation & Redevelopment Sites in Wisconsin. PUB-RR-800. December.			
6 Wisconsin Department of Natural Resources (WDNR). 2012. NR 720 Proposed Soil Cleanup Standards.			

Attachment E2

Soil Background Concentrations and Risks

Contents

- Calculation of Wisconsin Background Concentrations for Metals in Soil
- Upper-Bound Media-Specific Cumulative Cancer Risk and HI Estimates for Outdoor Exposure to Background Metals in Soil

Attachment E2: Calculation of Wisconsin Background Concentrations for Metals in Soil GM Janesville Haul Away Yard, Janesville, Wisconsin												
	As	Ba	Be	Cr	Co	Cu	Hg	Ni	Se	V	Zn	
	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
	1.6	200	0.5 U	15	1.5 U	3	0.05	5	0.050 U	20	25	
	2.8	300	0.5 U	7	7	20	0.06	7	0.249	10	20	
	3.8	500	3.0	30	10	7	0.06	15	0.399	70	75	
	8.8	700	1.0	50	10	7	0.14	15	0.296	20	50	
	3.6	700	2.0	70	10	10	0.46	15	0.262	50	50	
	1.4	300	3.0	10	15	50	0.07	1.5 U	0.431	15	25	
	6.8	1000	2.0	100	15	5	0.07	20	0.314	100	50	
	10.0	700	3.0	70	7	20	0.43	50	0.961	70	180	
	3.3	300	3.0	20	10	15	0.58	7	0.396	20	50	
	2.0	500	3.0	20	10	10	0.05	5	0.318	50	25	
	5.1	700	3.0	100	5	10	0.10	20	0.344	100	50	
	9.6	700	0.5 U	70	7	5	0.15	15	0.607	50	50	
	4.4	200	0.5 U	15	5	7	0.07	5	0.050 U	15	25	
	8.1	500	3.0	50	5	5	0.22	15	0.568	30	50	
	4.7	700		50	7	7	0.16	15	0.274	50	50	
	2.6	500		50	5	15	0.05	7	0.330	100	50	
	2.5	500		70	7	7	0.10	10	0.511	70	25	
	1.5	700		20	7	20	0.04	5	0.050 U	50	25	
	1.6	150		10	5	10	0.29	2.5 U	0.549	15	25	
	2.6	700		30	5	7	0.10	7	0.305	30	25	
	2.8	500		30		5	0.22	7	0.219	50	25	
	1.8	500		30			0.02	15	0.165	70	39	
Count	26	27	14	27	20	21	27	27	27	27	27	
Minimum	1.4	150	0.5	7	1.5	3	0.02	1.5	0.050	10	20	
Mean	4.4	542.6	2	40.3	7.7	11.7	0.2	13.5	0.340	47.6	44.3	
Median	3.3	500	2.5	30	7	7	0.1	10	0.318	50	50	
Maximum	10	1000	3	100	15	50	0.58	50	0.961	100	180	
Standard Deviation	2.8	202.2	1.1	26.3	3.4	10.2	0.1	11.9	0.205	27.0	30.6	
95% UCL on the mean	5.4	600	2.4	49.1	9.0	17.0	0.20	18.4	0.414	56.9	59.0	
Normal distribution?	N	N	N	N	N	N	N	N	Y	N	N	
Lognormal distribution?	Y	N	N	Y	N	Y	Y	Y	N	N	N	
Normal 95% UPI	9.4	893.9	4.1	86.0	13.7	29.7	0.40	34.1	0.697	94.4	97.3	
Normal 99% UPI	11.6	1053.1	5.1	106.7	16.5	38.1	0.51	43.5	0.858	115.7	121.4	
Lognormal 95% UPI	10.9	1115.3	6.9	112.3	16.9	29.0	0.46	39.9	1.096	123.1	89.1	
Lognormal 99% UPI	18.0	1609.0	14.4	198.1	25.7	49.4	0.89	74.7	2.078	205.8	130.0	
Bootstrap 95% UPI	10.3	785.4	3.4	98.1	15.2	38.9	0.51	44.7	0.705	102.5	104.5	
Bootstrap 99% UPI	12.2	1068.0	3.7	116.7	18.7	88.3	0.74	87.6	1.078	117.1	330.5	
Notes:												
1. Data from Wisconsin soil for Boerngen, J.G. and Shacklette, H.T., 1981. Chemical analysis of soils and other surficial materials of the conterminous United States. U.S. Geological Survey Open-File Report 81-197												
2. Concentrations for nondetects (U-qualified data) are 0.5 the quantitation limits.												
3. UPI in bold and shaded are used in the analysis												

**Attachment E2: Upper-Bound Media-Specific Cumulative Cancer Risk and HI Estimates
for Outdoor Exposure to Background Metals in Soil
GM Janesville Haul Away Yard, Janesville, Wisconsin**

Chem Group	Chemical	CASRN	Carc Class	Background Conc (mg/kg)	Industrial		Maintenance Worker		Construction Worker		Off-Site NonIndustrial	
					Risk	HQ	Risk	HQ	Risk	HQ	Risk	HQ
INORG	Arsenic	7440-38-2	A	5.43E+00	3.4E-06	3.0E-03	1.7E-07	3.0E-03	2.5E-07	6.5E-03	1.4E-09	2.6E-04
INORG	Beryllium	7440-41-7	B1	6.00E+02	8.6E-08	7.6E-02	2.8E-07	7.6E-02	2.3E-07	9.3E-01	8.6E-08	2.1E-02
INORG	Cadmium	7440-43-9	B1	2.43E+00	2.6E-10	6.9E-04	8.6E-10	6.9E-04	7.1E-10	5.4E-03	2.6E-10	1.9E-06
INORG	Chromium (total)	7440-47-3		4.91E+01	8.6E-06	2.6E-03	5.3E-07	2.6E-03	7.8E-07	2.0E-02	3.5E-08	3.5E-05
INORG	Cobalt	7440-48-4	LC	9.00E+00	4.9E-09	5.6E-03	1.6E-08	5.6E-03	1.3E-08	1.1E-02	4.9E-09	3.2E-04
INORG	Copper	7440-50-8	D	1.70E+01		5.0E-05		5.0E-05		8.3E-04		
INORG	Mercury	7439-97-6	D	2.04E-01		3.6E-04		3.6E-04		7.4E-03		5.8E-03
INORG	Nickel	7440-02-0	A	1.84E+01	2.6E-10	3.9E-04	8.6E-10	3.9E-04	7.2E-10	2.8E-03	2.6E-10	6.5E-05
INORG	Selenium	7782-49-2	D	4.14E-01		9.7E-06		9.7E-06		1.6E-04		1.5E-08
INORG	Vanadium	7440-62-2	ID	5.69E+01		2.1E-03		2.1E-03		1.8E-02		4.0E-04
INORG	Zinc	7440-66-6	ID	5.90E+01		2.3E-05		2.3E-05		3.9E-04		
				Sum	1E-05	9E-02	1E-06	9E-02	1E-06	1E+00	1E-07	3E-02
Notes:												
Background soil data are the 95% UCL calculated using data for Wisconsin soil from Boerngen, J.G. and Shacklette, H.T., 1981, Chemical analysis of soils and other surficial materials of the conterminous United States, U.S. Geological Survey Open-File Report 81-197.												
Lead is evaluated using EPA criterion based on blood-lead modeling, and therefore has no cancer or HQ calculation.												

Attachment E3

Industrial Worker Risk Calculations

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- Vapor Flux from Soil to Outdoor Air
 - Unit Cancer Risk Calculations for Exposure of Industrial Workers to Soil
 - Unit Hazard Quotient Calculations for Exposure of Industrial Workers to Soil
 - Empirical Model for Industrial worker Exposure to Soil Lead
 - Cancer Risk-Based Criteria for Exposure of Industrial Workers to Soil
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- Soil Moisture Profile for an Industrial Building
 - Normalized Indoor Air Concentration in an Industrial Building due to Vapor Intrusion from Subsurface Soil
 - Unit Cancer Risk and Hazard Quotient Calculations for Soil Vapor Intrusion into an Industrial Building
 - Cancer and Noncancer Risk-Based Criteria for Soil Vapor Intrusion into an Industrial Building

Attachment E3: Vapor Flux from Soil to Outdoor Air GM Janesville Haul Away Yard; Janesville, Wisconsin															
Chem Group	Chemical	CASRN	K _{oc} (L/kg)	K _d (L/kg)	H (unitless)	D _{air} (m ² /d)	D _{water} (m ² /d)	R _L (unitless)	D _G (m ² /d)	D _L (m ² /d)	D _E (m ² /d)	Infinite J _v (kg/m ² -s)	Finite depth Z1 ERFC term	Finite depth Z2 ERFC term	Finite J _v (kg/m ² -s)
VOC	Benzene	71-43-2	5.82E+01		1.16E-01	7.60E-01	8.47E-05	2.84E-01	1.23E-01	3.44E-08	5.04E-02	5.10E-05	0.00E+00	5.50E+00	1.28E-05
VOC	2-Butanone	78-93-3	2.00E+00		1.42E-03	6.98E-01	8.47E-05	6.04E-02	1.13E-01	3.44E-08	2.66E-03	1.17E-05	0.00E+00	2.26E+00	9.04E-06
VOC	Carbon Disulfide	75-15-0	4.59E+01		7.18E-01	8.99E-01	8.64E-05	4.37E-01	1.46E-01	3.51E-08	2.40E-01	1.11E-04	0.00E+00	6.12E+00	1.34E-05
VOC	Carbon Tetrachloride	56-23-5	1.74E+02		6.52E-01	6.74E-01	7.60E-05	8.40E-01	1.09E-01	3.09E-08	8.48E-02	6.61E-05	0.00E+00	5.76E+00	1.31E-05
VOC	Chloroform	67-66-3	3.97E+01		8.04E-02	8.99E-01	8.64E-05	2.11E-01	1.46E-01	3.51E-08	5.55E-02	5.35E-05	0.00E+00	5.55E+00	1.28E-05
VOC	Cumene	98-82-8	7.05E+02		1.81E-01	5.62E-01	6.13E-05	2.45E+00	9.11E-02	2.49E-08	6.72E-03	1.86E-05	0.00E+00	3.64E+00	1.07E-05
VOC	Dichlorodifluoromethane	75-71-8	6.15E+01		8.73E+00	6.91E-01	6.91E-05	3.07E+00	1.12E-01	2.81E-08	3.19E-01	1.28E-04	0.00E+00	6.19E+00	1.35E-05
VOC	Ethyl Benzene	100-41-4	3.67E+02		1.37E-01	6.48E-01	6.74E-05	1.32E+00	1.05E-01	2.74E-08	1.09E-02	2.37E-05	0.00E+00	4.24E+00	1.14E-05
VOC	Methyl Acetate	79-20-9	1.66E+00		1.92E-03	8.27E-01	9.50E-05	5.95E-02	1.34E-01	3.86E-08	4.34E-03	1.50E-05	0.00E+00	3.03E+00	1.00E-05
VOC	Methylcyclohexane	108-87-2	2.66E+02		8.58E+00	6.35E-01	7.36E-05	3.70E+00	1.03E-01	2.99E-08	2.39E-01	1.11E-04	0.00E+00	6.12E+00	1.34E-05
VOC	Toluene	108-88-3	1.80E+02		1.26E-01	7.52E-01	7.43E-05	6.93E-01	1.22E-01	3.02E-08	2.22E-02	3.38E-05	0.00E+00	4.93E+00	1.22E-05
VOC	1,2,4-Trichlorobenzene	120-82-1	1.79E+03		1.88E-02	2.59E-01	7.11E-05	6.02E+00	4.20E-02	2.89E-08	1.31E-04	2.60E-06	0.00E+00	1.14E-04	2.60E-06
VOC	Trichloroethene	79-01-6	1.68E+02		2.07E-01	6.83E-01	7.86E-05	6.76E-01	1.11E-01	3.19E-08	3.38E-02	4.17E-05	0.00E+00	5.25E+00	1.25E-05
VOC	1,2,4-Trimethylbenzene	95-63-6	1.18E+03		9.32E-02	5.24E-01	6.84E-05	4.00E+00	8.49E-02	2.78E-08	1.98E-03	1.01E-05	0.00E+00	1.78E+00	8.38E-06
VOC	1,3,5-Trimethylbenzene	108-67-8	1.76E+03		8.91E-02	5.20E-01	7.49E-05	5.93E+00	8.43E-02	3.04E-08	1.27E-03	8.08E-06	0.00E+00	1.11E+00	7.31E-06
VOC	Xylenes (total)	1330-20-7	3.86E+02		1.16E-01	6.74E-01	7.56E-05	1.37E+00	1.09E-01	3.07E-08	9.22E-03	2.18E-05	0.00E+00	4.04E+00	1.12E-05
SVOC	Acenaphthene	83-32-9	7.14E+03		1.58E-03	3.64E-01	6.64E-05	2.38E+01	5.90E-02	2.70E-08	3.93E-06	4.50E-07	0.00E+00	0.00E+00	4.50E-07
SVOC	Anthracene	120-12-7	2.97E+04		5.45E-04	2.80E-01	6.69E-05	9.87E+01	4.54E-02	2.72E-08	2.51E-07	1.14E-07	0.00E+00	0.00E+00	1.14E-07
SVOC	Biphenyl	92-52-4	1.05E+04		5.42E-03	3.49E-01	7.04E-05	3.49E+01	5.66E-02	2.86E-08	8.80E-06	6.73E-07	0.00E+00	0.00E+00	6.73E-07
SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	1.50E+07		4.02E-07	3.03E-01	3.16E-05	4.98E+04	4.92E-02	1.28E-08	6.54E-13	1.84E-10	0.00E+00	0.00E+00	1.84E-10
SVOC	Dibenzofuran	132-64-9	2.07E+04		2.63E-06	2.06E-01	5.18E-05	6.87E+01	3.33E-02	2.11E-08	1.58E-09	9.02E-09	0.00E+00	0.00E+00	9.02E-09
SVOC	Di-n-butylphthalate	84-74-2	3.40E+04		5.46E-09	3.78E-01	6.79E-05	1.13E+02	6.14E-02	2.76E-08	2.47E-10	3.57E-09	0.00E+00	0.00E+00	3.57E-09
SVOC	Fluorene	86-73-7	1.38E+04		6.44E-04	3.14E-01	6.81E-05	4.57E+01	5.09E-02	2.77E-08	7.16E-07	1.92E-07	0.00E+00	0.00E+00	1.92E-07
SVOC	2-Methylnaphthalene	91-57-6	6.23E+03		8.19E-03	4.51E-01	6.70E-05	2.07E+01	7.31E-02	2.72E-08	2.89E-05	1.22E-06	0.00E+00	0.00E+00	1.22E-06
SVOC	Naphthalene	91-20-3	2.01E+03		6.57E-03	5.10E-01	6.48E-05	6.73E+00	8.27E-02	2.63E-08	8.07E-05	2.04E-06	0.00E+00	2.85E-07	2.04E-06
SVOC	Phenanthrene	85-01-8	2.42E+04		1.35E-04	3.24E-01	6.45E-05	8.05E+01	5.25E-02	2.62E-08	8.84E-08	6.75E-08	0.00E+00	0.00E+00	6.75E-08
SVOC	Pyrene	129-00-0	1.06E+05		7.46E-05	2.35E-01	6.26E-05	3.50E+02	3.81E-02	2.54E-08	8.19E-09	2.05E-08	0.00E+00	0.00E+00	2.05E-08
INORG	Arsenic	7440-38-2		2.90E+01								0.00E+00	0.00E+00	0.00E+00	0.00E+00
INORG	Barium	7440-39-3		4.10E+01								0.00E+00	0.00E+00	0.00E+00	0.00E+00
INORG	Cadmium	7440-43-9		7.50E+01								0.00E+00	0.00E+00	0.00E+00	0.00E+00
INORG	Chromium (total)	7440-47-3		1.90E+01								0.00E+00	0.00E+00	0.00E+00	0.00E+00
INORG	Lead	7439-92-1		9.00E+02								0.00E+00	0.00E+00	0.00E+00	0.00E+00
INORG	Mercury	7439-97-6		1.00E+03	1.19E-01	2.65E-01	5.44E-05	1.66E+03	4.30E-02	2.21E-08	3.08E-06	3.98E-07	0.00E+00	0.00E+00	3.98E-07
INORG	Selenium	7782-49-2		5.00E+00								0.00E+00	0.00E+00	0.00E+00	0.00E+00
INORG	Silver	7440-22-4		8.30E+00								0.00E+00	0.00E+00	0.00E+00	0.00E+00
Notes:	Soil bulk density	kg/L	ρ _b	1.66											
	Soil porosity	L/L-soil	θ	0.38											
	Soil water content	L/L-soil	θ _w	0.05											
	Soil air-filled porosity	L/L-soil	θ _a	0.32											
	Soil organic carbon fraction	unitless	f _{oc}	0.002											
	Averaging period (Exposure Duration)	year	T	25											
		days	T	9125											
		s	T	7.9E+08											
		L-mmHg/ mole-°K	R	62.411											
	Molar Gas Constant														
	Temperature	°C	Temp	10											
		K	Temp	283											
	Clean soil above source	m	Z ₁	0.00											
	Bottom of source depth	m	Z ₂	6.65											

Attachment E3: Unit Cancer Risk Calculations for Exposure of Industrial Workers to Soil GM Janesville Haul Away Yard, Janesville, Wisconsin																	
				Soil Ingestion			Soil Dermal Contact				Soil Vapor Inhalation			Soil Particulate Inhalation			All Routes
Chem Group	Chemical	CASRN	Cancer Class	LADD (mg/kg/d)	SF _{oral} (mg/kg/d) ⁻¹	Risk	ABS _{derm}	LADD (mg/kg/d)	SF _{derm} (mg/kg/d) ⁻¹	Risk	C _{air} (mg/m ³)	URF (m ³ /mg)	Risk	C _{air} (mg/m ³)	URF (m ³ /mg)	Risk	Risk
VOC	Benzene	71-43-2	A	3.49E-07	5.5E-02	1.9E-08			5.5E-02		1.41E-04	7.8E-03	9.0E-08	7.35E-10	7.8E-03	4.7E-13	1.1E-07
VOC	2-Butanone	78-93-3	ID	3.49E-07							9.96E-05			7.35E-10			
VOC	Carbon Disulfide	75-15-0		3.49E-07							1.48E-04			7.35E-10			
VOC	Carbon Tetrachloride	56-23-5	LC	3.49E-07	7.0E-02	2.4E-08			7.0E-02		1.44E-04	6.0E-03	7.0E-08	7.35E-10	6.0E-03	3.6E-13	9.5E-08
VOC	Chloroform	67-66-3	B2	3.49E-07	1.9E-02	6.6E-09			1.9E-02		1.41E-04	2.3E-02	2.7E-07	7.35E-10	2.3E-02	1.4E-12	2.7E-07
VOC	Cumene	98-82-8	D	3.49E-07							1.18E-04			7.35E-10			
VOC	Dichlorodifluoromethane	75-71-8		3.49E-07							1.49E-04			7.35E-10			
VOC	Ethyl Benzene	100-41-4	D	3.49E-07							1.26E-04			7.35E-10			
VOC	Methyl Acetate	79-20-9		3.49E-07							1.10E-04			7.35E-10			
VOC	Methylcyclohexane	108-87-2		3.49E-07							1.48E-04			7.35E-10			
VOC	Toluene	108-88-3	ID	3.49E-07							1.34E-04			7.35E-10			
VOC	1,2,4-Trichlorobenzene	120-82-1	LC	3.49E-07	2.9E-02	1.0E-08			2.9E-02		2.86E-05			7.35E-10			1.0E-08
VOC	Trichloroethene	79-01-6	HC	3.49E-07	4.6E-02	1.6E-08			4.6E-02		1.38E-04	4.1E-03	4.6E-08	7.35E-10	4.1E-03	2.5E-13	6.2E-08
VOC	1,2,4-Trimethylbenzene	95-63-6	ID	3.49E-07							9.23E-05			7.35E-10			
VOC	1,3,5-Trimethylbenzene	108-67-8	ID	3.49E-07							8.05E-05			7.35E-10			
VOC	Xylenes (total)	1330-20-7	ID	3.49E-07							1.23E-04			7.35E-10			
SVOC	Acenaphthene	83-32-9	ID	3.49E-07			1.30E-01	3.00E-07			4.96E-06			7.35E-10			
SVOC	Anthracene	120-12-7	ID	3.49E-07			1.30E-01	3.00E-07			1.25E-06			7.35E-10			
SVOC	Biphenyl	92-52-4	SC	3.49E-07	8.0E-03	2.8E-09	1.00E-01	2.31E-07	8.0E-03	1.8E-09	7.42E-06			7.35E-10			4.6E-09
SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	B2	3.49E-07	1.4E-02	4.9E-09	1.00E-01	2.31E-07	1.4E-02	3.2E-09	2.02E-09			7.35E-10			8.1E-09
SVOC	Dibenzofuran	132-64-9	D	3.49E-07			1.00E-01	2.31E-07			9.94E-08			7.35E-10			
SVOC	Di-n-butylphthalate	84-74-2	D	3.49E-07			1.00E-01	2.31E-07			3.93E-08			7.35E-10			
SVOC	Fluorene	86-73-7	D	3.49E-07			1.30E-01	3.00E-07			2.12E-06			7.35E-10			
SVOC	2-Methylnaphthalene	91-57-6	ID	3.49E-07			1.00E-01	2.31E-07			1.34E-05			7.35E-10			
SVOC	Naphthalene	91-20-3	C	3.49E-07			1.30E-01	3.00E-07			2.25E-05	3.4E-02	6.2E-08	7.35E-10	3.4E-02	2.0E-12	6.2E-08
SVOC	Phenanthrene	85-01-8	D	3.49E-07			1.30E-01	3.00E-07			7.43E-07			7.35E-10			
SVOC	Pyrene	129-00-0	NC	3.49E-07			1.30E-01	3.00E-07			2.26E-07			7.35E-10			
INORG	Arsenic	7440-38-2	A	3.49E-07	1.5E+00	5.2E-07	3.00E-02	6.92E-08	1.5E+00	1.0E-07		4.3E+00		7.35E-10	4.3E+00	2.6E-10	6.3E-07
INORG	Barium	7440-39-3	NC	3.49E-07										7.35E-10			
INORG	Cadmium	7440-43-9	B1	3.49E-07			1.00E-03	2.31E-09				1.8E+00		7.35E-10	1.8E+00	1.1E-10	1.1E-10
INORG	Chromium (total)	7440-47-3		3.49E-07	5.0E-01	1.7E-07			2.0E+01			1.2E+01		7.35E-10	1.2E+01	7.2E-10	1.8E-07
INORG	Lead	7439-92-1	B2	3.49E-07										7.35E-10			
INORG	Mercury	7439-97-6	D	3.49E-07							4.38E-06			7.35E-10			
INORG	Selenium	7782-49-2	D	3.49E-07										7.35E-10			
INORG	Silver	7440-22-4	D	3.49E-07										7.35E-10			
Notes:																	
The dispersion coefficient to outdoor air (C/Q) is 11.0 (kg/m3) / (kg/m2/s).																	
This C/Q term is estimated using the empirical correlation in USEPA's Supplemental Soil Screening Guidance (2002) for Minneapolis, Minnesota and a half acre source area, which are the parameters used by WDNR to calculate the C/Q that was included in the Particulate Emissions Factor (PEF) calculation.																	
The concentration of particulates in the air is calculated using the Particulate Emissions Factor (PEF) specified in WDNR NR 720 (Proposed) of 1.39 E+9 m³/kg.																	

