State of Wisconsin
Department of Natural Resources
P.O. Box 7921, Madison, WI 53707-7921

GIS REGISTRY (Cover Sheet)
Form 4400-280 (R 6/13)

Source Property Information

CLOSURE DATE: 11/24/2014

BRRTS #: 02-29-249438

FID #: 729055690

ACTIVITY NAME: Volk Field Site 1 Fire Training Area

DATCP #:

PROPERTY ADDRESS: 100 Independence Drive

PECFA#:

MUNICIPALITY: Camp Douglas

PARCEL ID #: 29030552

***WTM COORDINATES:**

X: **499518** Y: **384425**

** Coordinates are in WTM83, NAD83 (1991)*

WTM COORDINATES REPRESENT:

- (●) Approximate Center Of Contaminant Source
- ( ) Approximate Source Parcel Center

Please check as appropriate: (BRRTS Action Code)

CONTINUING OBLIGATIONS

Contaminated Media for Residual Contamination:

- [x] Groundwater Contamination > ES *(236)*
  - [ ] Contamination in ROW
  - [ ] Off-Source Contamination

  *(**note:** for list of off-source properties see "Impacted Off-Source Property Information, Form 4400-246")*

- [x] Soil Contamination > *RCL or **SSRCL *(232)*
  - [ ] Contamination in ROW
  - [ ] Off-Source Contamination

  *(**note:** for list of off-source properties see "Impacted Off-Source Property Information, Form 4400-246")*

Site Specific Obligations:

- [ ] Soil: maintain industrial zoning *(220)*

  *(**note:** soil contamination concentrations between non-industrial and industrial levels)*

- [ ] Structural Impediment *(224)*
- [ ] Site Specific Condition *(228)*
- [ ] Cover or Barrier *(222)*
  - [ ] Direct Contact
  - [ ] Soil to GW Pathway
- [ ] Vapor Mitigation *(226)*
- [ ] Maintain Liability Exemption *(230)*

  *(**note:** local government unit or economic development corporation was directed to take a response action)*

Monitoring Wells:

Are all monitoring wells properly abandoned per NR 141? *(234)*

(●) Yes ( ) No ( ) N/A

** Residual Contaminant Level*
***Site Specific Residual Contaminant Level*

State of Wisconsin
DEPARTMENT OF NATURAL RESOURCES
473 Griffith Ave
Wisconsin Rapids, WI 54494

Scott Walker, Governor
Cathy Stepp, Secretary
Dan Bauman, Regional Director
Telephone 715-421-7800
Fax 715-421-7830

November 24, 2014

Dan Gonnering
Volk Field
100 Independence Drive
Camp Douglas, WI 54618

KEEP THIS DOCUMENT WITH YOUR PROPERTY RECORDS

SUBJECT: Final Case Closure
Site 1 Fire Training Area, Volk Field, Camp Douglas, WI
DNR BRRTS Activity #: 02-29-249438

Dear Mr. Gonnering:

The Department of Natural Resources (DNR) considers the Site 1 Fire Training Area closed, with continuing obligations. No further investigation or remediation is required at this time. However, you and future property owners, and occupants must comply with the continuing obligations as explained in the conditions of closure in this letter. Please read over this letter closely to ensure that you comply with all conditions and other on-going requirements. Provide this letter to anyone who purchases, rents or leases this property from you.

This final closure decision is based on the correspondence and data provided, and is issued under chs. NR 726 and 727, Wisconsin Administrative Code. The West Central Region Closure Committee reviewed the request for closure on August 7, 2014. The Closure Committee reviewed this environmental remediation case for compliance with state laws and standards. A conditional closure letter was issued by the DNR on August 8, 2014, and documentation that the conditions in that letter were met was received on November 19, 2014.

This former fire training area was contaminated with petroleum VOCs. Responses include investigation, phytoremediation and monitoring. The conditions of closure and continuing obligations required were based on the property being used for industrial purposes.

Continuing Obligations

The continuing obligations for this site are summarized below. Further details on actions required are found in the section Closure Conditions.
- Groundwater contamination is present above ch. NR 140 enforcement standards.
- Residual soil contamination exists that must be properly managed should it be excavated or removed.

The DNR fact sheet, "Continuing Obligations for Environmental Protection", RR-819, helps to explain a property owner's responsibility for continuing obligations on their property. The fact sheet may be obtained at http://dnr.wi.gov/files/PDF/pubs/rr/RR819.pdf.

GIS Registry

This site will be included on the Bureau for Remediation and Redevelopment Tracking System (BRRTS on the Web) at http://dnr.wi.gov/topic/Brownfields/rrsm.html, to provide public notice of residual contamination and of any continuing obligations. The site can also be viewed on the Remediation and Redevelopment Sites Map (RRSM), a map view, under the Geographic Information System (GIS) Registry layer, at the same web address.

DNR approval prior to well construction or reconstruction is required for all sites shown on the GIS Registry, in accordance with s. NR 812.09 (4) (w), Wis. Adm. Code. This requirement applies to private drinking water wells and high capacity wells. To obtain approval, complete and submit Form 3300-254 to the DNR Drinking and Groundwater program's regional water supply specialist. This form can be obtained on-line at http://dnr.wi.gov/topic/wells/documents/3300254.pdf.

All site information is also on file at the Wisconsin Rapids Regional DNR office, at 473 Griffith Ave, Wisconsin Rapids, WI. This letter and information that was submitted with your closure request application, including any maintenance plan and maps, can be found as a PDF in BRRTS on the Web.

Closure Conditions

Compliance with the requirements of this letter is a responsibility to which you and any subsequent property owners must adhere. DNR staff will conduct periodic prearranged inspections to ensure that the conditions included in this letter and the attached maintenance plans are met. If these requirements are not followed, the DNR may take enforcement action under s. 292.11, Wisconsin Statutes to ensure compliance with the specified requirements, limitations or other conditions related to the property.

Please send written notifications in accordance with the following requirements to:

Department of Natural Resources
Attn: Remediation and Redevelopment Program Project Manager
473 Griffith Ave
Wisconsin Rapids, WI 54494

Residual Groundwater Contamination (chs. NR 140 and 812, Wis. Adm. Code)

Groundwater contamination greater than enforcement standards is present on this contaminated property, as shown on the attached map. If you intend to construct a new well, or reconstruct an existing well, you'll need prior DNR approval.

Residual Soil Contamination (ch. NR 718, or ch. 289, Stats.; chs. 500 to 536, Wis. Adm. Code)

Soil contamination remains in the vicinity of the former fire training pit as indicated on the attached map. If soil in the specific locations described above is excavated in the future, the property owner at the time of excavation must sample and analyze the excavated soil to determine if contamination remains. If sampling confirms that contamination is present, the property owner at the time of excavation will need to determine whether the material is considered solid or hazardous waste and ensure that any storage, treatment or disposal is in compliance with applicable standards and rules.

In addition, all current and future owners and occupants of the property need to be aware that excavation of the contaminated soil may pose an inhalation or other direct contact hazard and as a result special precautions may need to be taken to prevent a direct contact health threat to humans.

Depending on site-specific conditions, construction over contaminated soils or groundwater may result in vapor migration of contaminants into enclosed structures or migration along newly placed underground utility lines. The potential for vapor inhalation and means of mitigation should be evaluated when planning any future

redevelopment, and measures should be taken to ensure the continued protection of public health, safety, welfare and the environment at the site.

In Closing

Please be aware that the case may be reopened pursuant to s. NR 727.13, Wis. Adm. Code, for any of the following situations:

- 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,
- if the property owner does not comply with the conditions of closure, with any deed restrictions applied to the property, or with a certificate of completion issued under s. 292.15, Wis. Stats, or
- a property owner fails to maintain or comply with a continuing obligation (imposed under this closure approval letter).

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 Dave Rozeboom at 715-421-7873, or at David.Rozeboom@wisconsin.gov.

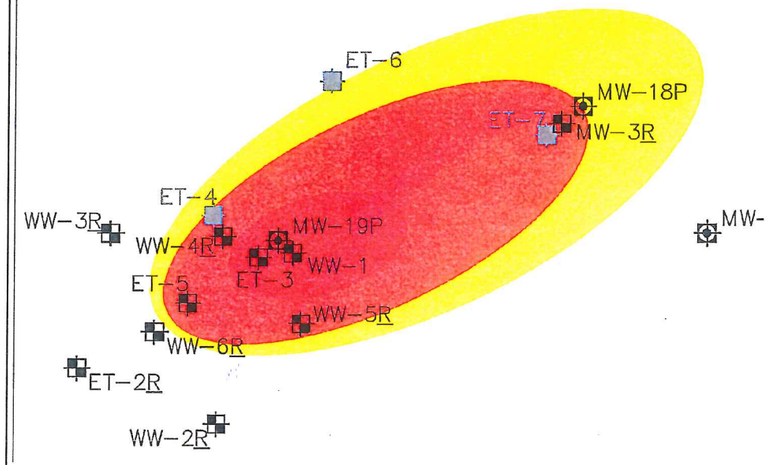
Sincerely,

Dave Rozeboom
Team Supervisor – West Central Region
Remediation & Redevelopment Program

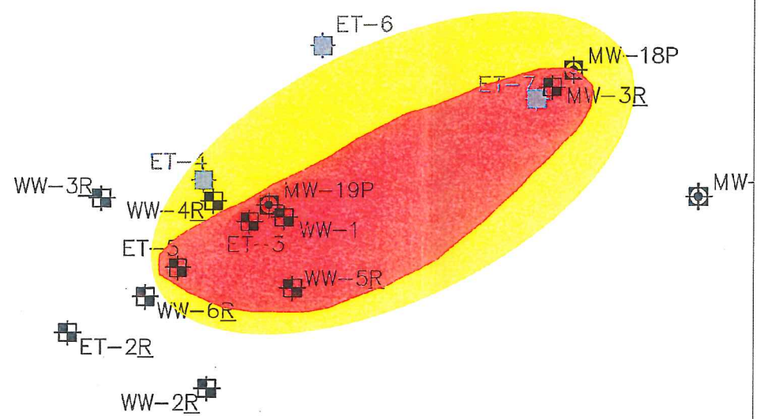
Attachments:

- Benzene Enforcement Standard Exceedences in Monitoring Wells, Attachment B.3.b.1, B.3.b.2
- Post-Remedial Soil Contamination, Attachment B.2.b

cc: Selvam Arunachalam, LEIDOS



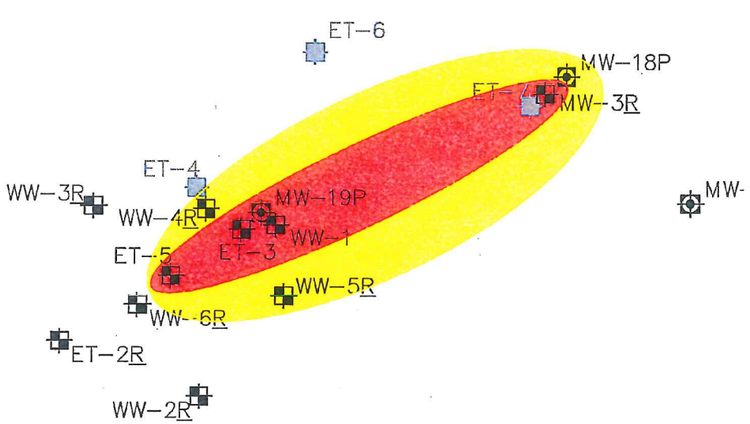
BENZENE CONTOUR IN MONITORING WELLS DECEMBER-2011



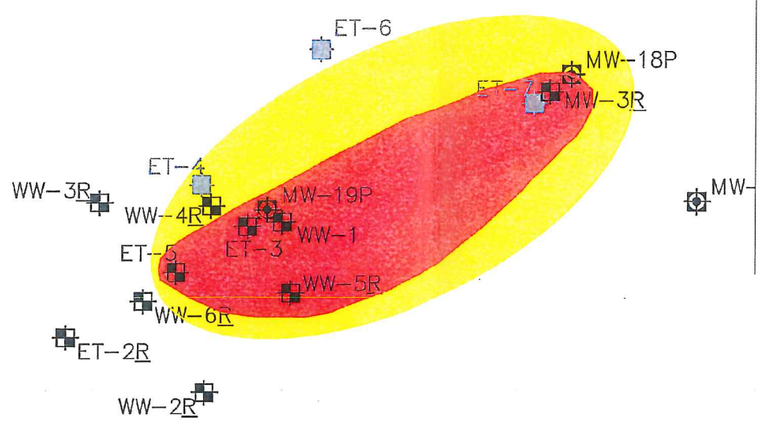
BENZENE CONTOUR IN MONITORING WELLS MARCH-2012

LEGEND

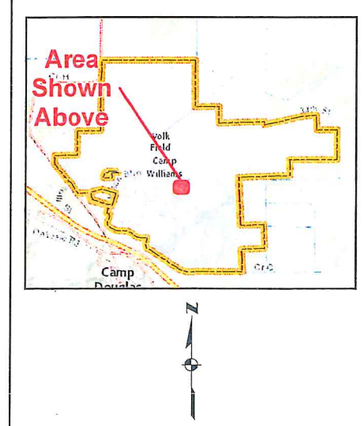
MW-4	MONITORING WELL LOCATION AND NUMBER
MW-4	PIEZOMETER LOCATION AND NUMBER
MW-5	ABANDONED WELL SEE NOTE NUMBER 10
	5-50 µg/L
	50-500 µg/L
	500-1000 µg/L



BENZENE CONTOUR IN MONITORING WELLS JUNE-2012



BENZENE CONTOUR IN MONITORING WELLS OCTOBER-2012



Source: Final 2011/2012 Annual Monitoring Report, MWH, March 2013

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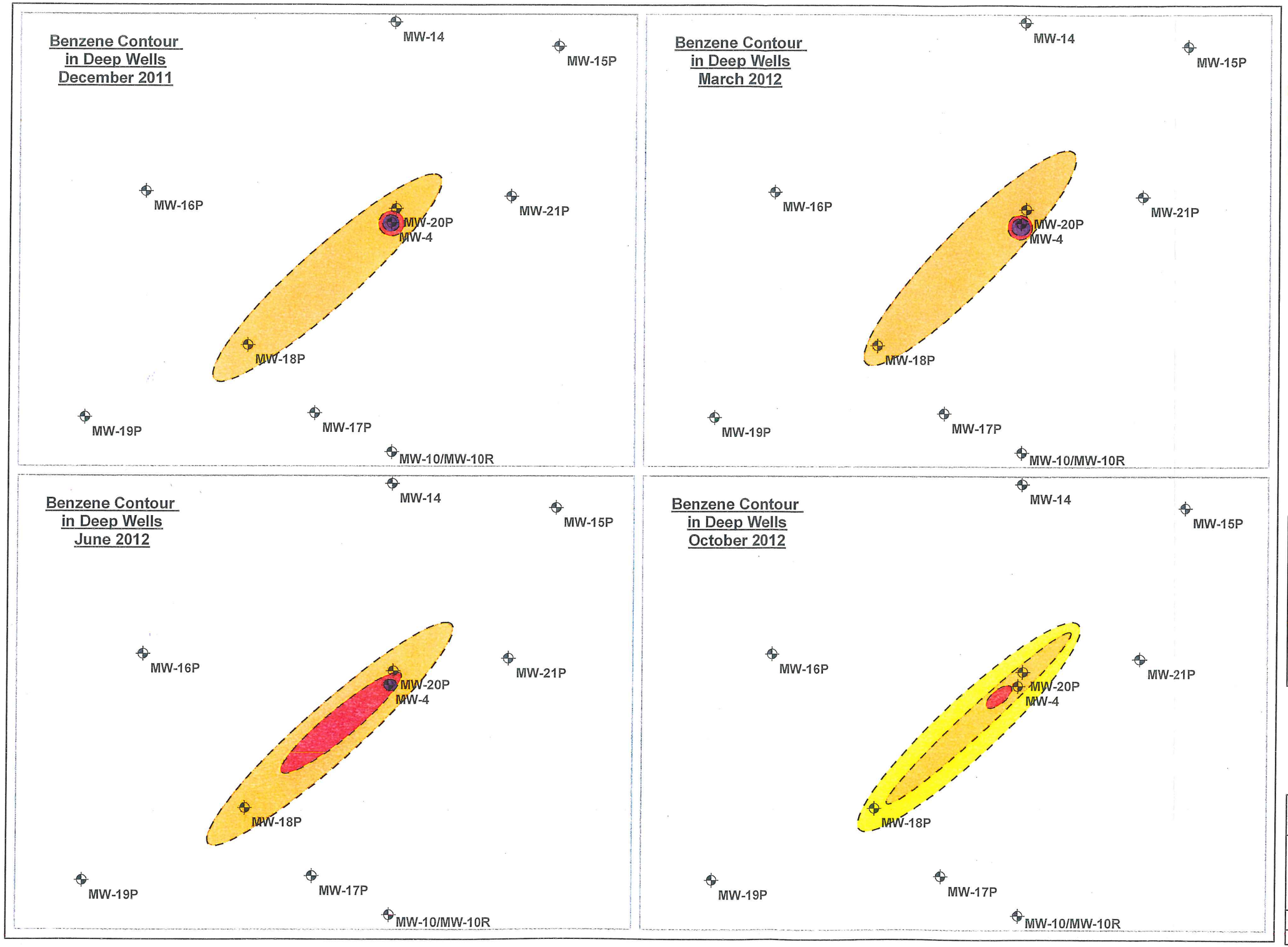
B.3.b.1. BENZENE ENFORCEMENT STANDARD EXCEEDANCE IN MONITORING WELLS

WISCONSIN AIR NATIONAL GUARD
CAMP DOUGLAS, WI

PROJECT: G:\GIS_DATA\Great Lakes\Volk Field\Projects\Figure B3b1 Benzene Concentrations 11x17.mxd

FIGURE: B.3.b.1 | DATE: 7/25/2014

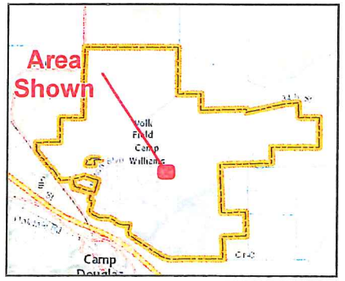


Legend

Piezometer Location

Benzene Contour

- 5 - 50 µg/L
- 50 - 500 µg/L
- 500 - 1000 µg/L
- > 1000 µg/L



N

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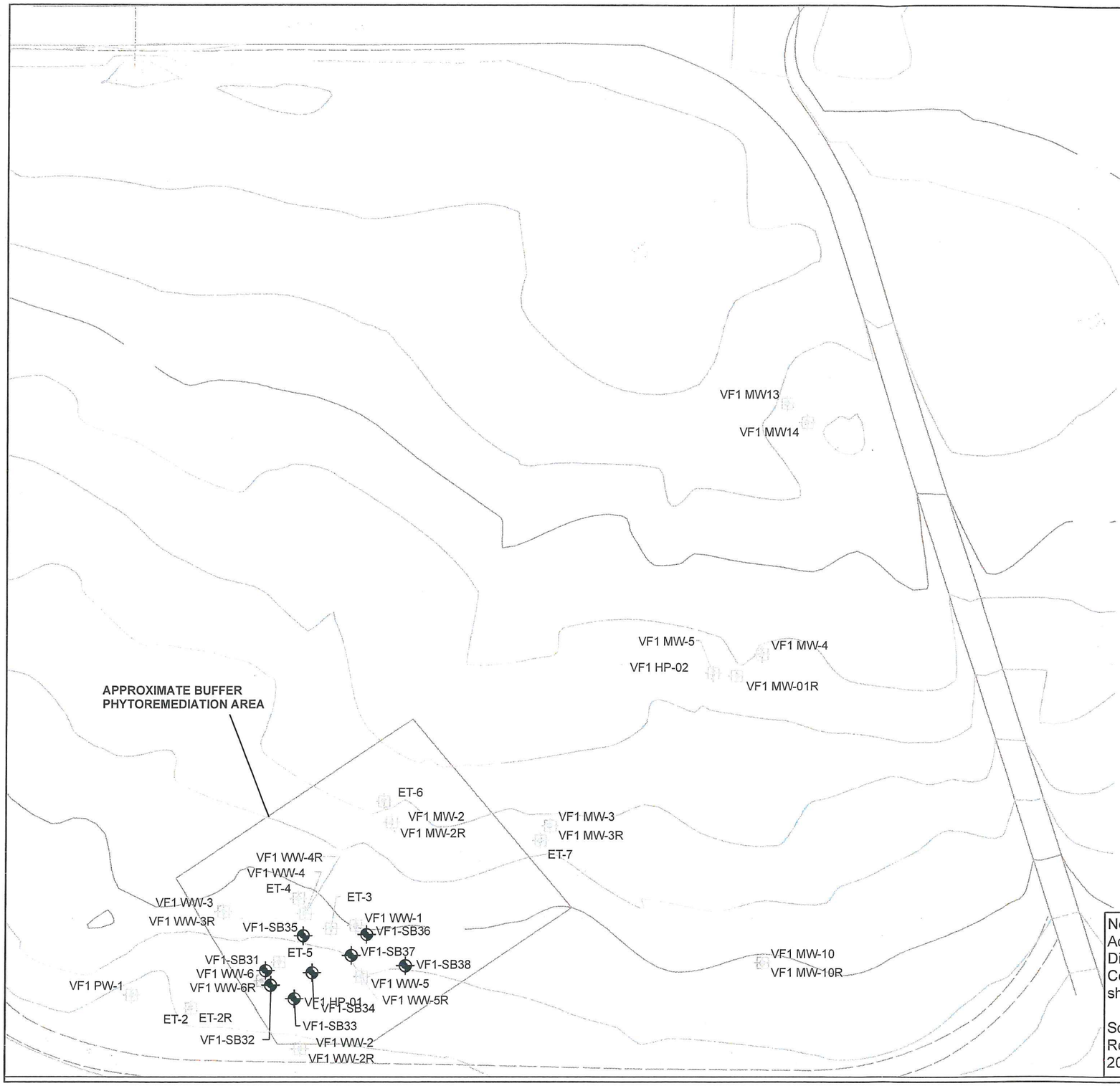
B.3.b.2. BENZENE ENFORCEMENT STANDARD EXCEEDANCE IN PIEZOMETERS

WISCONSIN AIR NATIONAL GUARD
CAMP DOUGLAS, WI

PROJECT: G:\GIS_DATA\Great Lakes\Volk Field\Projects\
Figure B3b2 Benzene in Piezometers 11x17.mxd

FIGURE: B.3.b.2	DATE: 7/25/2014



LEGEND

	GROUND CONTOUR
	FENCE
VF1 MW-4	MONITORING WELL LOCATION AND NUMBER
VF1 WW-1	WATER WITHDRAWAL WELL LOCATION AND NUMBER
ET-3	EXPLORATION TECHNOLOGY WELL LOCATION AND NUMBER
VF1-SB31	OCTOBER 2009 SOIL BORING LOCATION AND NUMBER

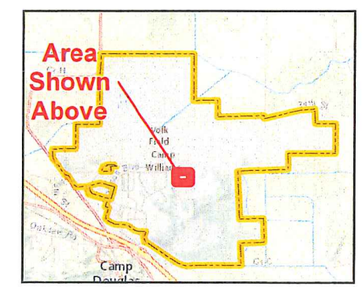
NOTES

1. BASE MAP DEVELOPED FROM A TOPOGRAPHIC SURVEY DRAWING OF VOLK FIELD CRTC, SITE 1, CAMP DOUGLAS, WISCONSIN, BY KL ENGINEERING, INC. DATED JUNE, 1997.
2. BORING VF1-SB31 WAS PUNCHED IN CLOSE PROXIMITY TO 1989 BORING VF1 SB-18. BORING VF1-SB32 WAS PUNCHED IN CLOSE PROXIMITY TO 1988 BORING VF1 B-1. BORING VF1-SB34 WAS PUNCHED IN CLOSE PROXIMITY TO 1988 BORING VF1 SB-4. BORING VF1-SB37 WAS PUNCHED IN CLOSE PROXIMITY TO 1988 BORING VF1 B-6.
3. GROUND CONTOUR INTERVAL IS ONE FOOT.

north

0 60 120

SCALE IN FEET



N

Note: There were no exceedances of the Wisconsin Administrative Code, Chapter NR 720, Industrial Direct-Contact Soil Cleanup Standards, Residual Contaminant Levels (ca December 2013) in 2009 shallow soil or vadose zone borings.

Source: Final 2009 Annual Monitoring Report, Remedial Action Operations, Site 1, MWH, September 2010.

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B.2.b. POST-REMEDIAL SOIL CONTAMINATION

WISCONSIN AIR NATIONAL GUARD
CAMP DOUGLAS, WI

PROJECT: G:\GIS_DATA\Great Lakes\Volk Field\Projects\Figure B2b Postremedial Soil Contamination 11x17.mxd

FIGURE: B.2.b	DATE: 6/10/2014

State of Wisconsin
DEPARTMENT OF NATURAL RESOURCES
473 Griffith Ave
Wisconsin Rapids, WI 54494

Scott Walker, Governor
Cathy Stepp, Secretary
Dan Bauman, Regional Director
Telephone 715-421-7800
Fax 715-421-7830

August 8, 2014

Dan Gonnering
Volk Field
100 Independence Drive
Camp Douglas, WI 54618

Subject: Conditional Closure Decision,
With Requirements to Achieve Final Closure
Site 1 Fire Training Area, Volk Field, Camp Douglas, Wisconsin
DNR BRRTS Activity # 02-29-249438

Dear Mr. Gonnering:

On August 7, 2014, the Wisconsin Department of Natural Resources reviewed your request for closure of the case described above. The West Central Region Closure Committee reviews environmental remediation cases for compliance with state rules and statutes to maintain consistency in the closure of these cases. After careful review of the closure request, the Closure Committee has determined that the petroleum contamination on the site from the area in the vicinity of the former fire training area appears to have been investigated and remediated to the extent practicable under site conditions. Your case has been remediated to Department standards in accordance with ch. NR 726, Wis. Adm. Code and will be closed if the following conditions are satisfied.

