



June 5, 2015

John Ahlgrimm  
Ahlgrimm Explosives Company, Inc.  
1829 E. Ravenswood Ct.  
Appleton, WI 54913

Rodney Martin (Property Owner)  
N2857 County Road T  
Hortonville, WI 54944

**KEEP THIS DOCUMENT WITH YOUR PROPERTY RECORDS**

SUBJECT: Final Case Closure  
Ahlgrimm Explosives Co Inc – Drill Bit Grinding Area,  
W9899 Givens Road, Town of Hortonville, Outagamie County, WI  
DNR BRRTS Activity #: 02-45-558038

Dear Mr. Ahlgrimm and Mr. Martin:

The Department of Natural Resources (DNR) considers the "Ahlgrimm Explosives Co Inc – Drill Bit Grinding Area" closed. No further investigation or remediation is required at this time. Provide this letter to anyone who purchases this property from you.

This final closure decision is based on the correspondence and data provided, and is issued under ch. NR 726, Wis. Adm. Code. The Project Manager reviewed the request for closure on April 15, 2015. The DNR reviews environmental remediation cases for compliance with state laws and standards to maintain consistency in the closure of these cases. Revisions to the electronic documents were requested on April 15, 2015 and received May 29, 2015.

This property, used by Ahlgrimm Explosives Company, Inc., had soil contaminated with metals in the area immediately outside the on-site building where the drill bit grinding took place. Excavation of 19 cubic yards of impacted soils took place on November 7, 2013, removing the contaminated soil.

Please note that this letter does not address two separate contaminant cases:

- Ahlgrimm Explosives Co Inc – Prill Area, BRRTS #02-45-558037 – OPEN
- Ahlgrimm Explosives Co Inc – Burn Pit, BRRTS #02-45-558039 – OPEN

Please be aware that the case may be reopened pursuant to s. NR 727.13, 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 to the environment.


June 5, 2015

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Mr. John Ahlgrimm and Mr. Rodney Martin  
Final Closure Letter for  
Ahlgrimm Explosives Co Inc – Drill Bit Grinding Area,  
DNR BRRTS Activity #: 02-45-558038

The DNR appreciates your efforts to restore the environment at this site. If you have any questions regarding this closure decision or anything outlined in this letter, please contact Jennifer Borski in Oshkosh by phone at (920) 424-7887 or by e-mail at [Jennifer.borski@wisconsin.gov](mailto:Jennifer.borski@wisconsin.gov).

Sincerely,



Roxanne N. Chronert  
Northeast Region Team Supervisor  
Remediation & Redevelopment Program

Electronic copy: Scott Hodgson, Terracon, [scott.hodgson@terracon.com](mailto:scott.hodgson@terracon.com)

### SUBMIT AS UNBOUND PACKAGE IN THE ORDER SHOWN

**Notice:** Pursuant to ch. 292, Wis. Stats., and chs. NR 726 and 746, Wis. Adm. Code, this form is required to be completed for case closure requests. The closure of a case means that the Department of Natural Resources (DNR) has determined that no further response is required at that time based on the information that has been submitted to the DNR. All sections of this form must be completed unless otherwise directed by the Department. Incomplete forms will be considered "administratively incomplete" and processing of the request will stop until required information is provided. Any section of the form not relevant to the case closure request must be fully filled out or explained on a separate page and attached to the relevant section of this form. DNR will consider your request administratively complete when the form and all sections are completed, all attachments are included, and the applicable fees required under ch. NR 749, Wis. Adm. Code, are included, and sent to the proper destinations. 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.).

#### Site Information

BRRTS No. 02-45-558038	Parcel ID No. 0543		
BRRTS Activity (Site) Name Ahlgrimm Co Inc - Drill Bit Grinding Area	WTM Coordinates		
	X 624761	Y 430786	
Street Address W9899 Givens Road	City Town of Hortonia	State WI	ZIP Code 54994
Responsible Party (RP) Name John Ahlgrimm			
Company Name Ahlgrimm Explosives Co Inc			
Street Address 1829 East Ravenswood Court	City Appleton	State WI	ZIP Code 54913
Phone Number (920) 450-8995	Email johnahlgrimm@yahoo.com		

Check here if the RP is the owner of the source property.

Environmental Consultant Name  
Scott A. Hodgson

Consulting Firm  
Terracon Consultants, Inc.

Street Address 9856 S. 57th Street	City Franklin	State WI	ZIP Code 53132
Phone Number (414) 423-0255	Email sahodgson@terracon.com		

Acres Ready For Use  
40

Voluntary Party Liability Exemption Site?  Yes  No

#### Fees and Mailing of Closure Request

*If any section is not relevant to the case closure request, you must fully explain the reasons why and attach that explanation to the relevant section of the form. All information submitted shall be legible. Providing illegible information may result in a submittal being considered incomplete until corrected.*

1. **Send a copy of page one** of this form and the applicable ch. NR 749, Wis. Adm. Code, fee(s) to the DNR regional Environmental Program Associate at <http://dnr.wi.gov/topic/Brownfields/Contact.html>. Check all fees that apply:

\$1,050 Closure Fee

\$300 Database Fee for Soil

\$350 Database Fee for Groundwater or  
Other Condition (MW Not Abandoned)

Total Amount of Payment \$ \$1,050.00

2. **Send one paper copy and one e-copy on compact disk of the entire closure package** to the Regional Project Manager assigned to your site. Submit as *unbound, separate documents* in the order and with the titles prescribed by this form. For electronic document submittal requirements, see <http://dnr.wi.gov/files/PDF/pubs/rr/RR690.pdf>.

Site Summary

If any section is not relevant to the case closure request, you must fully explain the reasons why and attach that explanation to the relevant section of the form. All information submitted shall be legible. Providing illegible information may result in a submittal being considered incomplete until corrected.

1. General Site Information and Site History

- A. Site Location: Describe the physical location of the site, both generally and specific to its immediate surroundings. The site is located in a rural agricultural area approximately 2 miles west-northwest of the village of Hortonville, Wisconsin. Specifically, the site is located in the Southwest 1/4 of the Northeast 1/4 of Section 33, Township 22 North, Range 15 East, Town of Hortonia, Outagamie County, Wisconsin. The Wolf River lies approximately 1 mile to the north of the site.
B. Prior and current site usage: Specifically describe the current and historic occupancy and types of use. Prior land usage is unknown, but likely agricultural or pasture. The site is currently used to store materials and equipment used in drilling and blasting rock for mining operations and construction. A steel building is located on the northwestern corner of the property.
C. Describe how and when site contamination was discovered. Soil contamination was discovered on November 16, 2011 when the Wisconsin Department of Natural Resources (WDNR) collected six soil samples from various locations across the site, including one sample collected in the drill-bit grinding area.
D. Describe the type(s) and source(s) or suspected source(s) of contamination. Metals and polycyclic aromatic hydrocarbons (PAHs) were detected in soil samples collected in the drill-bit grinding area. The source of this soil contamination is from drill bit sharpening inside the building. Excess lubricants from the drill bit grinding process dripped through a pipe extending to the outside of the building and onto the ground surface on the south side of the building.
E. Other relevant site description information (or enter Not Applicable). Not Applicable - No other site information is included.
F. List BRRTS activity site name and number for all other BRRTS activities at this property, including closed cases. Ahlgrimm Explosives Co Inc - East Door (09-45-558040) Ahlgrimm Explosives Co Inc - Prill Area (02-45-558037) Ahlgrimm Explosives Co Inc. - Burn Pit (02-45-558039)
G. List BRRTS activity/site name(s) and number(s) for all properties immediately adjacent to this site, and those impacted by contamination from this site.
H. Current zoning (e.g. industrial, commercial, residential) for the site and for neighboring properties, and how verified (Provide documentation in Attachment G). The site is zoned "Prime Agricultural District"

2. General Site Conditions

- A. Soil/Geology
i. Describe soil type(s) and relevant physical properties, thickness of soil column across the site, vertical and lateral variations in soil types. The local geology consists of a thin veneer of unconsolidated material overlying bedrock. Specifically, fine grained sand and silt generally overlies clay to silty clay down to the bedrock interface.
ii. Describe the composition, location and lateral extent, and depth of fill or waste deposits on the site. Other than surface gravel, no fill deposits were encountered during the investigation.
iii. Depth to bedrock, bedrock type, and whether or not it was encountered during the investigation. Bedrock in this area consists of dolomite and sandy limestone of the Lower Ordovician Prairie du Chien Group. The depth to bedrock varied at the site from between approximately 2.5 feet below ground surface (bgs) in the north portion of the site to 6.0 feet bgs in the southern portion of the site.
iv. Describe the nature and locations of current surface cover(s) across the site (e.g. natural vegetation, landscaped areas, gravel, hard surfaces, and buildings). The majority of the site is covered in vegetation (grass) or by the building and a gravel parking lot which lies to the south of the building.
B. Groundwater

- i. **Discuss depth to groundwater and piezometric elevations.** Describe and explain depth variations, and whether free product affects measurement or water table elevation. Describe the stratigraphic unit(s) where water table was found or which were measured for piezometric levels.  
Not Applicable: Groundwater was not encountered during the investigation, however, the static water level in the site potable well as measured by a licensed well contractor is approximately 23 feet bgs.
- ii. Discuss groundwater flow direction(s), shallow and deep. Describe and explain flow variations, including fracture flow if present.  
Not Applicable: Groundwater was not encountered during the investigation, therefore, flow direction is not known.
- iii. Discuss groundwater flow characteristics: hydraulic conductivity, flow rate and permeability, or state why this information was not obtained.  
Not Applicable: Groundwater was not encountered during the investigation, therefore, flow characteristics are not known.
- iv. Identify and describe locations/distance of potable and/or municipal Wells within 1200 feet of the site.  
Two potable wells are located within the search radius. The first is the site potable well, which is located within the drill bit grinding area just south of the building. The well is approximately 112 feet deep and is cased to 47 feet. The second is a private potable well located at the Bernard Poole residence, approximately 750 feet northwest of the site. Construction details are unknown.