Attachment E3: Unit Hazard Quotient Calculations for Exposure of Industrial Workers to Soil GM Janesville Haul Away Yard, Janesville, Wisconsin																	
				Soil Ingestion			Soil Dermal Contact				Soil Vapor Inhalation			Soil Particulate Inhalation			All Routes
Chem Group	Chemical	CASRN	Cancer Class	ADD (mg/kg/d)	RfD _{oral} (mg/kg/d)	HQ	ABS _{derm}	ADD (mg/kg/d)	RfD _{derm} (mg/kg/d)	HQ	C _{air} (mg/m ³)	RfC (mg/m ³)	HQ	C _{air} (mg/m ³)	RfC (mg/m ³)	HQ	HQ
VOC	Benzene	71-43-2	A	9.78E-07	4.0E-03	2.4E-04			4.0E-03		1.41E-04	3.0E-02	1.1E-03	7.35E-10	3.0E-02	5.6E-09	1.3E-03
VOC	2-Butanone	78-93-3	ID	9.78E-07	6.0E-01	1.6E-06			6.0E-01		9.96E-05	5.0E+00	4.5E-06	7.35E-10	5.0E+00	3.4E-11	6.2E-06
VOC	Carbon Disulfide	75-15-0		9.78E-07	1.0E-01	9.8E-06			1.0E-01		1.48E-04	7.0E-01	4.8E-05	7.35E-10	7.0E-01	2.4E-10	5.8E-05
VOC	Carbon Tetrachloride	56-23-5	LC	9.78E-07	4.0E-03	2.4E-04			4.0E-03		1.44E-04	1.0E-01	3.3E-04	7.35E-10	1.0E-01	1.7E-09	5.7E-04
VOC	Chloroform	67-66-3	B2	9.78E-07	1.0E-02	9.8E-05			1.0E-02		1.41E-04	5.0E-02	6.5E-04	7.35E-10	5.0E-02	3.4E-09	7.4E-04
VOC	Cumene	98-82-8	D	9.78E-07	1.0E-01	9.8E-06			1.0E-01		1.18E-04	4.0E-01	6.8E-05	7.35E-10	4.0E-01	4.2E-10	7.7E-05
VOC	Dichlorodifluoromethane	75-71-8		9.78E-07	2.0E-01	4.9E-06			2.0E-01		1.49E-04	2.0E-01	1.7E-04	7.35E-10	2.0E-01	8.4E-10	1.7E-04
VOC	Ethyl Benzene	100-41-4	D	9.78E-07	1.0E-01	9.8E-06			1.0E-01		1.26E-04	1.0E+00	2.9E-05	7.35E-10	1.0E+00	1.7E-10	3.9E-05
VOC	Methyl Acetate	79-20-9		9.78E-07	1.0E+00	9.8E-07			1.0E+00		1.10E-04			7.35E-10			9.8E-07
VOC	Methylcyclohexane	108-87-2		9.78E-07							1.48E-04	3.0E+00	1.1E-05	7.35E-10	3.0E+00	5.6E-11	1.1E-05
VOC	Toluene	108-88-3	ID	9.78E-07	8.0E-02	1.2E-05			8.0E-02		1.34E-04	5.0E+00	6.1E-06	7.35E-10	5.0E+00	3.4E-11	1.8E-05
VOC	1,2,4-Trichlorobenzene	120-82-1	LC	9.78E-07	1.0E-02	9.8E-05			1.0E-02		2.86E-05	2.0E-03	3.3E-03	7.35E-10	2.0E-03	8.4E-08	3.4E-03
VOC	Trichloroethene	79-01-6	HC	9.78E-07	5.0E-04	2.0E-03			5.0E-04		1.38E-04	2.0E-03	1.6E-02	7.35E-10	2.0E-03	8.4E-08	1.8E-02
VOC	1,2,4-Trimethylbenzene	95-63-6	ID	9.78E-07							9.23E-05	7.0E-03	3.0E-03	7.35E-10	7.0E-03	2.4E-08	3.0E-03
VOC	1,3,5-Trimethylbenzene	108-67-8	ID	9.78E-07	1.0E-02	9.8E-05			1.0E-02		8.05E-05	6.0E-03	3.1E-03	7.35E-10	6.0E-03	2.8E-08	3.2E-03
VOC	Xylenes (total)	1330-20-7	ID	9.78E-07	2.0E-01	4.9E-06			2.0E-01		1.23E-04	1.0E-01	2.8E-04	7.35E-10	1.0E-01	1.7E-09	2.9E-04
SVOC	Acenaphthene	83-32-9	ID	9.78E-07	6.0E-02	1.6E-05	1.30E-01	8.40E-07	6.0E-02	1.4E-05	4.96E-06			7.35E-10			3.0E-05
SVOC	Anthracene	120-12-7	ID	9.78E-07	3.0E-01	3.3E-06	1.30E-01	8.40E-07	3.0E-01	2.8E-06	1.25E-06			7.35E-10			6.1E-06
SVOC	Biphenyl	92-52-4	SC	9.78E-07	5.0E-02	2.0E-05	1.00E-01	6.46E-07	5.0E-02	1.3E-05	7.42E-06	4.0E-03	4.2E-04	7.35E-10	4.0E-03	4.2E-08	4.6E-04
SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	B2	9.78E-07	2.0E-02	4.9E-05	1.00E-01	6.46E-07	2.0E-02	3.2E-05	2.02E-09			7.35E-10			8.1E-05
SVOC	Dibenzofuran	132-64-9	D	9.78E-07	1.0E-03	9.8E-04	1.00E-01	6.46E-07	1.0E-03	6.5E-04	9.94E-08			7.35E-10			1.6E-03
SVOC	Di-n-butylphthalate	84-74-2	D	9.78E-07	1.0E-01	9.8E-06	1.00E-01	6.46E-07	1.0E-01	6.5E-06	3.93E-08			7.35E-10			1.6E-05
SVOC	Fluorene	86-73-7	D	9.78E-07	4.0E-02	2.4E-05	1.30E-01	8.40E-07	4.0E-02	2.1E-05	2.12E-06			7.35E-10			4.5E-05
SVOC	2-Methylnaphthalene	91-57-6	ID	9.78E-07	4.0E-03	2.4E-04	1.00E-01	6.46E-07	4.0E-03	1.6E-04	1.34E-05			7.35E-10			4.1E-04
SVOC	Naphthalene	91-20-3	C	9.78E-07	2.0E-02	4.9E-05	1.30E-01	8.40E-07	2.0E-02	4.2E-05	2.25E-05	3.0E-03	1.7E-03	7.35E-10	3.0E-03	5.6E-08	1.8E-03
SVOC	Phenanthrene	85-01-8	D	9.78E-07	3.0E-02	3.3E-05	1.30E-01	8.40E-07	3.0E-02	2.8E-05	7.43E-07			7.35E-10			6.1E-05
SVOC	Pyrene	129-00-0	NC	9.78E-07	3.0E-02	3.3E-05	1.30E-01	8.40E-07	3.0E-02	2.8E-05	2.26E-07			7.35E-10			6.1E-05
INORG	Arsenic	7440-38-2	A	9.78E-07	3.0E-04	3.3E-03	3.00E-02	1.94E-07	3.0E-04	6.5E-04		1.5E-05		7.35E-10	1.5E-05	1.1E-05	3.9E-03
INORG	Barium	7440-39-3	NC	9.78E-07	2.0E-01	4.9E-06			1.4E-02					7.35E-10			4.9E-06
INORG	Cadmium	7440-43-9	B1	9.78E-07	1.0E-03	9.8E-04	1.00E-03	6.46E-09	2.5E-05	2.6E-04		1.0E-05		7.35E-10	1.0E-05	1.7E-05	1.3E-03
INORG	Chromium (total)	7440-47-3		9.78E-07	3.0E-03	3.3E-04			7.5E-05			1.0E-04		7.35E-10	1.0E-04	1.7E-06	3.3E-04
INORG	Lead	7439-92-1	B2	9.78E-07										7.35E-10			
INORG	Mercury	7439-97-6	D	9.78E-07	3.0E-04	3.3E-03			2.1E-05		4.38E-06	3.0E-04	3.3E-03	7.35E-10	3.0E-04	5.6E-07	6.6E-03
INORG	Selenium	7782-49-2	D	9.78E-07	5.0E-03	2.0E-04			5.0E-03			2.0E-02		7.35E-10	2.0E-02	8.4E-09	2.0E-04
INORG	Silver	7440-22-4	D	9.78E-07	5.0E-03	2.0E-04			2.0E-04			1.0E-05		7.35E-10	1.0E-05	1.7E-05	2.1E-04
Notes:																	
The dispersion coefficient to outdoor air (C/Q) is 11.0 (kg/m3) / (kg/m2/s).																	
This C/Q term is estimated using the empirical correlation in USEPA's Supplemental Soil Screening Guidance (2002) for Minneapolis, Minnesota and a half acre source area, which are the parameters used by WDNR to calculate the C/Q that was included in the Particulate Emissions Factor (PEF) calculation.																	
The concentration of particulates in the air is calculated using the Particulate Emissions Factor (PEF) specified in WDNR NR 720 (Proposed) of 1.39 E+9 m ³ /kg.																	

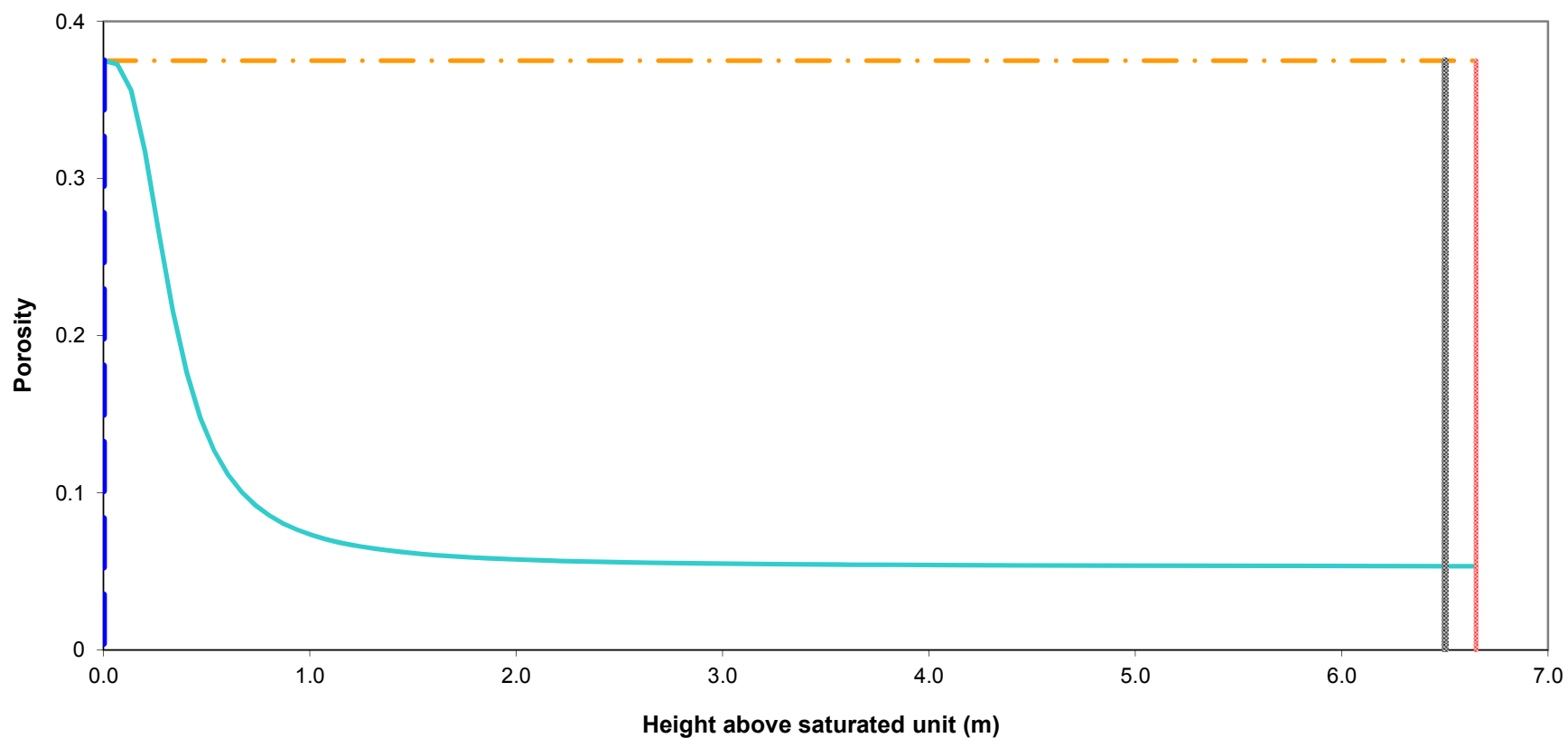
**Attachment E3: Empirical Model for Exposure to Soil Lead
GM Janesville Haul Away Yard, Janesville, Wisconsin**

			USEPA (2009) Pregnant Workers
Soil Ingestion			
Soil Pb concentration		mg-Pb/kg-soil	2,240
Gastrointestinal absorption	AF	unitless	0.12
Ingestion rate	IR	mg-soil/day	50
Conversion factor		kg/mg	1E-06
Fraction contaminated		unitless	1
Exposure frequency	EF	days/year	219
Averaging time	AT	days	365
Uptake of lead		ug-Pb/day	8.06
Baseline blood lead	PbB_{baseline}	ug-Pb/dL	1.0
		ug-Pb/dL per ug-Pb/day	
Biokinetic slope factor	BSF		0.4
Geometric std deviation	GSD		1.8
Ratio of fetal PbB to maternal PbB	R_{f/m}	unitless	0.9
Blood lead goal	PbB_{goal}	ug-Pb/dL	10
Soil Pb to meet PbB_{goal} at specific percentiles	z	Percentile	Soil Pb (mg/kg)
	0.000	50	7,022
	0.674	75	4,496
	1.036	85	3,501
	1.282	90	2,938
	1.645	95	2,240
	2.054	98	1,613
	2.326	99	1,271
Notes:			
1. The model is adapted from the methodology provided in <i>Recommendations of the Technical Review Workgroup for Lead for an Approach to Assessing Risks associated with Adult Exposure to Lead in Soil</i> (USEPA, 2003), including <i>Update of the Adult Lead Methodology's Default Baseline Blood Lead Concentration and Geometric Standard Deviation Parameters</i> (USEPA 2009).			
2. The shaded value represents the criterion.			

Attachment E3: Cancer Risk-Based Criteria for Exposure of Industrial Workers to Soil GM Janesville Haul Away Yard, Janesville, Wisconsin																	
				Soil Ingestion			Soil Dermal Contact				Soil Vapor Inhalation			Soil Particulate Inhalation			All Routes
Chem Group	Chemical	CASRN	Cancer Class	LADD (mg/kg/d)	SF _{oral} (mg/kg/d) ⁻¹	RBC (mg/kg)	ABS _{derm}	LADD (mg/kg/d)	SF _{derm} (mg/kg/d) ⁻¹	RBC (mg/kg)	C _{air} (mg/m ³)	URF (m ³ /mg)	RBC (mg/kg)	C _{air} (mg/m ³)	URF (m ³ /mg)	RBC (mg/kg)	RBC (mg/kg)
VOC	Benzene	71-43-2	A	3.49E-07	5.5E-02	5.2E+01			5.5E-02		1.41E-04	7.8E-03	1.1E+01	7.35E-10	7.8E-03	2.1E+06	9.2E+00
VOC	2-Butanone	78-93-3	ID	3.49E-07							9.96E-05			7.35E-10			
VOC	Carbon Disulfide	75-15-0		3.49E-07							1.48E-04			7.35E-10			
VOC	Carbon Tetrachloride	56-23-5	LC	3.49E-07	7.0E-02	4.1E+01			7.0E-02		1.44E-04	6.0E-03	1.4E+01	7.35E-10	6.0E-03	2.8E+06	1.1E+01
VOC	Chloroform	67-66-3	B2	3.49E-07	1.9E-02	1.5E+02			1.9E-02		1.41E-04	2.3E-02	3.8E+00	7.35E-10	2.3E-02	7.3E+05	3.7E+00
VOC	Cumene	98-82-8	D	3.49E-07							1.18E-04			7.35E-10			
VOC	Dichlorodifluoromethane	75-71-8		3.49E-07							1.49E-04			7.35E-10			
VOC	Ethyl Benzene	100-41-4	D	3.49E-07							1.26E-04			7.35E-10			
VOC	Methyl Acetate	79-20-9		3.49E-07							1.10E-04			7.35E-10			
VOC	Methylcyclohexane	108-87-2		3.49E-07							1.48E-04			7.35E-10			
VOC	Toluene	108-88-3	ID	3.49E-07							1.34E-04			7.35E-10			
VOC	1,2,4-Trichlorobenzene	120-82-1	LC	3.49E-07	2.9E-02	9.9E+01			2.9E-02		2.86E-05			7.35E-10			9.9E+01
VOC	Trichloroethene	79-01-6	HC	3.49E-07	4.6E-02	6.2E+01			4.6E-02		1.38E-04	4.1E-03	2.2E+01	7.35E-10	4.1E-03	4.1E+06	1.6E+01
VOC	1,2,4-Trimethylbenzene	95-63-6	ID	3.49E-07							9.23E-05			7.35E-10			
VOC	1,3,5-Trimethylbenzene	108-67-8	ID	3.49E-07							8.05E-05			7.35E-10			
VOC	Xylenes (total)	1330-20-7	ID	3.49E-07							1.23E-04			7.35E-10			
SVOC	Acenaphthene	83-32-9	ID	3.49E-07			1.30E-01	3.00E-07			4.96E-06			7.35E-10			
SVOC	Anthracene	120-12-7	ID	3.49E-07			1.30E-01	3.00E-07			1.25E-06			7.35E-10			
SVOC	Biphenyl	92-52-4	SC	3.49E-07	8.0E-03	3.6E+02	1.00E-01	2.31E-07	8.0E-03	5.4E+02	7.42E-06			7.35E-10			2.2E+02
SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	B2	3.49E-07	1.4E-02	2.0E+02	1.00E-01	2.31E-07	1.4E-02	3.1E+02	2.02E-09			7.35E-10			1.2E+02
SVOC	Dibenzofuran	132-64-9	D	3.49E-07			1.00E-01	2.31E-07			9.94E-08			7.35E-10			
SVOC	Di-n-butylphthalate	84-74-2	D	3.49E-07			1.00E-01	2.31E-07			3.93E-08			7.35E-10			
SVOC	Fluorene	86-73-7	D	3.49E-07			1.30E-01	3.00E-07			2.12E-06			7.35E-10			
SVOC	2-Methylnaphthalene	91-57-6	ID	3.49E-07			1.00E-01	2.31E-07			1.34E-05			7.35E-10			
SVOC	Naphthalene	91-20-3	C	3.49E-07			1.30E-01	3.00E-07			2.25E-05	3.4E-02	1.6E+01	7.35E-10	3.4E-02	4.9E+05	1.6E+01
SVOC	Phenanthrene	85-01-8	D	3.49E-07			1.30E-01	3.00E-07			7.43E-07			7.35E-10			
SVOC	Pyrene	129-00-0	NC	3.49E-07			1.30E-01	3.00E-07			2.26E-07			7.35E-10			
INORG	Arsenic	7440-38-2	A	3.49E-07	1.5E+00	1.9E+00	3.00E-02	6.92E-08	1.5E+00	9.6E+00		4.3E+00		7.35E-10	4.3E+00	3.9E+03	1.6E+00
INORG	Barium	7440-39-3	NC	3.49E-07										7.35E-10			
INORG	Cadmium	7440-43-9	B1	3.49E-07			1.00E-03	2.31E-09				1.8E+00		7.35E-10	1.8E+00	9.3E+03	9.3E+03
INORG	Chromium (total)	7440-47-3		3.49E-07	5.0E-01	5.7E+00			2.0E+01			1.2E+01		7.35E-10	1.2E+01	1.4E+03	5.7E+00
INORG	Lead	7439-92-1	B2	3.49E-07										7.35E-10			
INORG	Mercury	7439-97-6	D	3.49E-07							4.38E-06			7.35E-10			
INORG	Selenium	7782-49-2	D	3.49E-07										7.35E-10			
INORG	Silver	7440-22-4	D	3.49E-07										7.35E-10			
Notes:																	
The dispersion coefficient to outdoor air (C/Q) is 11.0 (kg/m3) / (kg/m2/s).																	
This C/Q term is estimated using the empirical correlation in USEPA's Supplemental Soil Screening Guidance (2002) for Minneapolis, Minnesota and a half acre source area, which are the parameters used by WDNR to calculate the C/Q that was included in the Particulate Emissions Factor (PEF) calculation.																	
The concentration of particulates in the air is calculated using the Particulate Emissions Factor (PEF) specified in WDNR NR 720 (Proposed) of 1.39 E+9 m ³ /kg.																	
Risk-based criteria are calculated at a target cancer risk of 1E-6.																	