CONDITIONS

Monitoring Well Abandonment
The monitoring wells at the site must be properly abandoned in accordance with ch. NR 141, Wis. Adm. Code. Documentation of well abandonment must be submitted to Dave Rozeboom on Form 3300-005, found at http://dnr.wi.gov/topic/groundwater/forms.html.

Purge Water, Waste and Soil Pile Removal
Any remaining purge water, waste and/or soil piles generated as part of site investigation or remediation activities must be removed from the site and disposed of or treated in accordance with the applicable rules. Once that work is completed, please send appropriate documentation regarding the treatment or disposal of the remaining purge water, waste and/or soil piles.

Documentation: When the above conditions have been satisfied, please submit the appropriate documentation (for example, well abandonment forms, disposal receipts, copies of correspondence, etc.) to verify that applicable conditions have been met, and your case will be closed. Your site will be listed on the DNR Remediation and Redevelopment Program's GIS Registry. Information that was submitted with your closure request application will be included on the Bureau for Remediation and Redevelopment Tracking System (BRRTS on the Web). The site may be viewed on the Remediation and Redevelopment Sites Map (RRSM), on the GIS Registry layer. To review the site on BRRTS on the Web, or to view the GIS Registry web page, see http://dnr.wi.gov/topic/Brownfields/rrsm.html.

IN CLOSING

Please be aware that the case may be reopened pursuant to s. NR 727.13, Wis. Adm. Code, for any of the following situations:

- 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,
- if the property owner does not comply with the conditions of closure, with any deed restrictions applied to the property, or with a certificate of completion issued under s. 292.15, Wis. Stats, or
- a property owner fails to maintain or comply with a continuing obligation (imposed under this closure approval letter).

We appreciate your efforts to restore the environment at this site. If you have any questions regarding this letter, please contact me at (715) 421-7873, or by email at David.Rozeboom@wi.gov.

Sincerely,

Dave Rozeboom
Hydrogeologist
Remediation & Redevelopment Program

Enclosure

cc: Selvam Arunachalam, Leidos
Jill Kovalchik, Leidos
Major Mike Dunlap, Air National Guard
Stan Moore, Air National Guard

State of Wisconsin
Department of Natural Resources
PO Box 7921, Madison WI 53707-7921
dnr.wi.gov

Case Closure - GIS Registry

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. 02-29-249438	Parcel ID No. 29030552		
BRRTS Activity (Site) Name VOLK FIELD SITE 1 FIRE TRAINING AREA	WTM Coordinates X 499518	Y 384425	
Street Address 100 INDEPENDENCE DR	City CAMP DOUGLAS	State WI	ZIP Code 54618
Responsible Party (RP) Name CAPTAIN MICHAEL DUNLAP			
Company Name WI AIR NATIONAL GUARD BASE - VOLK FIELD			
Street Address 100 INDEPENDENCE DR	City CAMP DOUGLAS	State WI	ZIP Code 54618
Phone Number (608) 427-1441	Email michael.dunlap.1@ang.af.mil		

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

Environmental Consultant Name SELVAM ARUNACHALAM, P.E.			
Consulting Firm LEIDOS			
Street Address 8301 GREENSBORO DRIVE	City MCLEAN	State VA	ZIP Code 22102-3600
Phone Number (703) 676-7033	Email arunachalams@leidos.com		
Acres Ready For Use 100	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 $ $650.00

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 Volk Field CRTC is operated by the WIANG as a training facility for units throughout the country. Volk Field CRTC is located on the north side of Interstate Highway 90/94 in Sections 15, 16, 17, 20, 21, and 22 Range 2 East, Township 17 North, Juneau County, Wisconsin. Volk Field CRTC is located approximately 90 miles northwest of Madison, Wisconsin. The Village of Camp Douglas, Wisconsin, with a population of approximately 580, is located immediately southwest of the base. The facility covers approximately 2,300 acres. The undeveloped portions of the base are heavily wooded and used for various training exercises. Overall, Volk Field CRTC is flat with marshy areas located to the north of the airfield and along the southeastern boundary of the facility. These low areas are separated from the developed portion of the base by a sandstone bluff that rises approximately 200 feet (ft) above the surrounding areas.
IRP Site 1, known as the former Fire Training Area (FTA), is located centrally within Volk Field CRTC, approximately 600 ft southeast of the intersection of Madison Boulevard and Bluff Road. The Fire Training Area is located on essentially flat land covered by a gravel parking area, mowed grass and two stands of trees. The site slopes down gently to the north and northeast. South of the site, the slope rises towards the sandstone bluff located approximately 300 feet south of the fire training pit.

B. **Prior and current site usage:** Specifically describe the current and historic occupancy and types of use.
Historically, Site 1 consisted of two fire training pits, and a smaller pit which was used for the burning of munitions. Fire training activities were conducted at the site from the 1940s to 1980. The quantity of fuels and flammable liquids burned at the site is not known. Refueling vehicles and equipment were also routinely serviced in this area resulting in the release of fuel onto the ground.

C. Describe how and when site contamination was discovered.
The first investigation was performed in the summer of 1981 by the Air National Guard Support Center (ANGSC) as a result of concerns over the potential for contamination and contaminant migration from this site. During this investigation, 16 shallow boreholes were drilled to approximately two feet below the water table, and monitoring wells were constructed in the boreholes. Twelve groundwater samples were collected from the wells and the results indicated benzene, toluene, ethylbenzene, chloroform, 1,1,1-trichloroethane (TCA), and trichloroethylene (TCE) were present.

D. Describe the type(s) and source(s) or suspected source(s) of contamination.
Petroleum constituents from burned fuels, flammable liquids, and munitions

E. Other relevant site description information (or enter Not Applicable).
Not applicable

F. List BRRTS activity site name and number for all other BRRTS activities at this property, including closed cases.
02-29-250433 VOLK FIELD SITE 2 - FORMER LF C; 02-29-250434 VOLK FIELD SITE 3/6 CHRONIC FUEL SPILL SITE; 02-29-250435 VOLK FIELD SITE 4 TRANSFORMER FLUID DISPOSAL; 02-29-250436 VOLK FIELD SITE 5 KC97 CRASH SITE; 02-29-000038 VOLK FIELD SITE 7 - FORMER LF A; 02-29-250589 VOLK FIELD SITE 8 F84 CRASH SITE; 02-29-250437- VOLK FIELD SITE 9 - FORMER LF B; 02-29-250438 VOLK FIELD SITE 11 ELECTRON TUBE DISPOSAL; 02-29-250439 VOLK FIELD SITE 12 OILED RDS PARKING SITE ;02-29-181505 VOLK FIELD SITE 13 ETHYLENE GLYCOL; 02-29-250440 VOLK FIELD SITE 15 SAN WW TREATMENT PONDS; 02-29-181504 VOLK FIELD SITE 16 BROMOCHLOROMETHANE; 02-29-250441 VOLK FIELD SITE 17 TRANSFORMER FLUID SPILL;

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.
02-29-250437- VOLK FIELD SITE 9 - FORMER LF B is a closed IRP site located adjacent to Site 1.

H. **Current zoning** (e.g. industrial, commercial, residential) for the site and for neighboring properties, and how verified (Provide documentation in Attachment G).
INDUSTRIAL USE

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 geologic formations that directly underlie Volk Field ANGB are predominantly fine to coarse-grained sandstones with interbedded shale and overlying unconsolidated sand, silt, and minor amounts of clay. All borings encountered unconsolidated sands to a depth of approximately 15 feet bgs. The unconsolidated materials are typically yellowish, fine

Save...

to very fine, quartz sand with only a trace of silt-sized particles present. The soils generally consist of moderately to excessively drained soils with high permeabilities. Borehole logs for a well drilled near Volk Field ANGB (Camp Douglas Emergency Fire Well) are interpreted as encountering the unconsolidated sediments to a depth of 55 feet. These materials overlie the sandstone and shales to a depth of 250 feet below the ground surface. Below this, approximately 20 feet of Precambrian granite was encountered.

ii. Describe the composition, location and lateral extent, and depth of fill or waste deposits on the site.
Not applicable.

iii. Depth to bedrock, bedrock type, and whether or not it was encountered during the investigation.
Sandstone bedrock, approximately 30 ft bgs., encountered during installation of soil borings and monitoring wells.

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).
There is natural vegetation (grassy field), two stands of trees plus the passive phytoremediation system (300 hybrid poplar trees).

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.

Since 2003, groundwater monitoring has been performed on an annual basis at Site 1 to evaluate the status of site conditions. Routine product measurement and bailing has also been performed in 6 wells. Between November 2008 and March 2010, liquids bailed from site monitoring wells did not have a distinct, separate product layer visible. Rather, an oily sheen was typically observed on top of the bailed water. Product measurements are shown in Attachment A.8.
The water table historically ranges from 10 to 19 ft bgs across Site 1 (the typical depth is 12-13 ft bgs) in the unconsolidated sand deposits while deeper monitoring wells/piezometers are located within the underlying sandstone. The upper aquifer eventually approaches ground surface along the runway. In December 2011, water level elevations observed in monitoring wells installed across the water table ranged from 902.03 ft amsl at MW-13 to 903.72 ft amsl at ER-1R and groundwater flow was generally to the northeast. In March 2012, water level elevations observed in monitoring wells installed across the water table ranged from 901.83 ft amsl at MW-13 to 903.36 ft amsl at ER-1R. In June 2012, water level elevations observed in monitoring wells installed across the water table ranged from 902.13 ft amsl at MW-13 to 903.92 ft amsl at ER-1R. In October 2012, water level elevations observed in monitoring wells installed across the water table ranged from 900.75 ft amsl at MW-13 to 902.47 ft amsl at ER-1R . October 2012 represents historically low water levels across water table monitoring wells.(MWH 2013)
In December 2011, water level elevations observed in piezometers installed within the aquifer ranged from 901.78 ft amsl at MW-15P to 902.72 ft amsl at MW-19P and groundwater flow was generally to the northeast. In March 2012, water level elevations observed in piezometers installed within the aquifer ranged from 901.54 ft amsl at MW-15P to 902.50 ft amsl at MW-19P. In June 2012, water level elevations observed in piezometers installed within the aquifer ranged from 901.96 ft amsl at MW-15P to 902.95 ft amsl at MW-19P . In October 2012, water level elevations observed in piezometers installed within the aquifer ranged from 900.68 ft amsl at MW-14 to 901.67 ft amsl at MW-18P.
Water levels were at near all-time highs in September 2010 and all-time lows in October 2012 in both the water table and lower aquifer hydraulic units.(MWH 2013)

ii. Discuss groundwater flow direction(s), shallow and deep. Describe and explain flow variations, including fracture flow if present.

Results from site investigations show that groundwater flows toward the northeast with a horizontal gradient of approximately 0.0027 ft/ft (MWH 2013). Water levels were at near all-time highs in September 2010 and all-time lows in October 2012 in both the water table and lower aquifer hydraulic units.

iii. Discuss groundwater flow characteristics: hydraulic conductivity, flow rate and permeability, or state why this information was not obtained.

Results from site investigations show that groundwater flows toward the northeast with a horizontal gradient of approximately 0.0027 ft/ft (MWH 2013). The hydraulic characteristics of materials underlying portions of Volk Field ANGB were determined from an aquifer pumping test conducted at Site 1. Data from this test indicate that the aquifer is unconfined with an apparent storage coefficient of 0.05 (non-dimensional). The apparent hydraulic conductivity is 800 gallons per day per foot squared (3.8 cm x 10^-2 cm/sec). (ES 1990, Site I RI Report)

iv. Identify and describe locations/distance of potable and/or municipal Wells within 1200 feet of the site.
Volk Field has two potable supply wells; both wells are located upgradient of Site 1.

3. Site Investigation Summary

A. General

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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.

The first investigation at Site 1 was performed in the summer of 1981 by the Air National Guard Support Center (ANGSC) as a result of concerns over the potential for contamination and contaminant migration from this site. During this investigation, 16 shallow bore holes were drilled to approximately two feet below the water table, wells were constructed, and groundwater samples were collected.

In 1984, the Hazardous Materials Technical Center of Rockville, Maryland conducted a Base Records Search at Volk Field ANGB. The records search identified 15 past disposal or spill sites at Volk Field ANGB. Of these 15 sites, 8 were ranked using the Air Force's Hazard Assessment Rating Methodology (HARM). According to this system, Site 1 was given the highest priority ranking.

In the summer of 1985, the Air Force Engineering and Services Laboratory (AFESL) of the Air Force Engineering and Services Center (AFESC), Tyndall AFB, Florida, and U.S. EPA Environmental Research Laboratory, Edison, New Jersey, conducted a joint research project at Site 1. Towards this objective a field study at Site 1 was conducted to determine, if possible, the extent and type of contamination located there. The field work, conducted in May 1985, included the following activities: sampling of wells, removal of Well G-7, drilling and sampling of soils for chemical analysis of at least 16 boreholes; installation of seven wells designated ET-1 through ET-7; percolation tests in the area of the fire training pit; wet sieve analysis of soil samples; aquifer test using ET-1 as the pumped well, and chemical analysis of soil gas obtained from water and soil samples by a portable gas chromatograph.

Following the AFESC/USEPA joint effort, a research project was under-taken at Site 1 involving Radio Frequency (RF) Thermal Soil Decontamination. The project involved soil sampling and chemical analysis, setup and operation of a pilot scale RF decontamination system, and follow-up soil sampling and analysis.

In 1987, Engineering-Science, Inc. conducted a Remedial Investigation (RI) to define the areal extent of soil contamination surrounding the fire training pits. The primary contaminants identified in Site 1 soils were benzene, toluene, xylenes, ethylbenzene, trichloroethylene, tetrachloroethylene, naphthalene, and methylnaphthalene. Groundwater samples collected at Site 1 contained several organic and inorganic contaminants (benzene, toluene, 1,1,1-trichloroethane, trichloroethylene, xylenes, lead, and TDS) at levels exceeding Wisconsin NR140 Enforcement Standards (ES) and Preventive Action Limits (PALs).The RI recommended additional IRP work at Site 1 included performing field investigation work to more fully define possible additional sources of contamination and the extent of horizontal and vertical contaminant migration from Site 1; and perform a Feasibility Study (FS) to determine the appropriate remedial action required to address the source contamination and groundwater contaminant migration at Site 1.(ES 1990). Additional field investigations were performed at Site 1 in 1989, 1990, 1991, and 1997.

As part of the Feasibility Study/Remedial Design conducted by Montgomery Watson (now MWH), additional investigative activities were performed in May 1997 to document current groundwater quality conditions at Site 1 and to obtain additional data for the evaluation of natural attenuation as a remedial alternative. The recommended alternative from the Feasibility Study was the Limited Action Alternative, which involved groundwater monitoring for 10 years (MWH 1999a). A subsequent Decision Document by MWH in November 1999 prescribed quarterly groundwater monitoring for the first two years of the 10-year monitoring program (MWH 1999b). A contingency to evaluate other remedial alternatives was included in the Decision Document, if after two years of monitoring, natural attenuation processes were not effective at remediating Site 1 contamination.

In May 2004 the phytoremediation system was installed and consisted of planting 300 hybrid poplar trees across the site. Installation of the phytoremediation system was not a formal, documented change in remedial actions. Rather, through meetings with WDNR, it was an acceptable enhancement to remedial actions for Site 1 which would expedite the remediation of vadose zone soils (the source area). (Final 2011-2012 Annual Monitoring Report, MWH 2013)

In October 2009, eight soil borings were drilled and sampled within the source area by MWH to assess current source area soil contaminant concentrations to a depth of 12 ft bgs (MWH 2010). Soil sample results indicated no exceedances of the Site Specific RCLs, as determined by NR720.19. This reduction in vadose zone contaminant mass can be, in large part, attributed to the phytoremediation system.

Since 2003, groundwater monitoring has been performed on an annual basis at Site 1 to evaluate the status of site conditions. Routine product measurement and bailing has also been performed. Between November 2008 and March 2010, liquids bailed from site monitoring wells did not have a distinct, separate product layer visible. Rather, an oily sheen was typically observed on top of the bailed water.

The relatively high levels of benzene observed in piezometers (deeply placed monitoring wells) located down-gradient of Site 1 have been of particular concern. The pathway between contaminant mass residing at the water table (within the source area), and the mass existing at depth down-gradient in the aquifer could not be fully connected based on known site conditions. Therefore, in September 2010, five piezometers (MW-15 through MW-19) were installed within, down-gradient, and side-gradient of the source area to further delineate the vertical extent of groundwater contamination.

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These water level measurements indicate a weak vertical gradient which does not explain the presence of groundwater contamination at depth. In November 2011, piezometers MW-20P and MW-21P were installed at Site 1 by MWH to further characterize groundwater conditions in the upper aquifer. Additional monitoring well sampling was conducted in December 2011, March 2012, June 2012, and October 2012 (Final 2011-2012 Annual Monitoring Report, March 2013).

Benzene contamination was confirmed at high concentrations, greater than two orders of magnitude above the ES, at new piezometer MW-20P. However, further down-gradient new piezometer MW-21P did not exhibit any exceedances of benzene which indicates that the contaminant plume has not expanded as far as the road to the east of Site 1. Several other contaminants were detected exceeding either the PAL, the ES, or both, screening criteria during the last four quarterly sampling events. Natural attenuation mechanisms are actively decreasing contaminant mass in the groundwater at Site 1 too. One beneficial change observed at the site which can be attributed, in part, to natural attenuation processes is the reduction in free product measured at select source area wells over the last three years. (MWH 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.

Site 1 is approximately 2500ft from its nearest offsite boundary to the east. Residual soil and groundwater contamination has been delineated within Site 1 boundary.

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.

There are no structural impediments at Site 1.

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.

The 1987-1990 RI field activities were performed to define the areal extent of soil contamination surrounding the fire training pit.(Attachment B.3.b) Volatile organic compounds (VOCs)(especially BTEX), semi-volatile organic compounds (SVOCs), and inorganic parameters were detected in soils from 0-10 ft bgs (vadose zone) at the site. Benzene exceedances of RCLs ranged from 20-3454x RCL (Site 1 RI Report, ES 1990)

ii. Describe the level and types of **soil contaminants** found in the upper four feet of the soil column.

The contaminants identified in Site 1 soils were benzene, toluene, xylenes, ethylbenzene, trichloroethylene, tetrachloroethylene, naphthalene, and methylnaphthalene. (Site 1 RI Report, ES 1990)

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.

According to the Final 2009 Annual Monitoring Report (MWH 2010), "Wisconsin Administrative Code, Natural Resources Chapter-720.19 RCLs were calculated using the WDNR Guidance Publication PUB-RR-682 – Determining Residual Contaminant Levels Using the United States Environmental Protection Agency (EPA) Soil Screening Level Web Site (January 2002). WDNR default values for industrial land classifications were used for various website input parameters. For a majority of detected compounds, RCL values for ingestion and inhalation exposure pathways were calculated. The EPA Soil Screening Website does not calculate soil concentrations for dermal contact. Few organic compounds have a dermal contact risk greater than the risk from ingestion or inhalation. Therefore, the lowest soil concentration value calculated between ingestion and inhalation pathways was selected as the most conservative (or stringent) RCL value."

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.

The RI activities (ES 1990), 1997 activities, and Long-term monitoring have shown results with mostly BTEX exceedances (and select other VOCs and SVOCs) of the ch. NR 140 Preventive Action Limits (PALs) and Enforcement Standards (ESs) (see Attachment A.1). The plume was delineated within the Site 1 boundaries and found to be receding due to natural attenuation and installation of phytoremediation system (residual benzene contamination). Site 1 is not located near water supply wells or building foundation drain systems.

The installation of the two additional down-gradient piezometers (MW-20P and MW-21P) in November 2011 with four additional quarters of groundwater sampling (December 2011, March 2012, June 2012, and October 2012) showed that there is a deeper component of the plume at the site that was not originally accounted for. This plume is not completely delineated vertically nor horizontally, however considering the lack of down gradient receptors, the WDNR indicated

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minimal concern with delineation of the deeper aquifer plume. (MWH 2013)
(MWH 2013)

ii. Describe the presence of free product at the site, including the thickness, depth, and locations.
Free product was detected in seven of the monitoring wells at the site. Since 2003, groundwater monitoring has been performed on an annual basis at Site 1 to evaluate the status of site conditions. Routine product measurement and bailing has also been performed at six wells, maximum thickness of 1.20 ft at ET-5 (see Attachment A.8). Between November 2008 and March 2010, liquids bailed from site monitoring wells did not have a distinct, separate product layer visible. Rather, an oily sheen was typically observed on top of the bailed water. Later monitoring events indicated no product in these wells.

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.
A soil gas survey was conducted at Site 1 in 1989 to identify areas of possible soil and groundwater contamination through sampling and analysis of subsurface gases. The results of the soil gas survey indicated that contamination was present to the east and northeast of the fenced area surrounding the primary burn pit. Benzene, ethylbenzene, toluene and xylenes were detected in soil gas samples collected in this area. The results from the soil gas survey were used to determine the locations for 15 soil borings and four groundwater monitoring wells.
No further vapor migration pathway investigations due to the distance of the site from inhabited buildings.

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.

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.
These media are not present at Site 1; therefore, no investigation was required for these media.

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 for these media.

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.
The recommended alternative in the FS was the Limited Action Alternative, which involved groundwater monitoring for 10 years. A subsequent Decision Document in November 1999 prescribed quarterly groundwater monitoring for the first two years of the 10-year monitoring program. The Decision Document included a contingency to evaluate other remedial alternatives if natural attenuation processes were not effective at remediating Site 1 contamination after two years of monitoring. In May 2004 the phytoremediation system was installed at Site 1 and consisted of planting 300 hybrid poplar trees across the site. Installation of the phytoremediation system was not a formal, documented change in remedial actions. Rather, through meetings with the WDNR, it was an acceptable enhancement to remedial actions for Site 1 which would expedite the remediation of vadose zone soils (the source area). Following its installation, operation and maintenance (O&M) has been performed on the phytoremediation system 2-3 times a year. O&M activities consist of removing and replacing dead trees, pruning branches, applying fertilizers, applying insecticides (if necessary), conducting leaf tissue analyses to determine if the trees are getting sufficient nutrients, and performing an overall assessment of tree survival and growth.(Final 2011-2012 Annual Monitoring Report, MWH 2013)

B. Describe any immediate or interim actions taken at the site under ch NR 708, Wis. Adm. Code.
In May 2004, a passive phytoremediation system was installed at Site 1 to assist natural attentuation and consisted of planting 300 hybrid poplar trees across the site. O&M performed as described above in 4A.

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.
No active remedial actions were taken at Site 1.

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.
All soil samples collected in 2009 within Site 1 were below the site specific (industrial) Residual Contaminant Levels. Monitored natural attentuation and phytoremediation have reduced the groundwater (benzene) plume and concentrations, and monitoring has shown that the plume is not migrating from the site.(see Figure B.3.b.) (Final 2011-2012 Annual

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Monitoring Report, MWH 2013)

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.

The additional shallow soil samples (1-2 ft bgs) collected during the 2009 soil investigation found the samples to be below site specific (industrial) RCLs, which is attributed, in large part, to the phytoremediation system.

F. Describe the remaining soil contamination in the vadose zone that attains or exceeds the soil standard(s) for the groundwater pathway.

All soil samples collected in 2009 were below the site specific (industrial) Residual Contaminant Levels.

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.

The phytoremediation system will remain in place with minimally required O&M, which will continue to reduce vadose zone contaminant mass, as well as further contribute to the capture of VOCs in the groundwater. Use of natural attenuation of groundwater is also expected to continue to reduce the residual groundwater contamination.

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).

The phytoremediation system has grown as expected and has been maintained successfully, contributing to the capture of VOCs in the groundwater. (Final 2009 Annual Monitoring Report, MWH 2010) Re-installation of monitoring wells and installation of additional piezometers, and quarterly monitoring have found the groundwater plume to have receded.(Final 2011-2012 Annual Monitoring Report, MWH 2013)

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.

The benzene plume was delineated within Site 1 boundaries through annual monitoring well sampling and water gauging, and the plume reduced in size as a result of phytoremediation system and monitored natural attenuation. Contamination in the shallow/vadose soil was reduced to levels below RCLs (Final 2009 Annual Monitoring Report, MWH 2010).
The installation of the two additional down-gradient monitoring wells (MW-20P and MW-21P) with four quarters of groundwater sampling has shown that there is a deeper component of the plume at the site that was not originally accounted for. However, according to the WDNR, the delineation of the deeper plume is not necessary based on the lack of down-gradient receptors that would be affected by the remaining contamination in the plume.(Final 2011-2012 Annual Monitoring Report, MWH 2013)

J. Identify any system hardware anticipated to be left in place after site closure, and explain the reasons why it will remain.

Approximately 300 trees (phytoremediation system) will be remain in place. Monitoring wells will be abandoned in place upon receiving conditional 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.

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 pathway due to the site's distance from inhabited buildings.

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 media.

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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.	☐	☐	Engineering Control/Barrier for Direct Contact	✓	✓
ii.	☐	☐	Engineering Control/Barrier for Groundwater Infiltration	✓	✓
iii.	☐	☐	Vapor Mitigation - post closure passive system	✓	✓
iv.	☐	☐	Vapor Mitigation - post closure active system	✓	✓
v.	☒	☒	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.	☒	☐	Residual soil contamination exceeds ch. NR 720 generic or site-specific RCLs	✓
ii.	☒	☐	Sites with groundwater contamination equal to or greater than the ch. NR 140, enforcement standards (ES)	✓
iii.	☐	☐	Monitoring wells: lost, transferred or remaining in use	✓
iv.	☐	☐	Structural Impediment (not as a performance standard)	✓
v.	☐	☐	Residual soil contamination remaining at ch. NR 720 Industrial Use levels	✓
vi.	☐	☐	Vapor intrusion may be future, post-closure issue if building use or land use changes	✓
vii.	☐	☒	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.

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- 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) attach a map depicting the source

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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 Contaminate 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 by more than 20° over the history of the site, submit two groundwater flow maps showing the maximum variation in flow direction.