### 3. Site Investigation Summary

#### A. General

- i. Provide a brief summary of the site investigation history. Reference previous submittals by name and date. Describe site investigation activities undertaken since the last submittal for this project and attach the appropriate documentation in Attachment C, if not previously provided.  
On November 16, 2011, the WDNR collected six soil samples from various locations throughout the site. Arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver, aluminum, and several PAHs were detected in the soil samples. Terracon prepared a Site Investigation Work Plan, which was submitted on June 8, 2012 and approved by the WDNR on September 28, 2012. Terracon performed a Site Investigation on October 4, 2012 when three test pits (TP-7, TP-8, and TP-9) were excavated in the Drill Bit Grinding Area. Terracon submitted a NR 716 Site Investigation Report dated July 31, 2013, that presented documentation and details of this work and soil sampling results. The report also included a Remedial Action Plan (RAP) which recommended a small soil excavation in the drill-bit grinding area to remove arsenic above the Wisconsin statewide background threshold value (BTV) of 8 milligrams per kilogram (mg/kg) and selenium above the soil to groundwater pathway residual contaminant level (RCL) of 0.52 mg/kg. The site investigation and RAP was approved by the WDNR on September 11, 2013.
- ii. Identify whether contamination extends beyond the source property boundary, describe the off-site media (e.g., soil, groundwater, etc.) impacted, and the vertical and horizontal extent of off-site impacts.  
Contamination from the drill-bit grinding area does not extend off-site.
- iii. Identify any structural impediments to the completion of site investigation and/or remediation and whether these impediments are on the source property or off the source property. Identify the type and location of any structural impediment (e.g., structure) that also serves as the performance standard barrier for protection of the direct contact or the groundwater pathway.  
Confirmatory soil samples at the drill-bit grinding remedial excavation limits between the building and potable well indicate that arsenic above the BTV and selenium above the soil to groundwater pathway RCL was successfully removed. Remaining arsenic is above the non industrial direct contact RCL, however, arsenic levels are below the WDNR BTV of 8 mg/kg. This demonstrates that there was no impediment to the investigation or remediation.

#### B. Soil

- i. Describe degree and extent of **soil contamination** at and from this site. Relate this to known or suspected sources and known or potential receptors/migration pathways.  
Arsenic was detected in each of the samples from TP-7, TP-8, and TP-9 at concentrations ranging from 1.8 mg/kg to 4.8 mg/kg, which is above its soil to groundwater pathway RCL of 0.584 mg/kg. Arsenic was detected in WDNR sample S-01 at a concentration of 12 mg/kg, which is above the Wisconsin BTV of 8 mg/kg. Aluminum was detected in each of the samples from test pits TP-7, TP-8, and TP-9 at concentrations ranging from 6,270 mg/kg to 23,600 mg/kg, which is above its soil to groundwater pathway RCL of 601.2903 mg/kg. Selenium was detected in WDNR near-surface sample S-01 and samples from TP-8 collected at depths of 1 foot bgs and 5.4 feet bgs at concentrations ranging from 0.76 mg/kg and 29 mg/kg, which is above its soil to groundwater pathway RCL of 0.52 mg/kg. The source of this contamination is from drill bit grinding inside the building whereas excess lubricants from the process dripped into a pipe that extended through the wall of the building to the outside where it dripped onto the ground surface. Potential receptors include the nearby site potable well.

- ii. Describe the level and types of **soil contaminants** found in the upper four feet of the soil column.  
Arsenic was detected in each of the shallow (1 foot bgs) samples from test pits TP-7, TP-8, and TP-9 at concentrations ranging from 1.8 mg/kg to 4.6 mg/kg, which is above its soil to groundwater pathway RCL of 0.584 mg/kg. Arsenic was detected in WDNR near-surface sample S-01 at a concentration of 12 mg/kg, which is above the Wisconsin BTV of 8 mg/kg. Aluminum was detected in each of the shallow (1 foot bgs) samples from test pits TP-7, TP-8, and TP-9 at concentrations ranging from 6,270 mg/kg to 14,800 mg/kg, which is above its soil to groundwater pathway RCL of 601.2903 mg/kg. Selenium was detected in WDNR near-surface sample S-01 and the shallow (1-foot bgs) sample from TP-8 at concentrations ranging from 29 mg/kg and 5.1 mg/kg, respectively, which is above its soil to groundwater pathway RCL of 0.52 mg/kg. Several PAHs and other metals were also detected in soils within the upper 4 feet; however, none were detected at concentrations above their respective non-industrial direct-contact or soil to groundwater pathway RCLs.
- iii. Identify the ch. NR 720, Wis. Adm. Code, method used to establish the soil cleanup standards for this site. This includes a soil performance standard established in accordance with s. NR 720.08, a Residual Contaminant Level (RCL) established in accordance with s. NR 720.10 that is protective of groundwater quality, or an RCL established in accordance with s. NR 720.12 that is protective of human health from direct contact with contaminated soil. Identify the land use classification that was used to establish cleanup standards. Provide a copy of the supporting calculations/information in Attachment C.  
The NR 720 WDNR non-industrial direct-contact and soil to groundwater pathway RCL tables from May 2012 were used during this investigation. In addition, site-specific BTV ranges were established for aluminum, iron, copper, and zinc through collection and testing of soil samples collected from three dispersed background test pits.

C. Groundwater

- i. Describe degree and extent of groundwater contamination at or from this site. Relate this to known or suspected sources and known or potential receptors/migration pathways. Specifically address any potential or existing impacts to water supply wells or interception with building foundation drain systems.  
Not Applicable: Groundwater was not encountered during this investigation. However, the WDNR sampled the site potable well for a variety of metals, including arsenic, and other parameters in November 2011. Arsenic was not detected at the laboratory limit of detection (LOD) of 5 micrograms per liter (ug/L)
- ii. Describe the presence of free product at the site, including the thickness, depth, and locations.  
Not Applicable: Free product was not encountered during this investigation.

D. Vapor

- i. Describe how the vapor migration pathway was assessed, including locations where vapor or indoor air samples were collected. If the vapor pathway was not assessed, explain reasons why.  
Not Applicable: WDNR did not require vapor migration assessment during this investigation.
- ii. Identify the applicable DNR action levels and the land use classification used to establish them. Describe where the DNR action levels were reached or exceeded (e.g., sub slab, indoor air or both).  
Not Applicable: WDNR did not require vapor migration assessment during this investigation.

E. Surface Water and Sediment

- i. Identify whether surface water and/or sediment was assessed and describe the impacts found. If this pathway was not assessed, explain why.  
Not Applicable: Surface water/sediment was not present and therefore was not assessed during this investigation. The nearest perennial surface water is the Wolf River which lies approximately 6,525 feet north of the site.
- ii. Identify any surface water and/or sediment action levels used to assess the impacts for this pathway and how these were derived. Describe where the DNR action levels were reached or exceeded.  
Not Applicable: Surface water/sediment was not present and therefore not assessed during this investigation. The nearest known perennial surface water is the Wolf River, which lies approximately 6,525 feet north of the site.

**4. Remedial Actions Implemented and Residual Levels at Closure**

- A. General: Provide a brief summary of the remedial action history. List previous remedial action report submittals by name and date. Identify remedial actions undertaken since the last submittal for this project and provide the appropriate documentation in Attachment C.  
Remedial actions taken at the site include a contaminated soil excavation on November 7, 2013, during which approximately 19 cubic yards of contaminated soil was removed and disposed. The remedial actions were documented in Terracon's Remedial Action Documentation Report dated February 3, 2014.
- B. Describe any immediate or interim actions taken at the site under ch NR 708, Wis. Adm. Code.  
Not Applicable - No immediate or interim actions were taken at the site.

- C. Describe the *active* remedial actions taken at the site, including: type of remedial system(s) used for each media impacted; the size and location of any excavation or in-situ treatment; the effectiveness of the systems to address the contaminated media and substances; operational history of the systems; and summarize the performance of the active remedial actions. Provide any system performance documentation in Attachment A.7.

On November 7, 2013 Terracon returned to the site and performed soil excavation to remove arsenic and selenium contaminated soil from the drill-bit grinding area. A total of approximately 19 cubic yards of contaminated soil was removed from the drill bit grinding area on the south side of the building and transported to the Outagamie County landfill in Appleton, Wisconsin, for proper disposal. The excavation was located between the building and site potable well to the south and was approximately 22 feet long, 7 feet wide, and 4 feet deep. A Remedial Action Documentation Report detailing this work and confirmatory soil sampling was submitted by Terracon on February 3, 2014.