Attachment E3: Noncancer Risk-Based Criteria for Exposure of Industrial Workers to Soil GM Janesville Haul Away Yard, Janesville, Wisconsin																	
				Soil Ingestion			Soil Dermal Contact				Soil Vapor Inhalation			Soil Particulate Inhalation			All Routes
Chem Group	Chemical	CASRN	Cancer Class	ADD (mg/kg/d)	RfD _{oral} (mg/kg/d)	RBC (mg/kg)	ABS _{derm}	ADD (mg/kg/d)	RfD _{derm} (mg/kg/d)	RBC (mg/kg)	C _{air} (mg/m ³)	RfC (mg/m ³)	RBC (mg/kg)	C _{air} (mg/m ³)	RfC (mg/m ³)	RBC (mg/kg)	RBC (mg/kg)
VOC	Benzene	71-43-2	A	9.78E-07	4.0E-03	4.1E+02			4.0E-03		1.41E-04	3.0E-02	9.3E+01	7.35E-10	3.0E-02	1.8E+07	7.6E+01
VOC	2-Butanone	78-93-3	ID	9.78E-07	6.0E-01	6.1E+04			6.0E-01		9.96E-05	5.0E+00	2.2E+04	7.35E-10	5.0E+00	3.0E+09	1.6E+04
VOC	Carbon Disulfide	75-15-0		9.78E-07	1.0E-01	1.0E+04			1.0E-01		1.48E-04	7.0E-01	2.1E+03	7.35E-10	7.0E-01	4.2E+08	1.7E+03
VOC	Carbon Tetrachloride	56-23-5	LC	9.78E-07	4.0E-03	4.1E+02			4.0E-03		1.44E-04	1.0E-01	3.0E+02	7.35E-10	1.0E-01	6.0E+07	1.7E+02
VOC	Chloroform	67-66-3	B2	9.78E-07	1.0E-02	1.0E+03			1.0E-02		1.41E-04	5.0E-02	1.5E+02	7.35E-10	5.0E-02	3.0E+07	1.3E+02
VOC	Cumene	98-82-8	D	9.78E-07	1.0E-01	1.0E+04			1.0E-01		1.18E-04	4.0E-01	1.5E+03	7.35E-10	4.0E-01	2.4E+08	1.3E+03
VOC	Dichlorodifluoromethane	75-71-8		9.78E-07	2.0E-01	2.0E+04			2.0E-01		1.49E-04	2.0E-01	5.9E+02	7.35E-10	2.0E-01	1.2E+08	5.7E+02
VOC	Ethyl Benzene	100-41-4	D	9.78E-07	1.0E-01	1.0E+04			1.0E-01		1.26E-04	1.0E+00	3.5E+03	7.35E-10	1.0E+00	6.0E+08	2.6E+03
VOC	Methyl Acetate	79-20-9		9.78E-07	1.0E+00	1.0E+05			1.0E+00		1.10E-04			7.35E-10			1.0E+05
VOC	Methylcyclohexane	108-87-2		9.78E-07							1.48E-04	3.0E+00	8.9E+03	7.35E-10	3.0E+00	1.8E+09	8.9E+03
VOC	Toluene	108-88-3	ID	9.78E-07	8.0E-02	8.2E+03			8.0E-02		1.34E-04	5.0E+00	1.6E+04	7.35E-10	5.0E+00	3.0E+09	5.4E+03
VOC	1,2,4-Trichlorobenzene	120-82-1	LC	9.78E-07	1.0E-02	1.0E+03			1.0E-02		2.86E-05	2.0E-03	3.1E+01	7.35E-10	2.0E-03	1.2E+06	3.0E+01
VOC	Trichloroethene	79-01-6	HC	9.78E-07	5.0E-04	5.1E+01			5.0E-04		1.38E-04	2.0E-03	6.4E+00	7.35E-10	2.0E-03	1.2E+06	5.7E+00
VOC	1,2,4-Trimethylbenzene	95-63-6	ID	9.78E-07							9.23E-05	7.0E-03	3.3E+01	7.35E-10	7.0E-03	4.2E+06	3.3E+01
VOC	1,3,5-Trimethylbenzene	108-67-8	ID	9.78E-07	1.0E-02	1.0E+03			1.0E-02		8.05E-05	6.0E-03	3.3E+01	7.35E-10	6.0E-03	3.6E+06	3.2E+01
VOC	Xylenes (total)	1330-20-7	ID	9.78E-07	2.0E-01	2.0E+04			2.0E-01		1.23E-04	1.0E-01	3.6E+02	7.35E-10	1.0E-01	6.0E+07	3.5E+02
SVOC	Acenaphthene	83-32-9	ID	9.78E-07	6.0E-02	6.1E+03	1.30E-01	8.40E-07	6.0E-02	7.1E+03	4.96E-06			7.35E-10			3.3E+03
SVOC	Anthracene	120-12-7	ID	9.78E-07	3.0E-01	3.1E+04	1.30E-01	8.40E-07	3.0E-01	3.6E+04	1.25E-06			7.35E-10			1.7E+04
SVOC	Biphenyl	92-52-4	SC	9.78E-07	5.0E-02	5.1E+03	1.00E-01	6.46E-07	5.0E-02	7.7E+03	7.42E-06	4.0E-03	2.4E+02	7.35E-10	4.0E-03	2.4E+06	2.2E+02
SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	B2	9.78E-07	2.0E-02	2.0E+03	1.00E-01	6.46E-07	2.0E-02	3.1E+03	2.02E-09			7.35E-10			1.2E+03
SVOC	Dibenzofuran	132-64-9	D	9.78E-07	1.0E-03	1.0E+02	1.00E-01	6.46E-07	1.0E-03	1.5E+02	9.94E-08			7.35E-10			6.2E+01
SVOC	Di-n-butylphthalate	84-74-2	D	9.78E-07	1.0E-01	1.0E+04	1.00E-01	6.46E-07	1.0E-01	1.5E+04	3.93E-08			7.35E-10			6.2E+03
SVOC	Fluorene	86-73-7	D	9.78E-07	4.0E-02	4.1E+03	1.30E-01	8.40E-07	4.0E-02	4.8E+03	2.12E-06			7.35E-10			2.2E+03
SVOC	2-Methylnaphthalene	91-57-6	ID	9.78E-07	4.0E-03	4.1E+02	1.00E-01	6.46E-07	4.0E-03	6.2E+02	1.34E-05			7.35E-10			2.5E+02
SVOC	Naphthalene	91-20-3	C	9.78E-07	2.0E-02	2.0E+03	1.30E-01	8.40E-07	2.0E-02	2.4E+03	2.25E-05	3.0E-03	5.9E+01	7.35E-10	3.0E-03	1.8E+06	5.6E+01
SVOC	Phenanthrene	85-01-8	D	9.78E-07	3.0E-02	3.1E+03	1.30E-01	8.40E-07	3.0E-02	3.6E+03	7.43E-07			7.35E-10			1.7E+03
SVOC	Pyrene	129-00-0	NC	9.78E-07	3.0E-02	3.1E+03	1.30E-01	8.40E-07	3.0E-02	3.6E+03	2.26E-07			7.35E-10			1.7E+03
INORG	Arsenic	7440-38-2	A	9.78E-07	3.0E-04	3.1E+01	3.00E-02	1.94E-07	3.0E-04	1.5E+02		1.5E-05		7.35E-10	1.5E-05	8.9E+03	2.6E+01
INORG	Barium	7440-39-3	NC	9.78E-07	2.0E-01	2.0E+04			1.4E-02					7.35E-10			2.0E+04
INORG	Cadmium	7440-43-9	B1	9.78E-07	1.0E-03	1.0E+02	1.00E-03	6.46E-09	2.5E-05	3.9E+02		1.0E-05		7.35E-10	1.0E-05	6.0E+03	8.0E+01
INORG	Chromium (total)	7440-47-3		9.78E-07	3.0E-03	3.1E+02			7.5E-05			1.0E-04		7.35E-10	1.0E-04	6.0E+04	3.1E+02
INORG	Lead	7439-92-1	B2	9.78E-07										7.35E-10			
INORG	Mercury	7439-97-6	D	9.78E-07	3.0E-04	3.1E+01			2.1E-05		4.38E-06	3.0E-04	3.0E+01	7.35E-10	3.0E-04	1.8E+05	1.5E+01
INORG	Selenium	7782-49-2	D	9.78E-07	5.0E-03	5.1E+02			5.0E-03			2.0E-02		7.35E-10	2.0E-02	1.2E+07	5.1E+02
INORG	Silver	7440-22-4	D	9.78E-07	5.0E-03	5.1E+02			2.0E-04			1.0E-05		7.35E-10	1.0E-05	6.0E+03	4.7E+02
Notes:																	
The dispersion coefficient to outdoor air (C/Q) is 11.0 (kg/m3) / (kg/m2/s).																	
This C/Q term is estimated using the empirical correlation in USEPA's Supplemental Soil Screening Guidance (2002) for Minneapolis, Minnesota and a half acre source area, which are the parameters used by WDNR to calculate the C/Q that was included in the Particulate Emissions Factor (PEF) calculation.																	
The concentration of particulates in the air is calculated using the Particulate Emissions Factor (PEF) specified in WDNR NR 720 (Proposed) of 1.39 E+9 m ³ /kg.																	
Risk-based criteria are calculated at a target noncancer HQ of 0.1.																	

**Attachment E3: Soil Moisture Profile for an Industrial Building
GM Janesville Haul Away Yard; Janesville, Wisconsin**



— • — θ_T

— θ_w

- - - Depth to Soil Cont (m)

▨ Bottom of Foundation (m)

⋯ Occupied DBG (m)

— Depth to GW Cont (m)

**Attachment E3: Normalized Indoor Air Concentration in an Industrial Building
due to Vapor Intrusion from Subsurface Soil
GM Janesville Haul Away Yard; Janesville, Wisconsin**

Chem Group	Chemical	CASRN	D _{air} (m ² /day)	D _{water} (m ² /day)	H (unitless)	D _{crack} (m ² /day)	D _{eff} ^T (m ² /day)	α _o	K _{oc} (L/kg)	K _d (L/kg)	C _{s, vap} (kg-soil/m ³)	α _{ML}	α	C _{bldg} (kg-soil/m ³)
VOC	Benzene	71-43-2	7.60E-01	8.47E-05	1.16E-01	1.23E-01	1.23E-01	1.00E-02	5.82E+01	1.16E-01	6.79E+02	1.49E-05	1.49E-05	1.01E-02
VOC	2-Butanone	78-93-3	6.98E-01	8.47E-05	1.42E-03	1.13E-01	1.13E-01	1.00E-02	2.00E+00	3.99E-03	3.90E+01	2.59E-04	2.59E-04	1.01E-02
VOC	Carbon Disulfide	75-15-0	8.99E-01	8.64E-05	7.18E-01	1.46E-01	1.46E-01	1.00E-02	4.59E+01	9.19E-02	2.73E+03	3.70E-06	3.70E-06	1.01E-02
VOC	Carbon Tetrachloride	56-23-5	6.74E-01	7.60E-05	6.52E-01	1.09E-01	1.09E-01	1.00E-02	1.74E+02	3.48E-01	1.29E+03	7.84E-06	7.84E-06	1.01E-02
VOC	Chloroform	67-66-3	8.99E-01	8.64E-05	8.04E-02	1.46E-01	1.46E-01	1.00E-02	3.97E+01	7.94E-02	6.32E+02	1.60E-05	1.60E-05	1.01E-02
VOC	Cumene	98-82-8	5.62E-01	6.13E-05	1.81E-01	9.11E-02	9.10E-02	1.00E-02	7.05E+02	1.41E+00	1.22E+02	8.25E-05	8.25E-05	1.01E-02
VOC	Dichlorodifluoromethane	75-71-8	6.91E-01	6.91E-05	8.73E+00	1.12E-01	1.12E-01	1.00E-02	6.15E+01	1.23E-01	4.73E+03	2.14E-06	2.14E-06	1.01E-02
VOC	Ethyl Benzene	100-41-4	6.48E-01	6.74E-05	1.37E-01	1.05E-01	1.05E-01	1.00E-02	3.67E+02	7.35E-01	1.73E+02	5.84E-05	5.84E-05	1.01E-02
VOC	Methyl Acetate	79-20-9	8.27E-01	9.50E-05	1.92E-03	1.34E-01	1.34E-01	1.00E-02	1.66E+00	3.33E-03	5.37E+01	1.88E-04	1.88E-04	1.01E-02
VOC	Methylcyclohexane	108-87-2	6.35E-01	7.36E-05	8.58E+00	1.03E-01	1.03E-01	1.00E-02	2.66E+02	5.33E-01	3.85E+03	2.62E-06	2.62E-06	1.01E-02
VOC	Toluene	108-88-3	7.52E-01	7.43E-05	1.26E-01	1.22E-01	1.22E-01	1.00E-02	1.80E+02	3.61E-01	3.03E+02	3.34E-05	3.34E-05	1.01E-02
VOC	1,2,4-Trichlorobenzene	120-82-1	2.59E-01	7.11E-05	1.88E-02	4.20E-02	4.20E-02	1.00E-02	1.79E+03	3.59E+00	5.18E+00	1.95E-03	1.95E-03	1.01E-02
VOC	Trichloroethene	79-01-6	6.83E-01	7.86E-05	2.07E-01	1.11E-01	1.11E-01	1.00E-02	1.68E+02	3.35E-01	5.07E+02	1.99E-05	1.99E-05	1.01E-02
VOC	1,2,4-Trimethylbenzene	95-63-6	5.24E-01	6.84E-05	9.32E-02	8.49E-02	8.49E-02	1.00E-02	1.18E+03	2.36E+00	3.87E+01	2.61E-04	2.61E-04	1.01E-02
VOC	1,3,5-Trimethylbenzene	108-67-2	6.20E-01	7.49E-05	8.91E-02	8.43E-02	8.43E-02	1.00E-02	1.76E+03	3.52E+00	2.49E+01	4.05E-04	4.05E-04	1.01E-02
VOC	Xylenes (total)	1330-20-7	6.74E-01	7.56E-05	1.16E-01	1.09E-01	1.09E-01	1.00E-02	3.86E+02	7.71E-01	1.40E+02	7.21E-05	7.21E-05	1.01E-02
SVOC	Acenaphthene	83-32-9	3.64E-01	6.64E-05	1.58E-03	5.90E-02	5.90E-02	1.00E-02	7.14E+03	1.43E+01	1.11E-01	9.12E-02	1.00E-02	1.11E-03
SVOC	Anthracene	120-12-7	2.80E-01	6.69E-05	5.45E-04	4.54E-02	4.54E-02	1.00E-02	2.97E+04	5.94E+01	9.16E-03	1.10E+00	1.00E-02	9.16E-05
SVOC	Biphenyl	92-52-4	3.49E-01	7.04E-05	5.42E-03	5.66E-02	5.66E-02	1.00E-02	1.05E+04	2.10E+01	2.58E-01	3.91E-02	1.00E-02	2.58E-03
SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	3.03E-01	3.16E-05	4.02E-07	8.12E-02	8.12E-02	1.00E-02	1.50E+07	3.00E+04	1.34E-08	7.54E+05	1.00E-02	1.34E-10
SVOC	Dibenzofuran	132-64-9	2.06E-01	5.18E-05	2.63E-06	4.14E-02	4.14E-02	1.00E-02	2.07E+04	4.14E+01	6.35E-05	1.59E+02	1.00E-02	6.35E-07
SVOC	Di-n-butylphthalate	84-74-2	3.78E-01	6.79E-05	5.46E-09	5.12E+00	5.12E+00	1.00E-02	3.40E+04	6.81E+01	8.01E-08	1.26E+05	1.00E-02	8.01E-10
SVOC	Fluorene	86-73-7	3.14E-01	6.81E-05	6.44E-04	5.09E-02	5.09E-02	1.00E-02	1.38E+04	2.75E+01	2.34E-02	4.32E-01	1.00E-02	2.34E-04
SVOC	2-Methylnaphthalene	91-57-6	4.51E-01	6.70E-05	8.19E-03	7.31E-02	7.31E-02	1.00E-02	6.23E+03	1.25E+01	6.55E-01	1.54E-02	1.00E-02	6.55E-03
SVOC	Naphthalene	91-20-3	5.10E-01	6.48E-05	6.57E-03	8.27E-02	8.26E-02	1.00E-02	2.01E+03	4.02E+00	1.62E+00	6.23E-03	6.23E-03	1.01E-02
SVOC	Phenanthrene	85-01-8	3.24E-01	6.45E-05	1.35E-04	5.27E-02	5.27E-02	1.00E-02	2.42E+04	4.85E+01	2.78E-03	3.63E+00	1.00E-02	2.78E-05
SVOC	Pyrene	129-00-0	2.35E-01	6.26E-05	7.46E-05	3.84E-02	3.84E-02	1.00E-02	1.06E+05	2.11E+02	3.53E-04	2.86E+01	1.00E-02	3.53E-06
INORG	Arsenic	7440-38-2						1.00E-02		2.90E+01			1.00E-02	
INORG	Barium	7440-39-3						1.00E-02		4.10E+01			1.00E-02	
INORG	Cadmium	7440-43-9						1.00E-02		7.50E+01			1.00E-02	
INORG	Chromium (total)	7440-47-3						1.00E-02		1.90E+01			1.00E-02	
INORG	Lead	7439-92-1						1.00E-02		9.00E+02			1.00E-02	
INORG	Mercury	7439-97-6	2.65E-01	5.44E-05	1.19E-01	4.30E-02	4.30E-02	1.00E-02		1.00E+03	1.19E-01	8.51E-02	1.00E-02	1.19E-03
INORG	Selenium	7782-49-2						1.00E-02		5.00E+00			1.00E-02	
INORG	Silver	7440-22-4						1.00E-02		8.30E+00			1.00E-02	
Notes: Soil and Building Characteristics					Vadose (below floor to 6")	Deep Vadose (6" to bottom of contamin)								
SCS Soil texture class				Crack Sand	Sand	Sand								
	Bulk density	kg/L	ρ _b	1.66		1.66								
	Total porosity	L/L-soil	θ _T	0.375	0.375	0.375								
	Water-filled porosity	L/L-soil	θ _w	0.053	0.053	0.053								
	Air-filled porosity	L/L-soil	θ _a	0.322	0.322	0.322								
	Organic carbon fraction	unitless	f _{oc}			0.002								
	Residual saturation	L/L-soil	θ _r	0.053										
	Hydraulic conductivity	cm/s	K	7.4E-03										
	Dynamic viscosity of water	g/cm-s	μ _w	0.01307										
	Density of water	g/cm ³	ρ _w	1.0										
	Gravitational acceleration	cm/s ²	g	980.7										
	Intrinsic permeability	cm ²	k	9.9E-08										
	Relative saturation	unitless	S _e	0.001										
	van Genuchten N	unitless	N	3.18										
	van Genuchten M	unitless	M	0.685										
	Relative air permeability	unitless	k _{rg}	0.999										
	Permeability to vapor	cm ²	k _v	9.9E-08										
	Distance from building foundation to source	m	L _{T-soil}	0.001										
	Bldg foundation thickness	m	L _{crack}	0.15										
	Bldg foundation length	m		19.29										
	Bldg foundation width	m		19.29										
	Bldg occupied height	m		2.44										
	Bldg occupied volume	m ³		907.93										
	Occupied depth below ground	m												
	Bldg area for vapor intrusion	m ²	A _B	372.1										
	Ratio of A _{crack} to A _B		η	1E-04										
	Area of cracks	m ²	A _{crack}	3.86E-02										
	Air exchange rate	hour ⁻¹	ach	2.0										
	Building ventilation rate	m ³ /day	Q _{bldg}	4.36E+04										
	Pressure difference between outdoors-indoors	kg/m-s ²	ΔP	1.0										
	Viscosity of air	kg/m-s	μ _a	1.8E-05										
	Crack length (bldg perimeter)	m	X _{crack}	77.16										
	Crack depth below ground	m	Z _{crack}	0.15										
	Crack radius	m	r _{crack}	5E-04										
	Soil gas flow rate into bldg	m ³ /day	Q _{soil}	3.60E+00										
	Averaging period	d	T	9.13E+03										
	Contaminant thickness	m	ΔH	6.4997										

**Attachment E3: Unit Cancer Risk and Hazard Quotient Calculations
for Soil Vapor Intrusion into an Industrial Building
GM Janesville Haul Away Yard; Janesville, Wisconsin**

Chem Group	Chemical	CASRN	Carc Class	C _{air} (mg/m ³)	Cancer		Noncancer	
					URF (m ³ /mg)	Risk	RfC (mg/m ³)	HQ
VOC	Benzene	71-43-2	A	1.01E-02	7.8E-03	6.4E-06	3.0E-02	7.7E-02
VOC	2-Butanone	78-93-3	ID	1.01E-02			5.0E+00	4.6E-04
VOC	Carbon Disulfide	75-15-0		1.01E-02			7.0E-01	3.3E-03
VOC	Carbon Tetrachloride	56-23-5	LC	1.01E-02	6.0E-03	4.9E-06	1.0E-01	2.3E-02
VOC	Chloroform	67-66-3	B2	1.01E-02	2.3E-02	1.9E-05	5.0E-02	4.6E-02
VOC	Cumene	98-82-8	D	1.01E-02			4.0E-01	5.8E-03
VOC	Dichlorodifluoromethane	75-71-8		1.01E-02			2.0E-01	1.2E-02
VOC	Ethyl Benzene	100-41-4	D	1.01E-02			1.0E+00	2.3E-03
VOC	Methyl Acetate	79-20-9		1.01E-02				
VOC	Methylcyclohexane	108-87-2		1.01E-02			3.0E+00	7.7E-04
VOC	Toluene	108-88-3	ID	1.01E-02			5.0E+00	4.6E-04
VOC	1,2,4-Trichlorobenzene	120-82-1	LC	1.01E-02			2.0E-03	1.2E+00
VOC	Trichloroethene	79-01-6	HC	1.01E-02	4.1E-03	3.4E-06	2.0E-03	1.2E+00
VOC	1,2,4-Trimethylbenzene	95-63-6	ID	1.01E-02			7.0E-03	3.3E-01
VOC	1,3,5-Trimethylbenzene	108-67-8	ID	1.01E-02			6.0E-03	3.8E-01
VOC	Xylenes (total)	1330-20-7	ID	1.01E-02			1.0E-01	2.3E-02
SVOC	Acenaphthene	83-32-9	ID	1.11E-03				
SVOC	Anthracene	120-12-7	ID	9.16E-05				
SVOC	Biphenyl	92-52-4	SC	2.58E-03			4.0E-03	1.5E-01
SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	B2	1.34E-10				
SVOC	Dibenzofuran	132-64-9	D	6.35E-07				
SVOC	Di-n-butylphthalate	84-74-2	D	8.01E-10				
SVOC	Fluorene	86-73-7	D	2.34E-04				
SVOC	2-Methylnaphthalene	91-57-6	ID	6.55E-03				
SVOC	Naphthalene	91-20-3	C	1.01E-02	3.4E-02	2.8E-05	3.0E-03	7.7E-01
SVOC	Phenanthrene	85-01-8	D	2.78E-05				
SVOC	Pyrene	129-00-0	NC	3.53E-06				
INORG	Arsenic	7440-38-2	A		4.3E+00		1.5E-05	
INORG	Barium	7440-39-3	NC					
INORG	Cadmium	7440-43-9	B1		1.8E+00		1.0E-05	
INORG	Chromium (total)	7440-47-3			1.2E+01		1.0E-04	
INORG	Lead	7439-92-1	B2					
INORG	Mercury	7439-97-6	D	1.19E-03			3.0E-04	9.0E-01
INORG	Selenium	7782-49-2	D				2.0E-02	
INORG	Silver	7440-22-4	D				1.0E-05	