B.3.d. **Monitoring Wells:** Figure(s) showing all monitoring wells, with well identification number. Clearly designate any wells that: (1) are proposed to be abandoned; (2) cannot be located; (3) are being transferred; (4) will be retained for further sampling, or (5) have been previously abandoned.

B.4. Vapor Maps and Other Media

B.4.a. **Vapor Intrusion Map:** Map(s) showing all locations and results for samples taken to investigate the vapor intrusion pathway, in relation to remaining soil and groundwater contamination, including sub-slab, indoor air, soil vapor, ambient air, and communication testing. Show locations and footprints of affected structures and utility corridors, and/or where residual contamination poses a future risk of vapor intrusion.

B.4.b. **Other media of concern (e.g., sediment or surface water):** Map(s) showing all sampling locations and results for other media investigation. Include the date of sample collection and identify where any standards are exceeded.

B.4.c. **Other:** Include any other relevant maps and figures not otherwise noted above. (This section may remain blank)

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.

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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 a 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.

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.

D.6.b. Photographs shall be submitted with a title related to the site name and location, and the date on which it was taken.

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) 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.

Save...

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:

	A. Impacted Source Property and Owner is not Conducting Cleanup	B. Impacted Right of Way	C. Impacted Off-Site Property Owner	Impacted Property Notification Situations: Ch. NR 726 Appendix A Letter
1.	☐	☐	☐	Residual groundwater contamination exceeds Ch. NR 140 Wis. Administrative Code enforcement standards.
2.	☐	☐	☐	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.	☐	☐	☐	An engineered cover or a soil barrier (e.g. pavement) must be maintained over contaminated soil for direct contact or groundwater infiltration concerns.
4.	☐	☐	☐	Industrial land use soil standards were used for the clean-up standard.
5.	☐	☐	☐	A vapor mitigation system (or other specific vapor protection) must be operated and maintained.
6.	☐	☐	☐	Vapor assessment needed if use changes.
7.	☐	☐	☐	Structural impediment.
8.	☐	☐	☐	Lost, transferred or open monitoring wells.
9.	☒	☒	☒	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.

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.

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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).

☒ The response action(s) for this site addresses media other than groundwater.

Engineering Certification

I _____ 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."

Printed Name	Title

Signature	Date	P.E. Stamp and Number

Hydrogeologist Certification

I Richard O'Keefe 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."

Richard O'Keefe	Senior Geologist
Printed Name	Title

Richard O'Keefe	WISCONSIN RICHARD F. O'KEEFE PG-1235 PROFESSIONAL GEOLOGIST	4/9/14
Signature		Date

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Attachment A. Data Tables

Attachment A.1 – Groundwater Analytical Tables

Summary of Groundwater Analytical Results
Site 1 (Fire Training Area)
Volk Field Combat Readiness Training Center
Wisconsin Air National Guard
Camp Douglas, Wisconsin

			NR 140																				
		Units	PAL	ES	MW-1							MW-01R											
Analyte					11/5/1990	5/7/1997	9/15/1999	12/28/1999	3/21/2000	6/7/2000	9/13/2000	8/13/2001	10/22/2002	1/27/2003	4/22/2003	7/30/2003	8/31/2004	5/19/2005	6/21/2007	7/31/2008	10/13/2009	9/20/2010	3/12/2012
Volatile Organic Compounds	CAS Number																						
Benzene	71432	ug/L	0.5	5	**37**	**20**	**9.1**	**18**	**7.0**	*0.9*	*1.0*	**6.7**	*3.7*	*0.7*	ND	*4.8*	ND	ND	ND	**10**	*1.9*	<0.19	*4.2*
n-Butylbenzene	104518	ug/L	--	--	ND	1.3J	ND	1.3	1.2	ND	ND	0.74	0.99	ND	ND	ND	ND	ND	ND	ND	<0.79	<0.23	0.31
sec- Butylbenzene	135988	ug/L	--	--	ND	0.3J	ND	ND	ND	ND	ND	ND	0.50	ND	ND	ND	ND	ND	ND	ND	<0.98	<0.21	0.27
tert-Butylbenzene	98066	ug/L	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.76	<0.20	<0.20
1,1 - Dichloroethane	75343	ug/L	85	850	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.4	<0.20	<0.20
1,2-dichloroethane	107062	ug/L	0.5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.1	<0.30	<0.30
1,4-dichlorobenzene	106467	ug/L	15	75	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.50	<0.23	<0.23
trans-1,3-Dichloropropene	10061026	ug/L	0.02	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.45	<0.19	<0.19
Chloromethane	74873	ug/L	3	30	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.6/UB	<0.40	<0.40
cis-1,2-Dichloroethene	156592	ug/L	7	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.2	<0.25	<0.25
trans - 1,2 - Dichloroethene	156605	ug/L	20	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.8	<0.25	<0.25
Ethylbenzene	100414	ug/L	140	700	5.3	9.6	4	12	4.8	0.56	0.77	9.1	5.3	0.97	ND	5.7	ND	ND	ND	0.81	0.75	<0.22	9.1
Isopropylbenzene	98828	ug/L	--	--	ND	1.6	0.4J	2.1	1.1	ND	ND	1.5	1.1	ND	ND	0.84 J	ND	ND	ND	ND	<0.67	<0.18	1.6
p-Isopropyltoluene	99876	ug/L	--	--	ND	ND	ND	0.7	ND	ND	ND	ND	0.68	ND	ND	ND	0.87 J	ND	ND	11	<0.56	<0.23	<0.23
Methyl-tert-butyl ether	1634044	ug/L	12	60	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.76	<0.29	<0.29
Methylene Chloride	75092	ug/L	0.5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.5	<0.40	<0.40
Naphthalene	91203	ug/L	8	40	8	1.9J	1.1J	1.4J	0.91	ND	ND	1.7	1.5	ND	ND	1.7	ND	ND	ND	ND	<1.8	<0.40	1.2
n-Propylbenzene	103651	ug/L	--	--	ND	1.9	0.5J	2.1	1.2	ND	ND	1.4	1.2	ND	ND	0.81J	ND	ND	ND	ND	<0.68	<0.20	1.4
Tetrachloroethene	127184	ug/L	0.5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.3	<0.30	<0.30
Toluene	108883	ug/L	160	800	2.7	27	11	46	15	0.63	0.73	22	0.76	ND	ND	ND	ND	ND	ND	ND	<0.68	<0.22	<0.22
1,1,1-Trichloroethane	71556	ug/L	40	200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.68	<0.21	<0.21
Trichloroethene	79016	ug/L	0.5	5	*1.7*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.48	<0.21	<0.21
Total Trimethylbenzene		ug/L	96	480	ND	10	ND	11	5.3	ND	ND	7.8	5.8	0.81	ND	2	ND	ND	ND	ND	<1.44	<0.23	11.4
1,2,4-Trimethylbenzene	95636	ug/L	--	--	ND	6.4	1.2J	8.3	3.8	ND	ND	5.3	3.9	0.81	ND	2	ND	ND	ND	ND	<0.81	<0.20	8.2
1,3,5-Trimethylbenzene	108678	ug/L	--	--	ND	4	ND	2.9	1.5	ND	ND	2.5	1.9	ND	ND	ND	ND	ND	ND	ND	<0.63	<0.23	3.2
Total Xylenes		ug/L	400	2000	1.7	33	11.1	53.0	20.6	1.85	1.28	32	20	4.7	0.65	20	ND	ND	ND	1.1	<3.2	<0.50	34.4
m&p-Xylene	1330207	ug/L	--	--	NA	18	6.6	32	12	0.85	0.66	18	12	2.2	ND	10	ND	ND	ND	1.1	<1.6	<0.50	9.4
o-Xylene	95476	ug/L	--	--	NA	15	4.5	21	8.6	1.0	0.62	14	8	3	0.65	10	ND	ND	ND	ND	<1.6	<0.24	25
Semivolatile Organic Compounds																							
benzoic acid	65850	ug/L	--	--	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	NA	ND	NA	<17	<00
bis(2-Ethylhexyl)phthalate	117817	ug/L	0.6	6	ND	*3.7*	*5J*	NA	4.0*	NA	ND	NA	*3.2*	NA	*0.92*	NA	*2*	ND	ND	*1.1*	<2.0	2.2/UB	1.2 JB/U
bis(2-chlorethyl)ether	108601	ug/L	--	--	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	ND	ND	<0.66	<0.22	<0.22
Dibenzofuran	132649	ug/L	--	--	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	ND	ND	<0.28	<0.19	<0.20
Acetophenone	98862	ug/L	--	--	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	ND	ND	<0.45	<0.18	<0.28
Diethyl phthalate	84662	ug/L	--	--	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	1.8	ND	ND	<0.56	0.5	<0.46
1,4-dichlorobenzene	106467	ug/L	15	75	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.080	<0.19	<0.20
4-chloroaniline	106478	ug/L	--	--	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	ND	ND	<0.57	<0.12	<0.12
2,4 Dimethylphenol	105679	ug/L	--	--	ND	ND	ND	NA	ND	NA	ND	NA	0.98	NA	ND	NA	ND	ND	ND	ND	<4.0 UJ	<0.84	<0.85
2,6-Dinitrotoluene	606202	ug/L	0.005	0.05	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	ND	ND	<0.38	<0.29	<0.29
4,6-Dinitro-2-methylphenol	534521	ug/L	--	--	ND	ND	ND	NA	ND	NA	ND	NA	2.0	NA	ND	NA	ND	ND	ND	ND	<3.1	<1.6	<1.6
Di-n-butylphthalate	84742	ug/L	--	--	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	ND	ND	<2.5	<0.68	<0.69
Di-n-octylphthalate	117840	ug/L	--	--	ND	ND	ND	NA	2.6	NA	0.96	NA	ND	NA	ND	NA	ND	ND	ND	ND	<0.52	<0.50	<0.51
Fluorene	86737	ug/L	80	400	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	ND	ND	<0.51	<0.19	<0.20
Isophorone	78591	ug/L	--	--	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	ND	ND	<0.38	<0.18	<0.19
1-methylnaphthalene	90120	ug/L	--	--	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	ND	ND	<0.080	<0.16	<0.23
2-Methylnaphthalene	91576	ug/L	--	--	ND	ND	ND	NA	ND	NA	ND	NA	0.85	NA	ND	NA	ND	ND	ND	ND	<0.41	<0.17	<0.20
Naphthalene	91203	ug/L	8	40	8*J	2.2J	2.0J	NA	1.8	NA	0.47	NA	2.5	NA	ND	NA	ND	ND	ND	ND	0.082 J/	<0.18	0.77
n-Nitrosodiphenylamine	62759	ug/L	0.7	7	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	ND	ND	<0.64	<0.37	<0.37
Pentachlorophenol	87865	ug/L	0.1	1	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	ND	ND	<3.0 /UJ	<1.1	<1.1
Phenanthrene	85018	ug/L	--	--	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	ND	ND	<0.28	<0.31	<0.31
Phenol	108952	ug/L	1200	6000	ND	ND	ND	NA	ND	NA	ND	NA	0.39	NA	ND	NA	ND	ND	ND	ND	<1.0 /UJ	<0.49	<0.49
3&4-methylphenol	1319773	ug/L	--	--	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	NA	ND	<2.2 /UJ	<1.4	<1.4
2-methylphenol	95487	ug/L	--	--	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	ND	ND	<2.9 /UJ	<0.88	<0.89
2,4,5-Trichlorophenol	95954	ug/L	--	--	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	ND	ND	<2.7 /UJ	<1.1	<1.1
2,4,6-Trichlorophenol	88062	ug/L	--	--	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	ND	ND	<2.9 /UJ	<1.0	<1.0
Natural Attenuation Parameters																							
Dissolved Iron		mg/L	0.15	0.3	NA	**3.01**	**11.8**	**14.1**	**3.76**	**1.31**	**2.07**	**3.58**	**5.46**	**2.26**	**1.64**	**5.55**	**1.67**	0.0257	0.205	**12**	**1.56**	**7.63**	NA
Dissolved Manganese		ug/L	25	50	NA	**262**	**311**	**232**	**109**	*32.2*	*39.1*	**93.7**	**114**	**68.8**	*48.3*	**105.0**	**244.0**	*42.7*	**101.0**	**400**	**255**	**443**	NA
Total Iron		mg/L	0.15	0.3	NA	NA	NA	NA	NA	NA	NA	NA	**10.2**	**18.2**	**19.1**	**24**	**26.6**	**15.6**	NA	NA	NA	NA	NA
Total Manganese		ug/L	25	50	NA	NA	NA	NA	NA	NA	NA	NA	**328**	**342**	**346**	**422**	**610**	**163**	NA	NA	NA	NA	NA
Alkalinity (Dissolved)		mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	21	ND	19	13J	ND	9.6	ND	11	15	< 15	NA
Chloride (Dissolved)		mg/L	125	250	NA	NA	NA	NA	NA	NA	NA	NA	0.75	1.2	1.2	0.9J	1.2 J	20	1.5	1.4	1.0	NA	NA
BOD-5		mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
Ammonia-N		mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	0.086	0.36	ND	ND	ND	NA	NA	NA
Total Kjeldahl-N		mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	0.98	0.61	0.42	ND	ND	0.53	ND	0.33	<0.50	NA	NA
Nitrate + Nitrite Nitrogen		mg/L	2	10	NA	0.29	0.26J	0.26J	0.516	0.5	0.13	ND	0.29	1.3	1.8	0.68	0.71	0.37	0.36	ND	0.55	0.3	NA
Total Organic Carbon (TOC)		mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.6	2	NA	NA	NA	NA	NA
Sulfate		mg/L	125	250	NA	7.5	8.73	5.58J	4.91	36.7	9.72	ND	5.6	6.2	5.70	7.30	1.11 J	5.5	5.4	4.7	7.3	59.0	NA

Summary of Groundwater Analytical Results
Site 1 (Fire Training Area)
Volk Field Combat Readiness Training Center
Wisconsin Air National Guard
Camp Douglas, Wisconsin

			NR 140																							
		Units	PAL	ES	MW-2								MW-2R											MW-3		
Analyte					3/8/1988	11/7/1990	5/7/1997	9/15/1999	12/28/1999	3/21/2000	6/6/2000	9/13/2000	8/14/2001	10/22/2002	1/27/2003	4/22/2003	7/30/2003	8/31/2004	5/19/2005	6/22/2007	7/31/2008	10/13/2009	9/21/2010	3/6/1988	11/7/1990	5/7/1997
Volatile Organic Compounds	CAS Number																									
Benzene	71432	ug/L	0.5	5	*1.2*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	*0.94*	<0.55	*0.81*	**3680**	**2600**	**2700**
n-Butylbenzene	104518	ug/L	--	--	ND	ND	ND	0.3J	1.3	ND	1.8	ND	ND	ND	ND	0.81	ND	ND	ND	ND	ND	<0.79	<0.23	ND	ND	18
sec- Butylbenzene	135988	ug/L	--	--	ND	ND	1.4	1.8	4.7	3.5	4.8	2.3	ND	ND	0.95	1	ND	ND	ND	ND	ND	<0.98	<0.21	ND	ND	ND
tert-Butylbenzene	98066	ug/L	--	--	ND	ND	ND	ND	ND	ND	0.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.76	<0.20	ND	ND	ND
1,1 - Dichloroethane	75343	ug/L	85	850	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.4	<0.20	1.6	ND	ND
1,2-dichloroethane	107062	ug/L	0.5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.1	<0.30	ND	ND	ND
1,4-dichlorobenzene	106467	ug/L	15	75	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.50	<0.23	ND	ND	ND
trans-1,3-Dichloropropene	10061026	ug/L	0.02	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.45	<0.19	ND	ND	ND
Chloromethane	74873	ug/L	3	30	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.51B/UB	<0.40	ND	ND	ND
cis-1,2-Dichloroethene	156592	ug/L	7	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.2	<0.25	ND	ND	*20*
trans - 1,2 - Dichloroethene	156605	ug/L	20	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.8	<0.25	4.5	ND	ND
Ethylbenzene	100414	ug/L	140	700	ND	ND	ND	0.5J	1.9	ND	ND	ND	ND	ND	ND	1.3	ND	ND	ND	ND	0.36	0.86 J	0.81	100	150	200
Isopropylbenzene	98828	ug/L	--	--	ND	ND	2.3	1.7	6.8	4.1	7.6	2.6	ND	ND	ND	1.3	1.1	ND	ND	ND	ND	<0.67	<0.18	ND	ND	15
p-Isopropyltoluene	99876	ug/L	--	--	ND	ND	ND	ND	0.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.56	<0.23	ND	ND	ND
Methyl-tert-butyl ether	1634044	ug/L	12	60	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.76	<0.29	ND	ND	ND
Methylene Chloride	75092	ug/L	0.5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.5	<0.40	ND	ND	ND
Naphthalene	91203	ug/L	8	40	ND	ND	3.2	2.4J	8.9	3.2	12	3.8	ND	ND	2.2	2.1	ND	ND	ND	ND	ND	<1.8	0.43	11	ND	**55**
n-Propylbenzene	103651	ug/L	--	--	ND	ND	ND	0.3J	3.0	1.6	3.6	0.91	ND	ND	1.0	1.0	ND	ND	ND	ND	ND	<0.68	<0.20	ND	ND	30
Tetrachloroethene	127184	ug/L	0.5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.3	<0.30	ND	ND	**12**
Toluene	108883	ug/L	160	800	7.0	1.3	0.4J	ND	0.8	ND	ND	0.51	ND	ND	0.53	2.3	ND	ND	ND	ND	ND	2.9	3.1	**1827**	**1200**	70
1,1,1-Trichloroethane	71556	ug/L	40	200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<2.0	<0.21	ND	ND	ND
Trichloroethene	79016	ug/L	0.5	5	0.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.48	<0.21	**13.1**	ND	ND
Total Trimethylbenzene		ug/L	96	480	ND	ND	ND	ND	1.4J	ND	ND	ND	ND	ND	ND	2.19	ND	ND	ND	ND	ND	0.29 J	0.41	ND	ND	ND
1,2,4-Trimethylbenzene	95636	ug/L	--	--	ND	ND	ND	ND	0.6J	ND	ND	ND	ND	ND	ND	1.6	ND	ND	ND	ND	ND	0.29 J	0.41	ND	ND	160*
1,3,5-Trimethylbenzene	108678	ug/L	--	--	ND	ND	ND	ND	0.8J	ND	ND	ND	ND	ND	ND	0.59	ND	ND	ND	ND	ND	<0.63	<0.23	ND	ND	55
Total Xylenes		ug/L	400	2000	51.8	ND	2.9	ND	1.2	0.33	4.7	0.92	ND	ND	ND	6.7	0.85J	ND	ND	ND	0.7	3.7	2.15	404	140	640
m&p-Xylene	1330207	ug/L	--	--	NA	ND	ND	ND	1.1	0.33	4.7	0.92	ND	ND	ND	4.6	0.85J	ND	ND	ND	0.7	2.2	1.5			450
o-Xylene	95476	ug/L	--	--	NA	ND	2.9	ND	0.1	ND	ND	ND	ND	ND	ND	2.1	ND	ND	ND	ND	ND	1.5	0.65			190
Semivolatile Organic Compounds																										
benzoic acid	65850	ug/L	--	--	ND	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	NA	ND	NA	<18	NA	ND	ND
bis(2-Ethylhexyl)phthalate	117817	ug/L	0.6	6	ND	ND	ND	ND	NA	**31**	NA	**36J**	NA	*0.9*	NA	ND	NA	*1.8*	ND	ND	ND	<2.1	1.4/UB	ND	ND	ND
bis(2-chlorethyl)ether	108601	ug/L	--	--	ND	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	ND	ND	<0.67	<0.22	ND	ND	ND
Dibenzofuran	132649	ug/L	--	--	ND	ND	ND	ND	NA	ND	NA	0.14	NA	ND	NA	ND	NA	ND	ND	ND	ND	<0.28	<0.20	NA	ND	ND
Acetophenone	98862	ug/L	--	--	ND	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	ND	ND	<0.45	<0.28	ND	ND	ND
Diethyl phthalate	84662	ug/L	--	--	ND	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	0.32	0.44	<0.57	<0.46	ND	ND	ND
1,4-dichlorobenzene	106467	ug/L	15	75	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.081	<0.20	ND	ND	ND
4-chloroaniline	106478	ug/L	--	--	ND	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	ND	ND	<0.58	<0.12	ND	ND	ND
2,4 Dimethylphenol	105679	ug/L	--	--	ND	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	ND	ND	<4.0 /UJ	<0.85	4	ND	ND
2,6-Dinitrotoluene	606202	ug/L	0.005	0.05	ND	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	ND	ND	<0.38	<0.29	NA	ND	ND
4,6-Dinitro-2-methylphenol	534521	ug/L	--	--	ND	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	ND	ND	<3.1	<1.6	NA	ND	ND
Di-n-butylphthalate	84742	ug/L	--	--	ND	ND	1.1	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	1.5 B/J	ND	ND	<2.5	<0.69	ND	ND	ND
Di-n-octylphthalate	117840	ug/L	--	--	ND	ND	ND	ND	NA	2.6	NA	36.0	NA	ND	NA	ND	NA	ND	ND	ND	ND	<0.53	<0.51	NA	ND	ND
Fluorene	86737	ug/L	80	400	ND	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	ND	ND	<0.52	<0.20	ND	ND	ND
Isophorone	78591	ug/L	--	--	ND	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	ND	ND	<0.38	<0.19	NA	ND	ND
1-methylnaphthalene	90120	ug/L	--	--	ND	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	ND	ND	<0.081	<0.16	NA	ND	ND
2-Methylnaphthalene	91576	ug/L	--	--	ND	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	ND	ND	<0.41	<0.18	ND	ND	ND
Naphthalene	91203	ug/L	8	40	ND	ND	2.3J	ND	NA	1.3	NA	2.6	NA	ND	NA	ND	NA	ND	ND	ND	ND	0.091 J/	0.21	11	ND	**44**
n-Nitrosodiphenylamine	62759	ug/L	0.7	7	ND	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	ND	ND	<0.65	<0.37	NA	ND	ND
Pentachlorophenol	87865	ug/L	0.1	1	ND	ND	ND	ND	NA	0.13*	NA	ND	NA	ND	NA	ND	NA	ND	ND	ND	ND	<3.0 /UJ	<1.1	ND	ND	ND
Phenanthrene	85018	ug/L	--	--	ND	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	ND	ND	<0.28	<0.31	ND	ND	ND
Phenol	108952	ug/L	1200	6000	ND	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	ND	ND	<1.0 /UJ	<0.49	11	ND	5.1
3&4-methylphenol	1319773	ug/L	--	--	ND	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	NA	ND	<2.3 /UJ	<1.4	NA	ND	ND
2-methylphenol	95487	ug/L	--	--	ND	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	ND	ND	<2.9 /UJ	<0.89	NA	ND	ND
2,4,5-Trichlorophenol	95954	ug/L	--	--	ND	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	ND	ND	<2.7 /UJ	<1.1	NA	ND	ND
2,4,6-Trichlorophenol	88062	ug/L	--	--	ND	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	ND	ND	<2.9 /UJ	<1.0	ND	ND	ND
Natural Attenuation Parameters																										
Dissolved Iron		mg/L	0.15	0.3	NA	NA	**6.22**	**1.64**	**1.2**	**2.06**	**5.72**	**1.65**	ND	0.119	**1.11**	**0.617**	**0.965**	0.0733 J	0.0497	ND	0.0065	<0.010	**0.42**	NA	NA	NA
Dissolved Manganese		ug/L	25	50	NA	NA	**314**	**160**	**140**	**206**	**175**	**141**	24.4	*25.6*	**132**	**64**	**131**	17.7	*33.4*	ND	6.2	3.1	14.2	NA	NA	NA
Total Iron		mg/L	0.15	0.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	**1.3**	**63.2**	**37.3**	**77.8**	**57.5**	**23.7**	NA	NA	NA	NA	NA	NA	**72.4**
Total Manganese		ug/L	25	50	NA	NA	NA	NA	NA	NA	NA	NA	NA	**574.0**	**738**	**351**	**808**	**573**	**155**	NA	NA	NA	NA	NA	NA	**149**
Alkalinity (Dissolved)		mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	78.0	82	74	70	101	96	87	91	130	100	NA	NA	NA
Chloride (Dissolved)		mg/L	125	250	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.8	0.73	0.88	0.87J	7.77	18	16	2.1	18	NA	NA	NA	NA
BOD-5		mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.0	4.0	ND	2	2 /J	2	NA	NA	NA	NA	NA	NA	NA
Ammonia-N		mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.2	ND	0.22	0.081 J	ND	ND	ND	ND	NA	NA	NA	NA
Total Kjeldahl-N		mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.1	3.7	1.4	1.5J	2.8	1.9	1.1	0.44	0.73	NA	NA	NA	NA
Nitrate + Nitrite Nitrogen		mg/L	2	10	NA	NA	2*	3.0*	3.96*	2.86*	2.55*	4.34*	3.8	5.9*	3.0*	*2.5*	*3*	*8.36*	**10**	*6.3*	0.69	0.42	0.21	NA	NA	NA
Total Organic Carbon (TOC)		mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	19	15	NA	NA	NA	NA	NA	NA	NA
Sulfate		mg/L	125	250	NA	NA	14	9.69	11.6	9.01	8.84	10.7	7.2	10	4.7	3.6	4.6	10.3	16	28	4.4	8.3	2.6	NA	NA	7

Summary of Groundwater Analytical Results
Site 1 (Fire Training Area)
Volk Field Combat Readiness Training Center
Wisconsin Air National Guard
Camp Douglas, Wisconsin