- D. Provide a discussion of the nature, degree and extent of residual contamination that will remain at the site or on off-site affected properties after case closure.
- Arsenic was detected in each of the drill-bit grinding area excavation sidewall and base samples above its non-industrial direct-contact and soil to groundwater pathway RCLs at concentrations ranging from 4.3 mg/kg to 6.5 mg/kg. However, these concentrations are below the Wisconsin BTV of 8.0 mg/kg and therefore the residual arsenic is not considered to be related to the drill-bit grinding process, but rather to naturally occurring sources.
- E. Describe the remaining soil contamination within four feet of ground surface (direct contact zone) that attains or exceeds Residual Contaminant Levels established under s. NR 720. 12 , the ch. NR720, Wis. Adm. Code, for protection of human health from direct contact.
- Arsenic was detected in each of the drill-bit grinding area excavation sidewall and base samples (collected at 3 to 4 feet bgs) above its non-industrial direct-contact and soil to groundwater pathway RCLs at concentrations ranging from 4.3 mg/kg to 6.5 mg/kg. However, these concentrations are below the Wisconsin BTV of 8.0 mg/kg and therefore the residual arsenic is not considered to be related to the drill-bit grinding process, but rather to naturally occurring sources.
- F. Describe the remaining soil contamination in the vadose zone that attains or exceeds the soil standard(s) for the groundwater pathway.
- Arsenic was detected in each of the drill-bit grinding area excavation sidewall and base samples above its non-industrial direct-contact and soil to groundwater pathway RCLs at concentrations ranging from 4.3 mg/kg to 6.5 mg/kg. However, these concentrations are below the Wisconsin BTV of 8.0 mg/kg and therefore the residual arsenic is not considered to be related to the drill-bit grinding process, but rather to naturally occurring sources.
- G. Describe how the residual contamination will be addressed, including but not limited to details concerning: covers, engineering controls or other barrier features; use of natural attenuation of groundwater; and vapor mitigation systems or measures.
- Since the residual contamination consists of arsenic below its Wisconsin BTV, there is no need to further address it.
- H. If using natural attenuation as a groundwater remedy, describe how the data collected supports the conclusion that natural attenuation is effective in reducing contaminant mass and concentration, (e.g. stable or receding groundwater plume).  
Not Applicable - groundwater not impacted.
- I. Identify how all exposure pathways were removed and/or adequately addressed by immediate and/or remedial action(s) described above in paragraphs, B, C, D, E and F.
- Excavation of approximately 19 cubic yards of soil successfully removed arsenic that was above the 8 mg/kg BTV and selenium that was above its soil to groundwater pathway RCL from the source area. No nearby sensitive receptors are expected to be impacted, including the on-site drilled well, groundwater, wetlands, or utility corridors.
- J. Identify any system hardware anticipated to be left in place after site closure, and explain the reasons why it will remain.  
Not Applicable - No hardware was installed, therefore, no hardware will remain on site after site closure.
- K. Identify the need for a ch. NR 140, Wis. Adm. Code, groundwater Preventive Action Limit (PAL) or Enforcement Standard (ES) exemption, and identify the affected monitoring points and applicable substances.  
Not Applicable - Groundwater was not encountered during site activity, therefore, no PAL or ES exemptions are needed.
- L. If a DNR action level for vapor intrusion was exceeded (for indoor air, sub slab, or both) describe where it was exceeded and how the pathway was addressed.  
Not Applicable - Vapor intrusion was assessment not necessary per WDNR and therefore not assessed at the site.
- M. Describe the surface water and/or sediment contaminant concentrations and areas after remediation. If a DNR action level was exceeded, describe where it was exceeded and how the pathway was addressed.  
Not Applicable: Surface water and sediment were not present and therefore assessed during this investigation.

**5. Continuing Obligations: Situations where a maintenance plan(s) and inclusion on DNR's GIS Registry are required.**

Directions: Check all that apply to this case closure request:

	This scenario Applies to this Case Closure		Case Closure Scenario: Maintenance Plans and GIS Registry	Maintenance Plan(s) Required in Attachment D	GIS Registry Listing
	A. On-Site	B. Off-Site			
i.	<input type="checkbox"/>	<input type="checkbox"/>	Engineering Control/Barrier for Direct Contact	✓	✓
ii.	<input type="checkbox"/>	<input type="checkbox"/>	Engineering Control/Barrier for Groundwater Infiltration	✓	✓
iii.	<input type="checkbox"/>	<input type="checkbox"/>	Vapor Mitigation - post closure passive system	✓	✓
iv.	<input type="checkbox"/>	<input type="checkbox"/>	Vapor Mitigation - post closure active system	✓	✓
v.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	None of the above scenarios apply to this case closure	NA	NA

**6. Continuing Obligations: Situations where inclusion on DNR's GIS Registry is required.**

Directions: Check all that apply to this case closure request:

	This scenario Applies to this Case Closure		Case Closure Scenario: GIS Registry Only	GIS Registry Listing
	A. On-Site	B. Off-Site		
i.	<input type="checkbox"/>	<input type="checkbox"/>	Residual soil contamination exceeds ch. NR 720 generic or site-specific RCLs	✓
ii.	<input type="checkbox"/>	<input type="checkbox"/>	Sites with groundwater contamination equal to or greater than the ch. NR 140, enforcement standards (ES)	✓
iii.	<input type="checkbox"/>	<input type="checkbox"/>	Monitoring wells: lost, transferred or remaining in use	✓
iv.	<input type="checkbox"/>	<input type="checkbox"/>	Structural Impediment (not as a performance standard)	✓
v.	<input type="checkbox"/>	<input type="checkbox"/>	Residual soil contamination remaining at ch. NR 720 Industrial Use levels	✓
vi.	<input type="checkbox"/>	<input type="checkbox"/>	Vapor intrusion may be future, post-closure issue if building use or land use changes	✓
vii.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	None of the above scenarios apply to this case closure	NA

**7. Underground Storage Tanks**

- A. Were any tanks, piping or other associated tank system components removed as part of the investigation or remedial action?  Yes  No
- B. Do any upgraded tanks meeting the requirements of ch. SPS 310, Wis. Adm. Code, exist on the property?  Yes  No
- C. If the answer to question 7b is yes, is the leak detection system currently being monitored?  Yes  No

**Data Tables (Attachment A)**



*If any section is not relevant to the case closure request, you must fully explain the reasons why and attach that explanation to the relevant section of the form. All information submitted shall be legible. Providing illegible information may result in a submittal being considered incomplete until corrected.*

**General directions for Data Tables:**

- Use bold and italics font on information of importance on tables and figures. Use **bold font** for ch. NR 140, Wis. Adm. Code, groundwater enforcement standard (ES) attainments or exceedances, and *italicized font* for ch. NR 140, Wis. Adm. Code, groundwater preventive action limit (PAL) standard attainments or exceedances.
- Do not use shading or highlighting on the analytical tables.
- Include on Data Tables the level of detection for results which are below the detection level (i.e. do not just list as no detect (ND)).
- Include the units on data tables.
- Summaries of all data must include information collected by previous consultants.
- Do not submit lab data sheets unless these have not been submitted in a previous report. Tabulate all data required in s. NR 716.15(3)(c), Wis. Adm. Code, in the format required in s. NR 716.15(4)(e), Wis. Adm. Code.
- Include in Attachment A all of the following tables, in the order prescribed below, with the specific Closure Form titles noted on the separate attachments (e.g., Title: A.1. Groundwater Analytical Table; A.2. Pre-remedial Soil Analytical Table, etc).
- For required documents, each table (e.g., A.1., A.2., etc.) should be a separate PDF.

**A. Data Tables**

- A.1. **Groundwater Analytical Table(s):** Table(s) showing the analytical results and collection dates, for all groundwater sampling points e.g. monitoring wells, temporary wells, sumps, extraction wells, any potable wells and any other wells, extraction wells and any potable wells for which samples have been collected.
- A.2. **Pre-remedial Soil Analytical Table(s):** Table(s) showing the soil analytical results and collection dates - prior to conducting the interim and/or remedial action. Indicate if sample was collected above or below the all-time low water table (unsaturated verses saturated).
- A.3. **Post-remedial Soil Analytical Table(s):** Table(s) showing the post-remedial action soil analytical results and collection dates. Indicate if sample was collected above or below the all-time low water table (unsaturated verses saturated).
- A.4. **Pre and Post Remaining Soil Contamination Soil Analytical Table(s):** Table(s) showing only the pre and post remedial action soil analytical results that exceed a Residual Contaminate Level (RCL) or a Site-Specific Residual Level (SSRCL).
- A.5. **Vapor Analytical Table:** Table(s) showing type(s) of samples, sample collection methods, analytical method, sample results, date of sample collection, time period for sample collection, method and results of leak detection, and date, method and results of communication testing.
- A.6. **Other Media of Concern (e.g., sediment or surface water):** Table(s) showing type(s) of sample, sample collection method, analytical method, sample results, date of sample collection, time period for sample collection, method and results sampling.
- A.7. **Water Level Elevations:** Table(s) showing all water level elevation measurements and dates from all monitoring wells. If present, free product should be noted on the table.
- A.8. **Other:** This attachment should include: 1) any available tabulated natural attenuation data; 2) data tables pertaining to engineered remedial systems that document operational history, demonstrate system performance and effectiveness, and display emissions data; and (3) any other data tables relevant to case closure not otherwise noted above. If this section is not applicable, please explain the reasons why.

**Maps and Figures (Attachment B)**



If any section is not relevant to the case closure request, you must fully explain the reasons why and attach that explanation to the relevant section of the form. All information submitted shall be legible. Providing illegible information may result in a submittal being considered incomplete until corrected.

### General Directions for all Maps and Figures:

- If any map or figure is not relevant to the case closure request, you must fully explain the reason(s) why and attach that explanation (properly labeled with the map/ figure title) in Attachment B.
- Provide on paper no larger than 11 x 17 inches, unless otherwise directed by the Department. Maps and figures may be submitted in a larger electronic size than 11x17 inches, in a portable document format (pdf) readable by the Adobe Acrobat Reader. However, those larger-size documents must be legible when printed.
- Prepare visual aids, including maps, plans, drawings, fence diagrams, tables and photographs according to the applicable portions of ss. NR 716.15(4), 726.09(2) and 726.11(3), (5) and (6), Wis Adm. Code.
- Do not use shading or highlights on any of the analytical tables.
- Include all sample locations.
- Contour lines should be clearly labeled and defined.
- Include in Attachment B all of the following maps and figures, in the order prescribed below, with the specific Closure Form titles noted on the separate attachments (e.g., Title: B.1. Location Map; B.2. Detailed Site Map, etc).
- For the electronic copies that are required, each map (e.g., B.1.a., B.2.a, etc.,) should be a separate PDF.

#### B.1. Location Maps

- B.1.a. **Location Map:** A map outlining all properties within the contaminated site boundaries on a U.S.G.S. topographic map or plat map in sufficient detail to permit easy location of all impacted and/or adjacent parcels. If groundwater standards are exceeded, include the location of all potable wells, including municipal wells, within 1200 feet of the area of contamination.
- B.1.b. **Detailed Site Map:** A map that shows all relevant features (buildings, roads, current ground surface cover, individual property boundaries for on-site and applicable off-site properties, contaminant sources, utility lines, monitoring wells and potable wells) within the contaminated area. This map is to show the location of all contaminated public streets, and highway and railroad rights-of-way in relation to the source property and in relation to the boundaries of groundwater contamination exceeding a ch. NR 140 Enforcement Standard (ES), and/or in relation to the boundaries of soil contamination exceeding a Residual Contaminant Level (RCL) established in accordance with the provisions contained in s. NR 720.10 or s. NR 720.12, Wis. Adm. Code.
- B.1.c. **RR Site Map:** From RR Sites Map ([http://dnrmaps.wi.gov/sl/?Viewer=RR Sites](http://dnrmaps.wi.gov/sl/?Viewer=RR%20Sites)) attach a map depicting the source property, and all open and closed BRRTS sites within a half-mile radius or less of the property.