**Attachment E3: Cancer and Noncancer Risk-Based Criteria
for Soil Vapor Intrusion into an Industrial Building
GM Janesville Haul Away Yard; Janesville, Wisconsin**

Chem Group	Chemical	CASRN	Carc Class	C _{air} (mg/m ³)	Cancer		Noncancer	
					URF (m ³ /mg)	RBC (mg/kg)	RfC (mg/m ³)	RBC (mg/kg)
VOC	Benzene	71-43-2	A	1.01E-02	7.8E-03	1.6E-01	3.0E-02	1.3E+01
VOC	2-Butanone	78-93-3	ID	1.01E-02			5.0E+00	2.2E+03
VOC	Carbon Disulfide	75-15-0		1.01E-02			7.0E-01	3.0E+02
VOC	Carbon Tetrachloride	56-23-5	LC	1.01E-02	6.0E-03	2.0E-01	1.0E-01	4.3E+01
VOC	Chloroform	67-66-3	B2	1.01E-02	2.3E-02	5.3E-02	5.0E-02	2.2E+01
VOC	Cumene	98-82-8	D	1.01E-02			4.0E-01	1.7E+02
VOC	Dichlorodifluoromethane	75-71-8		1.01E-02			2.0E-01	8.7E+01
VOC	Ethyl Benzene	100-41-4	D	1.01E-02			1.0E+00	4.3E+02
VOC	Methyl Acetate	79-20-9		1.01E-02				
VOC	Methylcyclohexane	108-87-2		1.01E-02			3.0E+00	1.3E+03
VOC	Toluene	108-88-3	ID	1.01E-02			5.0E+00	2.2E+03
VOC	1,2,4-Trichlorobenzene	120-82-1	LC	1.01E-02			2.0E-03	8.7E-01
VOC	Trichloroethene	79-01-6	HC	1.01E-02	4.1E-03	3.0E-01	2.0E-03	8.7E-01
VOC	1,2,4-Trimethylbenzene	95-63-6	ID	1.01E-02			7.0E-03	3.0E+00
VOC	1,3,5-Trimethylbenzene	108-67-8	ID	1.01E-02			6.0E-03	2.6E+00
VOC	Xylenes (total)	1330-20-7	ID	1.01E-02			1.0E-01	4.3E+01
SVOC	Acenaphthene	83-32-9	ID	1.11E-03				
SVOC	Anthracene	120-12-7	ID	9.16E-05				
SVOC	Biphenyl	92-52-4	SC	2.58E-03			4.0E-03	6.8E+00
SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	B2	1.34E-10				
SVOC	Dibenzofuran	132-64-9	D	6.35E-07				
SVOC	Di-n-butylphthalate	84-74-2	D	8.01E-10				
SVOC	Fluorene	86-73-7	D	2.34E-04				
SVOC	2-Methylnaphthalene	91-57-6	ID	6.55E-03				
SVOC	Naphthalene	91-20-3	C	1.01E-02	3.4E-02	3.6E-02	3.0E-03	1.3E+00
SVOC	Phenanthrene	85-01-8	D	2.78E-05				
SVOC	Pyrene	129-00-0	NC	3.53E-06				
INORG	Arsenic	7440-38-2	A		4.3E+00		1.5E-05	
INORG	Barium	7440-39-3	NC					
INORG	Cadmium	7440-43-9	B1		1.8E+00		1.0E-05	
INORG	Chromium (total)	7440-47-3			1.2E+01		1.0E-04	
INORG	Lead	7439-92-1	B2					
INORG	Mercury	7439-97-6	D	1.19E-03			3.0E-04	1.1E+00
INORG	Selenium	7782-49-2	D				2.0E-02	
INORG	Silver	7440-22-4	D				1.0E-05	

Note:

Risk-based criteria are calculated at a target cancer risk of 1E-6 and a target noncancer HQ of 0.1.

Attachment E4

Maintenance Worker Risk Calculations

Contents

- Vapor Flux from Soil to Outdoor Air
- Unit Cancer Risk Calculations for Exposure of Maintenance Workers to Soil
- Unit Hazard Quotient Calculations for Exposure of Maintenance Workers to Soil
- Cancer Risk-Based Criteria for Exposure of Maintenance Workers to Soil
- Noncancer Risk-Based Criteria for Exposure of Maintenance Workers to Soil

Attachment E4: Vapor Flux from Soil to Outdoor Air GM Janesville Haul Away Yard; Janesville, Wisconsin															
Chem Group	Chemical	CASRN	K _{oc} (L/kg)	K _d (L/kg)	H (unitless)	D _{air} (m ² /d)	D _{water} (m ² /d)	R _L (unitless)	D _G (m ² /d)	D _L (m ² /d)	D _E (m ² /d)	Infinite J _v (kg/m ² -s)	Finite depth Z1 ERFC term	Finite depth Z2 ERFC term	Finite J _v (kg/m ² -s)
VOC	Benzene	71-43-2	5.82E+01		1.16E-01	7.60E-01	8.47E-05	2.84E-01	1.23E-01	3.44E-08	5.04E-02	8.06E-05	0.00E+00	4.85E+00	3.02E-05
VOC	2-Butanone	78-93-3	2.00E+00		1.42E-03	6.98E-01	8.47E-05	6.04E-02	1.13E-01	3.44E-08	2.66E-03	1.85E-05	0.00E+00	8.73E-01	1.72E-05
VOC	Carbon Disulfide	75-15-0	4.59E+01		7.18E-01	8.99E-01	8.64E-05	4.37E-01	1.46E-01	3.51E-08	2.40E-01	1.76E-04	0.00E+00	5.81E+00	3.28E-05
VOC	Carbon Tetrachloride	56-23-5	1.74E+02		6.52E-01	6.74E-01	7.60E-05	8.40E-01	1.09E-01	3.09E-08	8.48E-02	1.04E-04	0.00E+00	5.25E+00	3.13E-05
VOC	Chloroform	67-66-3	3.97E+01		8.04E-02	8.99E-01	8.64E-05	2.11E-01	1.46E-01	3.51E-08	5.55E-02	8.45E-05	0.00E+00	4.93E+00	3.04E-05
VOC	Cumene	98-82-8	7.05E+02		1.81E-01	5.62E-01	6.13E-05	2.45E+00	9.11E-02	2.49E-08	6.72E-03	2.94E-05	0.00E+00	2.28E+00	2.27E-05
VOC	Dichlorodifluoromethane	75-71-8	6.15E+01		8.73E+00	6.91E-01	6.91E-05	3.07E+00	1.12E-01	2.81E-08	3.19E-01	2.03E-04	0.00E+00	5.92E+00	3.31E-05
VOC	Ethyl Benzene	100-41-4	3.67E+02		1.37E-01	6.48E-01	6.74E-05	1.32E+00	1.05E-01	2.74E-08	1.09E-02	3.75E-05	0.00E+00	3.04E+00	2.51E-05
VOC	Methyl Acetate	79-20-9	1.66E+00		1.92E-03	8.27E-01	9.50E-05	5.95E-02	1.34E-01	3.86E-08	4.34E-03	2.36E-05	0.00E+00	1.58E+00	2.02E-05
VOC	Methylcyclohexane	108-87-2	2.66E+02		8.58E+00	6.35E-01	7.36E-05	3.70E+00	1.03E-01	2.99E-08	2.39E-01	1.75E-04	0.00E+00	5.81E+00	3.28E-05
VOC	Toluene	108-88-3	1.80E+02		1.26E-01	7.52E-01	7.43E-05	6.93E-01	1.22E-01	3.02E-08	2.22E-02	5.35E-05	0.00E+00	4.00E+00	2.79E-05
VOC	1,2,4-Trichlorobenzene	120-82-1	1.79E+03		1.88E-02	2.59E-01	7.11E-05	6.02E+00	4.20E-02	2.89E-08	1.31E-04	4.11E-06	0.00E+00	7.12E-11	4.11E-06
VOC	Trichloroethene	79-01-6	1.68E+02		2.07E-01	6.83E-01	7.86E-05	6.76E-01	1.11E-01	3.19E-08	3.38E-02	6.60E-05	0.00E+00	4.47E+00	2.92E-05
VOC	1,2,4-Trimethylbenzene	95-63-6	1.18E+03		9.32E-02	5.24E-01	6.84E-05	4.00E+00	8.49E-02	2.78E-08	1.98E-03	1.60E-05	0.00E+00	5.33E-01	1.53E-05
VOC	1,3,5-Trimethylbenzene	108-67-8	1.76E+03		8.91E-02	5.20E-01	7.49E-05	5.93E+00	8.43E-02	3.04E-08	1.27E-03	1.28E-05	0.00E+00	1.91E-01	1.26E-05
VOC	Xylenes (total)	1330-20-7	3.86E+02		1.16E-01	6.74E-01	7.56E-05	1.37E+00	1.09E-01	3.07E-08	9.22E-03	3.45E-05	0.00E+00	2.78E+00	2.43E-05
SVOC	Acenaphthene	83-32-9	7.14E+03		1.58E-03	3.64E-01	6.64E-05	2.38E+01	5.90E-02	2.70E-08	3.93E-06	7.12E-07	0.00E+00	0.00E+00	7.12E-07
SVOC	Anthracene	120-12-7	2.97E+04		5.45E-04	2.80E-01	6.69E-05	9.87E+01	4.54E-02	2.72E-08	2.51E-07	1.80E-07	0.00E+00	0.00E+00	1.80E-07
SVOC	Biphenyl	92-52-4	1.05E+04		5.42E-03	3.49E-01	7.04E-05	3.49E+01	5.66E-02	2.86E-08	8.80E-06	1.06E-06	0.00E+00	0.00E+00	1.06E-06
SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	1.50E+07		4.02E-07	3.03E-01	3.16E-05	4.98E+04	4.92E-02	1.28E-08	6.54E-13	2.90E-10	0.00E+00	0.00E+00	2.90E-10
SVOC	Dibenzofuran	132-64-9	2.07E+04		2.63E-06	2.06E-01	5.18E-05	6.87E+01	3.33E-02	2.11E-08	1.58E-09	1.43E-08	0.00E+00	0.00E+00	1.43E-08
SVOC	Di-n-butylphthalate	84-74-2	3.40E+04		5.46E-09	3.78E-01	6.79E-05	1.13E+02	6.14E-02	2.76E-08	2.47E-10	5.64E-09	0.00E+00	0.00E+00	5.64E-09
SVOC	Fluorene	86-73-7	1.38E+04		6.44E-04	3.14E-01	6.81E-05	4.57E+01	5.09E-02	2.77E-08	7.16E-07	3.04E-07	0.00E+00	0.00E+00	3.04E-07
SVOC	2-Methylnaphthalene	91-57-6	6.23E+03		8.19E-03	4.51E-01	6.70E-05	2.07E+01	7.31E-02	2.72E-08	2.89E-05	1.93E-06	0.00E+00	0.00E+00	1.93E-06
SVOC	Naphthalene	91-20-3	2.01E+03		6.57E-03	5.10E-01	6.48E-05	6.73E+00	8.27E-02	2.63E-08	8.07E-05	3.22E-06	0.00E+00	0.00E+00	3.22E-06
SVOC	Phenanthrene	85-01-8	2.42E+04		1.35E-04	3.24E-01	6.45E-05	8.05E+01	5.25E-02	2.62E-08	8.84E-08	1.07E-07	0.00E+00	0.00E+00	1.07E-07
SVOC	Pyrene	129-00-0	1.06E+05		7.46E-05	2.35E-01	6.26E-05	3.50E+02	3.81E-02	2.54E-08	8.19E-09	3.25E-08	0.00E+00	0.00E+00	3.25E-08
INORG	Arsenic	7440-38-2		2.90E+01								0.00E+00	0.00E+00	0.00E+00	0.00E+00
INORG	Barium	7440-39-3		4.10E+01								0.00E+00	0.00E+00	0.00E+00	0.00E+00
INORG	Cadmium	7440-43-9		7.50E+01								0.00E+00	0.00E+00	0.00E+00	0.00E+00
INORG	Chromium (total)	7440-47-3		1.90E+01								0.00E+00	0.00E+00	0.00E+00	0.00E+00
INORG	Lead	7439-92-1		9.00E+02								0.00E+00	0.00E+00	0.00E+00	0.00E+00
INORG	Mercury	7439-97-6		1.00E+03	1.19E-01	2.65E-01	5.44E-05	1.66E+03	4.30E-02	2.21E-08	3.08E-06	6.29E-07	0.00E+00	0.00E+00	6.29E-07
INORG	Selenium	7782-49-2		5.00E+00								0.00E+00	0.00E+00	0.00E+00	0.00E+00
INORG	Silver	7440-22-4		8.30E+00								0.00E+00	0.00E+00	0.00E+00	0.00E+00
Notes:	Soil bulk density	kg/L	ρ _b	1.66											
	Soil porosity	L/L-soil	θ	0.38											
	Soil water content	L/L-soil	θ _w	0.05											
	Soil air-filled porosity	L/L-soil	θ _a	0.32											
	Soil organic carbon fraction	unitless	f _{oc}	0.002											
	Averaging period (Exposure Duration)	year	T	10											
		days	T	3650											
		s	T	3.2E+08											
	Molar Gas Constant	L-mmHg/ mole-°K	R	62.411											
	Temperature	°C	Temp	10											
		K	Temp	283											
	Clean soil above source	m	Z ₁	0.00											
	Bottom of source depth	m	Z ₂	6.65											

Attachment E4: Unit Cancer Risk Calculations for Exposure of Maintenance Workers to Soil GM Janesville Haul Away Yard, Janesville, Wisconsin																	
				Soil Ingestion			Soil Dermal Contact				Soil Vapor Inhalation			Soil Particulate Inhalation			All Routes
Chem Group	Chemical	CASRN	Cancer Class	LADD (mg/kg/d)	SF _{oral} (mg/kg/d) ⁻¹	Risk	ABS _{derm}	LADD (mg/kg/d)	SF _{derm} (mg/kg/d) ⁻¹	Risk	C _{air} (mg/m ³)	URF (m ³ /mg)	Risk	C _{air} (mg/m ³)	URF (m ³ /mg)	Risk	Risk
VOC	Benzene	71-43-2	A	1.68E-08	5.5E-02	9.2E-10			5.5E-02		7.14E-04	7.8E-03	2.2E-08	5.00E-08	7.8E-03	1.5E-12	2.3E-08
VOC	2-Butanone	78-93-3	ID	1.68E-08							4.06E-04			5.00E-08			
VOC	Carbon Disulfide	75-15-0		1.68E-08							7.75E-04			5.00E-08			
VOC	Carbon Tetrachloride	56-23-5	LC	1.68E-08	7.0E-02	1.2E-09			7.0E-02		7.39E-04	6.0E-03	1.7E-08	5.00E-08	6.0E-03	1.2E-12	1.9E-08
VOC	Chloroform	67-66-3	B2	1.68E-08	1.9E-02	3.2E-10			1.9E-02		7.19E-04	2.3E-02	6.5E-08	5.00E-08	2.3E-02	4.5E-12	6.5E-08
VOC	Cumene	98-82-8	D	1.68E-08							5.35E-04			5.00E-08			
VOC	Dichlorodifluoromethane	75-71-8		1.68E-08							7.82E-04			5.00E-08			
VOC	Ethyl Benzene	100-41-4	D	1.68E-08							5.92E-04			5.00E-08			
VOC	Methyl Acetate	79-20-9		1.68E-08							4.77E-04			5.00E-08			
VOC	Methylcyclohexane	108-87-2		1.68E-08							7.75E-04			5.00E-08			
VOC	Toluene	108-88-3	ID	1.68E-08							6.59E-04			5.00E-08			
VOC	1,2,4-Trichlorobenzene	120-82-1	LC	1.68E-08	2.9E-02	4.9E-10			2.9E-02		9.71E-05			5.00E-08			4.9E-10
VOC	Trichloroethene	79-01-6	HC	1.68E-08	4.6E-02	7.7E-10			4.6E-02		6.89E-04	4.1E-03	1.1E-08	5.00E-08	4.1E-03	8.0E-13	1.2E-08
VOC	1,2,4-Trimethylbenzene	95-63-6	ID	1.68E-08							3.62E-04			5.00E-08			
VOC	1,3,5-Trimethylbenzene	108-67-8	ID	1.68E-08							2.98E-04			5.00E-08			
VOC	Xylenes (total)	1330-20-7	ID	1.68E-08							5.73E-04			5.00E-08			
SVOC	Acenaphthene	83-32-9	ID	1.68E-08			1.30E-01	1.44E-08			1.68E-05			5.00E-08			
SVOC	Anthracene	120-12-7	ID	1.68E-08			1.30E-01	1.44E-08			4.25E-06			5.00E-08			
SVOC	Biphenyl	92-52-4	SC	1.68E-08	8.0E-03	1.3E-10	1.00E-01	1.11E-08	8.0E-03	8.9E-11	2.51E-05			5.00E-08			2.2E-10
SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	B2	1.68E-08	1.4E-02	2.3E-10	1.00E-01	1.11E-08	1.4E-02	1.5E-10	6.86E-09			5.00E-08			3.9E-10
SVOC	Dibenzofuran	132-64-9	D	1.68E-08			1.00E-01	1.11E-08			3.37E-07			5.00E-08			
SVOC	Di-n-butylphthalate	84-74-2	D	1.68E-08			1.00E-01	1.11E-08			1.33E-07			5.00E-08			
SVOC	Fluorene	86-73-7	D	1.68E-08			1.30E-01	1.44E-08			7.17E-06			5.00E-08			
SVOC	2-Methylnaphthalene	91-57-6	ID	1.68E-08			1.00E-01	1.11E-08			4.55E-05			5.00E-08			
SVOC	Naphthalene	91-20-3	C	1.68E-08			1.30E-01	1.44E-08			7.62E-05	3.4E-02	1.0E-08	5.00E-08	3.4E-02	6.7E-12	1.0E-08
SVOC	Phenanthrene	85-01-8	D	1.68E-08			1.30E-01	1.44E-08			2.52E-06			5.00E-08			
SVOC	Pyrene	129-00-0	NC	1.68E-08			1.30E-01	1.44E-08			7.67E-07			5.00E-08			
INORG	Arsenic	7440-38-2	A	1.68E-08	1.5E+00	2.5E-08	3.00E-02	3.32E-09	1.5E+00	5.0E-09		4.3E+00		5.00E-08	4.3E+00	8.4E-10	3.1E-08
INORG	Barium	7440-39-3	NC	1.68E-08										5.00E-08			
INORG	Cadmium	7440-43-9	B1	1.68E-08			1.00E-03	1.11E-10				1.8E+00		5.00E-08	1.8E+00	3.5E-10	3.5E-10
INORG	Chromium (total)	7440-47-3		1.68E-08	5.0E-01	8.4E-09			2.0E+01			1.2E+01		5.00E-08	1.2E+01	2.3E-09	1.1E-08
INORG	Lead	7439-92-1	B2	1.68E-08										5.00E-08			
INORG	Mercury	7439-97-6	D	1.68E-08							1.49E-05			5.00E-08			
INORG	Selenium	7782-49-2	D	1.68E-08										5.00E-08			
INORG	Silver	7440-22-4	D	1.68E-08										5.00E-08			
Notes:																	
The dispersion coefficient to outdoor air (C/Q) is 23.6 (kg/m3) / (kg/m2/s).																	
This C/Q term is estimated using the empirical correlation in USEPA's Supplemental Soil Screening Guidance (2002), conservatively assuming a source area of 80 acres (the operational area) and region-specific meteorological parameters.																	
The concentration of particulates in the air is assumed to be no more than the former annual National Ambient Air Quality Standards (NAAQS) for PM ₁₀ of 50 ug/m ³ .																	