			NR 140																		
		Units	PAL	ES	MW-3R																MW-3R Dup
Analyte					8/14/2001	10/22/2002	1/27/2003	4/22/2003	7/30/2003	8/31/2004	5/19/2005	6/21/2007	7/31/2008	10/13/2009	9/21/2010	2/8/2011	12/14/2011	3/13/2012	6/18/2012	10/2/2012	10/2/2012
Volatile Organic Compounds	CAS Number																				
Benzene	71432	ug/L	0.5	5	ND	ND	ND	*4*	**79**	ND	**9.7**	**39**	*3.9*	**130**	**14**	**59**	**290**	**220**	**110**	**340**	**320**
n-Butylbenzene	104518	ug/L	--	--	ND	ND	1.4	33	57	ND	2.1	3.8	ND	10 /J	3.1	9.2	12	11	7.7	22	21
sec- Butylbenzene	135988	ug/L	--	--	ND	ND	2.1	14	ND	ND	3.7	4.7	ND	9.6 /J	3.1	8.9	13	11	7.7	18	18
tert-Butylbenzene	98066	ug/L	--	--	ND	ND	ND	ND	ND	ND	0.74	ND	ND	1.6 /J	0.72	1.8	2.5 J	<4.0	<4	3.1	3.2
1,1 - Dichloroethane	75343	ug/L	85	850	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.4	<0.40	<0.40	<2.0	<4.0	<4.8	<0.20	<0.20
1,2-dichloroethane	107062	ug/L	0.5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	*3.4 /J*	<0.60	<0.60	<3.0	<6.0	<6.0	<0.30	<0.30
1,4-dichlorobenzene	106467	ug/L	15	75	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.50	<0.46	<0.46	<2.3	<4.6	<4.6	<0.19	<0.19
trans-1,3-Dichloropropene	10061026	ug/L	0.02	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.45	<0.38	<0.38	<1.9	<3.8	<3.8	<0.19	<0.19
Chloromethane	74873	ug/L	3	30	ND	ND	ND	ND	ND	ND	0.26	ND	ND	0.60/1.0 UB	<0.80	2.4	<4.0	<8.0	<8.0	<0.40	<0.40
cis-1,2-Dichloroethene	156592	ug/L	7	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.6 /J	0.67	*2.7*	*9.3*	*10*	5.6	*12*	*12*
trans - 1,2 - Dichloroethene	156605	ug/L	20	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.8	<0.50	<0.50	<2.5	<5.0	<5	<0.25	<0.25
Ethylbenzene	100414	ug/L	140	700	0.17	ND	7.7	78	*480*	1.5	87	*150*	0.51	*430*	76	*290*	*430*	*400*	350 R	*540*	*520*
Isopropylbenzene	98828	ug/L	--	--	ND	ND	5.3	37	84	0.56 J	20	30	ND	52	18	47	79	60	46	75	75
p-Isopropyltoluene	99876	ug/L	--	--	ND	ND	1.6	10	ND	ND	2.4	3.4	ND	8 /J	3.4	9.1	9.8	9.1	5.9	17.0	17
Methyl-tert-butyl ether	1634044	ug/L	12	60	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.76	<0.58	<0.58	<2.9	<5.8	<5.8	<0.29	<0.29
Methylene Chloride	75092	ug/L	0.5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.80	*1.2*	<4.0	**66**	<8.0	<0.40	<0.40
Naphthalene	91203	ug/L	8	40	ND	ND	3.7	*29*	**110**	0.77 J	*15*	*21*	ND	**57**	*12*	**47**	**89**	**65**	**40**	**58**	60
n-Propylbenzene	103651	ug/L	--	--	ND	ND	5.6	42	92	0.56 J	19	30	ND	57	18	55	79	63	51	96	99
Tetrachloroethene	127184	ug/L	0.5	5	ND	ND	ND	**13**	ND	ND	ND	ND	ND	<1.3	<0.60	<0.60	<3.0	<6.0	<6	<0.30	<0.30
Toluene	108883	ug/L	160	800	ND	ND	3.4	77	**1300**	ND	*170*	34	ND	**1000**	4	79	**1000**	**980**	*340 J*	*780*	*750*
1,1,1-Trichloroethane	71556	ug/L	40	200	ND	ND	ND	ND	96	ND	ND	ND	ND	<2.0	<0.42	<0.42	<2.1	<4.2	<4.2	<0.21	<0.21
Trichloroethene	79016	ug/L	0.5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.39	<0.42	<0.42	<2.1	<4.2	<4.2	<0.21	<0.21
Total Trimethylbenzene		ug/L	96	480	ND	ND	7.9	*164*	**540**	0.43	85	*147*	ND	*450*	*114*	*470*	*450*	*420*	*349*	**620**	**620**
1,2,4-Trimethylbenzene	95636	ug/L	--	--	ND	ND	6.6	110	380	0.43 J	68	120	ND	330	80	380	320	310	260	450	450
1,3,5-Trimethylbenzene	108678	ug/L	--	--	ND	ND	1.3	54	160	ND	17	27	ND	120	34	90	130	110	89	170	170
Total Xylenes		ug/L	400	2000	0.17	ND	17	260	*1930*	1.65	250	*470*	1.2	2120	390	*1720*	**2090**	*1880*	*1580 J*	**2530**	**2500**
m&p-Xylene	1330207	ug/L	--	--	ND	ND	9.6	110	1100	1.0 J	120	300	1.2	1300	240	1100	1300	1200	1000 J	1600	1600
o-Xylene	95476	ug/L	--	--	0.17	ND	7.4	150	830	0.65 J	130	170	ND	820	150	620	790	680	580 J	930	900
Semivolatile Organic Compounds																					
benzoic acid	65850	ug/L	--	--	NA	ND	NA	ND	NA	ND	ND	NA	ND	NA	<17	NA	<11	<12	<11 R	<11	<11
bis(2-Ethylhexyl)phthalate	117817	ug/L	0.6	6	NA	ND	NA	ND	NA	*1.7*	ND	ND	ND	<2.1	1.3/UB	NA	0.51 J/U	1.1 JB/UJ	150 BJ	<0.45	<0.45
bis(2-chlorethyl)ether	108601	ug/L	--	--	NA	ND	NA	ND	NA	ND	ND	ND	ND	<0.67	<0.21	NA	<0.22	<0.22	<0.21	<0.22	<0.22
Dibenzofuran	132649	ug/L	--	--	NA	ND	NA	ND	NA	ND	ND	ND	ND	<0.28	<0.19	NA	<0.20	<0.20	<0.19	<0.19	<0.19
Acetophenone	98862	ug/L	--	--	NA	ND	NA	ND	NA	ND	ND	ND	ND	<0.45	<0.27	NA	<0.28	<0.28	<0.28	31	32.0
Diethyl phthalate	84662	ug/L	--	--	NA	ND	NA	ND	NA	ND	0.53	0.20	4.60	0.22 J/UB	<0.45	NA	<0.47	<0.47	<0.46	3.8	2.8 J
1,4-dichlorobenzene	106467	ug/L	15	75	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.081	<0.19	NA	<0.20	<0.20	<0.19	<0.19	<0.19
4-chloroaniline	106478	ug/L	--	--	NA	ND	NA	ND	NA	ND	ND	ND	ND	<0.58	<0.12	NA	<0.13	<0.13	<0.12	<0.12	<0.12
2,4 Dimethylphenol	105679	ug/L	--	--	NA	ND	NA	ND	NA	ND	2.8	3.8	ND	4.5 /J	<0.82	NA	10 /J	10 /J	4.8	<0.84	<0.84
2,6-Dinitrotoluene	606202	ug/L	0.005	0.05	NA	ND	NA	ND	NA	ND	ND	ND	ND	<0.38	<0.28	NA	<0.29	<0.29	<0.29	<0.29	<0.29
4,6-Dinitro-2-methylphenol	534521	ug/L	--	--	NA	ND	NA	ND	NA	ND	ND	ND	ND	<3.1 /UJ	<1.6	NA	<1.7	<1.7	<1.6	<1.6	<1.6
Di-n-butylphthalate	84742	ug/L	--	--	NA	ND	NA	ND	NA	ND	ND	ND	1.2	<2.5	<0.67	NA	<0.70	<0.71	1.2	<0.68	<0.68
Di-n-octylphthalate	117840	ug/L	--	--	NA	ND	NA	ND	NA	ND	ND	ND	ND	<0.53	<0.49	NA	<0.51	<0.52	<0.5	<0.50	<0.50
Fluorene	86737	ug/L	80	400	NA	ND	NA	ND	NA	ND	ND	0.11	ND	<0.52	<0.19	NA	<1.0	<0.20	<0.19	<0.19	<0.19
Isophorone	78591	ug/L	--	--	NA	ND	NA	ND	NA	ND	ND	ND	ND	<0.38	<0.18	NA	<0.19	<0.19	<0.18	<0.18	<0.18
1-methylnaphthalene	90120	ug/L	--	--	NA	ND	NA	ND	NA	ND	ND	ND	ND	7.6	2.1	NA	11 /B	11 /J	9	15	16.0
2-Methylnaphthalene	91576	ug/L	--	--	NA	ND	NA	3.9	NA	ND	5.1	7.3	ND	10	2.6	NA	14 /B	14 /J	11	18	19.0
Naphthalene	91203	ug/L	8	40	NA	ND	NA	*12*	NA	ND	*21*	*19*	ND	*30*	6	NA	**43 /B**	**48/J**	**41**	**58**	**60.0**
n-Nitrosodiphenylamine	62759	ug/L	0.7	7	NA	ND	NA	ND	NA	ND	ND	ND	ND	<0.65	<0.36	NA	<0.49	<0.49	<0.21	<0.48	<0.48
Pentachlorophenol	87865	ug/L	0.1	1	NA	ND	NA	ND	NA	ND	**3.5**	**1.4**	ND	**2.2 J/J**	<1.1	NA	<1.1	<1.2	<1.1	<1.1	<1.1
Phenanthrene	85018	ug/L	--	--	NA	ND	NA	ND	NA	ND	ND	ND	ND	<0.28	<0.30	NA	<0.31	<0.32	<0.31	<0.31	<0.31
Phenol	108952	ug/L	1200	6000	NA	ND	NA	ND	NA	ND	ND	ND	ND	<1.0 /UJ	<0.48	NA	1.9 J/5.2 U	2.3 J/J	1.6	3.5 J	3.6 J
3&4-methylphenol	1319773	ug/L	--	--	NA	ND	NA	ND	NA	ND	6.6	NA	ND	28	3.6	NA	24 /J	29 /J	16	32	33.0
2-methylphenol	95487	ug/L	--	--	NA	ND	NA	ND	NA	ND	4.3	1.6	ND	3.5 /J	<0.86	NA	6.1 /J	6.3 /J	2.7 J	5.6	5.8
2,4,5-Trichlorophenol	95954	ug/L	--	--	NA	ND	NA	ND	NA	ND	5.1	2.8	ND	1.7 J/J	<1.1	NA	1.4 J/J	<1.2	<1.1	<1.1	<1.1
2,4,6-Trichlorophenol	88062	ug/L	--	--	NA	ND	NA	0.21	NA	ND	ND	ND	ND	<2.9 /UJ	<1.0	NA	<1.0	<1.1	<1.0	<1.0	<1.0
Natural Attenuation Parameters																					
Dissolved Iron		mg/L	0.15	0.3	**3.39**	**0.606**	**0.838**	**11.4**	0.045J	**6.59**	**25.8**	**29.1**	0.02	**43.1**	**23.6**	NA	NA	NA	NA	NA	NA
Dissolved Manganese		ug/L	25	50	**182**	24.3	9.9	**57.7**	14.1	**61.6**	**73.7**	**60.2**	5.6	**616**	**342**	NA	NA	NA	NA	NA	NA
Total Iron		mg/L	0.15	0.3	NA	**2.16**	**51.9**	**59.7**	**88.9**	**172**	**69.3**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Manganese		ug/L	25	50	NA	171	**435**	**274**	**435**	**318**	**252**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alkalinity (Dissolved		mg/L	--	--	NA	60	79	100	77	94.4	120	120	77	180	160	NA	NA	NA	NA	NA	NA
Chloride (Dissolved)		mg/L	125	250	NA	8.4	1.2	1.3	1.4J	1.53 J	20	4.2	1.3	4.6	NA	NA	NA	NA	NA	NA	NA
BOD-5		mg/L	--	--	NA	ND	ND	2	4	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ammonia-N		mg/L	--	--	NA	ND	ND	ND	0.011J	0.3	0.12	0.3	ND	NA	NA	NA	NA	NA	NA	NA	NA
Total Kjeldahl-N		mg/L	--	--	NA	2.2	6.4	1.6	ND	4	1.9	0.75	0.49	1.0	NA	NA	NA	NA	NA	NA	NA
Nitrate + Nitrite Nitrogen		mg/L	2	10	1.2	0.87	*4.1*	0.61	*3.3*	1.64	1.3	1.4	0.44	<0.42	0.14	NA	NA	NA	NA	NA	NA
Total Organic Carbon (TOC)		mg/L	--	--	NA	ND	ND	ND	ND	16	9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate		mg/L	125	250	4.1	4.4	17	1.5	15	6.35	3.1	7.6	6.5	1.1	1.6	NA	NA	NA	NA	NA	NA

Summary of Groundwater Analytical Results
Site 1 (Fire Training Area)
Volk Field Combat Readiness Training Center
Wisconsin Air National Guard
Camp Douglas, Wisconsin

			NR 140		MW-4																								
		Units	PAL	ES																									
Analyte					3/4/1988	11/5/1990	5/6/1997	9/15/1999	12/28/1999	3/21/2000	6/7/2000	9/13/2000	8/13/2001	10/22/2002	1/27/2003	4/22/2003	7/30/2003	8/31/2004	5/19/2005	6/21/2007	7/31/2008	10/13/2009	9/21/2010	2/8/2011	12/14/2011	3/13/2012	6/18/2012	10/2/2012
Volatile Organic Compounds	CAS Number																												
Benzene	71432	ug/L	0.5	5	**450**	**1800**	**320**	**2400**	**1500**	**1700**	**1400**	**2100**	**2900**	**1700**	**2000**	**2900**	**2000**	**1900/J**	**890**	**1100**	**1600**	**510**	**1700**	**1400**	**1200**	**1100**	**1200**	**460 J**
n-Butylbenzene	104518	ug/L	--	--	ND	ND	ND	30	45J	60	38	ND	38	45	90	91	63J	ND	ND	ND	ND	2.5	9	17	18 J	26	17 J	8.5
sec- Butylbenzene	135988	ug/L	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	12	ND	ND	<9.8	6.4	14	19 J	23	15 J	8
tert-Butylbenzene	98066	ug/L	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.3	ND	ND	<7.6	<2.0	<10	<10	<10	<10	1.6
1,1 - Dichloroethane	75343	ug/L	85	850	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<14	<2.0	<10	<13	<10	<10	<0.20
1,2-dichloroethane	107062	ug/L	0.5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<11	<3.0	<15	<25	<15	35 J	<0.30
1,4-dichlorobenzene	106467	ug/L	15	75	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	<2.3	<12	<25	<12	<12	<0.19
trans-1,3-Dichloropropene	10061026	ug/L	0.02	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<4.5	<1.9	<9.5	<13	<9.5	<9.5	<0.19
Chloromethane	74873	ug/L	3	30	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.85	ND	ND	<10	<4.0	<20	<25	<20	<20	<0.40
cis-1,2-Dichloroethene	156592	ug/L	7	70	ND	ND	ND	*15.0*	ND	ND	*20.0*	ND	ND	*31*	ND	ND	ND	*34 J*	*27*	*26*	*60*	*13*	*49*	*58*	*48*	*43*	*40 J*	*14*
trans - 1,2 - Dichloroethene	156605	ug/L	20	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<18	<1.9	<13	<13	<13	<13	<0.25
Ethylbenzene	100414	ug/L	140	700	51	*370*	ND	*330.0*	*390*	*270*	*210*	*240*	*430*	*190*	*640*	*570*	*540*	*300*	*400*	110	*490*	87 /B	*310*	*530*	*690*	720	*530*	*210 J*
Isopropylbenzene	98828	ug/L	--	--	ND	ND	ND	35	65	39	26	ND	44	32	83	87	62J	ND	54	ND	61	7.6	33	62	100	98	62	32
p-Isopropyltoluene	99876	ug/L	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	10	ND	ND	2.4	7.3	13.0	12 J	18.0	<12	6.9
Methyl-tert-butyl ether	1634044	ug/L	12	60	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<7.6	<2.9	<15	<15	<15	<15	<0.29
Methylene Chloride	75092	ug/L	0.5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<15	<4.0	**33**	<20	**22**	<20	<0.40
Naphthalene	91203	ug/L	8	40	*19*	**92**	ND	**80**	**90**	**68.0**	**43.0**	**94.0**	**97.0**	**75.0**	**160**	**200**	ND	**70 J**	**53**	*18*	**96**	*32 /B*	**81**	**120**	**160**	**170**	**100**	*33*
n-Propylbenzene	103651	ug/L	--	--	ND	ND	ND	40	55	50	35	ND	50	38	95	100	71	34 J	59	9.7	62	12	41	*72*	100	120	73	32
Tetrachloroethene	127184	ug/L	0.5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<13	<3.0	<15	<15	<15	<15	<0.30
Toluene	108883	ug/L	160	800	10.8	***770***	ND	140.0	***500***	43	17	48	70	ND	26	ND	ND	ND	5.1	ND	ND	<6.8	<2.2	13	26	<11	<11	0.38 J/UB
1,1,1-Trichloroethane	71556	ug/L	40	200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**210.0**	ND	ND	ND	ND	<20	<2.1	<11	<11	<11	<11	<0.21
Trichloroethene	79016	ug/L	0.5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<4.8	<2.1	<11	<11	<11	<11	<0.21
Total Trimethylbenzene		ug/L	96	480	ND	ND	ND	*355*	**480**	*360*	*243*	*370*	**510**	*289*	**760**	**630**	**570**	*237*	*420*	46	*440*	47	*252*	**560**	**760**	**880**	**500**	*186*
1,2,4-Trimethylbenzene	95636	ug/L	--	--	ND	ND	ND	260	340	250	170	250	350	190	550	450	410	180	320	35	330	35	190	420	560	660	380	140
1,3,5-Trimethylbenzene	108678	ug/L	--	--	ND	ND	ND	95	140	110	73	120	160	99	210	180	160	57 J	100	11	110	12	62	140	200	220	120	46
Total Xylenes		ug/L	400	2000	107	*1100*	ND	*1600*	**2250**	*1430*	*890*	*1270*	*1920*	*890*	**3100**	**2570**	**2570**	*1040*	*1760*	150	*1200*	35 /B	*634.4*	*1493*	**2131**	**2214**	*1312*	333.2
m&p-Xylene	1330207	ug/L	--	--	NA	NA	ND	1000	1300	850	550	770	1200	600	1900	1600	1600	670	1100	150	1200	35 /B	630	1400	2100	2200	1300	330
o-Xylene	95476	ug/L	--	--	NA	NA	ND	600	950	580	340	500	720	290	1200	970	970	370	660	ND	ND	<16	4.4	93	31	14	<12	3.2
Semivolatile Organic Compounds																													
benzoic acid	65850	ug/L	--	--	ND	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	NA	ND	NA	<18	NA	<56	<11	<11	<11 R
bis(2-Ethylhexyl)phthalate	117817	ug/L	0.6	6	ND	ND	ND	ND	NA	**13.0**	NA	**21.0**	NA	**12.0**	NA	ND	NA	ND	ND	*1.9*	*1.5*	<2.1	1.5 /UB	NA	<2.2	0.7 JB/U	2.2 B	<0.45
bis(2-chloroethyl)ether	108601	ug/L	--	--	ND	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	1.6	NA	ND	ND	ND	ND	<0.67	<0.22	NA	<1.1	<0.21	<0.22	<0.22
Dibenzofuran	132649	ug/L	--	--	ND	ND	ND	ND	NA	ND	NA	ND	NA	0.4	NA	1.9	NA	ND	ND	ND	ND	0.26 J	<0.20	NA	<0.96	0.38	<1.9	<0.19
Acetophenone	98862	ug/L	--	--	ND	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	ND	ND	<0.45	<0.28	NA	<1.4	<0.28	<0.28	11
Diethyl phthalate	84662	ug/L	--	--	ND	ND	ND	ND	NA	ND	NA	ND	NA	0.4	NA	ND	NA	ND	0.52	ND	ND	0.23J B/UB	<0.46	NA	<2.3	<0.46	<4.6	4 J
1,4-dichlorobenzene	106467	ug/L	15	75	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.081	<0.20	NA	<0.96	<0.19	<12	<0.19
4-chloroaniline	106478	ug/L	--	--	ND	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	ND	ND	<0.58	<0.12	NA	<0.61	<0.12	<0.12	<0.12 R
2,4 Dimethylphenol	105679	ug/L	--	--	ND	ND	ND	22	NA	23.0	NA	ND	NA	ND	NA	19.0	NA	12.0	18	5	12	1.4 J	15	NA	14 /J	23 /J	14	7.3
2,6-Dinitrotoluene	606202	ug/L	0.005	0.05	ND	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	ND	ND	<0.38	<0.29	NA	<1.4	<0.29	<2.9	<0.29
4,6-Dinitro-2-methylphenol	534521	ug/L	--	--	ND	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	ND	ND	<3.1	<1.6	NA	<8.1	<1.6	<1.6	<1.6
Di-n-butylphthalate	84742	ug/L	--	--	ND	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	ND	0.81	<2.5	<0.69	NA	<3.4	<0.68	1.5 J	<0.68
Di-n-octylphthalate	117840	ug/L	--	--	ND	ND	ND	ND	NA	2.6	NA	ND	NA	ND	NA	ND	NA	ND	ND	ND	ND	<0.53	<0.51	NA	<2.5	<0.50	<0.5	<0.50
Fluorene	86737	ug/L	80	400	ND	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	ND	ND	<0.52	<0.20	NA	<0.96	<0.19	<1.9	<0.19
Isophorone	78591	ug/L	--	--	ND	ND	ND	ND	NA	ND	NA	ND	NA	0.7	NA	ND	NA	ND	ND	ND	ND	<0.38	<0.19	NA	<0.91	<0.18	<0.18	<0.18
1-methylnaphthalene	90120	ug/L	--	--	ND	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	ND	ND	5.3	10	NA	23 /U	21	19	9.3
2-Methylnaphthalene	91576	ug/L	--	--	ND	38	ND	13	NA	20.0	NA	25.0	NA	13.0	NA	23.0	NA	16.0	22	5.6	13	7.3	15	NA	31 /B	29	26	12
Naphthalene	91203	ug/L	8	40	*19*	**92**	6.8	**51**	NA	**78.0**	NA	**60.0**	NA	**43.0**	NA	**74.0**	NA	**44.0**	**68**	*19*	*35*	*16*	**48**	NA	**98 /U**	**99**	**100**	*33 J*
n-Nitrosodiphenylamine	62759	ug/L	0.7	7	ND	ND	ND	ND	NA	0.39	NA	ND	NA	ND	NA	ND	NA	ND	ND	ND	ND	<0.65	<0.37	NA	<1.8	<0.37	<0.48	<0.48
Pentachlorophenol	87865	ug/L	0.1	1	ND	ND	ND	ND	NA	*0.47*	NA	ND	NA	ND	NA	ND	NA	ND	ND	ND	ND	<3.0	<1.1	NA	<10	<1.1	<1.1	<1.1
Phenanthrene	85018	ug/L	--	--	ND	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	ND	ND	<0.28	<0.31	NA	<1.5	<0.31	<0.31	<0.31
Phenol	108952	ug/L	1200	6000	ND	ND	2	9J	NA	15.0	NA	10.0	NA	10.0	NA	6.0	NA	ND	ND	ND	ND	2.0	<0.49	NA	<2.4	<0.49	3	<0.49
3&4-methylphenol	1319773	ug/L	--	--	ND	ND	ND	16	NA	66.0	NA	74.0	NA	12.0	NA	22.0	NA	21	14	NA	ND	2.9	15	NA	23 J/	16 /J	21	6 J
2-methylphenol	95487	ug/L	--	--	ND	ND	ND	9J	NA	25.0	NA	36.0	NA	9.8	NA	15.0	NA	10.0	8.8	5.4	6.7	2.4	12	NA	18 J/	14 /J	16	6.4
2,4,5-Trichlorophenol	95954	ug/L	--	--	ND	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	ND	ND	<2.7	<1.1	NA	<10	<1.1	<11	<1.1
2,4,6-Trichlorophenol	88062	ug/L	--	--	ND	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	ND	ND	<2.9	<1.0	NA	<10	<1.0	<10	<1.0
Natural Attenuation Parameters																													
Dissolved Iron		mg/L	0.15	0.3	NA	NA	**33.2**	**82.1**	**107**	**81.5**	**76.5**	**85.4**	**88.6**	**57**	**95.9**	**107**	**83.1**	**66.4**	**81.1**	**62.1**	**84**	**55.1**	**92.7**	NA	NA	NA	NA	NA
Dissolved Manganese		ug/L	25	50	NA	NA	**81**	**243**	**439**	**295**	**268**	**435**	**385**	**313**	**148**	**119**	**91**	**105**	**107**	**119**	**150**	**85.0**	161 /UB	NA	NA	NA	NA	NA
Total Iron		mg/L	0.15	0.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	**79.6**	**98**	**104**	**90**	**71.7**	**84.2**	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Manganese		ug/L	25	50	NA	NA	NA	NA	NA	NA	NA	NA	NA	**318**	**148**	**113**	**89.4**	**93.6**	**111**	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alkalinity (Dissolved		mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	160	150	170	160	103	240	120	140	78	140	NA	NA	NA	NA	NA
Chloride (Dissolved)		mg/L	125	250	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.7	2.1	2.2	1.6J	7.12 M	20	1.6	2.4	4.1	NA	NA	NA	NA	NA	NA
BOD-5		mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	25	ND	29	30	17	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ammonia-N		mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	6	8.6	9.2	5	5.9	2.9	2.7	3.5	NA	NA	NA	NA	NA	NA	NA
Total Kjeldahl-N		mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	11	8.3	14	9.8J	8.2	5	3.7	6.4	4.1	NA	NA	NA	NA	NA	NA
Nitrate + Nitrite Nitrogen		mg/L	2	10	NA	NA	0.16J	ND	ND	ND	0.25	0.27	ND	ND	ND	ND	ND	ND	0.066	ND	ND	<0.12	0.28	NA	NA	NA	NA	NA
Total Organic Carbon (TOC)		mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	37	30	NA	NA	NA	MA	NA	NA	NA	NA	NA
Sulfate		mg/L	125	250	NA	NA	1.2	5.2	2.28J	1.19	5.89	3.85	ND	ND	ND	ND	0.68J	0.94 J	0.54	0.80	ND	8.10	1.70	NA	NA	NA	NA	NA