#### B.2. Soil Figures

- B.2.a. **Pre-remedial Soil Contamination:** Figure(s) showing the sample location of all pre-remedial, unsaturated contaminated soil and a single contour showing the horizontal extent of each area of contiguous residual soil contamination that exceeded a Residual Contaminant Level (RCL) established in accordance with the provisions contained in s. NR 720.10 or s. NR 720.12, Wis. Adm. Code.
- B.2.b. **Post-remedial Soil Contamination :** Figure(s) showing the sample location of all post-remedial, unsaturated contaminated soil and a single contour showing the horizontal extent of each area of contiguous residual soil contamination that exceeds a Residual Contaminant Level (RCL) established in accordance with the provisions contained in s. NR 720.10 or s. NR 720.12, Wis. Adm. Code. A separate contour line should be used to indicate the extent of residual direct contact exceedances.
- B.2.c. **Pre/Post Remaining Soil Contamination:** Figure(s) showing the only location of all pre and post remedial residual soil sample location(s) where unsaturated contaminated soil remains after remediation and a single contour showing the horizontal extent of each area of contiguous residual soil contamination that exceeds a Residual Contaminant Level (RCL) established in accordance with the provisions contained in s. NR 720.10 or s. NR 720.12, Wis. Adm. Code. A separate contour line should be used to indicate the extent of residual direct contact exceedances.

#### B.3. Groundwater Figures

- B.3.a. **Geologic Cross-Section Figure(s):** One or more cross-section diagrams showing soil types and correlations across the site, water table and piezometric elevations, and locations and elevations of geologic rock units, if encountered. Display on one or more figures all of the following:
- Source location(s) and vertical extent of residual soil contamination exceeding a Residual Contaminant Level (RCL) or a Site Specific Residual Contaminant Level (SSRCL).
  - Source location(s) and lateral and vertical extent if groundwater contamination exceeds a ch. NR 140 Enforcement Standard (ES)
  - Surface features, including buildings and basements, and show surface elevation changes.
  - Any areas of active remediation within the cross section path, such as excavations or treatment zones.
  - Include a map displaying the cross-section location(s), if they are not displayed on the Detailed Site Map (Map B.1b)
- B.3.b. **Groundwater Isoconcentration:** Figure(s) showing the horizontal extent of the post-remedial groundwater contamination exceeding a ch. NR 140, Wis. Adm. Code, Preventive Action Limit (PAL) and/or an Enforcement Standard (ES). Indicate the date and direction of groundwater flow based on the most recent sampling data.
- B.3.c. **Groundwater Flow Direction:** Figure(s) representing groundwater movement at the site. If the flow direction varies

### Documentation of Remedial Action (Attachment C)

*If any section is not relevant to the case closure request, you must fully explain the reasons why and attach that explanation to the relevant section of the form. All information submitted shall be legible. Providing illegible information may result in a submittal being considered incomplete until corrected.*

#### General Directions:

- Include in Attachment C all of the following documentation, in the order prescribed below, with the specific Closure Form titles noted on the separate attachments (e.g., Title: C.1. Site Investigation Documentation; C.2. Investigative Waste, etc).
- If the documentation requested below is “not applicable” to the site-specific circumstances, include a brief explanation to support that conclusion.
- If the documentation requested below has already been submitted to the Department, please note the title and date of the report for that particular document requested.
  - C.1. **Site investigation documentation**, that has not otherwise been previously submitted.
  - C.2. **Investigative waste** disposal documentation.
  - C.3. **Provide a description of the methodology used along with all supporting documentation if the Residual Contaminant Levels are different than those contained in the Department’s RCL Spreadsheet available at: <http://dnr.wi.gov/topic/Brownfields/Professionals.html>.**
  - C.4. **Construction documentation** or as-built report for any constructed remedial action or portion of, or interim action specified in s. NR 724.02(1), Wis. Adm. Code.
  - C.5. **Decommissioning of Remedial Systems.** Include plans to properly abandon any systems or equipment upon receiving conditional closure.
  - C.6. **Photos.** For sites or facilities with a cover or other performance standard, a structural impediment or a vapor mitigation system. Include one or more photographs documenting the condition and extent of the feature at the time of the closure request. Pertinent features should be visible and discernible. Photographs must be labeled with the site name, the features shown, location and the date on which the photograph was taken.
  - C.7. **Other.** Include any other relevant documentation not otherwise noted above. (This section may remain blank)

### Maintenance Plan(s) and Photographs (Attachment D)

*If any section is not relevant to the case closure request, you must fully explain the reasons why and attach that explanation to the relevant section of the form. All information submitted shall be legible. Providing illegible information may result in a submittal being considered incomplete until corrected.*

When one or more “maintenance plans” are required for a site closure, include in each maintenance plan all required information listed below, and attach the plan(s) in Attachment D. The following “model” maintenance plans can be located at: (1) Maintenance plan for an engineering control or cover: <http://dnr.wi.gov/topic/Brownfields/documents/maintenance-plan.pdf>; and (2) Maintenance plan for vapor intrusion: [http://dnr.wi.gov/topic/Brownfields/documents/appendix5\\_606.pdf](http://dnr.wi.gov/topic/Brownfields/documents/appendix5_606.pdf).

- D.1. **Location map(s)** which show(s): (1) the feature that requires maintenance; (2) the location of the feature(s) that require(s) maintenance - on and off the source property; (3) the extent of the structure or feature(s) to be maintained, in relation to other structures or features on the site; (4) the extent and type of residual contamination; and (5) and all property boundaries.
- D.2. **Brief descriptions** of the type, depth and location of residual contamination.
- D.3. **Description of maintenance action(s)** required for maximizing effectiveness of the engineered control, vapor mitigation system, feature or other action for which maintenance is required.
- D.4. **Inspection log**, to be maintained on site, or at a location specified in the maintenance plan or approval letter.
- D.5. **Contact information**, including the name, address and phone number of the individual or facility who will be conducting the maintenance.
- D.6. Photographs
  - D.6.a. For site or facilities with a cover or other performance standard, a structural impediment or a vapor mitigation system, include one or more photographs documenting the condition and extent of the feature at the time of the closure request. Pertinent features shall be visible and discernible.

**Monitoring Well Information (Attachment E)**

If any section is not relevant to the case closure request, you must fully explain the reasons why and attach that explanation to the relevant section of the form. All information submitted shall be legible. Providing illegible information may result in a submittal being considered incomplete until corrected.

**General Directions:**

Attach monitoring well construction and development forms (DNR FORM 4400-113 A and B: [http://dnr.wi.gov/topic/groundwater/documents/forms/4400\\_113\\_1\\_2.pdf](http://dnr.wi.gov/topic/groundwater/documents/forms/4400_113_1_2.pdf)) for all wells that will remain in-use, be transferred to another party or that could not be located. A figure of these wells should be included in Attachment B.3.d.

**Select One:**

- No monitoring wells were required as part of this response action.
- All monitoring wells have been located and will be properly abandoned upon the DNR granting conditional closure to the site
- Select One or More:**
  - Not all monitoring wells can be located, despite good faith efforts. Attachment E must include description of efforts made to locate the "lost" wells.
  - One or more wells will be transferred to another owner upon case closure being granted. Attachment E should include documentation identifying the name, address and email for the new owner(s).
  - One or more wells will remain in use at the site after this closure. Attachment E must include documentation as to the reason(s) the well(s) will remain in use.

**Notifications to Owners of Impacted Properties (Attachment F)**

If any section is not relevant to the case closure request, you must fully explain the reasons why and attach that explanation to the relevant section of the form. All information submitted shall be legible. Providing illegible information may result in a submittal being considered incomplete until corrected.

**General Directions:**

- State law requires that the responsible party provide a 30-day, written advance notice (i.e., a letter) to certain persons prior to applying for case closure. This requirement applies if: (1) the person conducting the response action does not own the source property; (2) the contamination has migrated onto another property; and/or (3) one or more monitoring wells will not be abandoned.
- Use of Form 4400-286, Notification of Residual Contamination and Continuing Obligations, is required under ch. NR 725 for notifying property owners and right-of-way holders about residual contamination affecting their properties, and of continuing obligations which may be imposed. This form can be downloaded at <http://dnr.wi.gov/files/PDF/forms/4400/4400-286.pdf>.

**Check all that apply to the site-specific circumstances of this case closure:**

	<b>A. Impacted Source Property and Owner is not Conducting Cleanup</b>	<b>B. Impacted Right of Way</b>	<b>C. Impacted Off-Site Property Owner</b>	<b>Impacted Property Notification Situations: Ch. NR 726 Appendix A Letter</b>
1.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Residual groundwater contamination exceeds Ch. NR 140 Wis. Administrative Code enforcement standards.
2.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Residual soil contamination that attains or exceeds standards is present after the remedial action is complete, and must be properly managed should it be excavated or removed.
3.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	An engineered cover or a soil barrier (e.g. pavement) must be maintained over contaminated soil for direct contact or groundwater infiltration concerns.
4.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Industrial land use soil standards were used for the clean-up standard.
5.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	A vapor mitigation system (or other specific vapor protection) must be operated and maintained.
6.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Vapor assessment needed if use changes.
7.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Structural impediment.
8.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Lost, transferred or open monitoring wells.
9.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Not Applicable.

If any of the previous boxes in rows 1 thru 8 were checked, include the following as part of Attachment F:

- **FORM 4400-246;**
- Copy of each letter sent, 30 days or more prior to requesting closure; and
- Proof of receipt for each letter.
- For this site closure, \_\_\_\_\_ (number) property (ies) has/have been impacted, the owners have been notified, and copies of the letters and receipts are included in Attachment F.

Save...

Source Legal Documents (Attachment G)

If any section is not relevant to the case closure request, you must fully explain the reasons why and attach that explanation to the relevant section of the form. All information submitted shall be legible. Providing illegible information may result in a submittal being considered incomplete until corrected.