Attachment E4: Unit Hazard Quotient Calculations for Exposure of Maintenance Workers to Soil GM Janesville Haul Away Yard, Janesville, Wisconsin																	
				Soil Ingestion			Soil Dermal Contact				Soil Vapor Inhalation			Soil Particulate Inhalation			All Routes
Chem Group	Chemical	CASRN	Cancer Class	ADD (mg/kg/d)	RfD _{oral} (mg/kg/d)	HQ	ABS _{derm}	ADD (mg/kg/d)	RfD _{derm} (mg/kg/d)	HQ	C _{air} (mg/m ³)	RfC (mg/m ³)	HQ	C _{air} (mg/m ³)	RfC (mg/m ³)	HQ	HQ
VOC	Benzene	71-43-2	A	1.17E-07	4.0E-03	2.9E-05			4.0E-03		7.14E-04	3.0E-02	6.5E-04	5.00E-08	3.0E-02	4.6E-08	6.8E-04
VOC	2-Butanone	78-93-3	ID	1.17E-07	6.0E-01	2.0E-07			6.0E-01		4.06E-04	5.0E+00	2.2E-06	5.00E-08	5.0E+00	2.7E-10	2.4E-06
VOC	Carbon Disulfide	75-15-0		1.17E-07	1.0E-01	1.2E-06			1.0E-01		7.75E-04	7.0E-01	3.0E-05	5.00E-08	7.0E-01	2.0E-09	3.1E-05
VOC	Carbon Tetrachloride	56-23-5	LC	1.17E-07	4.0E-03	2.9E-05			4.0E-03		7.39E-04	1.0E-01	2.0E-04	5.00E-08	1.0E-01	1.4E-08	2.3E-04
VOC	Chloroform	67-66-3	B2	1.17E-07	1.0E-02	1.2E-05			1.0E-02		7.19E-04	5.0E-02	3.9E-04	5.00E-08	5.0E-02	2.7E-08	4.1E-04
VOC	Cumene	98-82-8	D	1.17E-07	1.0E-01	1.2E-06			1.0E-01		5.35E-04	4.0E-01	3.7E-05	5.00E-08	4.0E-01	3.4E-09	3.8E-05
VOC	Dichlorodifluoromethane	75-71-8		1.17E-07	2.0E-01	5.9E-07			2.0E-01		7.82E-04	2.0E-01	1.1E-04	5.00E-08	2.0E-01	6.8E-09	1.1E-04
VOC	Ethyl Benzene	100-41-4	D	1.17E-07	1.0E-01	1.2E-06			1.0E-01		5.92E-04	1.0E+00	1.6E-05	5.00E-08	1.0E+00	1.4E-09	1.7E-05
VOC	Methyl Acetate	79-20-9		1.17E-07	1.0E+00	1.2E-07			1.0E+00		4.77E-04			5.00E-08			1.2E-07
VOC	Methylcyclohexane	108-87-2		1.17E-07							7.75E-04	3.0E+00	7.1E-06	5.00E-08	3.0E+00	4.6E-10	7.1E-06
VOC	Toluene	108-88-3	ID	1.17E-07	8.0E-02	1.5E-06			8.0E-02		6.59E-04	5.0E+00	3.6E-06	5.00E-08	5.0E+00	2.7E-10	5.1E-06
VOC	1,2,4-Trichlorobenzene	120-82-1	LC	1.17E-07	1.0E-02	1.2E-05			1.0E-02		9.71E-05	2.0E-03	1.3E-03	5.00E-08	2.0E-03	6.8E-07	1.3E-03
VOC	Trichloroethene	79-01-6	HC	1.17E-07	5.0E-04	2.3E-04			5.0E-04		6.89E-04	2.0E-03	9.4E-03	5.00E-08	2.0E-03	6.8E-07	9.7E-03
VOC	1,2,4-Trimethylbenzene	95-63-6	ID	1.17E-07							3.62E-04	7.0E-03	1.4E-03	5.00E-08	7.0E-03	2.0E-07	1.4E-03
VOC	1,3,5-Trimethylbenzene	108-67-8	ID	1.17E-07	1.0E-02	1.2E-05			1.0E-02		2.98E-04	6.0E-03	1.4E-03	5.00E-08	6.0E-03	2.3E-07	1.4E-03
VOC	Xylenes (total)	1330-20-7	ID	1.17E-07	2.0E-01	5.9E-07			2.0E-01		5.73E-04	1.0E-01	1.6E-04	5.00E-08	1.0E-01	1.4E-08	1.6E-04
SVOC	Acenaphthene	83-32-9	ID	1.17E-07	6.0E-02	2.0E-06	1.30E-01	1.01E-07	6.0E-02	1.7E-06	1.68E-05			5.00E-08			3.6E-06
SVOC	Anthracene	120-12-7	ID	1.17E-07	3.0E-01	3.9E-07	1.30E-01	1.01E-07	3.0E-01	3.4E-07	4.25E-06			5.00E-08			7.3E-07
SVOC	Biphenyl	92-52-4	SC	1.17E-07	5.0E-02	2.3E-06	1.00E-01	7.75E-08	5.0E-02	1.5E-06	2.51E-05	4.0E-03	1.7E-04	5.00E-08	4.0E-03	3.4E-07	1.8E-04
SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	B2	1.17E-07	2.0E-02	5.9E-06	1.00E-01	7.75E-08	2.0E-02	3.9E-06	6.86E-09			5.00E-08			9.7E-06
SVOC	Dibenzofuran	132-64-9	D	1.17E-07	1.0E-03	1.2E-04	1.00E-01	7.75E-08	1.0E-03	7.7E-05	3.37E-07			5.00E-08			1.9E-04
SVOC	Di-n-butylphthalate	84-74-2	D	1.17E-07	1.0E-01	1.2E-06	1.00E-01	7.75E-08	1.0E-01	7.7E-07	1.33E-07			5.00E-08			1.9E-06
SVOC	Fluorene	86-73-7	D	1.17E-07	4.0E-02	2.9E-06	1.30E-01	1.01E-07	4.0E-02	2.5E-06	7.17E-06			5.00E-08			5.5E-06
SVOC	2-Methylnaphthalene	91-57-6	ID	1.17E-07	4.0E-03	2.9E-05	1.00E-01	7.75E-08	4.0E-03	1.9E-05	4.55E-05			5.00E-08			4.9E-05
SVOC	Naphthalene	91-20-3	C	1.17E-07	2.0E-02	5.9E-06	1.30E-01	1.01E-07	2.0E-02	5.0E-06	7.62E-05	3.0E-03	7.0E-04	5.00E-08	3.0E-03	4.6E-07	7.1E-04
SVOC	Phenanthrene	85-01-8	D	1.17E-07	3.0E-02	3.9E-06	1.30E-01	1.01E-07	3.0E-02	3.4E-06	2.52E-06			5.00E-08			7.3E-06
SVOC	Pyrene	129-00-0	NC	1.17E-07	3.0E-02	3.9E-06	1.30E-01	1.01E-07	3.0E-02	3.4E-06	7.67E-07			5.00E-08			7.3E-06
INORG	Arsenic	7440-38-2	A	1.17E-07	3.0E-04	3.9E-04	3.00E-02	2.32E-08	3.0E-04	7.7E-05		1.5E-05		5.00E-08	1.5E-05	9.1E-05	5.6E-04
INORG	Barium	7440-39-3	NC	1.17E-07	2.0E-01	5.9E-07			1.4E-02					5.00E-08			5.9E-07
INORG	Cadmium	7440-43-9	B1	1.17E-07	1.0E-03	1.2E-04	1.00E-03	7.75E-10	2.5E-05	3.1E-05		1.0E-05		5.00E-08	1.0E-05	1.4E-04	2.9E-04
INORG	Chromium (total)	7440-47-3		1.17E-07	3.0E-03	3.9E-05			7.5E-05			1.0E-04		5.00E-08	1.0E-04	1.4E-05	5.3E-05
INORG	Lead	7439-92-1	B2	1.17E-07										5.00E-08			
INORG	Mercury	7439-97-6	D	1.17E-07	3.0E-04	3.9E-04			2.1E-05		1.49E-05	3.0E-04	1.4E-03	5.00E-08	3.0E-04	4.6E-06	1.8E-03
INORG	Selenium	7782-49-2	D	1.17E-07	5.0E-03	2.3E-05			5.0E-03			2.0E-02		5.00E-08	2.0E-02	6.8E-08	2.4E-05
INORG	Silver	7440-22-4	D	1.17E-07	5.0E-03	2.3E-05			2.0E-04			1.0E-05		5.00E-08	1.0E-05	1.4E-04	1.6E-04
Notes:																	
The dispersion coefficient to outdoor air (C/Q) is 23.6 (kg/m3) / (kg/m2/s).																	
This C/Q term is estimated using the empirical correlation in USEPA's Supplemental Soil Screening Guidance (2002), conservatively assuming a source area of 80 acres (the operational area) and region-specific meteorological parameters																	
The concentration of particulates in the air is assumed to be no more than the former annual National Ambient Air Quality Standards (NAAQS) for PM ₁₀ of 50 ug/m ³ .																	

Attachment E4: Cancer Risk-Based Criteria for Exposure of Maintenance Workers to Soil GM Janesville Haul Away Yard, Janesville, Wisconsin																	
				Soil Ingestion			Soil Dermal Contact				Soil Vapor Inhalation			Soil Particulate Inhalation			All Routes
Chem Group	Chemical	CASRN	Cancer Class	LADD (mg/kg/d)	SF _{oral} (mg/kg/d) ⁻¹	RBC (mg/kg)	ABS _{derm}	LADD (mg/kg/d)	SF _{derm} (mg/kg/d) ⁻¹	RBC (mg/kg)	C _{air} (mg/m ³)	URF (m ³ /mg)	RBC (mg/kg)	C _{air} (mg/m ³)	URF (m ³ /mg)	RBC (mg/kg)	RBC (mg/kg)
VOC	Benzene	71-43-2	A	1.68E-08	5.5E-02	1.1E+03			5.5E-02		7.14E-04	7.8E-03	4.6E+01	5.00E-08	7.8E-03	6.6E+05	4.4E+01
VOC	2-Butanone	78-93-3	ID	1.68E-08							4.06E-04			5.00E-08			
VOC	Carbon Disulfide	75-15-0		1.68E-08							7.75E-04			5.00E-08			
VOC	Carbon Tetrachloride	56-23-5	LC	1.68E-08	7.0E-02	8.5E+02			7.0E-02		7.39E-04	6.0E-03	5.8E+01	5.00E-08	6.0E-03	8.5E+05	5.4E+01
VOC	Chloroform	67-66-3	B2	1.68E-08	1.9E-02	3.1E+03			1.9E-02		7.19E-04	2.3E-02	1.5E+01	5.00E-08	2.3E-02	2.2E+05	1.5E+01
VOC	Cumene	98-82-8	D	1.68E-08							5.35E-04			5.00E-08			
VOC	Dichlorodifluoromethane	75-71-8		1.68E-08							7.82E-04			5.00E-08			
VOC	Ethyl Benzene	100-41-4	D	1.68E-08							5.92E-04			5.00E-08			
VOC	Methyl Acetate	79-20-9		1.68E-08							4.77E-04			5.00E-08			
VOC	Methylcyclohexane	108-87-2		1.68E-08							7.75E-04			5.00E-08			
VOC	Toluene	108-88-3	ID	1.68E-08							6.59E-04			5.00E-08			
VOC	1,2,4-Trichlorobenzene	120-82-1	LC	1.68E-08	2.9E-02	2.1E+03			2.9E-02		9.71E-05			5.00E-08			2.1E+03
VOC	Trichloroethene	79-01-6	HC	1.68E-08	4.6E-02	1.3E+03			4.6E-02		6.89E-04	4.1E-03	9.0E+01	5.00E-08	4.1E-03	1.2E+06	8.4E+01
VOC	1,2,4-Trimethylbenzene	95-63-6	ID	1.68E-08							3.62E-04			5.00E-08			
VOC	1,3,5-Trimethylbenzene	108-67-8	ID	1.68E-08							2.98E-04			5.00E-08			
VOC	Xylenes (total)	1330-20-7	ID	1.68E-08							5.73E-04			5.00E-08			
SVOC	Acenaphthene	83-32-9	ID	1.68E-08			1.30E-01	1.44E-08			1.68E-05			5.00E-08			
SVOC	Anthracene	120-12-7	ID	1.68E-08			1.30E-01	1.44E-08			4.25E-06			5.00E-08			
SVOC	Biphenyl	92-52-4	SC	1.68E-08	8.0E-03	7.5E+03	1.00E-01	1.11E-08	8.0E-03	1.1E+04	2.51E-05			5.00E-08			4.5E+03
SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	B2	1.68E-08	1.4E-02	4.3E+03	1.00E-01	1.11E-08	1.4E-02	6.5E+03	6.86E-09			5.00E-08			2.6E+03
SVOC	Dibenzofuran	132-64-9	D	1.68E-08			1.00E-01	1.11E-08			3.37E-07			5.00E-08			
SVOC	Di-n-butylphthalate	84-74-2	D	1.68E-08			1.00E-01	1.11E-08			1.33E-07			5.00E-08			
SVOC	Fluorene	86-73-7	D	1.68E-08			1.30E-01	1.44E-08			7.17E-06			5.00E-08			
SVOC	2-Methylnaphthalene	91-57-6	ID	1.68E-08			1.00E-01	1.11E-08			4.55E-05			5.00E-08			
SVOC	Naphthalene	91-20-3	C	1.68E-08			1.30E-01	1.44E-08			7.62E-05	3.4E-02	9.9E+01	5.00E-08	3.4E-02	1.5E+05	9.9E+01
SVOC	Phenanthrene	85-01-8	D	1.68E-08			1.30E-01	1.44E-08			2.52E-06			5.00E-08			
SVOC	Pyrene	129-00-0	NC	1.68E-08			1.30E-01	1.44E-08			7.67E-07			5.00E-08			
INORG	Arsenic	7440-38-2	A	1.68E-08	1.5E+00	4.0E+01	3.00E-02	3.32E-09	1.5E+00	2.0E+02		4.3E+00		5.00E-08	4.3E+00	1.2E+03	3.2E+01
INORG	Barium	7440-39-3	NC	1.68E-08										5.00E-08			
INORG	Cadmium	7440-43-9	B1	1.68E-08			1.00E-03	1.11E-10				1.8E+00		5.00E-08	1.8E+00	2.8E+03	2.8E+03
INORG	Chromium (total)	7440-47-3		1.68E-08	5.0E-01	1.2E+02			2.0E+01			1.2E+01		5.00E-08	1.2E+01	4.3E+02	9.3E+01
INORG	Lead	7439-92-1	B2	1.68E-08										5.00E-08			
INORG	Mercury	7439-97-6	D	1.68E-08							1.49E-05			5.00E-08			
INORG	Selenium	7782-49-2	D	1.68E-08										5.00E-08			
INORG	Silver	7440-22-4	D	1.68E-08										5.00E-08			
Notes:																	
The dispersion coefficient to outdoor air (C/Q) is 23.6 (kg/m3) / (kg/m2/s).																	
This C/Q term is estimated using the empirical correlation in USEPA's Supplemental Soil Screening Guidance (2002), conservatively assuming a source area of 80 acres (the operational area) and region-specific meteorological parameters.																	
The concentration of particulates in the air is assumed to be no more than the former annual National Ambient Air Quality Standards (NAAQS) for PM ₁₀ of 50 ug/m ³ .																	
Risk-based criteria are calculated at a target cancer risk of 1E-6.																	

Attachment E4: Noncancer Risk-Based Criteria for Exposure of Maintenance Workers to Soil GM Janesville Haul Away Yard, Janesville, Wisconsin																	
				Soil Ingestion			Soil Dermal Contact				Soil Vapor Inhalation			Soil Particulate Inhalation			All Routes
Chem Group	Chemical	CASRN	Cancer Class	ADD (mg/kg/d)	RfD _{oral} (mg/kg/d)	RBC (mg/kg)	ABS _{derm}	ADD (mg/kg/d)	RfD _{derm} (mg/kg/d)	RBC (mg/kg)	C _{air} (mg/m ³)	RfC (mg/m ³)	RBC (mg/kg)	C _{air} (mg/m ³)	RfC (mg/m ³)	RBC (mg/kg)	RBC (mg/kg)
VOC	Benzene	71-43-2	A	1.17E-07	4.0E-03	3.4E+03			4.0E-03		7.14E-04	3.0E-02	1.5E+02	5.00E-08	3.0E-02	2.2E+06	1.5E+02
VOC	2-Butanone	78-93-3	ID	1.17E-07	6.0E-01	5.1E+05			6.0E-01		4.06E-04	5.0E+00	4.5E+04	5.00E-08	5.0E+00	3.7E+08	4.1E+04
VOC	Carbon Disulfide	75-15-0		1.17E-07	1.0E-01	8.5E+04			1.0E-01		7.75E-04	7.0E-01	3.3E+03	5.00E-08	7.0E-01	5.1E+07	3.2E+03
VOC	Carbon Tetrachloride	56-23-5	LC	1.17E-07	4.0E-03	3.4E+03			4.0E-03		7.39E-04	1.0E-01	4.9E+02	5.00E-08	1.0E-01	7.3E+06	4.3E+02
VOC	Chloroform	67-66-3	B2	1.17E-07	1.0E-02	8.5E+03			1.0E-02		7.19E-04	5.0E-02	2.5E+02	5.00E-08	5.0E-02	3.7E+06	2.5E+02
VOC	Cumene	98-82-8	D	1.17E-07	1.0E-01	8.5E+04			1.0E-01		5.35E-04	4.0E-01	2.7E+03	5.00E-08	4.0E-01	2.9E+07	2.6E+03
VOC	Dichlorodifluoromethane	75-71-8		1.17E-07	2.0E-01	1.7E+05			2.0E-01		7.82E-04	2.0E-01	9.3E+02	5.00E-08	2.0E-01	1.5E+07	9.3E+02
VOC	Ethyl Benzene	100-41-4	D	1.17E-07	1.0E-01	8.5E+04			1.0E-01		5.92E-04	1.0E+00	6.2E+03	5.00E-08	1.0E+00	7.3E+07	5.7E+03
VOC	Methyl Acetate	79-20-9		1.17E-07	1.0E+00	8.5E+05			1.0E+00		4.77E-04			5.00E-08			8.5E+05
VOC	Methylcyclohexane	108-87-2		1.17E-07							7.75E-04	3.0E+00	1.4E+04	5.00E-08	3.0E+00	2.2E+08	1.4E+04
VOC	Toluene	108-88-3	ID	1.17E-07	8.0E-02	6.8E+04			8.0E-02		6.59E-04	5.0E+00	2.8E+04	5.00E-08	5.0E+00	3.7E+08	2.0E+04
VOC	1,2,4-Trichlorobenzene	120-82-1	LC	1.17E-07	1.0E-02	8.5E+03			1.0E-02		9.71E-05	2.0E-03	7.5E+01	5.00E-08	2.0E-03	1.5E+05	7.5E+01
VOC	Trichloroethene	79-01-6	HC	1.17E-07	5.0E-04	4.3E+02			5.0E-04		6.89E-04	2.0E-03	1.1E+01	5.00E-08	2.0E-03	1.5E+05	1.0E+01
VOC	1,2,4-Trimethylbenzene	95-63-6	ID	1.17E-07							3.62E-04	7.0E-03	7.1E+01	5.00E-08	7.0E-03	5.1E+05	7.1E+01
VOC	1,3,5-Trimethylbenzene	108-67-8	ID	1.17E-07	1.0E-02	8.5E+03			1.0E-02		2.98E-04	6.0E-03	7.4E+01	5.00E-08	6.0E-03	4.4E+05	7.3E+01
VOC	Xylenes (total)	1330-20-7	ID	1.17E-07	2.0E-01	1.7E+05			2.0E-01		5.73E-04	1.0E-01	6.4E+02	5.00E-08	1.0E-01	7.3E+06	6.3E+02
SVOC	Acenaphthene	83-32-9	ID	1.17E-07	6.0E-02	5.1E+04	1.30E-01	1.01E-07	6.0E-02	6.0E+04	1.68E-05			5.00E-08			2.8E+04
SVOC	Anthracene	120-12-7	ID	1.17E-07	3.0E-01	2.6E+05	1.30E-01	1.01E-07	3.0E-01	3.0E+05	4.25E-06			5.00E-08			1.4E+05
SVOC	Biphenyl	92-52-4	SC	1.17E-07	5.0E-02	4.3E+04	1.00E-01	7.75E-08	5.0E-02	6.5E+04	2.51E-05	4.0E-03	5.8E+02	5.00E-08	4.0E-03	2.9E+05	5.7E+02
SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	B2	1.17E-07	2.0E-02	1.7E+04	1.00E-01	7.75E-08	2.0E-02	2.6E+04	6.86E-09			5.00E-08			1.0E+04
SVOC	Dibenzofuran	132-64-9	D	1.17E-07	1.0E-03	8.5E+02	1.00E-01	7.75E-08	1.0E-03	1.3E+03	3.37E-07			5.00E-08			5.1E+02
SVOC	Di-n-butylphthalate	84-74-2	D	1.17E-07	1.0E-01	8.5E+04	1.00E-01	7.75E-08	1.0E-01	1.3E+05	1.33E-07			5.00E-08			5.1E+04
SVOC	Fluorene	86-73-7	D	1.17E-07	4.0E-02	3.4E+04	1.30E-01	1.01E-07	4.0E-02	4.0E+04	7.17E-06			5.00E-08			1.8E+04
SVOC	2-Methylnaphthalene	91-57-6	ID	1.17E-07	4.0E-03	3.4E+03	1.00E-01	7.75E-08	4.0E-03	5.2E+03	4.55E-05			5.00E-08			2.1E+03
SVOC	Naphthalene	91-20-3	C	1.17E-07	2.0E-02	1.7E+04	1.30E-01	1.01E-07	2.0E-02	2.0E+04	7.62E-05	3.0E-03	1.4E+02	5.00E-08	3.0E-03	2.2E+05	1.4E+02
SVOC	Phenanthrene	85-01-8	D	1.17E-07	3.0E-02	2.6E+04	1.30E-01	1.01E-07	3.0E-02	3.0E+04	2.52E-06			5.00E-08			1.4E+04
SVOC	Pyrene	129-00-0	NC	1.17E-07	3.0E-02	2.6E+04	1.30E-01	1.01E-07	3.0E-02	3.0E+04	7.67E-07			5.00E-08			1.4E+04
INORG	Arsenic	7440-38-2	A	1.17E-07	3.0E-04	2.6E+02	3.00E-02	2.32E-08	3.0E-04	1.3E+03		1.5E-05		5.00E-08	1.5E-05	1.1E+03	1.8E+02
INORG	Barium	7440-39-3	NC	1.17E-07	2.0E-01	1.7E+05			1.4E-02					5.00E-08			1.7E+05
INORG	Cadmium	7440-43-9	B1	1.17E-07	1.0E-03	8.5E+02	1.00E-03	7.75E-10	2.5E-05	3.2E+03		1.0E-05		5.00E-08	1.0E-05	7.3E+02	3.5E+02
INORG	Chromium (total)	7440-47-3		1.17E-07	3.0E-03	2.6E+03			7.5E-05			1.0E-04		5.00E-08	1.0E-04	7.3E+03	1.9E+03
INORG	Lead	7439-92-1	B2	1.17E-07										5.00E-08			
INORG	Mercury	7439-97-6	D	1.17E-07	3.0E-04	2.6E+02			2.1E-05		1.49E-05	3.0E-04	7.4E+01	5.00E-08	3.0E-04	2.2E+04	5.7E+01
INORG	Selenium	7782-49-2	D	1.17E-07	5.0E-03	4.3E+03			5.0E-03			2.0E-02		5.00E-08	2.0E-02	1.5E+06	4.2E+03
INORG	Silver	7440-22-4	D	1.17E-07	5.0E-03	4.3E+03			2.0E-04			1.0E-05		5.00E-08	1.0E-05	7.3E+02	6.2E+02
Notes:																	
The dispersion coefficient to outdoor air (C/Q) is 23.6 (kg/m3) / (kg/m2/s).																	
This C/Q term is estimated using the empirical correlation in USEPA's Supplemental Soil Screening Guidance (2002), conservatively assuming a source area of 80 acres (the operational area) and region-specific meteorological parameters																	
The concentration of particulates in the air is assumed to be no more than the former annual National Ambient Air Quality Standards (NAAQS) for PM ₁₀ of 50 ug/m ³ .																	
Risk-based criteria are calculated at a target noncancer HQ of 0.1.																	