Summary of Groundwater Analytical Results
Site 1 (Fire Training Area)
Volk Field Combat Readiness Training Center
Wisconsin Air National Guard
Camp Douglas, Wisconsin

			NR 140																				
		Units	PAL	ES	**MW-6**							**MW-7**			**MW-8**							**MW-09**	
Analyte					11/3/1989	11/7/1990	5/6/1997	9/14/1999	12/28/1999	3/21/2000	6/6/2000	11/3/1989	11/7/1990	5/7/1997	11/3/1989	11/7/1990	5/6/1997	9/14/1999	12/28/1999	3/21/2000	6/6/2000	11/8/1990	5/6/1997
Volatile Organic Compounds	CAS Number																						
Benzene	71432	ug/L	0.5	5	ND	ND	ND	ND	*0.8*	ND	ND	ND	ND	ND	3.4*	8.1	ND	ND	ND	ND	ND	ND	ND
n-Butylbenzene	104518	ug/L	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
sec- Butylbenzene	135988	ug/L	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
tert-Butylbenzene	98066	ug/L	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1 - Dichloroethane	75343	ug/L	85	850	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-dichloroethane	107062	ug/L	0.5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-dichlorobenzene	106467	ug/L	15	75	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	10061026	ug/L	0.02	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	74873	ug/L	3	30	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	156592	ug/L	7	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans - 1,2 - Dichloroethene	156605	ug/L	20	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	100414	ug/L	140	700	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	98828	ug/L	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
p-Isopropyltoluene	99876	ug/L	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl-tert-butyl ether	1634044	ug/L	12	60	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	75092	ug/L	0.5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	91203	ug/L	8	40	ND	ND	ND	ND	0.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	103651	ug/L	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	127184	ug/L	0.5	5	ND	ND	*1.8*	ND	ND	ND	ND	ND	ND	*1.3*	ND	ND	*1.4*	ND	ND	ND	ND	ND	*1.8*
Toluene	108883	ug/L	160	800	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	71556	ug/L	40	200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	79016	ug/L	0.5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Trimethylbenzene		ug/L	96	480	ND	ND	ND	ND	0.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	95636	ug/L	--	--	ND	ND	ND	ND	0.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	108678	ug/L	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Xylenes		ug/L	400	2000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.6	ND	ND	ND	ND	ND	ND	ND	ND
m&p-Xylene	1330207	ug/L	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND
o-Xylene	95476	ug/L	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND
Semivolatile Organic Compounds																							
benzoic acid	65850	ug/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	117817	ug/L	0.6	6	ND	ND	ND	ND	NA	ND	NA	ND	ND	ND	ND	ND	ND	ND	NA	**19**	NA	ND	ND
bis(2-chlorethyl)ether	108601	ug/L	--	--	ND	ND	ND	ND	NA	ND	NA	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA	ND	ND
Dibenzofuran	132649	ug/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	98862	ug/L	--	--	ND	ND	ND	ND	NA	ND	NA	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA	ND	ND
Diethyl phthalate	84662	ug/L	--	--	ND	ND	ND	ND	NA	ND	NA	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA	ND	ND
1,4-dichlorobenzene	106467	ug/L	15	75	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-chloroaniline	106478	ug/L	--	--	ND	ND	ND	ND	NA	ND	NA	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA	ND	ND
2,4 Dimethylphenol	105679	ug/L	--	--	ND	ND	ND	ND	NA	ND	NA	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA	ND	ND
2,6-Dinitrotoluene	606202	ug/L	0.005	0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	534521	ug/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	84742	ug/L	--	--	ND	ND	ND	ND	NA	ND	NA	ND	ND	ND	ND	ND	ND	ND	NA	1.4	NA	ND	ND
Di-n-octylphthalate	117840	ug/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.6	NA	NA	NA
Fluorene	86737	ug/L	80	400	ND	ND	ND	ND	NA	ND	NA	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA	ND	ND
Isophorone	78591	ug/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1-methylnaphthalene	90120	ug/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	91576	ug/L	--	--	ND	ND	ND	ND	NA	ND	NA	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA	ND	ND
Naphthalene	91203	ug/L	8	40	ND	ND	ND	ND	NA	ND	NA	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA	ND	ND
n-Nitrosodiphenylamine	62759	ug/L	0.7	7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	87865	ug/L	0.1	1	ND	ND	ND	ND	NA	ND	NA	ND	ND	ND	ND	ND	ND	ND	NA	0.025	NA	ND	ND
Phenanthrene	85018	ug/L	--	--	ND	ND	ND	ND	NA	ND	NA	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA	ND	ND
Phenol	108952	ug/L	1200	6000	ND	ND	ND	ND	NA	ND	NA	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA	ND	ND
3&4-methylphenol	1319773	ug/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-methylphenol	95487	ug/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	95954	ug/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	88062	ug/L	--	--	ND	ND	ND	ND	NA	ND	NA	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA	ND	ND
Natural Attenuation Parameters																							
Dissolved Iron		mg/L	0.15	0.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dissolved Manganese		ug/L	25	50	NA	NA	*27*	*29.3*	*34.5*	*27.3*	*28.4*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Iron		mg/L	0.15	0.3	NA	NA	NA	0.063J	0.02J	0.011	0.0275	NA	NA	ND	NA	NA	ND	ND	ND	0.0150	ND	NA	ND
Total Manganese		ug/L	25	50	NA	NA	NA	NA	NA	NA	NA	NA	NA	**133**	NA	NA	**885**	**1540**	**1610**	**1450**	**1350**	NA	86
Alkalinity (Dissolved		mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride (Dissolved)		mg/L	125	250	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BOD-5		mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ammonia-N		mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Kjeldahl-N		mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate + Nitrite Nitrogen		mg/L	2	10	NA	NA	0.77	1.39	1.28	1.27	1.25	NA	NA	NA	NA	NA	*2.05*	*3.05*	*3.18*	*2.52*	*2.22*	NA	NA
Total Organic Carbon (TOC)		mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate		mg/L	125	250	NA	NA	5.60	6.11	5.29J	5.22	7.49	NA	NA	16.30	NA	NA	9.80	5.94	5.76J	4.25	10.90	NA	7.7

Summary of Groundwater Analytical Results
Site 1 (Fire Training Area)
Volk Field Combat Readiness Training Center
Wisconsin Air National Guard
Camp Douglas, Wisconsin

			NR 140																								
		Units	PAL	ES	MW-10							MW-10R															
Analyte					11/8/1990	5/6/1997	9/15/1999	12/28/1999	3/21/2000	6/7/2000	9/13/2000	8/13/2001	10/22/2002	1/27/2003	4/22/2003	7/30/2003	8/31/2004	9/20/2010	11/8/1990	5/6/1997	11/7/1990	5/6/1997	9/14/1999	12/28/1999	3/21/2000	6/6/2000	3/12/2012
Volatile Organic Compounds	CAS Number																										
Benzene	71432	ug/L	0.5	5	ND	0.2J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.19	ND	ND	ND	*3.2*	ND	ND	ND	ND	<0.19
n-Butylbenzene	104518	ug/L	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.23	ND	ND	ND	ND	ND	ND	ND	ND	<0.23
sec- Butylbenzene	135988	ug/L	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.21	ND	ND	ND	ND	ND	ND	ND	ND	<0.21
tert-Butylbenzene	98066	ug/L	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.20	ND	ND	ND	ND	ND	ND	ND	ND	<0.20
1,1 - Dichloroethane	75343	ug/L	85	850	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.20	ND	ND	ND	ND	ND	ND	ND	ND	<0.20
1,2-dichloroethane	107062	ug/L	0.5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.30	ND	ND	ND	ND	ND	ND	ND	ND	<0.30
1,4-dichlorobenzene	106467	ug/L	15	75	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.37	ND	ND	ND	ND	ND	ND	ND	ND	<0.23
trans-1,3-Dichloropropene	10061026	ug/L	0.02	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.19	ND	ND	ND	ND	ND	ND	ND	ND	<0.19
Chloromethane	74873	ug/L	3	30	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.40	ND	ND	ND	ND	ND	ND	ND	ND	<0.40
cis-1,2-Dichloroethene	156592	ug/L	7	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.25	ND	ND	ND	ND	ND	ND	ND	ND	<0.25
trans - 1,2 - Dichloroethene	156605	ug/L	20	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.25	ND	ND	ND	ND	ND	ND	ND	ND	<0.25
Ethylbenzene	100414	ug/L	140	700	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.22	ND	ND	ND	0.6	ND	ND	ND	ND	<0.22
Isopropylbenzene	98828	ug/L	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.18	ND	ND	ND	ND	ND	ND	ND	ND	<0.18
p-Isopropyltoluene	99876	ug/L	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.23	ND	ND	ND	ND	ND	ND	ND	ND	<0.23
Methyl-tert-butyl ether	1634044	ug/L	12	60	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.29	ND	ND	ND	0.7	ND	ND	ND	ND	<0.29
Methylene Chloride	75092	ug/L	0.5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.40	ND	ND	ND	ND	ND	ND	ND	ND	<0.40
Naphthalene	91203	ug/L	8	40	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.40	ND	ND	ND	ND	ND	ND	ND	ND	<0.40
n-Propylbenzene	103651	ug/L	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.20	ND	ND	ND	ND	ND	ND	ND	ND	<0.20
Tetrachloroethene	127184	ug/L	0.5	5	ND	*1.3*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.30	ND	ND	ND	*3.2*	ND	ND	ND	ND	<0.30
Toluene	108883	ug/L	160	800	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.22	ND	ND	ND	11.0	ND	ND	ND	ND	<0.22
1,1,1-Trichloroethane	71556	ug/L	40	200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.21	ND	ND	ND	ND	ND	ND	ND	ND	<0.21
Trichloroethene	79016	ug/L	0.5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.21	ND	ND	ND	ND	ND	ND	ND	ND	<0.21
Total Trimethylbenzene		ug/L	96	480	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.23	ND	ND	ND	ND	ND	ND	ND	ND	<0.23
1,2,4-Trimethylbenzene	95636	ug/L	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.20	ND	ND	ND	ND	ND	ND	ND	ND	<0.20
1,3,5-Trimethylbenzene	108678	ug/L	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.23	ND	ND	ND	ND	ND	ND	ND	ND	<0.23
Total Xylenes		ug/L	400	2000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.50	ND	ND	ND	5.5	ND	ND	ND	ND	<0.50
m&p-Xylene	1330207	ug/L	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.50	ND	ND	ND	3.5	ND	ND	ND	ND	<0.50
o-Xylene	95476	ug/L	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.24	ND	ND	ND	2.0	ND	ND	ND	ND	<0.24
Semivolatile Organic Compounds																											
benzoic acid	65850	ug/L	--	--	ND	ND	ND	NA	ND	NA	ND	NA	2.8	NA	ND	NA	ND	<18	NA	NA	NA	NA	NA	NA	NA	NA	<12
bis(2-Ethylhexyl)phthalate	117817	ug/L	0.6	6	ND	ND	ND	NA	**21.0**	NA	**25.0**	NA	*4.5*	NA	*1.1*	NA	*1.9*	1.4/UB	ND	ND	ND	ND	ND	NA	**41**	NA	1.5 JB/U
bis(2-chlorethyl)ether	108601	ug/L	--	--	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	<0.22	ND	ND	ND	ND	ND	NA	ND	NA	<0.22
Dibenzofuran	132649	ug/L	--	--	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	<0.20	NA	NA	NA	NA	NA	NA	NA	NA	<0.20
Acetophenone	98862	ug/L	--	--	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	<0.28	ND	ND	ND	ND	ND	NA	ND	NA	<0.28
Diethyl phthalate	84662	ug/L	--	--	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	<0.46	ND	ND	ND	ND	ND	NA	ND	NA	0.53
1,4-dichlorobenzene	106467	ug/L	15	75	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.20	ND	ND	ND	ND	ND	ND	ND	ND	<0.20
4-chloroaniline	106478	ug/L	--	--	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	<0.12	ND	ND	ND	ND	ND	NA	ND	NA	<0.13
2,4 Dimethylphenol	105679	ug/L	--	--	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	<0.85	ND	ND	ND	ND	ND	NA	ND	NA	<0.86
2,6-Dinitrotoluene	606202	ug/L	0.005	0.05	ND	ND	ND	NA	**1.0**	NA	ND	NA	ND	NA	ND	NA	ND	<0.29	NA	NA	NA	NA	NA	NA	NA	NA	<0.29
4,6-Dinitro-2-methylphenol	534521	ug/L	--	--	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	<1.6	NA	NA	NA	NA	NA	NA	NA	NA	<1.7
Di-n-butylphthalate	84742	ug/L	--	--	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	<0.69	ND	ND	ND	ND	ND	NA	2	NA	<0.71
Di-n-octylphthalate	117840	ug/L	--	--	ND	ND	ND	NA	2.6	NA	ND	NA	ND	NA	ND	NA	ND	<0.51	NA	NA	NA	NA	NA	NA	2.7	NA	<0.52
Fluorene	86737	ug/L	80	400	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	<0.20	ND	ND	ND	ND	ND	NA	ND	NA	<0.20
Isophorone	78591	ug/L	--	--	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	<0.19	NA	NA	NA	NA	NA	NA	NA	NA	<0.19
1-methylnaphthalene	90120	ug/L	--	--	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	<0.16	NA	NA	NA	NA	NA	NA	NA	NA	<0.17
2-Methylnaphthalene	91576	ug/L	--	--	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	<0.18	ND	ND	ND	ND	ND	NA	ND	NA	<0.18
Naphthalene	91203	ug/L	8	40	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	<0.19	ND	ND	ND	ND	ND	NA	ND	NA	<0.19
n-Nitrosodiphenylamine	62759	ug/L	0.7	7	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	<0.37	NA	NA	NA	NA	NA	NA	NA	NA	<0.38
Pentachlorophenol	87865	ug/L	0.1	1	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	<1.1	ND	ND	ND	ND	ND	NA	ND	NA	<1.2
Phenanthrene	85018	ug/L	--	--	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	<0.31	ND	ND	ND	ND	ND	NA	ND	NA	<0.32
Phenol	108952	ug/L	1200	6000	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	<0.49	ND	ND	ND	ND	ND	NA	ND	NA	<0.51
3&4-methylphenol	1319773	ug/L	--	--	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	<1.4	NA	NA	NA	NA	NA	NA	NA	NA	<1.5
2-methylphenol	95487	ug/L	--	--	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	<0.89	NA	NA	NA	NA	NA	NA	NA	NA	<0.91
2,4,5-Trichlorophenol	95954	ug/L	--	--	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	<1.1	NA	NA	NA	NA	NA	NA	NA	NA	<1.2
2,4,6-Trichlorophenol	88062	ug/L	--	--	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	<1.0	ND	ND	ND	ND	ND	NA	ND	NA	<1.1
Natural Attenuation Parameters																											
Dissolved Iron		mg/L	0.15	0.3	NA	0.01J	ND	0.009J	0.034	*0.211*	ND	0.065	**1.21**	0.123	0.0438	0.0693J	ND	<0.034	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dissolved Manganese		ug/L	25	50	NA	20	22.6	20.1	18.3	23.9	18.6	**204**	*47.3*	4.5	4.9	12.2	10.4	15	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Iron		mg/L	0.15	0.3	NA	NA	NA	NA	NA	NA	NA	NA	**0.44**	**10.9**	**17**	**15.2**	**13.2**	NA	NA	0.011	NA	ND	ND	ND	0.104	ND	NA
Total Manganese		ug/L	25	50	NA	NA	NA	NA	NA	NA	NA	NA	**234**	**205**	**207**	**267**	**191**	NA	NA	10	NA	**133**	**120**	**117**	**113**	**119**	NA
Alkalinity (Dissolved		mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	30	18J	9.64 J	<15	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride (Dissolved)		mg/L	125	250	NA	NA	NA	NA	NA	NA	NA	NA	1.1	3.6	1.2	22	21.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BOD-5		mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ammonia-N		mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	0.022J	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Kjeldahl-N		mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	4.9	13	0.54	ND	1.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate + Nitrite Nitrogen		mg/L	2	10	NA	1.13	1.26	0.76	0.887	1.46	1.07	1.7	*2.7*	0.94	*2.9*	*2.9*	*2.72*	*3.3*	NA	NA	NA	1.54	1.47	1.44	1.37	1.34	NA
Total Organic Carbon (TOC)		mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate		mg/L	125	250	NA	6.2	6.71	4.59J	3.3	5.68	6.91J	5.8	3.2	3.5	4.7	4.7	6.42	59	NA	4.6	NA	3.4	6.9	4.34	4.36	7.17	NA

Summary of Groundwater Analytical Results
Site 1 (Fire Training Area)
Volk Field Combat Readiness Training Center
Wisconsin Air National Guard
Camp Douglas, Wisconsin

			NR 140																							
		Units	PAL	ES	MW-13										MW-14											
Analyte					9/14/1999	12/28/1999	3/21/2000	6/6/2000	9/13/2000	8/13/2001	10/21/2002	1/27/2003	4/22/2003	7/30/2003	9/14/1999	12/28/1999	3/21/2000	6/6/2000	9/13/2000	8/13/2001	10/21/2002	1/27/2003	4/22/2003	7/30/2003	9/20/2010	3/12/2012
Volatile Organic Compounds	CAS Number																									
Benzene	71432	ug/L	0.5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.19	<0.19
n-Butylbenzene	104518	ug/L	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.23	<0.23
sec- Butylbenzene	135988	ug/L	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.21	<0.21
tert-Butylbenzene	98066	ug/L	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.20	<0.20
1,1 - Dichloroethane	75343	ug/L	85	850	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.20	<0.20
1,2-dichloroethane	107062	ug/L	0.5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.30	<0.30
1,4-dichlorobenzene	106467	ug/L	15	75	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.44**	<0.23	<0.23
trans-1,3-Dichloropropene	10061026	ug/L	0.02	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.19	<0.23
Chloromethane	74873	ug/L	3	30	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.40	<0.40
cis-1,2-Dichloroethene	156592	ug/L	7	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.25	<0.25
trans - 1,2 - Dichloroethene	156605	ug/L	20	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.25	<0.25
Ethylbenzene	100414	ug/L	140	700	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.22	<0.22
Isopropylbenzene	98828	ug/L	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.18	<0.18
p-Isopropyltoluene	99876	ug/L	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.23	<0.23
Methyl-tert-butyl ether	1634044	ug/L	12	60	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.29	<0.29
Methylene Chloride	75092	ug/L	0.5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.40	<0.40
Naphthalene	91203	ug/L	8	40	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.40	<0.40
n-Propylbenzene	103651	ug/L	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.20	<0.20
Tetrachloroethene	127184	ug/L	0.5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.30	<0.30
Toluene	108883	ug/L	160	800	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.22	<0.22
1,1,1-Trichloroethane	71556	ug/L	40	200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.21	<0.21
Trichloroethene	79016	ug/L	0.5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.21	<0.21
Total Trimethylbenzene		ug/L	96	480	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.23	<0.23
1,2,4-Trimethylbenzene	95636	ug/L	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.20	<0.20
1,3,5-Trimethylbenzene	108678	ug/L	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.23	<0.23
Total Xylenes		ug/L	400	2000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.50	<0.50
m&p-Xylene	1330207	ug/L	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.50	<0.50
o-Xylene	95476	ug/L	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.24	<0.24
Semivolatile Organic Compounds																										
benzoic acid	65850	ug/L	--	--	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	<18	<11
bis(2-Ethylhexyl)phthalate	117817	ug/L	0.6	6	ND	NA	*2.6*	NA	ND	NA	ND	NA	ND	NA	ND	NA	**27.0**	NA	**22.0**	NA	**13.0**	NA	**6.6**	NA	1.2 /UB	1.1 JB/U
bis(2-chlorethyl)ether	108601	ug/L	--	--	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	<0.22	<0.21
Dibenzofuran	132649	ug/L	--	--	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	0.2	<0.19
Acetophenone	98862	ug/L	--	--	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	1.7	NA	ND	NA	<0.28	<0.27
Diethyl phthalate	84662	ug/L	--	--	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	0.6	NA	ND	NA	<0.47	<0.45
1,4-dichlorobenzene	106467	ug/L	15	75	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.2	<0.19
4-chloroaniline	106478	ug/L	--	--	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	<0.13	<0.12
2,4 Dimethylphenol	105679	ug/L	--	--	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	<0.85	<0.83
2,6-Dinitrotoluene	606202	ug/L	0.005	0.05	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	<0.29	<0.28
4,6-Dinitro-2-methylphenol	534521	ug/L	--	--	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	<1.7	<1.6
Di-n-butylphthalate	84742	ug/L	--	--	ND	NA	ND	NA	ND	NA	3.1	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	<0.70	<0.68
Di-n-octylphthalate	117840	ug/L	--	--	ND	NA	ND	NA	2.9	NA	ND	NA	ND	NA	ND	NA	2.8	NA	ND	NA	0.6	NA	ND	NA	<0.51	<0.49
Fluorene	86737	ug/L	80	400	ND	NA	ND	NA	ND	NA	ND	NA	0.5	NA	ND	NA	ND	NA	ND	NA	ND	NA	0.6	NA	<0.20	<0.19
Isophorone	78591	ug/L	--	--	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	<0.19	<0.18
1-methylnaphthalene	90120	ug/L	--	--	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	<0.17	<0.16
2-Methylnaphthalene	91576	ug/L	--	--	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	<0.18	<0.17
Naphthalene	91203	ug/L	8	40	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	<0.19	<0.18
n-Nitrosodiphenylamine	62759	ug/L	0.7	7	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	<0.38	<0.36
Pentachlorophenol	87865	ug/L	0.1	1	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	0.045	NA	ND	NA	ND	NA	ND	NA	<1.1	<1.1
Phenanthrene	85018	ug/L	--	--	ND	NA	ND	NA	ND	NA	ND	NA	0.8	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	<0.31	<0.30
Phenol	108952	ug/L	1200	6000	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	<0.50	<0.48
3&4-methylphenol	1319773	ug/L	--	--	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	<1.5	<1.4
2-methylphenol	95487	ug/L	--	--	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	<0.90	0.9
2,4,5-Trichlorophenol	95954	ug/L	--	--	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	<1.1	<1.1
2,4,6-Trichlorophenol	88062	ug/L	--	--	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	<1.0	<1.0
Natural Attenuation Parameters																										
Dissolved Iron		mg/L	0.15	0.3	0.094	0.06	0.094	0.0193	**2.00**	ND	0.05	0.055	0.0425	ND	0.127	0.06	0.02	0.0139	0.0492	ND	0.098	0.0572	0.0413	ND	<0.034	NA
Dissolved Manganese		ug/L	25	50	**123**	**57.4**	*31.2*	*49.5*	**54**	7.4	5	5.7	2.8	5.0	**237**	**172**	**95.1**	12.8	*36.4*	16	15.7	16.8	15.7	17.9	7.9	NA
Total Iron		mg/L	0.15	0.3	NA	NA	NA	NA	NA	NA	**0.65**	**19.8**	**12.1**	**14.2**	NA	NA	NA	NA	NA	NA	0.096	*0.277*	*0.245*	**0.487**	NA	NA
Total Manganese		ug/L	25	50	NA	NA	NA	NA	NA	NA	*35.2*	**395**	**223**	**286**	NA	NA	NA	NA	NA	NA	16.4	17.4	20.1	21.3	NA	NA
Alkalinity (Dissolved		mg/L	--	--	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	8.6	ND	17	ND	<15	NA
Chloride (Dissolved)		mg/L	125	250	NA	NA	NA	NA	NA	NA	0.61	0.62	0.87	0.66J	NA	NA	NA	NA	NA	NA	0.9	1.1	0.92	0.8J	NA	NA
BOD-5		mg/L	--	--	NA	NA	NA	NA	NA	NA	7	ND	ND	ND	NA	NA	NA	NA	NA	NA	3	ND	ND	ND	NA	NA
Ammonia-N		mg/L	--	--	NA	NA	NA	NA	NA	NA	ND	ND	ND	0.016J	NA	NA	NA	NA	NA	NA	ND	ND	ND	0.017J	NA	NA
Total Kjeldahl-N		mg/L	--	--	NA	NA	NA	NA	NA	NA	0.68	0.78	ND	ND	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	NA	NA
Nitrate + Nitrite Nitrogen		mg/L	2	10	0.88	1.73	1.29	1.16	0.7	0.53	0.7	1.2	0.7	0.91	1.11	1.18	1.17	1.00	0.87	0.96	1.20	1.50	0.92	0.70	0.18	NA
Total Organic Carbon (TOC)		mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate		mg/L	125	250	4.08	2.93J	3.10	6.34	6.54J	4.10	3.40	3.10	3.30	3.90	8.48	6.76J	ND	10.2	6.4J	4.8	3.8	8.7	4.3	5.2	4.3	NA

Summary of Groundwater Analytical Results
Site 1 (Fire Training Area)
Volk Field Combat Readiness Training Center
Wisconsin Air National Guard
Camp Douglas, Wisconsin