Include all of the following documents, in this order, in Attachment G:

G.1. Deeds - Source Property and Other Impacted Properties: The most recent deed with legal descriptions clearly labeled for (1) the Source Property (where the contamination originated) and (2) all off-source (off-site) properties where letters were required to be sent per the ch. NR 700, Wis. Adm. Code, rule series (e.g., off-site cover maintenance required, lost monitoring well, off-site cover property impacts to groundwater exceeding the ch. NR 140, Wis. Adm. Code.

Note: If a property has been purchased with a land contract and the purchaser has not yet received a deed, a copy of the land contract which includes the legal description shall be submitted instead of the most recent deed. If the property has been inherited, written documentation of the property transfer should be submitted along with the most recent deed.

G.2. Certified Survey Map: A copy of the certified survey map or the relevant section of the recorded plat map for those properties where the legal description in the most recent deed refers to a certified survey map or a recorded plat map. (Lots on subdivided or platted property (e.g. lot 2 of xyz subdivision)).

G.3. Verification of Zoning: Documentation (e.g., official zoning map or letter from municipality) of the property's or properties' current zoning status.

G.4. Signed Statement: A statement signed by the Responsible Party (RP), which states that he or she believes that the attached legal description(s) accurately describe(s) the correct contaminated property or properties.

Signatures and Findings for Closure Determination

If any section is not relevant to the case closure request, you must fully explain the reasons why and attach that explanation to the relevant section of the form. All information submitted shall be legible. Providing illegible information may result in a submittal being considered incomplete until corrected.

Check the correct box for this case closure request, and have either a professional engineer or a hydrogeologist, as defined in ch. NR 712, Wis. Adm. Code, sign this document.

[ ] A response action(s) for this site addresses groundwater contamination (including natural attenuation remedies).

[X] The response action(s) for this site addresses media other than groundwater.

Engineering Certification

I, Blaine R. Schroyer hereby certify that I am a registered professional engineer in the State of Wisconsin, registered in accordance with the requirements of ch. A-E 4, Wis. Adm. Code; that this case closure request has been prepared by me or prepared under my supervision in accordance with the Rules of Professional Conduct in ch. A-E 8, Wis. Adm. Code; and that, to the best of my knowledge, all information contained in this case closure request is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code. Specifically, with respect to compliance with the rules, in my professional opinion a site investigation has been conducted in accordance with ch. NR 716, Wis. Adm. Code, and all necessary remedial actions have been completed in accordance with chs. NR 140, NR 718, NR 720, NR 722, NR 724 and NR 726, Wis. Adm. Codes."

Blaine R. Schroyer

Printed Name

Branch Manager

Title

[Handwritten Signature]

Signature

2/17/2015

Date



**Hydrogeologist Certification**

I Scott A. Hodgson hereby certify that I am a hydrogeologist as that term is defined in s. NR 712.03 (1), Wis. Adm. Code, and that, to the best of my knowledge, all of the information contained in this case closure request is correct and the document was prepared by me or prepared by me or prepared under my supervision and, in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code. Specifically, with respect to compliance with the rules, in my professional opinion a site investigation has been conducted in accordance with ch. NR 716, Wis. Adm. Code, and all necessary remedial actions have been completed in accordance with chs. NR 140, NR 718, NR 720, NR 722, NR 724 and NR 726, Wis. Adm. Codes."

Scott A. Hodgson

Printed Name

Senior Project Manager

Title

Scott A. Hodgson

Signature

2/17/2015

Date

2/17/2015

02-45-558038

Ahlgrimm Expl Co Inc – Drill Bit Grinding Area

**BRRTS No.**

**Activity (Site) Name**

## **TABLE OF CONTENTS**

### **Case Closure – GIS Registry**

#### **Attachment A: Data Tables**

A.1. Groundwater Analytical Table(s) : Not Applicable: Groundwater was not encountered during the investigation, therefore, a groundwater analytical table was not prepared.

A.2. Pre-remedial Soil Analytical Table(s)

A.3. Post-remedial Soil Analytical Table(s)

A.4. Pre and Post Remaining Soil Contamination Soil Analytical Table(s) Not applicable. Excavation successfully removed arsenic that was above the 8 mg/kg BTV and selenium that was above its soil to groundwater pathway RCL. Although remaining arsenic concentrations are above its non-industrial direct-contact and soil to groundwater pathway RCLs, they are below the BTV and therefore are not considered an exceedance.

A.5. Vapor Analytical Table: Not Applicable: A vapor intrusion assessment was not necessary per WDNR and consequently was not performed during the investigation; therefore, a vapor analytical table was not prepared.

A.6. Other Media of Concern (e.g., sediment or surface water): Not Applicable: Data collection in support of natural attenuation was not performed, and an engineered remedial system was not installed. There were no other tables completed relevant to this case closure request.

A.7. Water Level Elevations: Not Applicable: Groundwater was not encountered during the investigation, therefore, a groundwater elevation table was not prepared.

A.8. Other: Not Applicable: Data collection in support of natural attenuation was not performed, and an engineered remedial system was not installed. There were no other tables completed relevant to this case closure request.



**Table A.2  
Pre-Remedial Soil Analytical Table (PAHs and Metals)**

Algrimm Explosives  
W9899 Givens Road  
Hortonville, Wisconsin  
Terracon Project No. 58127001

Sample ID	Sample Depth (feet)	PID (ppm)	Sample Date	PAHs (µg/kg)																	RCRA Metals (mg/kg)							mg/kg				mg/kg					
				Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	1-Methylnaphthalene	2-Methylnaphthalene	Naphthalene	Phenanthrene	Pyrene	Arsenic	Barium	Cadmium	Chromium	Lead	Selenium	Silver	Mercury	Aluminum	Iron	Copper	Zinc	NO <sub>3</sub> as N	NH <sub>4</sub> as N		
Background TP-1	1	--	10/4/2012	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<u>8,150</u>	13,400	12.1	14.1	--	--			
Background TP-1	2.5	--	10/4/2012	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<u>9,330</u>	14,400	32.2	24.0	--	--			
Background TP-2	1	--	10/4/2012	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<u>2,980</u>	5,890	2.1	9.0	--	--			
Background TP-2	4.1	--	10/4/2012	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<u>5,050</u>	8,270	10.7	17.8	--	--			
Background TP-3	1	--	10/4/2012	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<u>12,700</u>	15,500	11.1	21.2	--	--			
Background TP-3	2.8	--	10/4/2012	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<u>24,100</u>	29,100	35.7	42.0	--	--				
<b>Drill Bit Grinding Area - BRRS # 02-45-555038</b>																																					
<b>WDNR S-01</b>	<b>0-0.5</b>	<b>--</b>	11/21/2011	<25	<16	<16	<25	<25	<28	<30	<25	<26	<25	30	<25	<29	<25	<25	<25	<16	22	<u>12</u>	7.4	<0.1	15.3	<1	<u>29</u>	1.6	0.016	572	6,570	35.9	254	0.785	<b>3.1E-05</b>		
TP-7	1	<1	10/4/2012	<9.7	<9.7	<2.0	<9.7	<9.7	3.2	<9.7	<9.7	2.7	<9.7	<9.7	<9.7	<9.7	<8.8	<1.8	<3.6	<2.5	<9.7	<b>1.8</b>	36.5	0.046	11.9	7.4	<0.55	<0.25	0.016	<u>6,490</u>	10,200	--	34.5	--	--		
TP-7	4.6	<1	10/4/2012	<9.4	<9.4	<1.9	<9.4	<9.4	<2.7	<9.4	<9.4	<2.1	<9.4	<9.4	<9.4	<9.4	<8.6	<1.8	<3.6	<2.4	<9.4	<b>3.4</b>	60.3	0.056	18.7	5.4	<0.50	<0.23	0.011	<u>13,300</u>	16,500	--	33.0	--	--		
TP-8	1	<1	10/4/2012	<9.9	<9.9	<2.0	<9.9	<9.9	3.5	<9.9	<9.9	5.3	<9.99	<9.9	<9.99	<9.99	<9.0	<1.9	<3.7	<2.5	<9.9	<b>4.6</b>	60.6	0.047	22.9	7.7	<u>5.1</u>	<0.24	0.015	<u>14,800</u>	19,000	--	57.5	--	--		
TP-8	5.4	<1	10/4/2012	<10.3	<10.3	<2.1	<10.3	<10.3	<3.0	<10.3	<10.3	<2.3	<10.3	<10.3	<10.3	<10.3	<9.4	<1.9	4.1	<2.6	<10.3	<b>4.8</b>	85.7	<0.038	31.0	6.7	<u>0.76</u>	<0.27	0.024	<u>20,600</u>	23,200	--	38.8	--	--		
TP-9	1	<1	10/4/2012	<9.2	<9.2	<1.9	<9.2	<9.2	<2.7	<9.2	<9.2	<2.1	<9.2	<9.2	<9.2	<8.4	5.4	5.4	<2.4	<9.2	<b>1.9</b>	32.4	0.080	11.5	6.3	<0.53	<0.24	0.015	<u>6,270</u>	10,000	--	29.0	--	--			
TP-9	4.6	<1	10/4/2012	<10.0	<10.0	<2.1	<10.0	<10.0	<2.9	<10.0	<10.0	<2.3	<10.0	<10.0	<10.0	<10.0	9.2	11.3	<3.8	<2.6	<10.0	<b>4.5</b>	101	<0.035	32.7	7.1	<0.55	<0.25	0.026	<u>23,600</u>	26,500	--	38.9	--	--		
Direct Contact Non-Industrial RCL <sup>1</sup>				<b>3,440</b>	<b>487</b>	<b>17,200</b>	<b>148</b>	<b>15</b>	<b>148</b>	--	<b>1,480</b>	<b>14,800</b>	<b>15</b>	<b>2,290,000</b>	<b>2,290,000</b>	<b>148</b>	<b>15,600</b>	<b>229,000</b>	<b>5,150</b>	<b>115,000</b>	<b>1,720,000</b>	<b>0.39</b>	<b>15,300</b>	<b>70.2</b>	<b>100,000</b>	<b>400</b>	<b>391</b>	<b>391</b>	<b>391</b>	<b>77,400</b>	<b>54,800</b>	<b>3,130</b>	<b>23,500</b>	<b>100,000</b>	--		
Soil to Groundwater Pathway RCL <sup>2</sup>				--	--	<u>196.7</u>	--	--	<u>470</u>	<u>480</u>	--	--	<u>145.1</u>	--	--	<u>88,817.9</u>	<u>14,814</u>	--	--	<u>658.7</u>	--	<u>54,472.5</u>	<u>0.584</u>	<u>164.8</u>	<u>0.752</u>	<u>360,000</u>	<u>27</u>	<u>0.52</u>	<u>0.8497</u>	<u>0.208</u>	<u>601,2903</u>	--	91.6	--	--	--	
Background Threshold Value <sup>3</sup>				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8	364	1	44	52	--	--	--	28,721	34,314	35	150	--	--	