Attachment E5

Construction Worker Risk Calculations

Contents

- Vapor Flux from Soil to Outdoor Air
- Unit Cancer Risk Calculations for Exposure of Construction Workers to Soil
- Unit Hazard Quotient Calculations for Exposure of Construction Workers to Soil
- Cancer Risk-Based Criteria for Exposure of Construction Workers to Soil
- Noncancer Risk-Based Criteria for Exposure of Construction Workers to Soil

Attachment E5: Vapor Flux from Soil to Outdoor Air GM Janesville Haul Away Yard; Janesville, Wisconsin															
Chem Group	Chemical	CASRN	K _{oc} (L/kg)	K _d (L/kg)	H (unitless)	D _{air} (m ² /d)	D _{water} (m ² /d)	R _L (unitless)	D _G (m ² /d)	D _L (m ² /d)	D _E (m ² /d)	Infinite J _v (kg/m ² -s)	Finite depth Z1 ERFC term	Finite depth Z2 ERFC term	Finite J _v (kg/m ² -s)
VOC	Benzene	71-43-2	5.82E+01		1.16E-01	7.60E-01	8.47E-05	2.84E-01	1.23E-01	3.44E-08	5.04E-02	2.55E-04	0.00E+00	1.82E+00	2.11E-04
VOC	2-Butanone	78-93-3	2.00E+00		1.42E-03	6.98E-01	8.47E-05	6.04E-02	1.13E-01	3.44E-08	2.66E-03	5.85E-05	0.00E+00	1.21E-05	5.85E-05
VOC	Carbon Disulfide	75-15-0	4.59E+01		7.18E-01	8.99E-01	8.64E-05	4.37E-01	1.46E-01	3.51E-08	2.40E-01	5.55E-04	0.00E+00	4.09E+00	2.81E-04
VOC	Carbon Tetrachloride	56-23-5	1.74E+02		6.52E-01	6.74E-01	7.60E-05	8.40E-01	1.09E-01	3.09E-08	8.48E-02	3.30E-04	0.00E+00	2.65E+00	2.39E-04
VOC	Chloroform	67-66-3	3.97E+01		8.04E-02	8.99E-01	8.64E-05	2.11E-01	1.46E-01	3.51E-08	5.55E-02	2.67E-04	0.00E+00	1.97E+00	2.16E-04
VOC	Cumene	98-82-8	7.05E+02		1.81E-01	5.62E-01	6.13E-05	2.45E+00	9.11E-02	2.49E-08	6.72E-03	9.30E-05	0.00E+00	1.77E-02	9.29E-05
VOC	Dichlorodifluoromethane	75-71-8	6.15E+01		8.73E+00	6.91E-01	6.91E-05	3.07E+00	1.12E-01	2.81E-08	3.19E-01	6.41E-04	0.00E+00	4.41E+00	2.90E-04
VOC	Ethyl Benzene	100-41-4	3.67E+02		1.37E-01	6.48E-01	6.74E-05	1.32E+00	1.05E-01	2.74E-08	1.09E-02	1.19E-04	0.00E+00	1.24E-01	1.18E-04
VOC	Methyl Acetate	79-20-9	1.66E+00		1.92E-03	8.27E-01	9.50E-05	5.95E-02	1.34E-01	3.86E-08	4.34E-03	7.48E-05	0.00E+00	1.24E-03	7.48E-05
VOC	Methylcyclohexane	108-87-2	2.66E+02		8.58E+00	6.35E-01	7.36E-05	3.70E+00	1.03E-01	2.99E-08	2.39E-01	5.55E-04	0.00E+00	4.09E+00	2.81E-04
VOC	Toluene	108-88-3	1.80E+02		1.26E-01	7.52E-01	7.43E-05	6.93E-01	1.22E-01	3.02E-08	2.22E-02	1.69E-04	0.00E+00	6.57E-01	1.60E-04
VOC	1,2,4-Trichlorobenzene	120-82-1	1.79E+03		1.88E-02	2.59E-01	7.11E-05	6.02E+00	4.20E-02	2.89E-08	1.31E-04	1.30E-05	0.00E+00	0.00E+00	1.30E-05
VOC	Trichloroethene	79-01-6	1.68E+02		2.07E-01	6.83E-01	7.86E-05	6.76E-01	1.11E-01	3.19E-08	3.38E-02	2.09E-04	0.00E+00	1.20E+00	1.87E-04
VOC	1,2,4-Trimethylbenzene	95-63-6	1.18E+03		9.32E-02	5.24E-01	6.84E-05	4.00E+00	8.49E-02	2.78E-08	1.98E-03	5.05E-05	0.00E+00	2.08E-07	5.05E-05
VOC	1,3,5-Trimethylbenzene	108-67-8	1.76E+03		8.91E-02	5.20E-01	7.49E-05	5.93E+00	8.43E-02	3.04E-08	1.27E-03	4.04E-05	0.00E+00	3.13E-11	4.04E-05
VOC	Xylenes (total)	1330-20-7	3.86E+02		1.16E-01	6.74E-01	7.56E-05	1.37E+00	1.09E-01	3.07E-08	9.22E-03	1.09E-04	0.00E+00	6.89E-02	1.09E-04
SVOC	Acenaphthene	83-32-9	7.14E+03		1.58E-03	3.64E-01	6.64E-05	2.38E+01	5.90E-02	2.70E-08	3.93E-06	2.25E-06	0.00E+00	0.00E+00	2.25E-06
SVOC	Anthracene	120-12-7	2.97E+04		5.45E-04	2.80E-01	6.69E-05	9.87E+01	4.54E-02	2.72E-08	2.51E-07	5.68E-07	0.00E+00	0.00E+00	5.68E-07
SVOC	Biphenyl	92-52-4	1.05E+04		5.42E-03	3.49E-01	7.04E-05	3.49E+01	5.66E-02	2.86E-08	8.80E-06	3.37E-06	0.00E+00	0.00E+00	3.37E-06
SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	1.50E+07		4.02E-07	3.03E-01	3.16E-05	4.98E+04	4.92E-02	1.28E-08	6.54E-13	9.18E-10	0.00E+00	0.00E+00	9.18E-10
SVOC	Dibenzofuran	132-64-9	2.07E+04		2.63E-06	2.06E-01	5.18E-05	6.87E+01	3.33E-02	2.11E-08	1.58E-09	4.51E-08	0.00E+00	0.00E+00	4.51E-08
SVOC	Di-n-butylphthalate	84-74-2	3.40E+04		5.46E-09	3.78E-01	6.79E-05	1.13E+02	6.14E-02	2.76E-08	2.47E-10	1.78E-08	0.00E+00	0.00E+00	1.78E-08
SVOC	Fluorene	86-73-7	1.38E+04		6.44E-04	3.14E-01	6.81E-05	4.57E+01	5.09E-02	2.77E-08	7.16E-07	9.60E-07	0.00E+00	0.00E+00	9.60E-07
SVOC	2-Methylnaphthalene	91-57-6	6.23E+03		8.19E-03	4.51E-01	6.70E-05	2.07E+01	7.31E-02	2.72E-08	2.89E-05	6.10E-06	0.00E+00	0.00E+00	6.10E-06
SVOC	Naphthalene	91-20-3	2.01E+03		6.57E-03	5.10E-01	6.48E-05	6.73E+00	8.27E-02	2.63E-08	8.07E-05	1.02E-05	0.00E+00	0.00E+00	1.02E-05
SVOC	Phenanthrene	85-01-8	2.42E+04		1.35E-04	3.24E-01	6.45E-05	8.05E+01	5.25E-02	2.62E-08	8.84E-08	3.37E-07	0.00E+00	0.00E+00	3.37E-07
SVOC	Pyrene	129-00-0	1.06E+05		7.46E-05	2.35E-01	6.26E-05	3.50E+02	3.81E-02	2.54E-08	8.19E-09	1.03E-07	0.00E+00	0.00E+00	1.03E-07
INORG	Arsenic	7440-38-2		2.90E+01								0.00E+00	0.00E+00	0.00E+00	0.00E+00
INORG	Barium	7440-39-3		4.10E+01								0.00E+00	0.00E+00	0.00E+00	0.00E+00
INORG	Cadmium	7440-43-9		7.50E+01								0.00E+00	0.00E+00	0.00E+00	0.00E+00
INORG	Chromium (total)	7440-47-3		1.90E+01								0.00E+00	0.00E+00	0.00E+00	0.00E+00
INORG	Lead	7439-92-1		9.00E+02								0.00E+00	0.00E+00	0.00E+00	0.00E+00
INORG	Mercury	7439-97-6		1.00E+03	1.19E-01	2.65E-01	5.44E-05	1.66E+03	4.30E-02	2.21E-08	3.08E-06	1.99E-06	0.00E+00	0.00E+00	1.99E-06
INORG	Selenium	7782-49-2		5.00E+00								0.00E+00	0.00E+00	0.00E+00	0.00E+00
INORG	Silver	7440-22-4		8.30E+00								0.00E+00	0.00E+00	0.00E+00	0.00E+00
Notes:	Soil bulk density	kg/L	ρ _b	1.66											
	Soil porosity	L/L-soil	θ	0.38											
	Soil water content	L/L-soil	θ _w	0.05											
	Soil air-filled porosity	L/L-soil	θ _a	0.32											
	Soil organic carbon fraction	unitless	f _{oc}	0.002											
	Averaging period (Exposure Duration)	year	T	1											
		days	T	365											
		s	T	3.2E+07											
	Molar Gas Constant	L-mmHg/ mole-°K	R	62.411											
	Temperature	°C	Temp	10											
		K	Temp	283											
	Clean soil above source	m	Z ₁	0.00											
	Bottom of source depth	m	Z ₂	6.65											

Attachment E5: Unit Cancer Risk Calculations for Exposure of Construction Workers to Soil GM Janesville Haul Away Yard, Janesville, Wisconsin																	
				Soil Ingestion			Soil Dermal Contact				Soil Vapor Inhalation			Soil Particulate Inhalation			All Routes
Chem Group	Chemical	CASRN	Cancer Class	LADD (mg/kg/d)	SF _{oral} (mg/kg/d) ⁻¹	Risk	ABS _{derm}	LADD (mg/kg/d)	SF _{derm} (mg/kg/d) ⁻¹	Risk	C _{air} (mg/m ³)	URF (m ³ /mg)	Risk	C _{air} (mg/m ³)	URF (m ³ /mg)	Risk	Risk
VOC	Benzene	71-43-2	A	2.80E-08	5.5E-02	1.5E-09			5.5E-02		4.98E-03	7.8E-03	1.3E-07	5.00E-08	7.8E-03	1.3E-12	1.3E-07
VOC	2-Butanone	78-93-3	ID	2.80E-08							1.38E-03			5.00E-08			
VOC	Carbon Disulfide	75-15-0		2.80E-08							6.64E-03			5.00E-08			
VOC	Carbon Tetrachloride	56-23-5	LC	2.80E-08	7.0E-02	2.0E-09			7.0E-02		5.64E-03	6.0E-03	1.1E-07	5.00E-08	6.0E-03	9.8E-13	1.1E-07
VOC	Chloroform	67-66-3	B2	2.80E-08	1.9E-02	5.3E-10			1.9E-02		5.10E-03	2.3E-02	3.8E-07	5.00E-08	2.3E-02	3.8E-12	3.8E-07
VOC	Cumene	98-82-8	D	2.80E-08							2.19E-03			5.00E-08			
VOC	Dichlorodifluoromethane	75-71-8		2.80E-08							6.85E-03			5.00E-08			
VOC	Ethyl Benzene	100-41-4	D	2.80E-08							2.78E-03			5.00E-08			
VOC	Methyl Acetate	79-20-9		2.80E-08							1.77E-03			5.00E-08			
VOC	Methylcyclohexane	108-87-2		2.80E-08							6.64E-03			5.00E-08			
VOC	Toluene	108-88-3	ID	2.80E-08							3.79E-03			5.00E-08			
VOC	1,2,4-Trichlorobenzene	120-82-1	LC	2.80E-08	2.9E-02	8.1E-10			2.9E-02		3.07E-04			5.00E-08			8.1E-10
VOC	Trichloroethene	79-01-6	HC	2.80E-08	4.6E-02	1.3E-09			4.6E-02		4.41E-03	4.1E-03	5.9E-08	5.00E-08	4.1E-03	6.7E-13	6.0E-08
VOC	1,2,4-Trimethylbenzene	95-63-6	ID	2.80E-08							1.19E-03			5.00E-08			
VOC	1,3,5-Trimethylbenzene	108-67-8	ID	2.80E-08							9.54E-04			5.00E-08			
VOC	Xylenes (total)	1330-20-7	ID	2.80E-08							2.56E-03			5.00E-08			
SVOC	Acenaphthene	83-32-9	ID	2.80E-08			1.30E-01	1.20E-08			5.32E-05			5.00E-08			
SVOC	Anthracene	120-12-7	ID	2.80E-08			1.30E-01	1.20E-08			1.34E-05			5.00E-08			
SVOC	Biphenyl	92-52-4	SC	2.80E-08	8.0E-03	2.2E-10	1.00E-01	9.23E-09	8.0E-03	7.4E-11	7.95E-05			5.00E-08			3.0E-10
SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	B2	2.80E-08	1.4E-02	3.9E-10	1.00E-01	9.23E-09	1.4E-02	1.3E-10	2.17E-08			5.00E-08			5.2E-10
SVOC	Dibenzofuran	132-64-9	D	2.80E-08			1.00E-01	9.23E-09			1.07E-06			5.00E-08			
SVOC	Di-n-butylphthalate	84-74-2	D	2.80E-08			1.00E-01	9.23E-09			4.21E-07			5.00E-08			
SVOC	Fluorene	86-73-7	D	2.80E-08			1.30E-01	1.20E-08			2.27E-05			5.00E-08			
SVOC	2-Methylnaphthalene	91-57-6	ID	2.80E-08			1.00E-01	9.23E-09			1.44E-04			5.00E-08			
SVOC	Naphthalene	91-20-3	C	2.80E-08			1.30E-01	1.20E-08			2.41E-04	3.4E-02	2.7E-08	5.00E-08	3.4E-02	5.5E-12	2.7E-08
SVOC	Phenanthrene	85-01-8	D	2.80E-08			1.30E-01	1.20E-08			7.97E-06			5.00E-08			
SVOC	Pyrene	129-00-0	NC	2.80E-08			1.30E-01	1.20E-08			2.43E-06			5.00E-08			
INORG	Arsenic	7440-38-2	A	2.80E-08	1.5E+00	4.2E-08	3.00E-02	2.77E-09	1.5E+00	4.2E-09		4.3E+00		5.00E-08	4.3E+00	7.0E-10	4.7E-08
INORG	Barium	7440-39-3	NC	2.80E-08										5.00E-08			
INORG	Cadmium	7440-43-9	B1	2.80E-08			1.00E-03	9.23E-11				1.8E+00		5.00E-08	1.8E+00	2.9E-10	2.9E-10
INORG	Chromium (total)	7440-47-3		2.80E-08	5.0E-01	1.4E-08			2.0E+01			1.2E+01		5.00E-08	1.2E+01	2.0E-09	1.6E-08
INORG	Lead	7439-92-1	B2	2.80E-08										5.00E-08			
INORG	Mercury	7439-97-6	D	2.80E-08							4.70E-05			5.00E-08			
INORG	Selenium	7782-49-2	D	2.80E-08										5.00E-08			
INORG	Silver	7440-22-4	D	2.80E-08										5.00E-08			
Notes:																	
The dispersion coefficient to outdoor air (C/Q) is 23.6 (kg/m3) / (kg/m2/s).																	
This C/Q term is estimated using the empirical correlation in USEPA's Supplemental Soil Screening Guidance (2002), conservatively assuming a source area of 80 acres (the operational area) and region-specific meteorological parameters.																	
The concentration of particulates in the air is assumed to be no more than the former annual National Ambient Air Quality Standards (NAAQS) for PM ₁₀ of 50 ug/m ³ .																	

Attachment E5: Unit Hazard Quotient Calculations for Exposure of Construction Workers to Soil GM Janesville Haul Away Yard, Janesville, Wisconsin																	
				Soil Ingestion			Soil Dermal Contact				Soil Vapor Inhalation			Soil Particulate Inhalation			All Routes
Chem Group	Chemical	CASRN	Cancer Class	ADD (mg/kg/d)	RfD _{oral} (mg/kg/d)	HQ	ABS _{derm}	ADD (mg/kg/d)	RfD _{derm} (mg/kg/d)	HQ	C _{air} (mg/m ³)	RfC (mg/m ³)	HQ	C _{air} (mg/m ³)	RfC (mg/m ³)	HQ	HQ
VOC	Benzene	71-43-2	A	1.96E-06	1.0E-02	2.0E-04			1.0E-02		4.98E-03	9.0E-02	1.3E-02	5.00E-08	9.0E-02	1.3E-07	1.3E-02
VOC	2-Butanone	78-93-3	ID	1.96E-06	2.0E+00	9.8E-07			2.0E+00		1.38E-03	5.0E+00	6.3E-05	5.00E-08	5.0E+00	2.3E-09	6.4E-05
VOC	Carbon Disulfide	75-15-0		1.96E-06	1.0E-01	2.0E-05			1.0E-01		6.64E-03	7.0E-01	2.2E-03	5.00E-08	7.0E-01	1.6E-08	2.2E-03
VOC	Carbon Tetrachloride	56-23-5	LC	1.96E-06	1.0E-02	2.0E-04			1.0E-02		5.64E-03	1.9E-01	6.8E-03	5.00E-08	1.9E-01	6.0E-08	7.0E-03
VOC	Chloroform	67-66-3	B2	1.96E-06	1.0E-01	2.0E-05			1.0E-01		5.10E-03	5.0E-02	2.3E-02	5.00E-08	5.0E-02	2.3E-07	2.3E-02
VOC	Cumene	98-82-8	D	1.96E-06	4.0E-01	4.9E-06			4.0E-01		2.19E-03	4.0E-01	1.3E-03	5.00E-08	4.0E-01	2.9E-08	1.3E-03
VOC	Dichlorodifluoromethane	75-71-8		1.96E-06	9.0E-01	2.2E-06			9.0E-01		6.85E-03	2.0E+00	7.8E-04	5.00E-08	2.0E+00	5.7E-09	7.8E-04
VOC	Ethyl Benzene	100-41-4	D	1.96E-06	1.0E-01	2.0E-05			1.0E-01		2.78E-03	9.0E+00	7.1E-05	5.00E-08	9.0E+00	1.3E-09	9.0E-05
VOC	Methyl Acetate	79-20-9		1.96E-06	1.0E+01	2.0E-07			1.0E+01		1.77E-03			5.00E-08			2.0E-07
VOC	Methylcyclohexane	108-87-2		1.96E-06							6.64E-03	3.0E+00	5.1E-04	5.00E-08	3.0E+00	3.8E-09	5.1E-04
VOC	Toluene	108-88-3	ID	1.96E-06	8.0E-01	2.4E-06			8.0E-01		3.79E-03	5.0E+00	1.7E-04	5.00E-08	5.0E+00	2.3E-09	1.8E-04
VOC	1,2,4-Trichlorobenzene	120-82-1	LC	1.96E-06	9.0E-02	2.2E-05			9.0E-02		3.07E-04	2.0E-02	3.5E-03	5.00E-08	2.0E-02	5.7E-07	3.5E-03
VOC	Trichloroethene	79-01-6	HC	1.96E-06	5.0E-04	3.9E-03			5.0E-04		4.41E-03	5.4E-01	1.9E-03	5.00E-08	5.4E-01	2.1E-08	5.8E-03
VOC	1,2,4-Trimethylbenzene	95-63-6	ID	1.96E-06							1.19E-03	7.0E-02	3.9E-03	5.00E-08	7.0E-02	1.6E-07	3.9E-03
VOC	1,3,5-Trimethylbenzene	108-67-8	ID	1.96E-06	1.0E-01	2.0E-05			1.0E-01		9.54E-04	1.0E-02	2.2E-02	5.00E-08	1.0E-02	1.1E-06	2.2E-02
VOC	Xylenes (total)	1330-20-7	ID	1.96E-06	2.0E-01	9.8E-06			2.0E-01		2.56E-03	3.0E-01	2.0E-03	5.00E-08	3.0E-01	3.8E-08	2.0E-03
SVOC	Acenaphthene	83-32-9	ID	1.96E-06	2.0E-01	9.8E-06	1.30E-01	8.40E-07	2.0E-01	4.2E-06	5.32E-05			5.00E-08			1.4E-05
SVOC	Anthracene	120-12-7	ID	1.96E-06	1.0E+00	2.0E-06	1.30E-01	8.40E-07	1.0E+00	8.4E-07	1.34E-05			5.00E-08			2.8E-06
SVOC	Biphenyl	92-52-4	SC	1.96E-06	1.0E-01	2.0E-05	1.00E-01	6.46E-07	1.0E-01	6.5E-06	7.95E-05	4.0E-03	4.5E-03	5.00E-08	4.0E-03	2.9E-06	4.6E-03
SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	B2	1.96E-06	1.0E-01	2.0E-05	1.00E-01	6.46E-07	1.0E-01	6.5E-06	2.17E-08			5.00E-08			2.6E-05
SVOC	Dibenzofuran	132-64-9	D	1.96E-06	4.0E-03	4.9E-04	1.00E-01	6.46E-07	4.0E-03	1.6E-04	1.07E-06			5.00E-08			6.5E-04
SVOC	Di-n-butylphthalate	84-74-2	D	1.96E-06	1.0E+00	2.0E-06	1.00E-01	6.46E-07	1.0E+00	6.5E-07	4.21E-07			5.00E-08			2.6E-06
SVOC	Fluorene	86-73-7	D	1.96E-06	4.0E-01	4.9E-06	1.30E-01	8.40E-07	4.0E-01	2.1E-06	2.27E-05			5.00E-08			7.0E-06
SVOC	2-Methylnaphthalene	91-57-6	ID	1.96E-06	4.0E-03	4.9E-04	1.00E-01	6.46E-07	4.0E-03	1.6E-04	1.44E-04			5.00E-08			6.5E-04
SVOC	Naphthalene	91-20-3	C	1.96E-06	2.0E-01	9.8E-06	1.30E-01	8.40E-07	2.0E-01	4.2E-06	2.41E-04	3.0E-03	1.8E-02	5.00E-08	3.0E-03	3.8E-06	1.8E-02
SVOC	Phenanthrene	85-01-8	D	1.96E-06	3.0E-01	6.5E-06	1.30E-01	8.40E-07	3.0E-01	2.8E-06	7.97E-06			5.00E-08			9.3E-06
SVOC	Pyrene	129-00-0	NC	1.96E-06	3.0E-01	6.5E-06	1.30E-01	8.40E-07	3.0E-01	2.8E-06	2.43E-06			5.00E-08			9.3E-06
INORG	Arsenic	7440-38-2	A	1.96E-06	5.0E-03	3.9E-04	3.00E-02	1.94E-07	5.0E-03	3.9E-05		1.5E-05		5.00E-08	1.5E-05	7.6E-04	1.2E-03
INORG	Barium	7440-39-3	NC	1.96E-06	2.0E-01	9.8E-06			1.4E-02					5.00E-08			9.8E-06
INORG	Cadmium	7440-43-9	B1	1.96E-06	1.0E-03	2.0E-03	1.00E-03	6.46E-09	2.5E-05	2.6E-04		9.0E-04		5.00E-08	9.0E-04	1.3E-05	2.2E-03
INORG	Chromium (total)	7440-47-3		1.96E-06	5.0E-03	3.9E-04			1.3E-04			1.0E-03		5.00E-08	1.0E-03	1.1E-05	4.0E-04
INORG	Lead	7439-92-1	B2	1.96E-06										5.00E-08			
INORG	Mercury	7439-97-6	D	1.96E-06	3.0E-03	6.5E-04			2.1E-04		4.70E-05	3.0E-04	3.6E-02	5.00E-08	3.0E-04	3.8E-05	3.6E-02
INORG	Selenium	7782-49-2	D	1.96E-06	5.0E-03	3.9E-04			5.0E-03			2.0E-02		5.00E-08	2.0E-02	5.7E-07	3.9E-04
INORG	Silver	7440-22-4	D	1.96E-06	5.0E-03	3.9E-04			2.0E-04			1.0E-05		5.00E-08	1.0E-05	1.1E-03	1.5E-03
Notes:																	
The dispersion coefficient to outdoor air (C/Q) is 23.6 (kg/m3) / (kg/m2/s).																	
This C/Q term is estimated using the empirical correlation in USEPA's Supplemental Soil Screening Guidance (2002), conservatively assuming a source area of 80 acres (the operational area) and region-specific meteorological parameters																	
The concentration of particulates in the air is assumed to be no more than the former annual National Ambient Air Quality Standards (NAAQS) for PM ₁₀ of 50 ug/m ³ .																	