			NR 140																		
		Units	PAL	ES	**MW-15P**					**MW-16P**						**MW-17P**					
Analyte					9/20/2010	2/8/2011	12/13/2011	6/18/2012	10/2/2012	9/20/2010	2/8/2011	12/13/2011	3/12/2012	6/19/2012	10/2/2012	9/21/2010	2/8/2011	12/13/2011	3/13/2012	6/18/2012	10/2/2012
Volatile Organic Compounds	CAS Number																				
Benzene	71432	ug/L	0.5	5	<0.19	<0.19	<0.25	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	**42**	**14**	**1.2**	*0.65*	*0.95*	0.47 J
n-Butylbenzene	104518	ug/L	--	--	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	1.9	2.3	<0.23	1.1	1	0.39 J
sec- Butylbenzene	135988	ug/L	--	--	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	2.9	3.3	3.2	2.2	1.9	1.2
tert-Butylbenzene	98066	ug/L	--	--	<0.20	<0.20	<0.20	<0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.20	1.1	0.92	0.85	0.57	0.65 J	0.35 J
1,1 - Dichloroethane	75343	ug/L	85	850	<0.20	<0.20	<0.20	<0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.20	<0.20	<0.20	<0.26	<0.20	<0.2	<0.20
1,2-dichloroethane	107062	ug/L	0.5	5	<0.30	<0.30	<0.30	<0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.3	<0.30	<0.30	<03.0	<0.30	<0.30	<0.3	<0.30
1,4-dichlorobenzene	106467	ug/L	15	75	<0.23	<0.23	<0.23	<0.23	<0.19	<0.23	0.34	<0.23	<0.23	<0.23	<0.19	<0.23	<0.23	<0.23	<0.23	<0.23	<0.19
trans-1,3-Dichloropropene	10061026	ug/L	0.02	0.2	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19
Chloromethane	74873	ug/L	3	30	<0.40	<0.40	<0.40	<0.4	<0.40	<0.40	<0.40	<0.40	<0.40	<0.4	<0.40	<0.40	0.51	<0.40	<0.40	0.44 J	<0.40
cis-1,2-Dichloroethene	156592	ug/L	7	70	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	4.4	7.9	2.2	1.5	1.5	0.59
trans - 1,2 - Dichloroethene	156605	ug/L	20	100	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.19	<0.25	<0.25
Ethylbenzene	100414	ug/L	140	700	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	51	55	16	6.7	8.5	4
Isopropylbenzene	98828	ug/L	--	--	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	13	11	6.9	4.2	4.1	2.2
p-Isopropyltoluene	99876	ug/L	--	--	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	3.6	3.5	3.1	1.8	1.5	1
Methyl-tert-butyl ether	1634044	ug/L	12	60	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29
Methylene Chloride	75092	ug/L	0.5	5	<0.40	<0.40	<0.40	<0.4	<0.40	<0.40	<0.40	<0.40	<0.40	<0.4	<0.40	<0.40	<0.40	<0.40	<0.40	<0.4	<0.40
Naphthalene	91203	ug/L	8	40	<0.40	<0.40	<0.40	<0.4	<0.18	<0.40	<0.40	<0.40	<0.40	<0.4	<0.18	5.2	3.6	2.8	2.7	2.6	1.1
n-Propylbenzene	103651	ug/L	--	--	<0.20	<0.20	<0.20	<0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.20	11	11	5.3	2.2	2.4	1.1
Tetrachloroethene	127184	ug/L	0.5	5	<0.30	<0.30	<0.30	<0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.3	<0.30
Toluene	108883	ug/L	160	800	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	0.3 UB	7.9	0.46	<0.22	<0.22	<0.22	0.48 UB
1,1,1-Trichloroethane	71556	ug/L	40	200	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21
Trichloroethene	79016	ug/L	0.5	5	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	*0.81*	*2*	*1.0*	*0.55 J*	0.22 J
Total Trimethylbenzene		ug/L	96	480	<0.23	<0.23	<0.25	<0.43	<0.43	<0.23	<0.23	<0.25	<0.23	<0.43	<0.43	84	39.4	28	25.9	14	3.89
1,2,4-Trimethylbenzene	95636	ug/L	--	--	<0.20	<0.20	<0.25	<0.2	<0.20	<0.20	<0.20	<0.25	<0.20	<0.2	<0.20	61	35	28	16	14	3.6
1,3,5-Trimethylbenzene	108678	ug/L	--	--	<0.23	<0.23	<0.25	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	23	4.4	<0.23	9.9	<0.23	<0.23
Total Xylenes		ug/L	400	2000	<0.50	<0.50	<0.50	<0.74	<0.74	<0.50	<0.50	<0.50	<0.50	<0.74	<0.74 J	177	59.4	28.5	13.51	15.44 J	8.67 J
m&p-Xylene	1330207	ug/L	--	--	<0.50	<0.50	<0.50	<0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.5	0.52 J	140	57	28	13	15	8.2
o-Xylene	95476	ug/L	--	--	<0.24	<0.24	<0.24	<0.24	<0.24	<0.24	<0.24	<0.24	<0.24	<0.24	<0.24	37	2.4	0.45 J	0.51	0.44 J	0.47 J
Semivolatile Organic Compounds																					
benzoic acid	65850	ug/L	--	--	<18	NA	<27	<11	<11	<18	NA	<11	<11	<11	<11	<18	NA	<12	<12	<11	<11
bis(2-Ethylhexyl)phthalate	117817	ug/L	0.6	6	2.3 /UB	NA	<1.1	1.4 B	<0.45	1.8 /UB	NA	0.73 J/U	2.2 JB/U	*2.5*	*1.6 J*	1.9/UB	NA	<0.48	22 /B	*1.3*	0.54 J
bis(2-chlorethyl)ether	108601	ug/L	--	--	<0.22	NA	<0.43	<0.22	<0.22	<0.22	NA	<0.22	<0.21	<0.23	<0.22	<0.22	NA	<0.23	<0.23	<0.23	<0.22
Dibenzofuran	132649	ug/L	--	--	<0.20	NA	<0.43	<0.19	<0.19	<0.20	NA	<0.20	<0.19	<0.2	<0.19	<0.20	NA	<0.21	<0.21	<0.2	<0.19
Acetophenone	98862	ug/L	--	--	<0.28	NA	<0.43	<0.27	<0.28	<0.28	NA	<0.28	<0.27	<0.28	<0.27	<0.28	NA	<0.30	<0.30	<0.28	3.2
Diethyl phthalate	84662	ug/L	--	--	<0.47	NA	<1.1	<0.45	<0.46	<0.46	NA	<0.47	<0.45	<0.46	<0.45	0.8	NA	<0.49	<0.50	<0.46	<0.46
1,4-dichlorobenzene	106467	ug/L	15	75	<0.20	NA	<0.43	<0.23	<0.19	0.38	NA	<0.20	<0.19	<0.23	<0.19	<0.20	NA	<0.21	<0.21	<0.23	<0.19
4-chloroaniline	106478	ug/L	--	--	<0.13	NA	<0.43	<0.12	<0.12	<0.12	NA	<0.13	<0.12	<0.12	<0.12	<0.12	NA	<0.13	,0.17	<0.12	<0.12
2,4 Dimethylphenol	105679	ug/L	--	--	<0.85	NA	<2.1	<0.83	<0.84	<0.85	NA	<0.85	<0.83	<0.85	<0.82	<0.85	NA	<0.90	<0.91	<0.85	<0.84
2,6-Dinitrotoluene	606202	ug/L	0.005	0.05	<0.29	NA	<0.43	<0.28	<0.29	<0.29	NA	<0.29	<0.28	<0.29	<0.28	<0.29	NA	<0.31	<0.31	<0.29	<0.29
4,6-Dinitro-2-methylphenol	534521	ug/L	--	--	<1.7	NA	<2.1	<1.6	<1.6	<1.6	NA	<1.7	<1.6	<1.6	<1.6	<1.6	NA	<1.8	<1.8	<1.6	<1.6
Di-n-butylphthalate	84742	ug/L	--	--	<0.70	NA	0.75 JB/U	<0.68	<0.68	<0.69	NA	1.2 JB/U	<0.68	1.3 J	<0.67	<0.69	NA	0.84 JB/U	<0.74	<0.69 J	<0.68
Di-n-octylphthalate	117840	ug/L	--	--	<0.51	NA	<0.52	<0.49	<0.50	<0.51	NA	<0.51	<0.49	<0.51	<0.49	<0.51	NA	<1.1	<0.54	<0.51	<0.50
Fluorene	86737	ug/L	80	400	<0.20	NA	<0.20	<0.19	<0.19	<0.20	NA	<0.20	<0.19	<0.2	<0.19	<0.20	NA	<0.21	<0.21	<0.2	<0.19
Isophorone	78591	ug/L	--	--	<0.19	NA	<0.19	<0.18	<0.18	<0.19	NA	<0.19	<0.18	<0.19	<0.18	<0.19	NA	<0.20	<0.20	<0.19	<0.18
1-methylnaphthalene	90120	ug/L	--	--	<0.17	NA	<0.17	<0.16	<0.16	<0.16	NA	<0.17	<0.16	<0.16	<0.16	1.1	NA	0.39 J/U	0.37	0.44 J	0.34 J
2-Methylnaphthalene	91576	ug/L	--	--	<0.18	NA	<0.18	<0.17	<0.17	<0.18	NA	<0.18	<0.17	<0.18	<0.17	0.9	NA	0.5	0.35	0.43 J	0.29 J
Naphthalene	91203	ug/L	8	40	<0.19	NA	<0.19	<0.4	<0.18	<0.19	NA	<0.19	<0.18	<0.4	<0.18	4.2	NA	1.4	1.2	2.6	1.1
n-Nitrosodiphenylamine	62759	ug/L	0.7	7	<0.38	NA	<0.38	<0.47	<0.48	<0.37	NA	<0.38	<0.36	<0.48	<0.47	<0.37	NA	<0.40	<0.52	<0.48	<0.48
Pentachlorophenol	87865	ug/L	0.1	1	<1.1	NA	<1.2	<1.1	<1.1	<1.1	NA	<1.1	<1.1	<1.1	<1.1	<1.1	NA	**5.9**	**4.8 J/J**	**8.3**	**3.1 J**
Phenanthrene	85018	ug/L	--	--	<0.31	NA	<0.32	<0.3	<0.31	<0.31	NA	<0.31	<0.30	<0.31	<0.30	<0.31	NA	<0.33	<0.33	<0.31	<0.31
Phenol	108952	ug/L	1200	6000	<0.50	NA	<0.51	<0.48	<0.49	<0.49	NA	<0.50	<0.48	<0.49	<0.48	<0.49	NA	<0.53	<0.53	<0.49	<0.49
3&4-methylphenol	1319773	ug/L	--	--	<1.5	NA	<1.5	<1.4	<1.4	<1.4	NA	<1.5	<1.4	<1.4	<1.4	1.7	NA	<1.5	<1.6	<1.4	<1.4
2-methylphenol	95487	ug/L	--	--	<0.90	NA	<0.91	<0.87	<0.88	<0.89	NA	<0.90	<0.87	<0.89	<0.86	1.1	NA	<0.95	<0.96	<0.89	<0.88
2,4,5-Trichlorophenol	95954	ug/L	--	--	<1.1	NA	<1.2	<1.1	<1.1	<1.1	NA	<1.1	<1.1	<1.1	<1.1	<1.1	NA	<1.2	<1.2	<1.1	<1.1
2,4,6-Trichlorophenol	88062	ug/L	--	--	<1.0	NA	<1.1	<1	<1.0	<1.0	NA	<1.0	<1.0	<1	<1.0	<1.0	NA	<1.1	<1.1	<1	<1.0
Natural Attenuation Parameters																					
Dissolved Iron		mg/L	0.15	0.3	<0.034	NA	NA	NA	NA	<0.034	NA	NA	NA	NA	NA	**16.6**	NA	NA	NA	NA	NA
Dissolved Manganese		ug/L	25	50	**57.1**	NA	NA	NA	NA	17.5	NA	NA	NA	NA	NA	**416**	NA	NA	NA	NA	NA
Total Iron		mg/L	0.15	0.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Manganese		ug/L	25	50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alkalinity (Dissolved		mg/L	--	--	8.2	NA	NA	NA	NA	37	NA	NA	NA	NA	NA	180	NA	NA	NA	NA	NA
Chloride (Dissolved)		mg/L	125	250	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BOD-5		mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ammonia-N		mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Kjeldahl-N		mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate + Nitrite Nitrogen		mg/L	2	10	0.51	NA	NA	NA	NA	0.68	NA	NA	NA	NA	NA	0.12	NA	NA	NA	NA	NA
Total Organic Carbon (TOC)		mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate		mg/L	125	250	5.9	NA	NA	NA	NA	21	NA	NA	NA	NA	NA	27	NA	NA	NA	NA	NA

Summary of Groundwater Analytical Results
Site 1 (Fire Training Area)
Volk Field Combat Readiness Training Center
Wisconsin Air National Guard
Camp Douglas, Wisconsin

			NR 140																			
		Units	PAL	ES	MW-18P						MW-19P						MW-20P				MW-20P Dup	
Analyte					9/21/2010	2/8/2011	12/13/2011	3/13/2012	6/18/2012	10/2/2012	9/21/2010	2/8/2011	12/13/2011	3/13/2012	6/19/2012	10/3/2012	12/14/2011	3/13/2012	6/18/2012	10/2/2012	6/18/2012	10/2/2012
Volatile Organic Compounds	CAS Number																					
Benzene	71432	ug/L	0.5	5	**28**	**79**	**120**	**64**	**150**	**22**	*2.6*	**5.5**	0.21 J	<0.19	<0.19	<0.19	**450**	**340**	**460**	**480**	**520**	**460**
n-Butylbenzene	104518	ug/L	--	--	<0.23	<0.23	0.92	1.3	<1.2	<0.23	4	<0.23	<0.23	0.36	<0.23	<0.23	2.8	3.3	2.8 J	4	3 J	4
sec- Butylbenzene	135988	ug/L	--	--	<0.21	1.7	2.7	2.8	1.7 J	0.63	2.3	<0.21	<0.21	0.31	<0.21	<0.21	4.9	5	4.3 J	5.2	4.9 J	5
tert-Butylbenzene	98066	ug/L	--	--	<0.20	<0.20	0.50 J	<0.20	<1	<0.20	0.44	<0.20	<0.20	<0.20	<0.2	<0.20	0.49 J	<2.0	<2	0.55	<2	0.45 J
1,1 - Dichloroethane	75343	ug/L	85	850	<0.20	<0.20	<0.20	<0.20	<1	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.20	<0.20	<2.0	<2	<0.20	<2	<0.20
1,2-dichloroethane	107062	ug/L	0.5	5	<0.30	<0.30	<0.30	<0.30	4 J	<0.30	<0.30	<0.30	<0.30	<0.30	<0.3	<0.30	<0.30	<3.0	13	<0.30	13	<0.30
1,4-dichlorobenzene	106467	ug/L	15	75	<0.23	<0.23	<0.23	<0.23	<1.2	<0.19	<0.23	<0.23	<0.23	<0.23	<0.23	<0.19	<0.23	<2.3	<2.3	<0.19	<2.3	<0.19
trans-1,3-Dichloropropene	10061026	ug/L	0.02	0.2	<0.19	<0.19	<0.19	<0.19	<0.95	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<1.9	<1.9	<0.19	<1.9	<0.19
Chloromethane	74873	ug/L	3	30	<0.40	0.64	<0.40	<0.40	2.1 J	<0.40	<0.40	<0.40	<0.40	<0.40	<0.4	<0.40	<0.40	<4.0	<4	<0.40	<4	<0.40
cis-1,2-Dichloroethene	156592	ug/L	7	70	1.1	*7.5*	*8.5*	4.7	6.5	1.4	<0.25	0.28	<0.25	<0.25	<0.25	<0.25	*18*	*15*	*19*	*19*	*21*	*18*
trans - 1,2 - Dichloroethene	156605	ug/L	20	100	<0.25	<0.25	<0.25	<0.25	<1.3	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<2.5	<2.5	<0.25	<2.5	<0.25
Ethylbenzene	100414	ug/L	140	700	6.8	20	32	30	45	11	4.5	1.2	0.65	0.32	0.39 J	<0.22	120	120	120	140	140	140
Isopropylbenzene	98828	ug/L	--	--	0.71	2.9	5.3	4.1	4.1	1.2	1.6	<0.18	<0.25	<0.18	<0.18	<0.18	13	12	11	14	12	14
p-Isopropyltoluene	99876	ug/L	--	--	<0.23	0.37	0.56	0.82	<1.2	<0.23	4.5	<0.23	<0.23	<0.23	<0.23	<0.23	3.7	3	3.1 J	4.3	3.1 J	4.2
Methyl-tert-butyl ether	1634044	ug/L	12	60	<0.29	<0.29	<0.50	<0.29	<1.5	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29	<2.9	<2.9	<0.29	<2.9	<0.29
Methylene Chloride	75092	ug/L	0.5	5	<0.40	<0.40	<0.40	<0.40	<2	<0.40	<0.40	<0.40	<0.40	<0.40	<0.4	<0.40	<0.40	<4.0	<4	<0.40	<4	<0.40
Naphthalene	91203	ug/L	8	40	1.6	4.3	*11*	*8.5*	7.4	0.97 J	1.4	<0.40	0.41 J	<0.40	<0.4	<0.18	*38*	**49**	*34*	*26*	*37*	*27*
n-Propylbenzene	103651	ug/L	--	--	0.78	2.3	5	4.4	4.8	1.2	2.5	<0.20	<0.20	<0.20	<0.2	<0.20	14	15	14	16	16	16
Tetrachloroethene	127184	ug/L	0.5	5	<0.30	<0.30	<0.30	<0.30	<1.5	<0.30	<0.30	<0.30	<0.30	<0.30	<0.3	<0.30	<0.30	<3.0	<3	<0.30	<3	<0.30
Toluene	108883	ug/L	160	800	1.7	<0.22	<0.22	0.26	<1.1	0.39 UB	9.8	0.24	2.5	0.46	1.7	0.64 UB	0.9	2.3	<2.2	<0.22	<2.2	0.28 J/ UB
1,1,1-Trichloroethane	71556	ug/L	40	200	<0.21	<0.21	<0.21	<0.21	<1.1	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<2.1	<2.1	<0.21	<2.1	<0.21
Trichloroethene	79016	ug/L	0.5	5	<0.21	<0.21	<0.21	<0.21	<1.1	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<2.1	<2.1	<0.21	<2.1	<0.21
Total Trimethylbenzene		ug/L	96	480	3.85	0.97	2.4	1.93	8.8	1.03	12.9	0.56	1.8	0.67	0.69 J	1.03 J	51	30.9	17.3	14.92	19.3	14.89
1,2,4-Trimethylbenzene	95636	ug/L	--	--	3	0.97	2.4	1.6	7.6	0.8	9.5	0.56	1.3	0.33	0.46 J	0.71	41	27	15	14	17	14
1,3,5-Trimethylbenzene	108678	ug/L	--	--	0.85	<0.23	<0.25	0.33	<1.2	<0.23	3.4	<0.23	0.42 J	0.34	<0.23	0.32 J	10	3.9	<2.3	0.92	<2.3	0.89
Total Xylenes		ug/L	400	2000	13.2	1.76	2.03	0.37	8.7 J	0.92 J	14.1	4.09	2.52	1.21	1.30 J	1.14 J	84.7	23	10.9 J	10.31 J	11.4 J	10.31 J
m&p-Xylene	1330207	ug/L	--	--	9.3	1.5	1.5	<0.50	7.5 J	0.68 J	5.4	3.2	1.7	0.82	0.83 J	0.83 J	84	23	8.5 J	10	9 J	10
o-Xylene	95476	ug/L	--	--	3.9	0.26	0.53	0.37	<1.2	<0.24	8.7	0.89	0.82	0.39	0.47 J	0.31 J	0.67	<2.4	<2.4	0.31 J	<2.4	0.31 J
Semivolatile Organic Compounds																						
benzoic acid	65850	ug/L	--	--	<17	NA	<26	<11	<11	<11	<17	NA	<26	<11	<11	<11	<11	<11	<11	<11	<11	<11
bis(2-Ethylhexyl)phthalate	117817	ug/L	0.6	6	2.2 /UB	NA	3.2 /U	**27 /JB**	*1.6*	*0.8 J*	1.4 /UB	NA	<1.0	3.6 B/UJ	3.7 B	<0.44	1.0 J/U	2.1 JB/UJ	1.8 B	*1.8 J*	2.1 B	*0.76 J*
bis(2-chlorethyl)ether	108601	ug/L	--	--	<0.21	NA	<0.22	0.20	<0.23	<0.22	<0.21	NA	<0.42	<0.21	<0.23	<0.22	<0.21	<0.22	<0.23	<0.22	<0.22	<0.22
Dibenzofuran	132649	ug/L	--	--	<0.19	NA	<0.41	<0.20	<0.2	<0.19	<0.19	NA	<0.20	<0.19	<0.2	<0.19	0.38 J	0.5	<2	<0.19	<1.9	0.54 J
Acetophenone	98862	ug/L	--	--	<0.27	NA	<0.41	<0.28	<0.28	<0.28	<0.27	NA	<0.28	<0.28	<0.28	<0.27	<0.27	<0.28	10.0	8.6	<0.28	1.0
Diethyl phthalate	84662	ug/L	--	--	0.48	NA	3.1	<0.46	2.9	<0.46	0.48	NA	<0.47	<0.46	<0.47	0.48 J	2.6 J/	<0.46	<4.6	<0.46	<4.6	<0.45
1,4-dichlorobenzene	106467	ug/L	15	75	<0.19	NA	<0.20	<0.20	<1.2	<0.19	<0.19	NA	<0.20	<0.19	<0.23	<0.19	<0.19	<0.20	<2.3	<0.19	<2.3	<0.19
4-chloroaniline	106478	ug/L	--	--	<0.12	NA	<0.12	<0.12	<0.12	<0.12	<0.12	NA	<0.13	<0.12	<0.13	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12
2,4 Dimethylphenol	105679	ug/L	--	--	<0.83	NA	<0.85	<0.85	<0.85	<0.84	<0.84	NA	<0.85	<0.84	<0.85	<0.83	2.3 J	4.6	2.9	<0.84	2.3 J	<0.83
2,6-Dinitrotoluene	606202	ug/L	0.005	0.05	<0.28	NA	<0.29	<0.29	<0.29	<0.29	<0.29	NA	<0.29	<0.29	<0.29	<0.28	<0.28	<0.29	<2.9	<0.29	<2.9	<0.28
4,6-Dinitro-2-methylphenol	534521	ug/L	--	--	<1.6	NA	<1.6	<1.6	<1.6	<1.6	<1.6	NA	<1.7	<1.6	<1.7	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6
Di-n-butylphthalate	84742	ug/L	--	--	<0.68	NA	<0.69	<0.69	0.7 J	<0.68	<0.68	NA	<0.70	<0.68	1.5 J	<0.68	<0.67	<0.69	1 J	<0.68	1.2 J	<0.68
Di-n-octylphthalate	117840	ug/L	--	--	<0.49	NA	<0.51	<0.51	<0.51	<0.50	<0.50	NA	<0.51	<0.50	<0.51	<0.49	<0.49	<0.51	<0.51	<0.50	<0.5	<0.49
Fluorene	86737	ug/L	80	400	<0.19	NA	<0.20	<0.20	<0.2	<0.19	<0.19	NA	<0.20	<0.19	<0.2	<0.19	<0.19	<0.20	<2	<0.19	<1.9	1.3
Isophorone	78591	ug/L	--	--	<0.18	NA	<0.19	<0.19	<0.19	<0.18	<0.18	NA	<0.19	<0.18	<0.19	<0.18	<0.18	<0.19	<0.19	<0.18	<0.18	<0.18
1-methylnaphthalene	90120	ug/L	--	--	0.2	NA	1.1 /U	0.49 J/J	1.0	0.28 J	<0.16	NA	0.23 J/U	<0.16	<0.17	0.18 J	7.6 /U	9.1	9.0	7.5	8.4	8.3
2-Methylnaphthalene	91576	ug/L	--	--	<0.17	NA	1.1 /U	0.64 J/J	1.2	0.27 J	<0.17	NA	0.25 J/U	<0.17	<0.18	<0.17	9 /U	12.0	14.0	11.0	13.0	12.0
Naphthalene	91203	ug/L	8	40	<0.18	NA	7.9 /U	2.2 /J	7.4	0.97 J	<0.18	NA	0.24 J	<0.18	<0.4	<0.18	24 /U	*28 /J*	*34.0*	*26.0*	*37.0*	*27.0*
n-Nitrosodiphenylamine	62759	ug/L	0.7	7	<0.36	NA	<0.37	<0.37	<0.48	<0.48	<0.37	NA	<0.38	<0.37	<0.49	<0.47	<0.36	<0.37	<0.48	<0.48	<0.48	<0.47
Pentachloropheno	87865	ug/L	0.1	1	<1.1	NA	<1.1	<1.1	<1.1	<1.1	<1.1	NA	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1
Phenanthrene	85018	ug/L	--	--	<0.30	NA	<0.31	<0.31	<0.31	<0.31	<0.31	NA	<0.31	<0.31	<0.31	<0.30	<0.30	<0.31	<0.31	<0.31	<0.31	<0.30
Phenol	108952	ug/L	1200	6000	<0.48	NA	<0.49	<0.49	0.84 J	<0.49	<0.49	NA	<0.50	<0.49	<0.5	<0.48	0.58 J/U	3.9 J/J	1.9	1.9 J	1.7	1.9 J
3&4-methylphenol	1319773	ug/L	--	--	<1.4	NA	<1.4	<1.4	<1.4	<1.4	<1.4	NA	<1.5	<1.4	<1.5	<1.4	3.5 J	2.0	2.7 J	2.1 J	2.4 J	2 J
2-methylphenol	95487	ug/L	--	--	<0.87	NA	<0.89	<0.89	<0.89	<0.88	<0.88	NA	<0.90	<0.88	<0.9	<0.87	4.3 J	3.9	2.9 J	4.1 J	2.6 J	4.3 J
2,4,5-Trichlorophenol	95954	ug/L	--	--	<1.1	NA	<1.1	<1.1	<1.1	<1.1	<1.1	NA	<1.1	<1.1	<1.1	<1.1	<2.0	<1.1	<11	<1.1	<11	<1.1
2,4,6-Trichlorophenol	88062	ug/L	--	--	<1.0	NA	<1.0	<1.0	<1	<1.0	<1.0	NA	<2.1	<1.0	<1	<1.0	<2.0	<1.0	<10	<1.0	<10	<1.0
Natural Attenuation Parameters																						
Dissolved Iron		mg/L	0.15	0.3	**5.38**	NA	NA	NA	NA	NA	0.021	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dissolved Manganese		ug/L	25	50	**314**	NA	NA	NA	NA	NA	**103**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Iron		mg/L	0.15	0.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Manganese		ug/L	25	50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alkalinity (Dissolved		mg/L	--	--	110	NA	NA	NA	NA	NA	130	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride (Dissolved)		mg/L	125	250	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BOD-5		mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ammonia-N		mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Kjeldahl-N		mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate + Nitrite Nitrogen		mg/L	2	10	0.11	NA	NA	NA	NA	NA	*5*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon (TOC)		mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate		mg/L	125	250	42	NA	NA	NA	NA	NA	8.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Summary of Groundwater Analytical Results
Site 1 (Fire Training Area)
Volk Field Combat Readiness Training Center
Wisconsin Air National Guard
Camp Douglas, Wisconsin