**Notes:**  
 Background Test Pit locations are shown on Fig B.1.b. Detailed Site Map 1, all remaining sample locations are shown on Fig B.1.b. Detailed Site Map 2  
 PAH = Polycyclic Aromatic Hydrocarbons  
 RCRA = Resource Conservation & Recovery Act  
 NO<sub>3</sub> as N = Nitrate-nitrite as nitrogen  
 NH<sub>3</sub> as N = ammonia-ammonium as nitrogen  
<sup>1</sup> Residual Contaminant Levels (RCLs) for Direct Contact per Soil Residual Contaminant Level Determinations Using the US EPA Regional Screening Level Web Calculator (Draft Version for Comments) PUB-RR-890, updated May 2012  
<sup>2</sup> RCLs for Protection of Groundwater per Soil Residual Contaminant Level Determinations Using the US EPA Regional Screening Level Web Calculator (Draft Version for Comments) PUB-RR-890, updated May 2012  
<sup>3</sup> Wisconsin Department of Natural Resources Statewide Background Threshold Value (January 2015)

**XX.XX** Bold = Exceeds Direct Contact RCL  
XX.XX Underlined = Exceeds Soil to Groundwater Pathway RCL  
 -- Dashed lines = No established standard or not sampled

Results expressed in micrograms per kilogram (ug/kg) or milligrams per kilogram (mg/kg).

**TABLE A.2  
Pre-Remedial Soil Analytical Table (VOC and Nitrogen)**

Ahlgimm Explosives  
W9899 Givens Road  
Hortonville, Wisconsin  
Terracon Project No. 58127001

Sample ID	Sample Depth (feet)	PID (ppmv)	Sample Date	Volatile Organic Compounds (µg/kg)											Nitrogen (mg/kg)			Cumulative Risk <sup>3</sup>			
				n-Butylbenzene	Styrene	o-xylene	Ethylbenzene	n-propylbenzene	Naphthalene	sec-Butylbenzene	p-Isopropyltoluene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Toluene	Tetrachloroethene	NO <sub>2-3</sub> as N	NH <sub>3-4</sub> as N	Total N (<100)	Cumulative Hazard Index (<1)	Cumulative Cancer Risk (<10 <sup>-5</sup> )	
<b>Drill Bit Grinding Area, BRRS # 02-45-558038</b>																					
<b>WDNR S-01</b>	<b>0-0.5</b>	--	11/21/2011	<50.0	<25.0	<25.0	<25.0	<25.0	<25.0	<50.0	<25.0	<50.0	<25.0	<25.0	<25.0	<25.0	--	--	--	0.785	<b>3.1E-05</b>
Non-Industrial Direct Contact RCL <sup>1</sup>				<b>108,000</b>	<b>867,000</b>	<b>434,000</b>	<b>7,470</b>	<b>264,000</b>	<b>5,150</b>	<b>145,000</b>	<b>162,000</b>	<b>89,800</b>	<b>182,000</b>	<b>818,000</b>	<b>30,700</b>	<b>100,000</b>	--	--	--	--	--
Soil-to-Groundwater Pathway RCL <sup>2</sup>				--	<u>220</u>	<u>3,940</u>	<u>1,570</u>	--	<u>658.7</u>	--	--	--	--	<u>1,107.2</u>	<u>4.5</u>	--	--	--	--	--	--

**Notes:**

<sup>1</sup> Residual Contaminant Levels (RCLs) for Direct Contact per the WDNR RCL Spreadsheet (May 2012). WDNR Soil Residual Contaminant Level Determinations were calculated using the US EPA Regional Screening Level Web Calculator as described in WDNR PUB-RR-890 (Draft Version for Comments)

<sup>2</sup> RCLs for Soil to Groundwater Pathway per the WDNR RCL Spreadsheet (May 2012). WDNR Soil Residual Contaminant Level Determinations were calculated using the US EPA Regional Screening Level Web Calculator as described in WDNR PUB-RR-890 (Draft Version for Comments).

<sup>3</sup> Cumulative Risk calculations per the WDNR RCL Spreadsheet (May 2012).

ppmv = parts per million volume

NO<sub>2-3</sub> as N = Nitrite-Nitrate as Nitrogen

NH<sub>3-4</sub> as N = Ammonia-Ammonium as Nitrogen

**Bold** = Exceeds Non-industrial Direct Contact RCL

Underlined = Exceeds Exceeds Soil to Groundwater Pathway RCL

**Bold** = Exceeds the HQ of 1, the CR of 10-5, or the DATCP Total Nitrogen cleanup goal of 100 mg/kg

Results expressed in either micrograms per kilogram (ug/kg) or milligrams per kilogram (mg/kg)

-- Indicates standard not established, not calculated or not analyzed

**TABLE A.3**  
**Post-Remedial Soil Analytical Table**

Ahlgrimm Explosives  
W9899 Givens Road  
Hortonville, Wisconsin  
Terracon Project No. 58127001

Sample ID	Sample Depth (feet)	Sample Date	RCRA Metals (mg/kg)		Cumulative Risk <sup>3</sup>	
			Arsenic	Selenium	Cumulative Hazard Index (<1)	Cumulative Cancer Risk (<10 <sup>-5</sup> )
2-N	3	11/7/2013	<b>6.5</b>	<0.78	0.1895	<b>1.10E-05</b>
2-W	3	11/7/2013	<b>5.1</b>	<0.63	0.1487	8.30E-06
2-E	3	11/7/2013	<b>4.5</b>	<0.68	0.0312	7.30E-06
2-S	3	11/7/2013	<b>4.3</b>	<0.64	0.1254	7.00E-06
2-BASE	3	11/7/2013	<b>4.3</b>	<0.61	0.1254	7.00E-06
Direct Contact Non-Industrial RCL <sup>1</sup>			<b>0.614</b>	<b>391</b>	--	--
Soil to Groundwater Pathway RCL <sup>2</sup>			<u>0.584</u>	<u>0.52</u>	--	--
Background Threshold Value <sup>4</sup>			8	--	--	--

**Notes:**

<sup>1</sup> Residual Contaminant Levels (RCLs) for Direct Contact per the WDNR RCL Spreadsheet (June 2013). WDNR Soil Residual Contaminant Level Determinations were calculated using the US EPA Regional Screening Level Web Calculator as described in WDNR PUB-RR-890 (June 2013)

<sup>2</sup> RCLs for Protection of Groundwater per the WDNR RCL Spreadsheet (June 2013). WDNR Soil Residual Contaminant Level Determinations were calculated using the US EPA Regional Screening Level Web Calculator as described in WDNR PUB-RR-890 (June 2013).

<sup>3</sup> Cumulative Risk calculations per the WDNR RCL Spreadsheet (June 2013).

<sup>4</sup> Wisconsin Department of Natural Resources Statewide Background Threshold Value (January 2015)

**Bold =** Exceeds Non-industrial Direct Contact RCL

Underlined = Exceeds Soil to Groundwater Pathway RCL

**Bold =** Exceeds the HQ of 1 or the CR of 10-5

Results expressed in milligrams per kilogram (mg/kg).

-- Indicates standard not established, not calculated or not analyzed

02-45-558038

Ahlgrimm Expl Co Inc – Drill Bit Grinding Area

**BRRTS No.**

**Activity (Site) Name**

## **TABLE OF CONTENTS**

### **Case Closure – GIS Registry**

### Attachment B: Maps and Figures

#### B.1. Location Maps

B.1.a. Location Map

B.1.b. Detailed Site Map

B.1.c. RR Site Map

#### B.2. Soil Figures

B.2.a. Pre-remedial Soil Contamination

B.2.b. Post-remedial Soil Contamination

B.2.c. Pre/Post Remaining Soil Contamination: Not Applicable: There was no remaining soil above applicable RCLs/BTV and therefore a pre/post soil contamination map is not necessary and is not included.

#### B.3. Groundwater Figures

B.3.a. Geologic Cross-Section Figure(s)

B.3.b. Groundwater Isoconcentration: Not Applicable: Groundwater was not encountered during the investigation, therefore, a groundwater isoconcentration map was not prepared.

B.3.c. Groundwater Flow Direction: Not Applicable: Groundwater was not encountered during the investigation, therefore, a groundwater flow direction map was not prepared.