Attachment E5: Cancer Risk-Based Criteria for Exposure of Construction Workers to Soil GM Janesville Haul Away Yard, Janesville, Wisconsin																	
				Soil Ingestion			Soil Dermal Contact				Soil Vapor Inhalation			Soil Particulate Inhalation			All Routes
Chem Group	Chemical	CASRN	Cancer Class	LADD (mg/kg/d)	SF _{oral} (mg/kg/d) ⁻¹	RBC (mg/kg)	ABS _{derm}	LADD (mg/kg/d)	SF _{derm} (mg/kg/d) ⁻¹	RBC (mg/kg)	C _{air} (mg/m ³)	URF (m ³ /mg)	RBC (mg/kg)	C _{air} (mg/m ³)	URF (m ³ /mg)	RBC (mg/kg)	RBC (mg/kg)
VOC	Benzene	71-43-2	A	2.80E-08	5.5E-02	6.5E+02			5.5E-02		4.98E-03	7.8E-03	7.9E+00	5.00E-08	7.8E-03	7.9E+05	7.8E+00
VOC	2-Butanone	78-93-3	ID	2.80E-08							1.38E-03			5.00E-08			
VOC	Carbon Disulfide	75-15-0		2.80E-08							6.64E-03			5.00E-08			
VOC	Carbon Tetrachloride	56-23-5	LC	2.80E-08	7.0E-02	5.1E+02			7.0E-02		5.64E-03	6.0E-03	9.1E+00	5.00E-08	6.0E-03	1.0E+06	8.9E+00
VOC	Chloroform	67-66-3	B2	2.80E-08	1.9E-02	1.9E+03			1.9E-02		5.10E-03	2.3E-02	2.6E+00	5.00E-08	2.3E-02	2.7E+05	2.6E+00
VOC	Cumene	98-82-8	D	2.80E-08							2.19E-03			5.00E-08			
VOC	Dichlorodifluoromethane	75-71-8		2.80E-08							6.85E-03			5.00E-08			
VOC	Ethyl Benzene	100-41-4	D	2.80E-08							2.78E-03			5.00E-08			
VOC	Methyl Acetate	79-20-9		2.80E-08							1.77E-03			5.00E-08			
VOC	Methylcyclohexane	108-87-2		2.80E-08							6.64E-03			5.00E-08			
VOC	Toluene	108-88-3	ID	2.80E-08							3.79E-03			5.00E-08			
VOC	1,2,4-Trichlorobenzene	120-82-1	LC	2.80E-08	2.9E-02	1.2E+03			2.9E-02		3.07E-04			5.00E-08			1.2E+03
VOC	Trichloroethene	79-01-6	HC	2.80E-08	4.6E-02	7.8E+02			4.6E-02		4.41E-03	4.1E-03	1.7E+01	5.00E-08	4.1E-03	1.5E+06	1.7E+01
VOC	1,2,4-Trimethylbenzene	95-63-6	ID	2.80E-08							1.19E-03			5.00E-08			
VOC	1,3,5-Trimethylbenzene	108-67-8	ID	2.80E-08							9.54E-04			5.00E-08			
VOC	Xylenes (total)	1330-20-7	ID	2.80E-08							2.56E-03			5.00E-08			
SVOC	Acenaphthene	83-32-9	ID	2.80E-08			1.30E-01	1.20E-08			5.32E-05			5.00E-08			
SVOC	Anthracene	120-12-7	ID	2.80E-08			1.30E-01	1.20E-08			1.34E-05			5.00E-08			
SVOC	Biphenyl	92-52-4	SC	2.80E-08	8.0E-03	4.5E+03	1.00E-01	9.23E-09	8.0E-03	1.4E+04	7.95E-05			5.00E-08			3.4E+03
SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	B2	2.80E-08	1.4E-02	2.6E+03	1.00E-01	9.23E-09	1.4E-02	7.7E+03	2.17E-08			5.00E-08			1.9E+03
SVOC	Dibenzofuran	132-64-9	D	2.80E-08			1.00E-01	9.23E-09			1.07E-06			5.00E-08			
SVOC	Di-n-butylphthalate	84-74-2	D	2.80E-08			1.00E-01	9.23E-09			4.21E-07			5.00E-08			
SVOC	Fluorene	86-73-7	D	2.80E-08			1.30E-01	1.20E-08			2.27E-05			5.00E-08			
SVOC	2-Methylnaphthalene	91-57-6	ID	2.80E-08			1.00E-01	9.23E-09			1.44E-04			5.00E-08			
SVOC	Naphthalene	91-20-3	C	2.80E-08			1.30E-01	1.20E-08			2.41E-04	3.4E-02	3.7E+01	5.00E-08	3.4E-02	1.8E+05	3.7E+01
SVOC	Phenanthrene	85-01-8	D	2.80E-08			1.30E-01	1.20E-08			7.97E-06			5.00E-08			
SVOC	Pyrene	129-00-0	NC	2.80E-08			1.30E-01	1.20E-08			2.43E-06			5.00E-08			
INORG	Arsenic	7440-38-2	A	2.80E-08	1.5E+00	2.4E+01	3.00E-02	2.77E-09	1.5E+00	2.4E+02		4.3E+00		5.00E-08	4.3E+00	1.4E+03	2.1E+01
INORG	Barium	7440-39-3	NC	2.80E-08										5.00E-08			
INORG	Cadmium	7440-43-9	B1	2.80E-08			1.00E-03	9.23E-11				1.8E+00		5.00E-08	1.8E+00	3.4E+03	3.4E+03
INORG	Chromium (total)	7440-47-3		2.80E-08	5.0E-01	7.2E+01			2.0E+01			1.2E+01		5.00E-08	1.2E+01	5.1E+02	6.3E+01
INORG	Lead	7439-92-1	B2	2.80E-08										5.00E-08			
INORG	Mercury	7439-97-6	D	2.80E-08							4.70E-05			5.00E-08			
INORG	Selenium	7782-49-2	D	2.80E-08										5.00E-08			
INORG	Silver	7440-22-4	D	2.80E-08										5.00E-08			
Notes:																	
The dispersion coefficient to outdoor air (C/Q) is 23.6 (kg/m3) / (kg/m2/s).																	
This C/Q term is estimated using the empirical correlation in USEPA's Supplemental Soil Screening Guidance (2002), conservatively assuming a source area of 80 acres (the operational area) and region-specific meteorological parameters.																	
The concentration of particulates in the air is assumed to be no more than the former annual National Ambient Air Quality Standards (NAAQS) for PM ₁₀ of 50 ug/m ³ .																	
Risk-based criteria are calculated at a target cancer risk of 1E-6.																	

Attachment E5: Noncancer Risk-Based Criteria for Exposure of Construction Workers to Soil GM Janesville Haul Away Yard, Janesville, Wisconsin																	
				Soil Ingestion			Soil Dermal Contact				Soil Vapor Inhalation			Soil Particulate Inhalation			All Routes
Chem Group	Chemical	CASRN	Cancer Class	ADD (mg/kg/d)	RfD _{oral} (mg/kg/d)	RBC (mg/kg)	ABS _{derm}	ADD (mg/kg/d)	RfD _{derm} (mg/kg/d)	RBC (mg/kg)	C _{air} (mg/m ³)	RfC (mg/m ³)	RBC (mg/kg)	C _{air} (mg/m ³)	RfC (mg/m ³)	RBC (mg/kg)	RBC (mg/kg)
VOC	Benzene	71-43-2	A	1.96E-06	1.0E-02	5.1E+02			1.0E-02		4.98E-03	9.0E-02	7.9E+00	5.00E-08	9.0E-02	7.9E+05	7.8E+00
VOC	2-Butanone	78-93-3	ID	1.96E-06	2.0E+00	1.0E+05			2.0E+00		1.38E-03	5.0E+00	1.6E+03	5.00E-08	5.0E+00	4.4E+07	1.6E+03
VOC	Carbon Disulfide	75-15-0		1.96E-06	1.0E-01	5.1E+03			1.0E-01		6.64E-03	7.0E-01	4.6E+01	5.00E-08	7.0E-01	6.1E+06	4.6E+01
VOC	Carbon Tetrachloride	56-23-5	LC	1.96E-06	1.0E-02	5.1E+02			1.0E-02		5.64E-03	1.9E-01	1.5E+01	5.00E-08	1.9E-01	1.7E+06	1.4E+01
VOC	Chloroform	67-66-3	B2	1.96E-06	1.0E-01	5.1E+03			1.0E-01		5.10E-03	5.0E-02	4.3E+00	5.00E-08	5.0E-02	4.4E+05	4.3E+00
VOC	Cumene	98-82-8	D	1.96E-06	4.0E-01	2.0E+04			4.0E-01		2.19E-03	4.0E-01	8.0E+01	5.00E-08	4.0E-01	3.5E+06	8.0E+01
VOC	Dichlorodifluoromethane	75-71-8		1.96E-06	9.0E-01	4.6E+04			9.0E-01		6.85E-03	2.0E+00	1.3E+02	5.00E-08	2.0E+00	1.8E+07	1.3E+02
VOC	Ethyl Benzene	100-41-4	D	1.96E-06	1.0E-01	5.1E+03			1.0E-01		2.78E-03	9.0E+00	1.4E+03	5.00E-08	9.0E+00	7.9E+07	1.1E+03
VOC	Methyl Acetate	79-20-9		1.96E-06	1.0E+01	5.1E+05			1.0E+01		1.77E-03			5.00E-08			5.1E+05
VOC	Methylcyclohexane	108-87-2		1.96E-06							6.64E-03	3.0E+00	2.0E+02	5.00E-08	3.0E+00	2.6E+07	2.0E+02
VOC	Toluene	108-88-3	ID	1.96E-06	8.0E-01	4.1E+04			8.0E-01		3.79E-03	5.0E+00	5.8E+02	5.00E-08	5.0E+00	4.4E+07	5.7E+02
VOC	1,2,4-Trichlorobenzene	120-82-1	LC	1.96E-06	9.0E-02	4.6E+03			9.0E-02		3.07E-04	2.0E-02	2.9E+01	5.00E-08	2.0E-02	1.8E+05	2.8E+01
VOC	Trichloroethene	79-01-6	HC	1.96E-06	5.0E-04	2.6E+01			5.0E-04		4.41E-03	5.4E-01	5.3E+01	5.00E-08	5.4E-01	4.7E+06	1.7E+01
VOC	1,2,4-Trimethylbenzene	95-63-6	ID	1.96E-06							1.19E-03	7.0E-02	2.6E+01	5.00E-08	7.0E-02	6.1E+05	2.6E+01
VOC	1,3,5-Trimethylbenzene	108-67-8	ID	1.96E-06	1.0E-01	5.1E+03			1.0E-01		9.54E-04	1.0E-02	4.6E+00	5.00E-08	1.0E-02	8.8E+04	4.6E+00
VOC	Xylenes (total)	1330-20-7	ID	1.96E-06	2.0E-01	1.0E+04			2.0E-01		2.56E-03	3.0E-01	5.1E+01	5.00E-08	3.0E-01	2.6E+06	5.1E+01
SVOC	Acenaphthene	83-32-9	ID	1.96E-06	2.0E-01	1.0E+04	1.30E-01	8.40E-07	2.0E-01	2.4E+04	5.32E-05			5.00E-08			7.2E+03
SVOC	Anthracene	120-12-7	ID	1.96E-06	1.0E+00	5.1E+04	1.30E-01	8.40E-07	1.0E+00	1.2E+05	1.34E-05			5.00E-08			3.6E+04
SVOC	Biphenyl	92-52-4	SC	1.96E-06	1.0E-01	5.1E+03	1.00E-01	6.46E-07	1.0E-01	1.5E+04	7.95E-05	4.0E-03	2.2E+01	5.00E-08	4.0E-03	3.5E+04	2.2E+01
SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	B2	1.96E-06	1.0E-01	5.1E+03	1.00E-01	6.46E-07	1.0E-01	1.5E+04	2.17E-08			5.00E-08			3.8E+03
SVOC	Dibenzofuran	132-64-9	D	1.96E-06	4.0E-03	2.0E+02	1.00E-01	6.46E-07	4.0E-03	6.2E+02	1.07E-06			5.00E-08			1.5E+02
SVOC	Di-n-butylphthalate	84-74-2	D	1.96E-06	1.0E+00	5.1E+04	1.00E-01	6.46E-07	1.0E+00	1.5E+05	4.21E-07			5.00E-08			3.8E+04
SVOC	Fluorene	86-73-7	D	1.96E-06	4.0E-01	2.0E+04	1.30E-01	8.40E-07	4.0E-01	4.8E+04	2.27E-05			5.00E-08			1.4E+04
SVOC	2-Methylnaphthalene	91-57-6	ID	1.96E-06	4.0E-03	2.0E+02	1.00E-01	6.46E-07	4.0E-03	6.2E+02	1.44E-04			5.00E-08			1.5E+02
SVOC	Naphthalene	91-20-3	C	1.96E-06	2.0E-01	1.0E+04	1.30E-01	8.40E-07	2.0E-01	2.4E+04	2.41E-04	3.0E-03	5.5E+00	5.00E-08	3.0E-03	2.6E+04	5.5E+00
SVOC	Phenanthrene	85-01-8	D	1.96E-06	3.0E-01	1.5E+04	1.30E-01	8.40E-07	3.0E-01	3.6E+04	7.97E-06			5.00E-08			1.1E+04
SVOC	Pyrene	129-00-0	NC	1.96E-06	3.0E-01	1.5E+04	1.30E-01	8.40E-07	3.0E-01	3.6E+04	2.43E-06			5.00E-08			1.1E+04
INORG	Arsenic	7440-38-2	A	1.96E-06	5.0E-03	2.6E+02	3.00E-02	1.94E-07	5.0E-03	2.6E+03		1.5E-05		5.00E-08	1.5E-05	1.3E+02	8.4E+01
INORG	Barium	7440-39-3	NC	1.96E-06	2.0E-01	1.0E+04			1.4E-02					5.00E-08			1.0E+04
INORG	Cadmium	7440-43-9	B1	1.96E-06	1.0E-03	5.1E+01	1.00E-03	6.46E-09	2.5E-05	3.9E+02		9.0E-04		5.00E-08	9.0E-04	7.9E+03	4.5E+01
INORG	Chromium (total)	7440-47-3		1.96E-06	5.0E-03	2.6E+02			1.3E-04			1.0E-03		5.00E-08	1.0E-03	8.8E+03	2.5E+02
INORG	Lead	7439-92-1	B2	1.96E-06										5.00E-08			
INORG	Mercury	7439-97-6	D	1.96E-06	3.0E-03	1.5E+02			2.1E-04		4.70E-05	3.0E-04	2.8E+00	5.00E-08	3.0E-04	2.6E+03	2.7E+00
INORG	Selenium	7782-49-2	D	1.96E-06	5.0E-03	2.6E+02			5.0E-03			2.0E-02		5.00E-08	2.0E-02	1.8E+05	2.6E+02
INORG	Silver	7440-22-4	D	1.96E-06	5.0E-03	2.6E+02			2.0E-04			1.0E-05		5.00E-08	1.0E-05	8.8E+01	6.5E+01
Notes:																	
The dispersion coefficient to outdoor air (C/Q) is 23.6 (kg/m3) / (kg/m2/s).																	
This C/Q term is estimated using the empirical correlation in USEPA's Supplemental Soil Screening Guidance (2002), conservatively assuming a source area of 80 acres (the operational area) and region-specific meteorological parameters																	
The concentration of particulates in the air is assumed to be no more than the former annual National Ambient Air Quality Standards (NAAQS) for PM ₁₀ of 50 ug/m ³ .																	
Risk-based criteria are calculated at a target noncancer HQ of 0.1.																	