			NR 140																				
		Units	PAL	ES	**MW-21P**				**MW-21P Dup**	**ET-1**								**ET-1R**					
Analyte					12/14/2011	3/12/2012	6/18/2012	10/2/2012	6/18/2012	3/8/1988	10/24/1990	5/7/1997	9/16/1999	12/28/1999	3/21/2000	6/7/2000	9/13/2000	6/6/2000	8/14/2001	10/22/2002	1/27/2003	4/22/2003	7/30/2003
Volatile Organic Compounds	CAS Number																						
Benzene	71432	ug/L	0.5	5	<0.25	<0.19	<0.19	<0.19	<0.19	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND
n-Butylbenzene	104518	ug/L	--	--	<0.23	<0.23	<0.23	<0.23	<0.23	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND
sec- Butylbenzene	135988	ug/L	--	--	<0.21	<0.21	<0.21	<0.21	<0.21	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND
tert-Butylbenzene	98066	ug/L	--	--	<0.20	<0.20	<0.2	<0.20	<0.2	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND
1,1 - Dichloroethane	75343	ug/L	85	850	<0.20	<0.20	<0.2	<0.20	<0.2	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND
1,2-dichloroethane	107062	ug/L	0.5	5	<0.30	<0.30	<0.3	<0.30	<0.3	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND
1,4-dichlorobenzene	106467	ug/L	15	75	<0.23	<0.37	<0.23	<0.19	<0.23	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	10061026	ug/L	0.02	0.2	<0.19	<0.19	<0.19	<0.19	<0.19	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND
Chloromethane	74873	ug/L	3	30	<0.40	<0.40	<0.4	<0.40	<0.4	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	156592	ug/L	7	70	<0.25	<0.25	<0.25	<0.25	<0.25	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND
trans - 1,2 - Dichloroethene	156605	ug/L	20	100	<0.25	<0.25	<0.25	<0.25	<0.25	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND
Ethylbenzene	100414	ug/L	140	700	<0.25	<0.22	<0.22	<0.22	<0.22	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND
Isopropylbenzene	98828	ug/L	--	--	<0.25	<0.18	<0.18	<0.18	<0.18	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND
p-Isopropyltoluene	99876	ug/L	--	--	<0.23	<0.23	<0.23	<0.23	<0.23	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND
Methyl-tert-butyl ether	1634044	ug/L	12	60	<0.29	<0.29	<0.29	<0.29	<0.29	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND
Methylene Chloride	75092	ug/L	0.5	5	<0.40	<0.40	<0.4	<0.40	<0.4	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND
Naphthalene	91203	ug/L	8	40	<0.40	<0.40	<0.4	<0.18	<0.4	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND
n-Propylbenzene	103651	ug/L	--	--	<0.20	<0.20	<0.2	<0.20	<0.2	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND
Tetrachloroethene	127184	ug/L	0.5	5	<0.30	<0.30	<0.3	<0.30	<0.3	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND
Toluene	108883	ug/L	160	800	<0.22	<0.22	<0.22	<0.22	<0.22	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	71556	ug/L	40	200	<0.21	<0.21	<0.21	<0.21	<0.21	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND
Trichloroethene	79016	ug/L	0.5	5	<0.21	<0.21	<0.21	<0.21	<0.21	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND
Total Trimethylbenzene		ug/L	96	480	<0.25	<0.23	< 0.43	<0.43	<0.43	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	95636	ug/L	--	--	<0.25	<0.20	<0.2	<0.20	<0.2	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	108678	ug/L	--	--	<0.25	<0.23	<0.23	<0.23	<0.23	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND
Total Xylenes		ug/L	400	2000	<0.50	<0.50	<0.74	<0.74	<0.74	ND	ND	0.7	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND
m&p-Xylene	1330207	ug/L	--	--	<0.50	<0.50	<0.5	<0.50	<0.5	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND
o-Xylene	95476	ug/L	--	--	<0.25	<0.24	<0.24	<0.24	<0.24	ND	ND	0.7	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND
Semivolatile Organic Compounds																							
benzoic acid	65850	ug/L	--	--	<12	<11	<11	<11	<11	ND	ND	ND	ND	NA	ND	NA	ND	NA	NA	ND	NA	ND	NA
bis(2-Ethylhexyl)phthalate	117817	ug/L	0.6	6	0.88 J/U	1.4 JB/U	2.7 B	0.45 J	2.2 B	ND	ND	ND	ND	NA	21.0	NA	**13**	NA	NA	ND	NA	ND	NA
bis(2-chlorethyl)ether	108601	ug/L	--	--	<0.23	<0.21	<0.22	<0.22	<0.23	ND	ND	ND	ND	NA	ND	NA	ND	NA	NA	ND	NA	ND	NA
Dibenzofuran	132649	ug/L	--	--	<0.20	<0.19	<0.19	<0.19	<0.2	ND	ND	ND	ND	NA	ND	NA	ND	NA	NA	ND	NA	ND	NA
Acetophenone	98862	ug/L	--	--	<0.29	<0.27	<0.27	<0.27	<0.28	ND	ND	ND	ND	NA	ND	NA	ND	NA	NA	ND	NA	ND	NA
Diethyl phthalate	84662	ug/L	--	--	<0.48	<0.45	<0.45	<0.45	<0.47	ND	ND	ND	ND	NA	ND	NA	ND	NA	NA	ND	NA	ND	NA
1,4-dichlorobenzene	106467	ug/L	15	75	<0.20	<0.19	<0.23	<0.19	<0.23	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND
4-chloroaniline	106478	ug/L	--	--	<0.13	<0.12	<0.12	<0.12	<0.13	ND	ND	ND	ND	NA	ND	NA	ND	NA	NA	ND	NA	ND	NA
2,4 Dimethylphenol	105679	ug/L	--	--	<0.88	<0.82	<0.83	<0.83	<0.85	ND	ND	ND	ND	NA	ND	NA	ND	NA	NA	ND	NA	ND	NA
2,6-Dinitrotoluene	606202	ug/L	0.005	0.05	<0.30	<0.28	<0.28	<0.28	<0.29	ND	ND	ND	ND	NA	ND	NA	ND	NA	NA	ND	NA	ND	NA
4,6-Dinitro-2-methylphenol	534521	ug/L	--	--	<1.7	<1.6	<1.6	<1.6	<1.7	ND	ND	ND	ND	NA	ND	NA	ND	NA	NA	ND	NA	ND	NA
Di-n-butylphthalate	84742	ug/L	--	--	0.85 JB/U	<0.67	<0.68	<0.68	0.73 J	ND	ND	ND	ND	NA	ND	NA	ND	NA	NA	ND	NA	ND	NA
Di-n-octylphthalate	117840	ug/L	--	--	<0.53	<0.49	<0.49	<0.49	<0.51	ND	ND	ND	ND	NA	ND	NA	ND	NA	NA	ND	NA	ND	NA
Fluorene	86737	ug/L	80	400	<0.20	<0.19	<0.19	<0.19	<0.2	ND	ND	ND	ND	NA	ND	NA	ND	NA	NA	ND	NA	ND	NA
Isophorone	78591	ug/L	--	--	<0.19	<0.18	<0.18	<0.18	<0.19	ND	ND	ND	ND	NA	ND	NA	ND	NA	NA	ND	NA	ND	NA
1-methylnaphthalene	90120	ug/L	--	--	<0.17	<0.16	<0.16	<0.16	<0.17	ND	ND	ND	ND	NA	ND	NA	ND	NA	NA	ND	NA	ND	NA
2-Methylnaphthalene	91576	ug/L	--	--	<0.18	<0.17	<0.17	<0.17	<0.18	ND	ND	ND	ND	NA	ND	NA	ND	NA	NA	ND	NA	ND	NA
Naphthalene	91203	ug/L	8	40	<0.19	<0.18	<0.4	<0.18	<0.4	ND	ND	ND	ND	NA	ND	NA	ND	NA	NA	ND	NA	ND	NA
n-Nitrosodiphenylamine	62759	ug/L	0.7	7	<0.39	<0.36	<0.47	<0.47	<0.49	ND	ND	ND	ND	NA	ND	NA	ND	NA	NA	ND	NA	ND	NA
Pentachlorophenol	87865	ug/L	0.1	1	<1.2	<1.1	<1.1	<1.1	<1.1	ND	ND	ND	ND	NA	ND	NA	ND	NA	NA	ND	NA	ND	NA
Phenanthrene	85018	ug/L	--	--	<0.32	<0.30	<0.3	<0.30	<0.31	ND	ND	ND	ND	NA	ND	NA	ND	NA	NA	ND	NA	ND	NA
Phenol	108952	ug/L	1200	6000	<0.52	<0.48	<0.48	<0.48	<0.5	ND	ND	ND	ND	NA	ND	NA	ND	NA	NA	ND	NA	ND	NA
3&4-methylphenol	1319773	ug/L	--	--	<1.5	<1.4	<1.4	<1.4	<1.5	ND	ND	ND	ND	NA	ND	NA	ND	NA	NA	ND	NA	ND	NA
2-methylphenol	95487	ug/L	--	--	<0.92	<0.86	<0.87	<0.87	<0.9	ND	ND	ND	ND	NA	ND	NA	ND	NA	NA	ND	NA	ND	NA
2,4,5-Trichlorophenol	95954	ug/L	--	--	<2.2	<1.1	<1.1	<1.1	<1.1	ND	ND	ND	ND	NA	ND	NA	ND	NA	NA	ND	NA	ND	NA
2,4,6-Trichlorophenol	88062	ug/L	--	--	<2.2	<1.0	<1	<1.0	<1	ND	ND	ND	ND	NA	ND	NA	ND	NA	NA	ND	NA	ND	NA
Natural Attenuation Parameters																							
Dissolved Iron		mg/L	0.15	0.3	NA	NA	NA	NA	NA	NA	NA	*0.271*	0.149	0.066	0.074	0.0313	0.0651	NA	ND	0.044	**0.385**	*0.182*	0.0397J
Dissolved Manganese		ug/L	25	50	NA	NA	NA	NA	NA	NA	NA	ND	2.83	1.5J	1.3	22.5	1.2J	NA	0.79	5.5	3.8	3.8	3.0
Total Iron		mg/L	0.15	0.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.592**	**12.8**	**28.4**	**12.6**
Total Manganese		ug/L	25	50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.02	**357**	**338**	**157**
Alkalinity (Dissolved)		mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	43	110	160	160
Chloride (Dissolved)		mg/L	125	250	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.2	0.84	1.2	1.1
BOD-5		mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND
Ammonia-N		mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	0.017J
Total Kjeldahl-N		mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.4	0.37	ND	ND
Nitrate + Nitrite Nitrogen		mg/L	2	10	NA	NA	NA	NA	NA	NA	NA	1.87	1.31	1.41	0.803	1.30	1.44	NA	**11**	**13**	*7.5*	*2.2*	1.9
Total Organic Carbon (TOC)		mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate		mg/L	125	250	NA	NA	NA	NA	NA	NA	NA	4.7	7.91	5.23J	4.36	5.79	4.71J	NA	5.5	4.1	3.4	4.3	4.4

Summary of Groundwater Analytical Results
Site 1 (Fire Training Area)
Volk Field Combat Readiness Training Center
Wisconsin Air National Guard
Camp Douglas, Wisconsin

			NR 140																					
		Units	PAL	ES	ET-2R												ET-3							
Analyte					8/14/2001	10/22/2002	1/27/2003	4/22/2003	7/31/2003	8/31/2004	5/19/2005	6/22/2007	7/31/2008	10/13/2009	9/20/2010	3/13/2012	8/1/2008	10/14/2009	9/21/2010	2/9/2011	12/15/2011	3/13/2012	6/19/2012	10/3/2012
Volatile Organic Compounds	CAS Number																							
Benzene	71432	ug/L	0.5	5	ND	ND	ND	ND	ND	ND	ND	ND	*2.1*	<0.55	<0.19	<0.19	**860**	**920**	**720**	**920**	**960**	**780**	**630**	**640**
n-Butylbenzene	104518	ug/L	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.79	<0.23	<0.23	26	<79	17	36	<23	26	<23	21
sec- Butylbenzene	135988	ug/L	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.98	<0.21	<0.21	ND	<98	12	25	<21	<21	<21	14
tert-Butylbenzene	98066	ug/L	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.76	<0.20	<0.20	ND	<76	<10	<20	<20	<20	<20	1
1,1 - Dichloroethane	75343	ug/L	85	850	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.4	<0.24	<0.20	ND	<440	<10	<20	<20	<20	<20	0.35 J
1,2-dichloroethane	107062	ug/L	0.5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.1	<0.20	<0.30	ND	<110	<15	<30	<30	<30	<30	0.43 J
1,4-dichlorobenzene	106467	ug/L	15	75	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.50	<0.23	<0.23	ND	<50	<12	<23	<23	<23	<23	<0.20
trans-1,3-Dichloropropene	10061026	ug/L	0.02	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.45	<0.19	<0.19	ND	<45	<9.5	<19	<19	<19	<19	0.26 J
Chloromethane	74873	ug/L	3	30	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.1 B/UB	<0.40	<0.40	ND	<100	<20	<40	<40	<40	<40	<0.40
cis-1,2-Dichloroethene	156592	ug/L	7	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.2	<0.25	<0.25	ND	*48*	*28*	*35*	<50	*33*	<25	*16*
trans - 1,2 - Dichloroethene	156605	ug/L	20	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.8	<0.25	<0.25	ND	<180	<13	<25	<25	<25	<25	<0.25
Ethylbenzene	100414	ug/L	140	700	ND	ND	ND	ND	ND	ND	ND	ND	0.52	1.9	<0.22	<0.22	*410*	*400*	*380*	*390*	*410*	*360*	*310*	*280*
Isopropylbenzene	98828	ug/L	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.67	<0.18	<0.18	30	33	25	34	27	31	30 J	27
p-Isopropyltoluene	99876	ug/L	--	--	ND	ND	ND	ND	ND	ND	ND	ND	0.26	<0.56	<0.23	<0.23	13	<56	12	23	<23	<23	<23	13
Methyl-tert-butyl ether	1634044	ug/L	12	60	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.76	<0.29	<0.29	ND	<76	<15	<29	<29	<29	<29	<0.29
Methylene Chloride	75092	ug/L	0.5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.5	<0.40	<0.40	ND	**61 J**	**28**	**64**	<40	<40	<40	<0.40
Naphthalene	91203	ug/L	8	40	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.3	<0.40 /UJ	<0.40	**170**	**240**	**180**	**180**	**180**	**170**	**140**	**89**
n-Propylbenzene	103651	ug/L	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.68	<0.20	<0.20	37	48	34	49	<50	47	41 J	30
Tetrachloroethene	127184	ug/L	0.5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.3	<0.30	<0.30	ND	<130	<15	<30	<30	<30	<30	<0.30
Toluene	108883	ug/L	160	800	ND	ND	ND	ND	ND	ND	ND	ND	ND	10	<0.22	<0.22	**6700**	**3800**	**3600**	**4800**	**4200**	**3600**	**3200**	**2800**
1,1,1-Trichloroethane	71556	ug/L	40	200	ND	ND	ND	ND	ND	ND	ND	ND	ND	<2.0	<0.21	<0.21	ND	<200	<11	<21	<21	<21	<21	0.48 J
Trichloroethene	79016	ug/L	0.5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.48	<0.21	<0.21	ND	<48	<11	<21	<21	<21	<21	*3*
Total Trimethylbenzene		ug/L	96	480	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.34	<0.23	<0.23	*402*	*467*	*405*	*470*	*395*	*403*	*390*	*318*
1,2,4-Trimethylbenzene	95636	ug/L	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.0	<0.20	<0.20	320	370	320	370	310	320	300	260
1,3,5-Trimethylbenzene	108678	ug/L	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.34	<0.23	<0.23	82	97	85	100	85	83	90	58
Total Xylenes		ug/L	400	2000	ND	ND	ND	ND	ND	ND	ND	ND	1.1	6.0	<0.50	<0.50	*1110*	*1140*	*1230*	*1180*	*1190*	*1050*	*1010*	*930*
m&p-Xylene	1330207	ug/L	--	--	ND	ND	ND	ND	ND	ND	ND	ND	1.1	4.0	<0.50	<0.50	730	780	820	790	810	700	670	630
o-Xylene	95476	ug/L	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.0	<0.24	<0.24	380	360	410	390	380	350	340	300
Semivolatile Organic Compounds																								
benzoic acid	65850	ug/L	--	--	NA	ND	NA	ND	NA	ND	ND	NA	ND	NA	< 17	<11	ND	NA	<170	NA	<13	<13	<11	<11
bis(2-Ethylhexyl)phthalate	117817	ug/L	0.6	6	NA	ND	NA	ND	NA	*1.7*	ND	*0.64*	ND	<2.1	1.4 /UB	0.76 JB/U	ND	NA	<4.5	NA	1.2 J/U	1.1 JB/U	*4*	<0.45
bis(2-chlorethyl)ether	108601	ug/L	--	--	NA	ND	NA	ND	NA	ND	ND	ND	ND	<0.67	<0.21	<0.22	ND	NA	<2.1	NA	<0.24	<0.24	<0.22	<0.23
Dibenzofuran	132649	ug/L	--	--	NA	ND	NA	ND	NA	ND	ND	ND	ND	<0.29	<0.19	<0.20	ND	NA	<1.9	NA	2	3	3	1.5
Acetophenone	98862	ug/L	--	--	NA	ND	NA	ND	NA	ND	ND	ND	ND	<0.46	<0.28	<0.29	ND	NA	77	NA	<0.31	<0.31	<0.27	<0.28
Diethyl phthalate	84662	ug/L	--	--	NA	ND	NA	ND	NA	ND	ND	0.19	0.77	0.18 JB/UB	0.48	<0.47	ND	NA	22	NA	18	<0.51	<4.5	<0.46
1,4-dichlorobenzene	106467	ug/L	15	75	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.082	<0.19	<0.20	ND	NA	<1.9	NA	<0.22	<0.22	<23	<0.20
4-chloroaniline	106478	ug/L	--	--	NA	ND	NA	ND	NA	ND	ND	ND	ND	<0.58	<0.12	<0.13	ND	NA	<1.2	NA	<0.14	<0.14	<0.12	<0.12
2,4 Dimethylphenol	105679	ug/L	--	--	NA	ND	NA	ND	NA	ND	ND	ND	ND	<4.0	<0.84	<0.85	ND	NA	<8.4	NA	10	11	<0.83	8.2
2,6-Dinitrotoluene	606202	ug/L	0.005	0.05	NA	ND	NA	ND	NA	ND	ND	ND	ND	<0.39	<0.29	<0.29	ND	NA	<2.9	NA	<0.32	<0.32	<2.8	<0.29
4,6-Dinitro-2-methylphenol	534521	ug/L	--	--	NA	ND	NA	ND	NA	ND	ND	ND	ND	<3.1	<1.6	<1.7	ND	NA	<16	NA	<1.8	<1.8	<1.6	<1.6
Di-n-butylphthalate	84742	ug/L	--	--	NA	ND	NA	ND	NA	ND	ND	ND	ND	<2.6	<0.68	<0.70	ND	NA	<6.8	NA	2.5 JB/U	<0.76	3	<0.69
Di-n-octylphthalate	117840	ug/L	--	--	NA	ND	NA	ND	NA	ND	ND	ND	ND	<0.53	<0.50	<0.51	ND	NA	<5.0	NA	<0.56	<0.56	<0.49	<0.51
Fluorene	86737	ug/L	80	400	NA	ND	NA	ND	NA	ND	ND	ND	ND	<0.52	<0.19	<0.20	ND	NA	2.0	NA	1	<0.22	<1.9	1
Isophorone	78591	ug/L	--	--	NA	ND	NA	ND	NA	ND	ND	ND	ND	<0.39	<0.18	<0.19	ND	NA	<1.8	NA	<0.21	<0.20	<0.18	<0.19
1-methylnaphthalene	90120	ug/L	--	--	NA	ND	NA	ND	NA	ND	ND	ND	ND	0.088	<0.16	<0.17	ND	NA	65	NA	38	43	46	42
2-Methylnaphthalene	91576	ug/L	--	--	NA	ND	NA	ND	NA	ND	ND	ND	ND	<0.42	<0.17	<0.18	52	NA	82	NA	43	47	50	41
Naphthalene	91203	ug/L	8	40	NA	ND	NA	ND	NA	ND	ND	ND	ND	0.45	<0.18	<0.19	**93**	NA	**120**	NA	**99 /J**	**110**	**140**	**89**
n-Nitrosodiphenylamine	62759	ug/L	0.7	7	NA	ND	NA	ND	NA	ND	ND	ND	ND	<0.65	<0.48	<0.38	ND	NA	<3.7	NA	<0.41	<0.41	<0.47	<0.48
Pentachlorophenol	87865	ug/L	0.1	1	NA	ND	NA	ND	NA	**3.3 J**	ND	ND	ND	<3.0	<1.1	<1.1	ND	NA	<11	NA	**8**	**6**	**5**	2.8 J
Phenanthrene	85018	ug/L	--	--	NA	ND	NA	ND	NA	ND	ND	ND	ND	<0.29	<0.31	<0.31	ND	NA	<3.1	NA	<1.1	<0.34	<0.3	0.78 J
Phenol	108952	ug/L	1200	6000	NA	ND	NA	ND	NA	ND	ND	ND	ND	<1.0	<0.49	<0.50	ND	NA	20	NA	12	7	9	6
3&4-methylphenol	1319773	ug/L	--	--	NA	ND	NA	ND	NA	ND	ND	NA	ND	<2.3	<1.4	<1.5	ND	NA	250	NA	170	140	180	65 J
2-methylphenol	95487	ug/L	--	--	NA	ND	NA	ND	NA	ND	ND	ND	ND	<2.9	<0.88	<0.90	43	NA	32	NA	31	24	34	37
2,4,5-Trichlorophenol	95954	ug/L	--	--	NA	ND	NA	ND	NA	ND	ND	ND	ND	<2.7	<1.1	<1.1	ND	NA	<11	NA	7	3	<11	<1.1
2,4,6-Trichlorophenol	88062	ug/L	--	--	NA	ND	NA	ND	NA	ND	ND	ND	ND	<2.9	<1.0	<1.0	ND	NA	<10	NA	<5.7	<1.1	<10	<1.0
Natural Attenuation Parameters																								
Dissolved Iron		mg/L	0.15	0.3	0.056	ND	**0.506**	*0.158*	0.0688J	*0.163 J*	0.0428	0.0341	0.023	0.0435	**0.72**	NA	**90**	**82.7**	**117**	NA	NA	NA	NA	NA
Dissolved Manganese		ug/L	25	50	**124**	1.4	3.3	2.3	2.3	10.5	8.1	0.61	12	<1.8	**141**	NA	**900**	**698**	**849**	NA	NA	NA	NA	NA
Total Iron		mg/L	0.15	0.3	NA	**0.794**	**20.4**	**6.79**	**25.6**	**22.2**	**16.6**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Manganese		ug/L	25	50	NA	**175**	**137**	**70.9**	**140**	**128**	**112**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alkalinity (Dissolved)		mg/L	--	--	NA	37	52	61	84	26.9	100	74	48	84	65	NA	300	200	220	NA	NA	NA	NA	NA
Chloride (Dissolved)		mg/L	125	250	NA	0.81	1.1	1.7	1.8	13	18	1.2	ND	1.6	NA	NA	5.2	5.7	NA	NA	NA	NA	NA	NA
BOD-5		mg/L	--	--	NA	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ammonia-N		mg/L	--	--	NA	ND	ND	ND	0.011J	ND	ND	ND	NA	NA	NA	NA	4.9	NA	NA	NA	NA	NA	NA	NA
Total Kjeldahl-N		mg/L	--	--	NA	1.8	3.9	0.39	ND	1	1.1	ND	0.45	<0.50	NA	NA	11	8.5	NA	NA	NA	NA	NA	NA
Nitrate + Nitrite Nitrogen		mg/L	2	10	1.2	*2.2*	*3.9*	*3.5*	*2.7*	*3.16*	*2.6*	1.5	0.6	1.1	0.73	NA	ND	<0.42	0.11	NA	NA	NA	NA	NA
Total Organic Carbon (TOC)		mg/L	--	--	NA	NA	NA	NA	NA	5.9	6.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate		mg/L	125	250	3.6	3.7	3.7	4.2	5	4.47	4.7	3.9	3.4	2.5	2.1	NA	7.6	1.4	1.9	NA	NA	NA	NA	NA

Summary of Groundwater Analytical Results
Site 1 (Fire Training Area)
Volk Field Combat Readiness Training Center
Wisconsin Air National Guard
Camp Douglas, Wisconsin