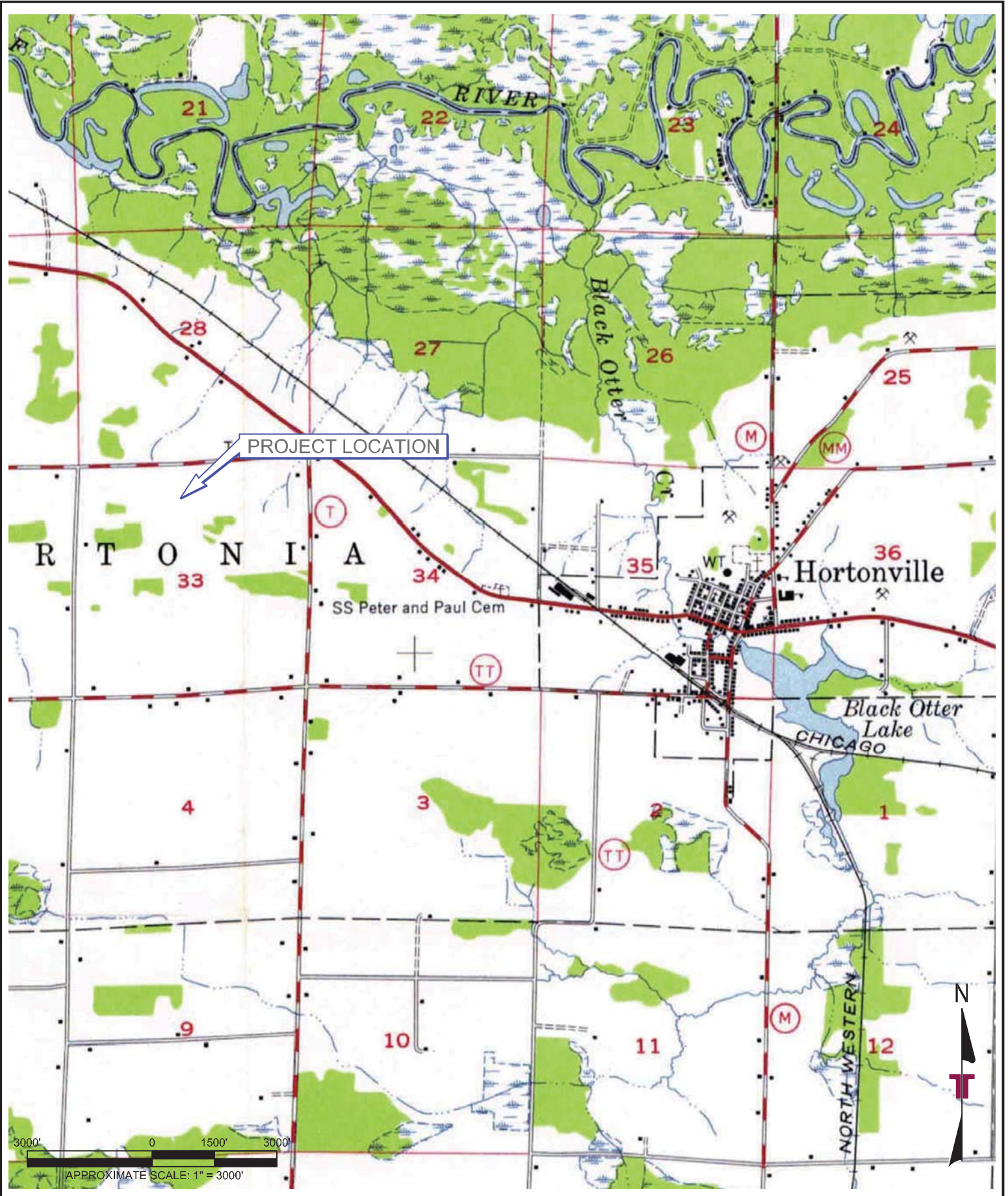
B.3.d. Monitoring Wells: Monitoring wells were not installed during this investigation, therefore, a monitoring well map was not prepared.

B.4 Vapor Maps and Other Media

B.4.a Vapor Intrusion Map: Not Applicable: Vapor intrusion was not assessed during the investigation, therefore, a vapor intrusion map was not prepared.

B.4.b. Other Media of Concern (e.g. sediment or surface water): Not Applicable: Sediment and surface water were not assessed during site investigation.

B.4.c. Other: Not Applicable: There are no other relevant maps/figures which were prepared for this case closure request.



Project Mngt:	SAH
Drawn By:	JAP
Checked By:	SAH
Approved By:	SAH

Project No.	58127001
Scale:	AS SHOWN
File No.	58127001 SL
Date:	11/19/12

**Terracon**  
 Consulting Engineers and Scientists  
 9856 SOUTH 57th STREET FRANKLIN, WI 53132  
 PH. (414) 423-0255 FAX. (414) 423-9566

LOCATION MAP	
Ahlgrimm Explosives W9899 GIVENS ROAD	
HORTONVILLE	WISCONSIN

FIGURE
B.1.A



Project Mgr:	SAH	Project No.	58127001
Drawn By:	JAP	Scale:	AS SHOWN
Checked By:	SAH	File No.	58127001 SD
Approved By:	SAH	Date:	11/19/12

**Terracon**  
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<p>DETAILED SITE MAP-1</p> <p>Ahlgirm Explosives W9899 GIVENS ROAD</p> <p>HORTONVILLE WISCONSIN</p>	
---	--

<p>FIGURE</p> <p>B.1.b</p>
----------------------------

● Test Pit

NOTE:

TP-4 and TP-6 are associated with BRRTS #09-45-558040 Ahlgrimm Explosives Co Inc - East Door

TP-10, TP-11, and TP-13 are associated with BRRTS #02-45-558039 Ahlgrimm Explosives Co Inc - Burn Pit

Drill Bit Grinding Area

WDNR Sample S-01

TP-7

TP-4

TP-8

TP-6

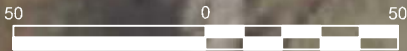
TP-9

TP-11

TP-10

Burn Pit

TP-13



APPROXIMATE SCALE: 1" = 50'

DIAGRAM IS FOR GENERAL LOCATION ONLY AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES



Project Mngr:	SAH
Drawn By:	AGC
Checked By:	SAH
Approved By:	SAH

Project No.	58127001
Scale:	AS SHOWN
File No.	58127001 SD
Date:	3/26/12

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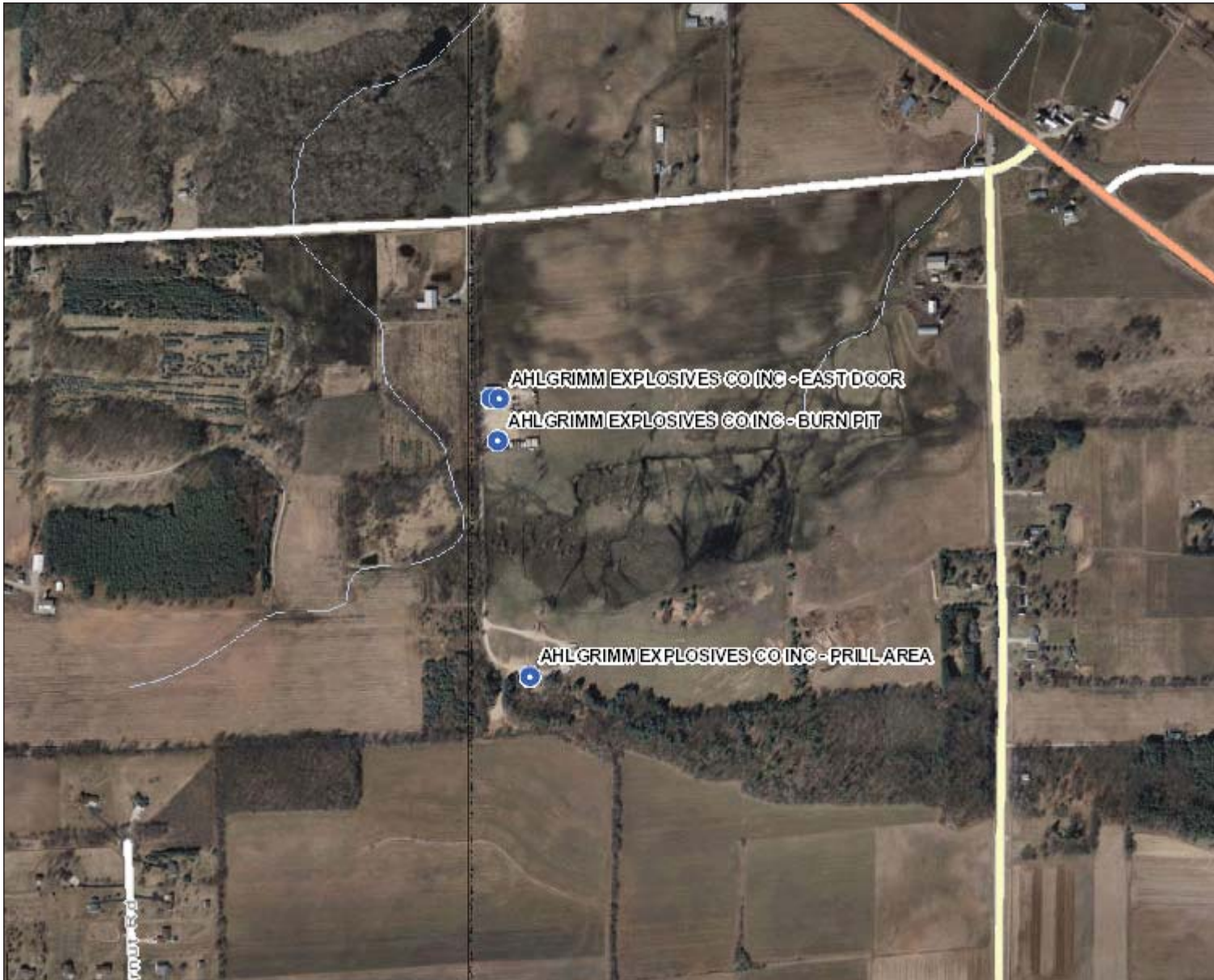
DETAILED SITE MAP-2	
AHLGRIMM EXPLOSIVES W9899 GIVENS ROAD HORTONVILLE WISCONSIN	

FIGURE
B.1.b





# B.1.c - RR Sites Map



### Legend

- Open Site (ongoing cleanup)
- Closed Site (completed cleanup)
- Rivers and Streams
- Open Water
- Cities
- Villages

### Notes



NAD\_1983\_HARN\_Wisconsin\_TM

© Latitude Geographics Group Ltd.