Attachment E6

Nonindustrial Receptor Risk Calculations

Contents

- Vapor Flux from Soil to Outdoor Air
- Unit Cancer Risk Calculations for Exposure of Nonindustrial Receptor to Soil
- Unit Hazard Quotient Calculations for Exposure of Nonindustrial Receptor to Soil

Attachment E6: Vapor Flux from Soil to Outdoor Air GM Janesville Haul Away Yard, Janesville, Wisconsin															
Chem Group	Chemical	CASRN	K _{oc} (L/kg)	K _d (L/kg)	H (unitless)	D _{air} (m ² /d)	D _{water} (m ² /d)	R _L (unitless)	D _G (m ² /d)	D _L (m ² /d)	D _E (m ² /d)	Infinite J _v (kg/m ² -s)	Finite depth Z1 ERFC term	Finite depth Z2 ERFC term	Finite J _v (kg/m ² -s)
VOC	Benzene	71-43-2	5.82E+01		1.16E-01	7.60E-01	8.47E-05	2.84E-01	1.23E-01	3.44E-08	5.04E-02	4.65E-05	0.00E+00	5.60E+00	1.07E-05
VOC	2-Butanone	78-93-3	2.00E+00		1.42E-03	6.98E-01	8.47E-05	6.04E-02	1.13E-01	3.44E-08	2.66E-03	1.07E-05	0.00E+00	2.55E+00	7.85E-06
VOC	Carbon Disulfide	75-15-0	4.59E+01		7.18E-01	8.99E-01	8.64E-05	4.37E-01	1.46E-01	3.51E-08	2.40E-01	1.01E-04	0.00E+00	6.16E+00	1.12E-05
VOC	Carbon Tetrachloride	56-23-5	1.74E+02		6.52E-01	6.74E-01	7.60E-05	8.40E-01	1.09E-01	3.09E-08	8.48E-02	6.03E-05	0.00E+00	5.83E+00	1.10E-05
VOC	Chloroform	67-66-3	3.97E+01		8.04E-02	8.99E-01	8.64E-05	2.11E-01	1.46E-01	3.51E-08	5.55E-02	4.88E-05	0.00E+00	5.64E+00	1.08E-05
VOC	Cumene	98-82-8	7.05E+02		1.81E-01	5.62E-01	6.13E-05	2.45E+00	9.11E-02	2.49E-08	6.72E-03	1.70E-05	0.00E+00	3.88E+00	9.18E-06
VOC	Dichlorodifluoromethane	75-71-8	6.15E+01		8.73E+00	6.91E-01	6.91E-05	3.07E+00	1.12E-01	2.81E-08	3.19E-01	1.17E-04	0.00E+00	6.23E+00	1.13E-05
VOC	Ethyl Benzene	100-41-4	3.67E+02		1.37E-01	6.48E-01	6.74E-05	1.32E+00	1.05E-01	2.74E-08	1.09E-02	2.17E-05	0.00E+00	4.44E+00	9.70E-06
VOC	Methyl Acetate	79-20-9	1.66E+00		1.92E-03	8.27E-01	9.50E-05	5.95E-02	1.34E-01	3.86E-08	4.34E-03	1.36E-05	0.00E+00	3.29E+00	8.61E-06
VOC	Methylcyclohexane	108-87-2	2.66E+02		8.58E+00	6.35E-01	7.36E-05	3.70E+00	1.03E-01	2.99E-08	2.39E-01	1.01E-04	0.00E+00	6.16E+00	1.12E-05
VOC	Toluene	108-88-3	1.80E+02		1.26E-01	7.52E-01	7.43E-05	6.93E-01	1.22E-01	3.02E-08	2.22E-02	3.09E-05	0.00E+00	5.08E+00	1.03E-05
VOC	1,2,4-Trichlorobenzene	120-82-1	1.79E+03		1.88E-02	2.59E-01	7.11E-05	6.02E+00	4.20E-02	2.89E-08	1.31E-04	2.37E-06	0.00E+00	5.79E-04	2.37E-06
VOC	Trichloroethene	79-01-6	1.68E+02		2.07E-01	6.83E-01	7.86E-05	6.76E-01	1.11E-01	3.19E-08	3.38E-02	3.81E-05	0.00E+00	5.37E+00	1.05E-05
VOC	1,2,4-Trimethylbenzene	95-63-6	1.18E+03		9.32E-02	5.24E-01	6.84E-05	4.00E+00	8.49E-02	2.78E-08	1.98E-03	9.21E-06	0.00E+00	2.08E+00	7.33E-06
VOC	1,3,5-Trimethylbenzene	108-67-8	1.76E+03		8.91E-02	5.20E-01	7.49E-05	5.93E+00	8.43E-02	3.04E-08	1.27E-03	7.38E-06	0.00E+00	1.38E+00	6.46E-06
VOC	Xylenes (total)	1330-20-7	3.86E+02		1.16E-01	6.74E-01	7.56E-05	1.37E+00	1.09E-01	3.07E-08	9.22E-03	1.99E-05	0.00E+00	4.25E+00	9.53E-06
SVOC	Acenaphthene	83-32-9	7.14E+03		1.58E-03	3.64E-01	6.64E-05	2.38E+01	5.90E-02	2.70E-08	3.93E-06	4.11E-07	0.00E+00	0.00E+00	4.11E-07
SVOC	Anthracene	120-12-7	2.97E+04		5.45E-04	2.80E-01	6.69E-05	9.87E+01	4.54E-02	2.72E-08	2.51E-07	1.04E-07	0.00E+00	0.00E+00	1.04E-07
SVOC	Biphenyl	92-52-4	1.05E+04		5.42E-03	3.49E-01	7.04E-05	3.49E+01	5.66E-02	2.86E-08	8.80E-06	6.15E-07	0.00E+00	0.00E+00	6.15E-07
SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	1.50E+07		4.02E-07	3.03E-01	3.16E-05	4.98E+04	4.92E-02	1.28E-08	6.54E-13	1.68E-10	0.00E+00	0.00E+00	1.68E-10
SVOC	Dibenzofuran	132-64-9	2.07E+04		2.63E-06	2.06E-01	5.18E-05	6.87E+01	3.33E-02	2.11E-08	1.58E-09	8.24E-09	0.00E+00	0.00E+00	8.24E-09
SVOC	Di-n-butylphthalate	84-74-2	3.40E+04		5.46E-09	3.78E-01	6.79E-05	1.13E+02	6.14E-02	2.76E-08	2.47E-10	3.26E-09	0.00E+00	0.00E+00	3.26E-09
SVOC	Fluorene	86-73-7	1.38E+04		6.44E-04	3.14E-01	6.81E-05	4.57E+01	5.09E-02	2.77E-08	7.16E-07	1.75E-07	0.00E+00	0.00E+00	1.75E-07
SVOC	2-Methylnaphthalene	91-57-6	6.23E+03		8.19E-03	4.51E-01	6.70E-05	2.07E+01	7.31E-02	2.72E-08	2.89E-05	1.11E-06	0.00E+00	4.00E-16	1.11E-06
SVOC	Naphthalene	91-20-3	2.01E+03		6.57E-03	5.10E-01	6.48E-05	6.73E+00	8.27E-02	2.63E-08	8.07E-05	1.86E-06	0.00E+00	3.78E-06	1.86E-06
SVOC	Phenanthrene	85-01-8	2.42E+04		1.35E-04	3.24E-01	6.45E-05	8.05E+01	5.25E-02	2.62E-08	8.84E-08	6.16E-08	0.00E+00	0.00E+00	6.16E-08
SVOC	Pyrene	129-00-0	1.06E+05		7.46E-05	2.35E-01	6.26E-05	3.50E+02	3.81E-02	2.54E-08	8.19E-09	1.87E-08	0.00E+00	0.00E+00	1.87E-08
INORG	Arsenic	7440-38-2		2.90E+01								0.00E+00	0.00E+00	0.00E+00	0.00E+00
INORG	Barium	7440-39-3		4.10E+01								0.00E+00	0.00E+00	0.00E+00	0.00E+00
INORG	Cadmium	7440-43-9		7.50E+01								0.00E+00	0.00E+00	0.00E+00	0.00E+00
INORG	Chromium (total)	7440-47-3		1.90E+01								0.00E+00	0.00E+00	0.00E+00	0.00E+00
INORG	Lead	7439-92-1		9.00E+02								0.00E+00	0.00E+00	0.00E+00	0.00E+00
INORG	Mercury	7439-97-6		1.00E+03	1.19E-01	2.65E-01	5.44E-05	1.66E+03	4.30E-02	2.21E-08	3.08E-06	3.63E-07	0.00E+00	0.00E+00	3.63E-07
INORG	Selenium	7782-49-2		5.00E+00								0.00E+00	0.00E+00	0.00E+00	0.00E+00
INORG	Silver	7440-22-4		8.30E+00								0.00E+00	0.00E+00	0.00E+00	0.00E+00
Notes:	Soil bulk density	kg/L	ρ _b	1.66											
	Soil porosity	L/L-soil	θ	0.38											
	Soil water content	L/L-soil	θ _w	0.05											
	Soil air-filled porosity	L/L-soil	θ _a	0.32											
	Soil organic carbon fraction	unitless	f _{oc}	0.002											
	Averaging period (Exposure Duration)	year	T	30											
		days	T	10950											
		s	T	9.5E+08											
	Molar Gas Constant	L-mmHg/ mole-°K	R	62.411											
	Temperature	°C	Temp	10											
		K	Temp	283											
	Clean soil above source	m	Z ₁	0.00											
	Bottom of source depth	m	Z ₂	6.65											

Attachment E6: Unit Cancer Risk Calculations for Exposure of Nonindustrial Receptor to Soil GM Janesville Haul Away Yard, Janesville, Wisconsin												
				Soil Vapor Inhalation				Soil Particulate Inhalation				All Routes
Chem Group	Chemical	CASRN	Cancer Class	C _{air} (mg/m ³)	URF (m ³ /mg)	f _{inh}	Risk	C _{air} (mg/m ³)	URF (m ³ /mg)	f _{inh}	Risk	Risk
VOC	Benzene	71-43-2	A	1.18E-04	7.8E-03		3.8E-07	7.35E-10	7.8E-03		2.4E-12	4.7E-07
VOC	2-Butanone	78-93-3	ID	8.65E-05				7.35E-10				
VOC	Carbon Disulfide	75-15-0		1.24E-04				7.35E-10				
VOC	Carbon Tetrachloride	56-23-5	LC	1.21E-04	6.0E-03		3.0E-07	7.35E-10	6.0E-03		1.8E-12	4.1E-07
VOC	Chloroform	67-66-3	B2	1.19E-04	2.3E-02		1.1E-06	7.35E-10	2.3E-02		7.0E-12	1.2E-06
VOC	Cumene	98-82-8	D	1.01E-04				7.35E-10				
VOC	Dichlorodifluoromethane	75-71-8		1.24E-04				7.35E-10				
VOC	Ethyl Benzene	100-41-4	D	1.07E-04				7.35E-10				
VOC	Methyl Acetate	79-20-9		9.48E-05				7.35E-10				
VOC	Methylcyclohexane	108-87-2		1.24E-04				7.35E-10				
VOC	Toluene	108-88-3	ID	1.13E-04				7.35E-10				
VOC	1,2,4-Trichlorobenzene	120-82-1	LC	2.61E-05				7.35E-10				4.5E-08
VOC	Trichloroethene	79-01-6	HC	1.16E-04	4.1E-03	0.244	2.7E-07	7.35E-10	4.1E-03	0.244	1.7E-12	3.9E-07
VOC	1,2,4-Trimethylbenzene	95-63-6	ID	8.07E-05				7.35E-10				
VOC	1,3,5-Trimethylbenzene	108-67-8	ID	7.12E-05				7.35E-10				
VOC	Xylenes (total)	1330-20-7	ID	1.05E-04				7.35E-10				
SVOC	Acenaphthene	83-32-9	ID	4.53E-06				7.35E-10				
SVOC	Anthracene	120-12-7	ID	1.14E-06				7.35E-10				
SVOC	Biphenyl	92-52-4	SC	6.77E-06				7.35E-10				1.6E-08
SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	B2	1.85E-09				7.35E-10				2.9E-08
SVOC	Dibenzofuran	132-64-9	D	9.07E-08				7.35E-10				
SVOC	Di-n-butylphthalate	84-74-2	D	3.59E-08				7.35E-10				
SVOC	Fluorene	86-73-7	D	1.93E-06				7.35E-10				
SVOC	2-Methylnaphthalene	91-57-6	ID	1.23E-05				7.35E-10				
SVOC	Naphthalene	91-20-3	C	2.05E-05	3.4E-02		2.9E-07	7.35E-10	3.4E-02		1.0E-11	2.9E-07
SVOC	Phenanthrene	85-01-8	D	6.78E-07				7.35E-10				
SVOC	Pyrene	129-00-0	NC	2.06E-07				7.35E-10				
INORG	Arsenic	7440-38-2	A		4.3E+00			7.35E-10	4.3E+00		1.3E-09	2.6E-06
INORG	Barium	7440-39-3	NC					7.35E-10				
INORG	Cadmium	7440-43-9	B1		1.8E+00			7.35E-10	1.8E+00		5.4E-10	5.4E-10
INORG	Chromium (total)	7440-47-3			1.2E+01			7.35E-10	1.2E+01		3.6E-09	7.9E-07
INORG	Lead	7439-92-1	B2					7.35E-10				
INORG	Mercury	7439-97-6	D	4.00E-06				7.35E-10				
INORG	Selenium	7782-49-2	D					7.35E-10				
INORG	Silver	7440-22-4	D					7.35E-10				
Notes:												
The dispersion coefficient to outdoor air (C/Q) is 11.0 (kg/m3) / (kg/m2/s).												
This C/Q term is estimated using the empirical correlation in USEPA's Supplemental Soil Screening Guidance (2002) for Minneapolis, Minnesota and a half acre source area, which are the parameters used by WDNR to calculate the C/Q that was included in the Particulate Emissions Factor (PEF) calculation.												
The concentration of particulates in the air is calculated using the Particulate Emissions Factor (PEF) specified in WDNR NR 720 (Proposed) of 1.39 E+9 m ³ /kg.												
f _{inh} is the fraction of the inhalation toxicity value that USEPA identified as having a mutagenic mode of action.												

Attachment E6: Unit Hazard Quotient Calculations for Exposure of Nonindustrial Receptor to Soil GM Janesville Haul Away Yard, Janesville, Wisconsin										
Chem Group	Chemical	CASRN	Cancer Class	Soil Vapor Inhalation			Soil Particulate Inhalation			All Routes
				C _{air} (mg/m ³)	RfC (mg/m ³)	HQ	C _{air} (mg/m ³)	RfC (mg/m ³)	HQ	HQ
VOC	Benzene	71-43-2	A	5.30E-04	9.0E-02	5.6E-03	7.35E-10	9.0E-02	7.8E-09	6.9E-03
VOC	2-Butanone	78-93-3	ID	2.57E-04	5.0E+00	4.9E-05	7.35E-10	5.0E+00	1.4E-10	5.6E-05
VOC	Carbon Disulfide	75-15-0		5.90E-04	7.0E-01	8.1E-04	7.35E-10	7.0E-01	1.0E-09	9.4E-04
VOC	Carbon Tetrachloride	56-23-5	LC	5.55E-04	1.9E-01	2.8E-03	7.35E-10	1.9E-01	3.7E-09	4.1E-03
VOC	Chloroform	67-66-3	B2	5.35E-04	5.0E-02	1.0E-02	7.35E-10	5.0E-02	1.4E-08	1.0E-02
VOC	Cumene	98-82-8	D	3.62E-04	4.0E-01	8.7E-04	7.35E-10	4.0E-01	1.8E-09	9.0E-04
VOC	Dichlorodifluoromethane	75-71-8		5.97E-04	2.0E+00	2.9E-04	7.35E-10	2.0E+00	3.5E-10	3.0E-04
VOC	Ethyl Benzene	100-41-4	D	4.14E-04	9.0E+00	4.4E-05	7.35E-10	9.0E+00	7.8E-11	1.7E-04
VOC	Methyl Acetate	79-20-9		3.13E-04			7.35E-10			1.3E-06
VOC	Methylcyclohexane	108-87-2		5.90E-04	3.0E+00	1.9E-04	7.35E-10	3.0E+00	2.4E-10	1.9E-04
VOC	Toluene	108-88-3	ID	4.76E-04	5.0E+00	9.1E-05	7.35E-10	5.0E+00	1.4E-10	1.1E-04
VOC	1,2,4-Trichlorobenzene	120-82-1	LC	5.84E-05	2.0E-02	2.8E-03	7.35E-10	2.0E-02	3.5E-08	2.9E-03
VOC	Trichloroethene	79-01-6	HC	5.06E-04	5.4E-01	9.0E-04	7.35E-10	5.4E-01	1.3E-09	2.6E-02
VOC	1,2,4-Trimethylbenzene	95-63-6	ID	2.25E-04	7.0E-02	3.1E-03	7.35E-10	7.0E-02	1.0E-08	3.1E-03
VOC	1,3,5-Trimethylbenzene	108-67-8	ID	1.81E-04	1.0E-02	1.7E-02	7.35E-10	1.0E-02	7.1E-08	1.8E-02
VOC	Xylenes (total)	1330-20-7	ID	3.96E-04	3.0E-01	1.3E-03	7.35E-10	3.0E-01	2.4E-09	1.3E-03
SVOC	Acenaphthene	83-32-9	ID	1.01E-05			7.35E-10			8.7E-05
SVOC	Anthracene	120-12-7	ID	2.56E-06			7.35E-10			1.7E-05
SVOC	Biphenyl	92-52-4	SC	1.51E-05	4.0E-03	3.6E-03	7.35E-10	4.0E-03	1.8E-07	3.8E-03
SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	B2	4.13E-09			7.35E-10			1.6E-04
SVOC	Dibenzofuran	132-64-9	D	2.03E-07			7.35E-10			4.1E-03
SVOC	Di-n-butylphthalate	84-74-2	D	8.02E-08			7.35E-10			1.6E-05
SVOC	Fluorene	86-73-7	D	4.32E-06			7.35E-10			4.4E-05
SVOC	2-Methylnaphthalene	91-57-6	ID	2.74E-05			7.35E-10			4.1E-03
SVOC	Naphthalene	91-20-3	C	4.58E-05	3.0E-03	1.5E-02	7.35E-10	3.0E-03	2.4E-07	1.5E-02
SVOC	Phenanthrene	85-01-8	D	1.52E-06			7.35E-10			5.8E-05
SVOC	Pyrene	129-00-0	NC	4.62E-07			7.35E-10			5.8E-05
INORG	Arsenic	7440-38-2	A		1.5E-05		7.35E-10	1.5E-05	4.7E-05	2.8E-03
INORG	Barium	7440-39-3	NC				7.35E-10			6.4E-05
INORG	Cadmium	7440-43-9	B1		9.0E-04		7.35E-10	9.0E-04	7.8E-07	1.4E-02
INORG	Chromium (total)	7440-47-3			1.0E-03		7.35E-10	1.0E-03	7.1E-07	2.6E-03
INORG	Lead	7439-92-1	B2				7.35E-10			
INORG	Mercury	7439-97-6	D	8.95E-06	3.0E-04	2.9E-02	7.35E-10	3.0E-04	2.4E-06	3.3E-02
INORG	Selenium	7782-49-2	D		2.0E-02		7.35E-10	2.0E-02	3.5E-08	2.6E-03
INORG	Silver	7440-22-4	D		1.0E-05		7.35E-10	1.0E-05	7.1E-05	2.6E-03
Notes:										
The dispersion coefficient to outdoor air (C/Q) is 11.0 (kg/m3) / (kg/m2/s).										
This C/Q term is estimated using the empirical correlation in USEPA's Supplemental Soil Screening Guidance (2002) for Minneapolis, Minnesota and a half acre source area, which are the parameters used by WDNR to calculate the C/Q that was included in the Particulate Emissions Factor (PEF) calculation.										
The concentration of particulates in the air is calculated using the Particulate Emissions Factor (PEF) specified in WDNR NR 720 (Proposed) of 1.39 E+9 m ³ /kg.										
Risk-based criteria are calculated at a target noncancer HQ of 0.1.										

Attachment E7

Upper-Bound Single-Chemical Risk Estimates

Contents

- Upper-Bound Single-Chemical Risk Estimates

Attachment E7: Upper-Bound Single-Chemical Risk Estimates GM Janesville Haul Away Yard, Janesville, Wisconsin																
Area	Location	Chem Group	Chemical	CASRN	Carc Class	Max Detect All Depths (mg/kg)	Industrial				Maintenance Worker		Construction Worker		Off-Site Non-Industrial	
							Outdoor Activities		Vapor Intrusion						Inhalation	
							Risk	HQ	Risk	HQ	Risk	HQ	Risk	HQ		
Not associated with UST	8	SVOC	Naphthalene	91-20-3	C	1.48E-01	9E-09	2.7E-04	4E-06	1.1E-01	2E-09	1.0E-04	4E-09	2.7E-03	4E-08	2.2E-03
Not associated with UST	8	PDIST	Diesel Range Organics	DRO		6.16E+01										
Not associated with UST	14	VOC	Ethyl Benzene	100-41-4	D	7.10E-02		2.7E-06		1.6E-04		1.2E-06		6.4E-06		3.1E-06
Not associated with UST	14	VOC	1,2,4-Trimethylbenzene	95-63-6	ID	1.73E-01		5.2E-04		5.7E-02		2.4E-04		6.7E-04		5.3E-04
Not associated with UST	14	VOC	1,3,5-Trimethylbenzene	108-67-8	ID	1.61E-01		5.1E-04		6.2E-02		2.2E-04		3.5E-03		2.8E-03
Not associated with UST	14	VOC	Xylenes (total)	1330-20-7	ID	1.95E-01		5.6E-05		4.5E-03		3.1E-05		3.8E-04		2.5E-04
Not associated with UST	14	SVOC	Naphthalene	91-20-3	C	3.45E-01	2E-08	6.2E-04	1E-05	2.7E-01	3E-09	2.4E-04	9E-09	6.3E-03	1E-07	5.1E-03
Not associated with UST	14	PDIST	Diesel Range Organics	DRO		3.62E+01										
Not associated with UST	25	VOC	Ethyl Benzene	100-41-4	D	2.71E+00		1.0E-04		6.2E-03		4.7E-05		2.4E-04		1.2E-04
Not associated with UST	25	VOC	1,2,4-Trimethylbenzene	95-63-6	ID	3.00E+01		9.0E-02		9.9E+00		4.2E-02		1.2E-01		9.2E-02
Not associated with UST	25	VOC	1,3,5-Trimethylbenzene	108-67-8	ID	1.03E+01		3.3E-02		4.0E+00		1.4E-02		2.2E-01		1.8E-01
Not associated with UST	25	VOC	Xylenes (total)	1330-20-7	ID	1.09E+01		3.1E-03		2.5E-01		1.7E-03		2.1E-02		1.4E-02
Not associated with UST	25	SVOC	Naphthalene	91-20-3	C	1.98E+01	1E-06	3.6E-02	6E-04	1.5E+01	2E-07	1.4E-02	5E-07	3.6E-01	6E-06	2.9E-01
Not associated with UST	25	PDIST	Diesel Range Organics	DRO		6.17E+03										
Not associated with UST	26	VOC	Ethyl Benzene	100-41-4	D	2.23E+00		8.6E-05		5.1E-03		3.9E-05		2.0E-04		9.8E-05
Not associated with UST	26	VOC	1,2,4-Trimethylbenzene	95-63-6	ID	1.61E+01		4.8E-02		5.3E+00		2.3E-02		6.3E-02		5.0E-02
Not associated with UST	26	VOC	1,3,5-Trimethylbenzene	108-67-8	ID	6.02E+00		1.9E-02		2.3E+00		8.3E-03		1.3E-01		1.0E-01
Not associated with UST	26	VOC	Xylenes (total)	1330-20-7	ID	1.07E+01		3.1E-03		2.5E-01		1.7E-03		2.1E-02		1.4E-02
Not associated with UST	26	SVOC	Naphthalene	91-20-3	C	8.69E+00	5E-07	1.6E-02	2E-04	6.7E+00	9E-08	6.1E-03	2E-07	1.6E-01	2E-06	1.3E-01
Not associated with UST	26	PDIST	Diesel Range Organics	DRO		1.86E+03										
Not associated with UST	27	PDIST	Diesel Range Organics	DRO		2.13E+01										
Not associated with UST	30	SVOC	Naphthalene	91-20-3	C	1.25E+00	8E-08	2.3E-03	3E-05	9.6E-01	1E-08	8.8E-04	3E-08	2.3E-02	4E-07	1.8E-02
Not associated with UST	30	PDIST	Diesel Range Organics	DRO		4.85E+02										
Not associated with UST	31	SVOC	Naphthalene	91-20-3	C	8.63E-01	5E-08	1.6E-03	2E-05	6.6E-01	9E-09	6.1E-04	2E-08	1.6E-02	2E-07	1.3E-02
Not associated with UST	31	PDIST	Diesel Range Organics	DRO		7.40E+02										
Notes:																
Only constituents detected at each location are shown.																
The concentrations for the Xylene isomers (m/p and o) were summed to Xylenes (total).																
Chem Group - chemical group																
Carc Class - USEPA Weight-of-Evidence Cancer Classification																
Single-chemical cancer risk and HI estimates in excess of 1E-6 and 0.1, respectively, are shaded and bolded.																