1: 9,558

DISCLAIMER: The information shown on these maps has been obtained from various sources, and are of varying age, reliability and resolution. These maps are not intended to be used for navigation, nor are these maps an authoritative source of information about legal land ownership or public access. No warranty, expressed or implied, is made regarding accuracy, applicability for a particular use, completeness, or legality of the information depicted on this map. For more information, see the DNR Legal Notices web page: <http://dnr.wi.gov/org/legal/>

**Note: Not all sites are mapped.**



APPROXIMATE SCALE: 1" = 50'

DIAGRAM IS FOR GENERAL LOCATION ONLY AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES



Project Mngr:	SAH
Drawn By:	AGC
Checked By:	SAH
Approved By:	SAH

Project No.	58127001
Scale:	AS SHOWN
File No.	58127001 SD
Date:	3/26/12

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PRE-REMEDIAL SOIL MAP	
AHLGRIMM EXPLOSIVES W9899 GIVENS ROAD	
HORTONVILLE	WISCONSIN

FIGURE
B.2.a



Excavation Area

Test Pit

S-01 SI Samples with Exceedances

2-S Sidewall/Base Sample

Drill Bit Grinding Area

No Contaminated Soil Remains Above Applicable BTVs, Non-Industrial Direct-Contact RCLs, or Soil to Groundwater Pathway RCLs



APPROXIMATE SCALE: 1" = 50'

DIAGRAM IS FOR GENERAL LOCATION ONLY AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

Project Mngr:	SAH
Drawn By:	AGC
Checked By:	SAH
Approved By:	SAH

Project No.	58127001
Scale:	AS SHOWN
File No.	58127001 SD
Date:	3/26/12

**Terracon**  
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POST REMEDIAL SOIL MAP

AHLGRIMM EXPLOSIVES  
 W9899 GIVENS ROAD  
 HORTONVILLE WISCONSIN

FIGURE  
 B.2.b

SOIL UNITS	
	SILT AND SAND
	SAND, FIRM WITH TRACE GRAVEL
	SAND, FIRM
	SILT
	CLAY

NOTE:  
SURFACE ELEVATIONS ASSUMED LEVEL BASED  
ON FIELD OBSERVATIONS AND ELEVATIONS  
FROM HORTONVILLE TOPOGRAPHIC MAP

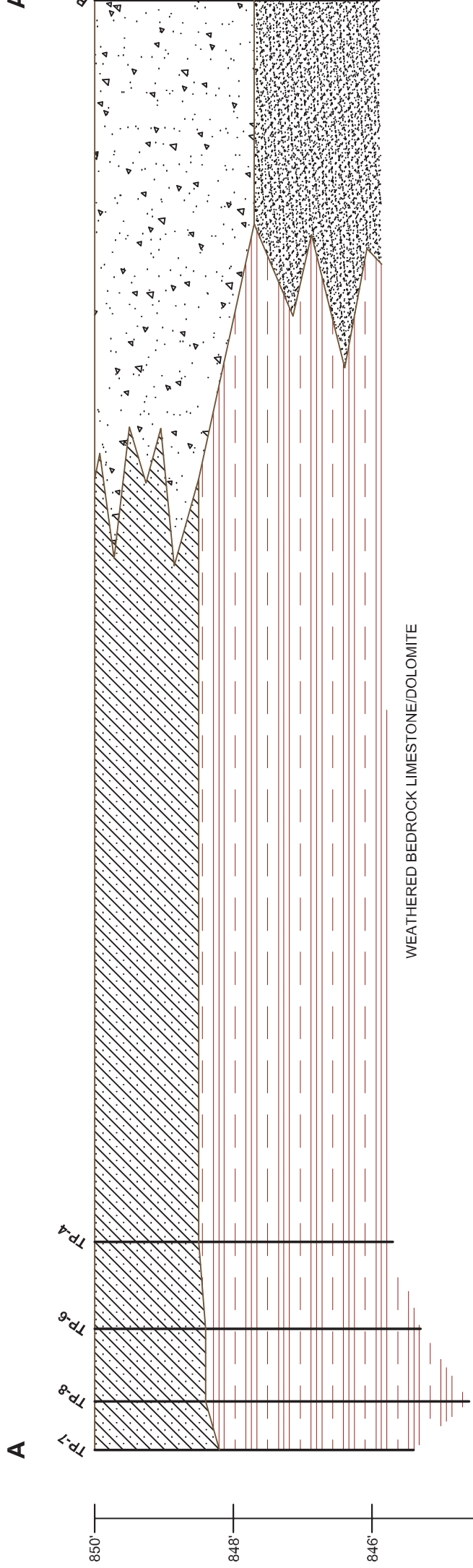
**NOTES:**

See Figure B.1.b. Detailed Site Map - 1 for locations of cross section transects.

TP-4 and TP-6 are associated with BRRTS #09-45-558040 Ahlgrimm Explosives Co Inc - East Door, see Fig B.1.b for locations.

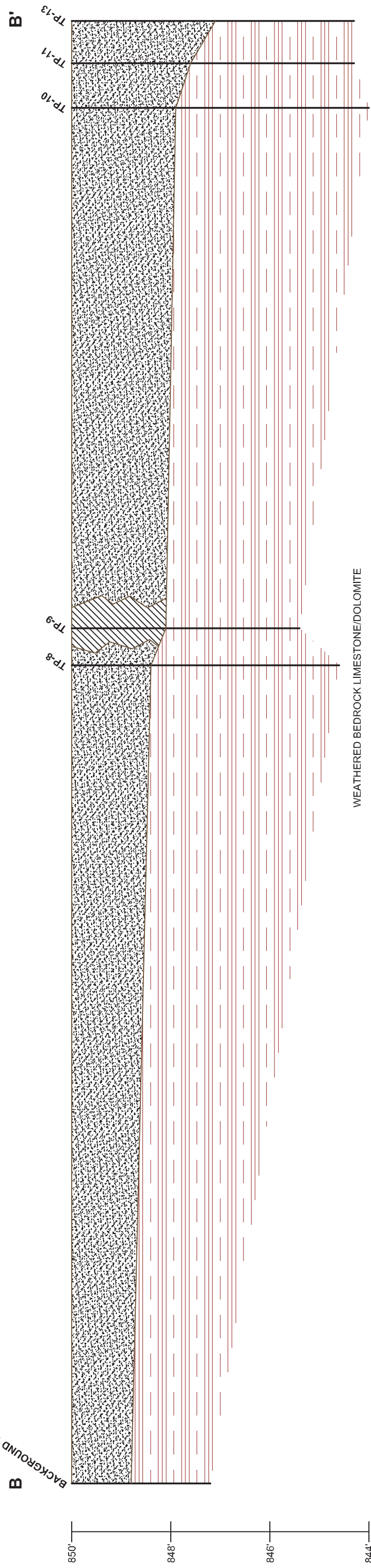
TP-10, TP-11, and TP-13 are associated with BRRTS #02-45-558039 Ahlgrimm Explosives Co Inc - Burn Pit, see Fig B.1.b for locations.

**A**  
BACKGROUND TP-2



WEATHERED BEDROCK LIMESTONE/DOLOMITE

**B**  
BACKGROUND TP-3



WEATHERED BEDROCK LIMESTONE/DOLOMITE

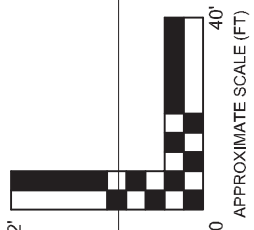


DIAGRAM IS FOR GENERAL LOCATION ONLY AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

Project Mgr:	SAH	Project No.:	58127001
Drawn By:	AGC	Scale:	AS SHOWN
Checked By:	SAH	File No.:	58127001 CS
Approved By:	SAH	Date:	6/24/13

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GEOLOGIC CROSS SECTIONS (A - A' AND B - B')

AHLGRIMM EXPLOSIVES  
W98899 GIVENS ROAD  
HORTONVILLE  
WISCONSIN

FIG. No. **B.3.a**

02-45-558038

Ahlgrimm Expl Co Inc – Drill Bit Grinding Area

**BRRTS No.**

**Activity (Site) Name**

## **TABLE OF CONTENTS**

### **Case Closure – GIS Registry**

#### Attachment C: Documentation of Remedial Action

##### C.1. Site Investigation Documentation:

Reports which were previously submitted to WDNR:

Site Investigation Workplan (7/9/2012)

Site Investigation Report (7/31/2013)

##### C.2. Investigative Waste

Previously submitted: Remedial Action Documentation Report (2/3/2014)

C.3. NR 720.19 Analysis: Not Applicable: Site specific RCLs were not calculated for the site. However, site specific background threshold value ranges were developed for aluminum, iron, copper, and zinc.

##### C.4. Construction Documentation:

Previously submitted: Remedial Action Documentation Report (2/3/2014)

C.5. Decommissioning of Remedial Systems: Not Applicable: An active remedial system was not installed as part of the remedial action; therefore, remedial system decommissioning is not needed.

C.6. Photos: Not applicable. A cap or performance standard is not necessary as there is no soil contamination remaining above applicable RCLs/BTV.

C.7. Other: Not Applicable: No other remedial action documentation is included.

02-45-558038

Ahlgrimm Expl Co Inc – Drill Bit Grinding Area

**BRRTS No.**

**Activity (Site) Name**

## **TABLE OF CONTENTS**

### **Case Closure – GIS Registry**

Attachment D: Maintenance Plan(s) and Photographs: Not Applicable: A maintenance plan is not necessary and has not been designed or implemented for the site; therefore maps, descriptions, maintenance actions, contact information and photographs are not included as part of this case closure.

- D.1. Location Map(s)
- D.2. Brief Descriptions
- D.3. Description of Maintenance Action(s)
- D.4. Inspection Log
- D.5. Contact Information
- D.6. Photographs

02-45-558038

Ahlgrimm Expl Co Inc – Drill Bit Grinding Area

**BRRTS No.**

**Activity (Site) Name**

**TABLE OF CONTENTS**

**Case Closure – GIS Registry**

Attachment E: Monitoring Well Information

Not Applicable: Groundwater was not encountered during site activity; therefore, monitoring wells were not installed during our investigation.

02-45-558038

Ahlgrimm Expl Co Inc – Drill Bit Grinding Area

**BRRTS No.**

**Activity (Site) Name**

**TABLE OF CONTENTS**

**Case Closure – GIS Registry**

Attachment F: Notifications to Owners of Impacted Properties

Not Applicable: There is no soil contamination remaining above applicable Residual Contaminant Levels or Background Threshold Levels



02-45-558038

Ahlgrimm Expl Co Inc – Drill Bit Grinding Area

**BRRTS No.**

**Activity (Site) Name**

**TABLE OF CONTENTS**

**Case Closure – GIS Registry**

**Attachment G: Source Legal Documents**

Not Applicable: The site is being closed as a clean site, therefore, no source legal documents are included in this closure.