			NR 140																														
		Units	PAL	ES	ET-5								WW-1								WW-2R							WW-3R				
Analyte					8/1/2008	10/14/2009	9/21/2010	2/8/2011	12/15/2011	3/13/2012	6/19/2012	10/3/2012	8/1/2008	10/14/2009	9/21/2010	2/9/2011	12/15/2011	3/13/2012	6/19/2012	10/3/2012	8/14/2001	10/22/2002	1/27/2003	4/22/2003	7/31/2003	7/31/2003	9/20/2010	8/14/2001	10/22/2002	1/27/2003	4/22/2003	7/31/2003
Volatile Organic Compounds	CAS Number																																
Benzene	71432	ug/L	0.5	5	**380**	**260**	**360**	**340**	**250**	**230**	**310**	**200**	**110**	**1100**	**840**	**180**	**880**	**830**	**240**	**180**	ND	ND	ND	ND	ND	ND	<0.19	ND	ND	ND	ND	ND
n-Butylbenzene	104518	ug/L	--	--	20	23	23	33	18	19	18	25	19.0	<79	18.0	16.0	16 J	22.0	18 J	21.0	ND	ND	ND	ND	ND	ND	<0.23	ND	ND	ND	ND	ND
sec- Butylbenzene	135988	ug/L	--	--	ND	17	13	21	16	15	15	17	11.0	<98	<11	9.8	11 J	14.0	15 J	13.0	ND	ND	ND	ND	ND	ND	<0.21	ND	ND	ND	ND	ND
tert-Butylbenzene	98066	ug/L	--	--	ND	<38	<4.0	<4.0	<4.0	<2.0	<2	1	ND	<76	<10	<5.0	<13	<10	<10	2.2	ND	ND	ND	ND	ND	ND	<0.20	ND	ND	ND	ND	ND
1,1 - Dichloroethane	75343	ug/L	85	850	ND	<70	<4.0	<4.0	<5.0	<2.0	<2	<0.20	ND	<140	<10	<5.0	<10	<10	<10	0.7	ND	ND	ND	ND	ND	ND	<0.20	ND	ND	ND	ND	ND
1,2-dichloroethane	107062	ug/L	0.5	5	ND	<55	<6.0	<6.0	<6.0	<3.0	8.4 J	0.34 J	ND	<110	<15	<7.5	<15	<15	<15	<0.30	ND	ND	ND	ND	ND	ND	<0.30	ND	ND	ND	ND	ND
1,4-dichlorobenzene	106467	ug/L	15	75	ND	<25	<4.6	<4.6	<4.6	<2.3	<2.3	<0.19	ND	<50	<12	<5.8	<12	<12	<12	<0.20	ND	ND	ND	ND	ND	ND	<0.23	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	10061026	ug/L	0.02	0.2	ND	<23	<3.8	<3.8	<3.8	<1.9	<1.9	0.21 J	ND	<45	<9.5	<4.8	<9.5	<9.5	<9.5	<0.19	ND	ND	ND	ND	ND	ND	<0.19	ND	ND	ND	ND	ND
Chloromethane	74873	ug/L	3	30	ND	<50	<8.0	<8.0	<8.0	<4.0	<4	<0.40	ND	<100	<20	<10	<20	<20	<20	<0.40	ND	ND	ND	ND	ND	ND	<0.40	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	156592	ug/L	7	70	*37*	*29*	*21*	*20*	*<10*	*11*	*11*	6	*9.8*	<120	*46.0*	*14*	*38*	*39*	*15 J*	*16*	ND	ND	ND	ND	ND	ND	<0.25	ND	ND	ND	ND	ND
trans - 1,2 - Dichloroethene	156605	ug/L	20	100	ND	<90	<5.0	<5.0	<5.0	<2.5	<2.5	<0.25	ND	<180	<13	<6.3	<13	<13	<13	<0.25	ND	ND	ND	ND	ND	ND	<0.25	ND	ND	ND	ND	ND
Ethylbenzene	100414	ug/L	140	700	94	*200*	*150*	*180*	*160*	*150*	*180*	*180*	*360*	*520*	*430*	*270*	*390*	*410*	*350*	*150*	ND	ND	ND	ND	ND	ND	<0.22	ND	ND	ND	ND	ND
Isopropylbenzene	98828	ug/L	--	--	16	24	22	26	25	25	22	28	39	44	38	23	34	38	30 J	32	ND	ND	ND	ND	ND	ND	<0.18	ND	ND	ND	ND	ND
p-Isopropyltoluene	99876	ug/L	--	--	12	17	15	20	16	13	14	16	11	18	14	11	<12	12	<12	14	ND	ND	ND	ND	ND	ND	<0.23	ND	ND	ND	ND	ND
Methyl-tert-butyl ether	1634044	ug/L	12	60	ND	<38	<5.8	<5.8	<5.8	<2.9	<2.9	<0.29	ND	<76	<15	<7.3	<15	<15	<15	<0.29	ND	ND	ND	ND	ND	ND	<0.29	ND	ND	ND	ND	ND
Methylene Chloride	75092	ug/L	0.5	5	ND	<75	<8.0	<8.0	<8.0	<4.0	<4	<0.40	ND	**62**	<20	<10	<20	<20	<20	<0.40	ND	ND	ND	ND	ND	ND	<0.40	ND	ND	ND	ND	ND
Naphthalene	91203	ug/L	8	40	**140**	**250**	**220**	**240**	**250**	**220**	**240**	**150**	**130**	**230**	**170**	**120**	**170**	**160**	**130**	**83**	ND	ND	ND	ND	ND	ND	<0.40	ND	ND	ND	ND	ND
n-Propylbenzene	103651	ug/L	--	--	12	31	24	33	28	25	26	27	41	57	48	30	39	42	37	33	ND	ND	ND	ND	ND	ND	<0.20	ND	ND	ND	ND	ND
Tetrachloroethene	127184	ug/L	0.5	5	ND	<65	<6.0	<6.0	<6.0	<3.0	<3	<0.30	ND	<130	<15	<7.5	<15	<15	<15	<0.30	ND	ND	ND	ND	ND	ND	<0.30	ND	ND	ND	ND	ND
Toluene	108883	ug/L	160	800	**1700**	**1000**	**820**	*580*	*440*	*370*	*480*	*520*	**2900**	**5300**	**2900**	**2300**	**3400**	**3600**	**2500**	**1100**	ND	ND	ND	ND	ND	ND	<0.22	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	71556	ug/L	40	200	ND	<100	<4.2	<4.2	<4.2	<2.1	<2.1	<0.21	ND	<200	<11	<5.3	<11	<11	<11	<0.21	ND	ND	ND	ND	ND	ND	<0.21	ND	ND	ND	ND	ND
Trichloroethene	79016	ug/L	0.5	5	ND	<24	**5.2**	<4.2	<4.2	*4.4*	**5.2 J**	*4.2*	*4*	<48	<11	<5.3	<11	<11	<11	*1.1*	ND	ND	ND	ND	ND	ND	<0.21	ND	ND	ND	ND	ND
Total Trimethylbenzene		ug/L	96	480	*370*	*477*	*420*	**520**	*419*	*376*	*470*	*396*	*470*	**580**	**510**	*440*	**500**	**540**	**520**	*224*	ND	ND	ND	ND	ND	ND	<0.23	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	95636	ug/L	--	--	290	380	330	410	330	290	370	330	370	440	390	340	380	400	400	170	ND	ND	ND	ND	ND	ND	<0.20	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	108678	ug/L	--	--	80	97	90	110	89	86	100	66	100	140	120	100	120	140	120	54	ND	ND	ND	ND	ND	ND	<0.23	ND	ND	ND	ND	ND
Total Xylenes		ug/L	400	2000	*1030*	*1330*	*1050*	*1270*	*1130*	*1050*	*1410*	*1190*	*1480*	*1830*	*1490*	*1240*	*1540*	*1570*	*1530*	*670*	ND	ND	ND	ND	ND	ND	<0.50	ND	ND	ND	ND	ND
m&p-Xylene	1330207	ug/L	--	--	660	920	770	870	770	710	960	800	920	1200	1000	770	980	1000	970	420	ND	ND	ND	ND	ND	ND	<0.50	ND	ND	ND	ND	ND
o-Xylene	95476	ug/L	--	--	370	410	380	400	360	340	450	390	560	630	490	470	560	570	560	250	ND	ND	ND	ND	ND	ND	<0.24	ND	ND	ND	ND	ND
Semivolatile Organic Compounds																																	
benzoic acid	65850	ug/L	--	--	ND	NA	<170	NA	<12	<11	<12	<11	ND	NA	<170	NA	<59	<11	<11	<11	NA	ND	NA	ND	NA	NA	<17	NA	ND	NA	ND	NA
bis(2-Ethylhexyl)phthalate	117817	ug/L	0.6	6	ND	<20	6.6 /UB	NA	0.75 J/U	5.6 B/UJ	*3*	*1.2 J*	ND	NA	<4.5	NA	<2.3	3.2 B/U	*3.4*	*0.95 J*	NA	ND	NA	ND	NA	NA	1.3 /UB	NA	ND	NA	ND	NA
bis(2-chlorethyl)ether	108601	ug/L	--	--	ND	<6.6	<2.1	NA	<0.24	<0.22	<0.23	<0.22	ND	NA	<2.1	NA	<1.1	<0.21	<0.22	<0.23	NA	ND	NA	ND	NA	NA	<0.21	NA	ND	NA	ND	NA
Dibenzofuran	132649	ug/L	--	--	ND	13	<1.9	NA	<0.21	4.5 /J	4	4	1.4	NA	3.5	NA	<5.3	0.69 J/J	1.7	1.6	NA	ND	NA	ND	NA	NA	<0.19	NA	ND	NA	ND	NA
Acetophenone	98862	ug/L	--	--	ND	<4.5	<2.7	NA	<0.30	<0.28	<0.28	42	ND	NA	<2.8	NA	<1.4	<0.28	<0.28	35.0	NA	ND	NA	ND	NA	NA	<0.28	NA	ND	NA	ND	NA
Diethyl phthalate	84662	ug/L	--	--	ND	<5.6	<4.5	NA	<0.51	<0.46	<4.7	<0.46	ND	NA	37	NA	<2.4	<0.46	<0.46	<0.46	NA	ND	NA	ND	NA	NA	0.49	NA	ND	NA	ND	NA
1,4-dichlorobenzene	106467	ug/L	15	75	ND	<0.80	<1.9	NA	<0.21	<0.20	<2.3	<0.19	ND	NA	<1.9	NA	<1.0	<0.19	<12	<0.20	NA	ND	NA	ND	NA	NA	<0.19	NA	ND	NA	ND	NA
4-chloroaniline	106478	ug/L	--	--	ND	<5.7	<1.2	NA	<0.13	<0.12	<0.13	<0.12	ND	NA	<1.2	NA	<0.64	<0.12	<0.12	<0.12	NA	ND	NA	ND	NA	NA	<0.12	NA	ND	NA	ND	NA
2,4 Dimethylphenol	105679	ug/L	--	--	ND	<40	<8.3	NA	<0.92	5.4 /J	4	4.4 J	ND	NA	<8.4	NA	13 J/	<0.84	9.1	20.0	NA	ND	NA	ND	NA	NA	<0.84	NA	ND	NA	ND	NA
2,6-Dinitrotoluene	606202	ug/L	0.005	0.05	ND	<3.8	<2.8	NA	<0.31	<0.29	<2.9	<0.29	ND	NA	<2.9	NA	<1.5	<0.29	<0.29	<0.29	NA	ND	NA	ND	NA	NA	<0.29	NA	ND	NA	ND	NA
4,6-Dinitro-2-methylphenol	534521	ug/L	--	--	ND	<31	<16	NA	<1.8	<1.6	<1.7	<1.6	ND	NA	<16	NA	<8.5	<1.6	<1.6	<1.6	NA	ND	NA	ND	NA	NA	<1.6	NA	ND	NA	ND	NA
Di-n-butylphthalate	84742	ug/L	--	--	ND	<25	<6.8	NA	<0.75	<0.69	1.7 J	<0.68	ND	NA	<6.8	NA	<3.6	1.4 J/J	1.6 J	0.94 J	NA	ND	NA	ND	NA	NA	<0.68	NA	ND	NA	ND	NA
Di-n-octylphthalate	117840	ug/L	--	--	ND	<5.2	<4.9	NA	<0.55	2.4 JH/J	0.55 J	<0.50	ND	NA	<5.0	NA	<2.6	<0.50	<0.5	<0.51	NA	ND	NA	ND	NA	NA	<0.50	NA	ND	NA	ND	NA
Fluorene	86737	ug/L	80	400	ND	11	<1.9	NA	<0.21	2.4 /J	2	3	ND	NA	<1.9	NA	<1.0	<0.19	1.0	0.95 J	NA	ND	NA	ND	NA	NA	<0.19	NA	ND	NA	ND	NA
Isophorone	78591	ug/L	--	--	ND	<3.8	<1.8	NA	<0.20	<0.19	<0.19	<0.18	ND	NA	<1.8	NA	<2.1	<0.18	<0.18	<0.19	NA	ND	NA	ND	NA	NA	<0.18	NA	ND	NA	ND	NA
1-methylnaphthalene	90120	ug/L	--	--	ND	140	93	NA	1.1 J	65 /J	87	81	ND	NA	57	NA	40.0	26 /J	36.0	34.0	NA	ND	NA	ND	NA	NA	<0.16	NA	ND	NA	ND	NA
2-Methylnaphthalene	91576	ug/L	--	--	59	170	100	NA	1.1 J	70 /J	96	85	34	NA	59	NA	42.0	27 /J	38.0	32.0	NA	ND	NA	ND	NA	NA	<0.17	NA	ND	NA	ND	NA
Naphthalene	91203	ug/L	8	40	**82**	**190**	**160**	NA	1.1 J	**120 /J**	**240**	**150**	**78**	NA	**140**	NA	**110.0**	71 /J	**130.0**	**83.0**	NA	ND	NA	ND	NA	NA	<0.18	NA	ND	NA	ND	NA
n-Nitrosodiphenylamine	62759	ug/L	0.7	7	ND	<6.4	<3.6	NA	<0.40	<0.37	<0.49	<0.48	ND	NA	<3.7	NA	<1.9	<0.37	<0.48	<0.48	NA	ND	NA	ND	NA	NA	<0.37	NA	ND	NA	ND	NA
Pentachlorophenol	87865	ug/L	0.1	1	**27**	**25 J**	<11	NA	<1.2	**5.5 /J**	**7**	**3 J**	ND	NA	<11	NA	<5.9	**6.1 /J**	**2.5 J**	**2 J**	NA	ND	NA	ND	NA	NA	<1.1	NA	ND	NA	ND	NA
Phenanthrene	85018	ug/L	--	--	ND	6.3	3.4	NA	<0.34	1.7 /J	2	2	ND	NA	<3.1	NA	<1.6	<0.31	<0.31	0.48 J	NA	ND	NA	ND	NA	NA	<0.31	NA	ND	NA	ND	NA
Phenol	108952	ug/L	1200	6000	ND	11	21	NA	<5.6	3.7 J/J	5	5	ND	NA	12	NA	13 J/	7 /J	3.4	<0.49	NA	ND	NA	ND	NA	NA	<0.49	NA	ND	NA	ND	NA
3&4-methylphenol	1319773	ug/L	--	--	ND	190	200	NA	<10	23	72	87 J	ND	NA	250	NA	290.0	120 /J	120.0	130.0	NA	ND	NA	ND	NA	NA	<1.4	NA	ND	NA	ND	NA
2-methylphenol	95487	ug/L	--	--	24	21	50	NA	<5.6	8	34	26	9	NA	31	NA	55.0	34 /J	24.0	30.0	NA	ND	NA	ND	NA	NA	<0.88	NA	ND	NA	ND	NA
2,4,5-Trichlorophenol	95954	ug/L	--	--	ND	<27	<11	NA	<1.2	4	<12	<1.1	ND	NA	<11	NA	<5.9	1.8 /J	2.7 J	<1.1	NA	ND	NA	ND	NA	NA	<1.1	NA	ND	NA	ND	NA
2,4,6-Trichlorophenol	88062	ug/L	--	--	ND	<29	<10	NA	<1.1	<1.0	<11	<1.0	ND	NA	<10	NA	<5.3	<1.0	<1	<1.0	NA	ND	NA	ND	NA	NA	<1.0	NA	ND	NA	ND	NA
Natural Attenuation Parameters																																	
Dissolved Iron		mg/L	0.15	0.3	**110**	**61.3**	**96.3**	NA	NA	NA	NA	NA	**10**	**51.6**	**83.5**	NA	NA	NA	NA	NA	0.043	ND	*0.215*	0.0973	0.046J	0.046J	<0.034	**0.334**	0.127	**5.85**	*0.297*	0.147
Dissolved Manganese		ug/L	25	50	**850**	**523**	**685**	NA	NA	NA	NA	NA	**190**	**683**	**829**	NA	NA	NA	NA	NA	**105**	2	2.6	3.3	12.9	12.9	<6.0	**164**	6.1	**50.1**	3.7	4
Total Iron		mg/L	0.15	0.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.893**	**20.9**	**15.1**	**40.4**	**40.4**	NA	NA	**0.753**	**64**	**16.8**	**50.1**
Total Manganese		ug/L	25	50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**99.7**	**142**	**88.8**	**168**	**168**	NA	NA	**154**	**390**	**148**	**367**
Alkalinity (Dissolved		mg/L	--	--	260	200	250	NA	NA	NA	NA	NA	300	240	270	NA	NA	NA	NA	NA	NA	130	75	19	58	58	110	NA	89	84	54	120
Chloride (Dissolved)		mg/L	125	250	3.4	4.1	NA	NA	NA	NA	NA	NA	3.4	6.3	NA	NA	NA	NA	NA	NA	NA	0.85	2.5	1.8	4.1	4.1	NA	NA	0.69	2.1	3.6	2.1
BOD-5		mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND
Ammonia-N		mg/L	--	--	5.1	NA	NA	NA	NA	NA	NA	NA	1.2	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	0.013J	0.013J	NA	NA	ND	ND	ND	0.16
Total Kjeldahl-N		mg/L	--	--	12	5.8	NA	NA	NA	NA	NA	NA	3.1	7.6	NA	NA	NA	NA	NA	NA	NA	1.6	0.65	ND	ND	ND	NA	NA	1.6	4.1	0.78	1.5
Nitrate + Nitrite Nitrogen		mg/L	2	10	ND	<0.42	0.15	NA	NA	NA	NA	NA	ND	<0.42	0.12	NA	NA	NA	NA	NA	1.6	1.7	*6*	*4.1*	*3.1*	*3.1*	2	1.3	2.3	1.3	4.2*	1.3
Total Organic Carbon (TOC)		mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate		mg/L	125	250	1.8	<3.4	3.8	NA	NA	NA	NA	NA	1.9	<3.4	1.3	NA	NA	NA	NA	NA	3.9	4.2	7.7	6.6	6.7	6.7	4.6	5.1	7.8	3.2	13	3.7

Summary of Groundwater Analytical Results
Site 1 (Fire Training Area)
Volk Field Combat Readiness Training Center
Wisconsin Air National Guard
Camp Douglas, Wisconsin

			NR 140																										
		Units	PAL	ES	WW-4R										WW-5R														
Analyte					8/14/2001	10/22/2002	8/1/2008	10/14/2009	9/21/2010	2/8/2011	12/15/2011	3/13/2012	6/19/2012	10/3/2012	8/14/2001	10/22/2002	1/27/2003	4/22/2003	7/31/2003	5/19/2005	6/22/2007	7/31/2008	10/13/2009	9/21/2010	2/8/2011	12/13/2011	3/13/2012	6/19/2012	10/3/2012
Volatile Organic Compounds	CAS Number																												
Benzene	71432	ug/L	0.5	5	**88**	**26**	**20**	**33**	**15**	**49**	**56**	**35**	**32**	**32**	**73**	**160**	**320**	ND	**700**	**790**	**220**	*0.8*	**140**	**8.7**	**13**	**110**	**75**	**25**	**55**
n-Butylbenzene	104518	ug/L	--	--	49	400	9.2	18	16	59	19 J	29	20 J	25	62	81	70	ND	91J	ND	12	0.59	18	7.9	13	15	<12	8.4 J	24
sec- Butylbenzene	135988	ug/L	--	--	30	95	5.6	15	9.9	35	14 J	20	15 J	16	15	21	19	ND	ND	17	ND	0.4	12	7	9.7	13	<11	7.1 J	15
tert-Butylbenzene	98066	ug/L	--	--	ND	ND	ND	<7.6	<2.0	<4.0	<10	<10	<10	1.2	ND	ND	ND	ND	ND	5.5	ND	ND	<15	3.5	4.4	4.9 J	<10	<4	6.6
1,1 - Dichloroethane	75343	ug/L	85	850	ND	ND	ND	<14	<2.0	<4.0	<10	<10	<10	<0.20	ND	ND	ND	ND	ND	ND	ND	ND	<28	<1.0	<1.2	<2.0	<10	<4	<0.20
1,2-dichloroethane	107062	ug/L	0.5	5	ND	ND	ND	<11	<3.0	<6.0	<15	<15	<15	<0.30	ND	ND	ND	ND	ND	ND	ND	ND	<22	<1.5	<1.5	<3.0	<15	<6	<0.30
1,4-dichlorobenzene	106467	ug/L	15	75	ND	ND	ND	<5.0	<2.3	<4.6	<12	<12	<12	<0.19	ND	ND	ND	ND	ND	ND	ND	ND	<10	<1.2	<1.2	<2.3	<12	<4.6	<0.19
trans-1,3-Dichloropropene	10061026	ug/L	0.02	0.2	ND	ND	ND	<4.5	<1.9	<3.8	<9.5	<9.5	<9.5	<0.19	ND	ND	ND	ND	ND	ND	ND	ND	<9.0	<0.95	<0.95	<1.9	<9.5	<3.8	<0.19
Chloromethane	74873	ug/L	3	30	ND	ND	ND	<10	<4.0	<8.0	<20	<20	<20	0.45 J	ND	ND	ND	ND	ND	ND	ND	ND	<20	<2.0	<2.0	<4.0	<20	*<8*	<0.40
cis-1,2-Dichloroethene	156592	ug/L	7	70	ND	ND	ND	<12	<2.5	<5.0	<13	<13	<13	0.37 J	ND	ND	ND	ND	ND	*9.2*	ND	ND	<24	<1.3	<1.3	<2.5	<13	<5	0.81
trans - 1,2 - Dichloroethene	156605	ug/L	20	100	ND	ND	ND	<18	<2.5	<5.0	<13	<13	<13	<0.25	ND	ND	ND	ND	ND	ND	ND	ND	<36	<1.3	<1.3	<2.5	<13	<5	<0.25
Ethylbenzene	100414	ug/L	140	700	*300*	*270*	89	*310*	*170*	*310*	*290*	*330*	*360*	*350*	*260*	*250*	*500*	*670*	*540*	*670*	*350*	4.6	*550*	100	*250*	*510*	*350*	*260*	*240*
Isopropylbenzene	98828	ug/L	--	--	24	64	11	34	23	35	28	33	34	34	38	53	57	ND	63J	70	44	1.8	55	38	44	57	39	35	58
p-Isopropyltoluene	99876	ug/L	--	--	9	100	5.1	13	10	35	13 J	15	<12	14	11	23	16	ND	ND	18	10	0.4	13	8.7	11	13	<12	5.4 J	17
Methyl-tert-butyl ether	1634044	ug/L	12	60	ND	ND	ND	<7.6	<2.9	<5.8	<25	<15	<15	<0.29	ND	ND	ND	ND	ND	ND	ND	ND	<15	<1.5	<1.5	<2.9	<15	<5.8	<0.29
Methylene Chloride	75092	ug/L	0.5	5	ND	ND	ND	<15	<4.0	**11**	<50	<20	<20	<0.40	ND	ND	ND	ND	ND	ND	ND	ND	<30	<2.0	*2.1*	<4.0	27	<8	<0.40
Naphthalene	91203	ug/L	8	40	**180**	**350**	**53**	**220**	**130**	**210**	**200**	**250**	**180**	**130**	**110**	**110**	**130**	**260**	**200**	**530**	**130**	2.5	**160**	**63**	**110**	**170**	**97**	**85**	**120**
n-Propylbenzene	103651	ug/L	--	--	35	86	15	48	31	57	40	49	44	39	50	64	72	110	83J	89	49	2	79	41	59	72	45	43	39
Tetrachloroethene	127184	ug/L	0.5	5	ND	ND	ND	<13	<3.0	<6.0	<25	<15	<15	<0.30	ND	ND	ND	ND	ND	ND	ND	ND	<26	<1.5	<1.5	<3.0	<15	<6	<0.30
Toluene	108883	ug/L	160	800	**2600**	**870**	*280*	**1500**	*690*	**1900**	**1900**	**1400**	**1900**	**2000**	*580*	**950**	**3100**	**6600**	**3400**	**4400**	**1500**	1	**2800**	*110*	**380**	**2800**	**1700**	**850**	**990**
1,1,1-Trichloroethane	71556	ug/L	40	200	ND	ND	ND	<20	<2.1	<4.2	<25	<11	<11	<0.21	ND	ND	ND	ND	ND	ND	ND	ND	<40	<1.1	<1.1	<2.1	<11	<4.2	0.89
Trichloroethene	79016	ug/L	0.5	5	ND	ND	ND	**5.1**	<2.1	**5.1**	<25	<11	<11	**5.3**	ND	ND	ND	ND	ND	**7.7**	ND	ND	*3.7*	<1.1	*1.1*	<3.0	<11	<4.2	*2*
Total Trimethylbenzene		ug/L	96	480	*353*	**690**	*140*	*444*	*296*	**630**	*380*	**490**	*426*	*428*	**530**	**490**	**550**	**680**	**730**	**830**	**530**	8.3	**620**	*211*	**500**	**550**	*380*	*387*	*294*
1,2,4-Trimethylbenzene	95636	ug/L	--	--	*270*	390	110	350	230	490	300	390	340	360	370	340	380	480	510	660	390	6.7	460	160	380	410	280	290	220
1,3,5-Trimethylbenzene	108678	ug/L	--	--	83	300	30	94	66	140	80	100	86	68	160	150	170	200	220	170	140	1.6	160	51	120	140	100	97	74
Total Xylenes		ug/L	400	2000	*870*	*1060*	299	*1240*	*770*	*1190*	*1180*	*1280*	*1310*	*1410*	*990*	*1160*	*1800*	*1950*	2100	2100	*1330*	17.8	*1630*	*510*	*1010*	*1530*	*1110*	*1000*	*760*
m&p-Xylene	1330207	ug/L	--	--	570	660	200	820	520	790	790	840	880	950	670	780	1200	1300	1400	1400	940	11	1100	280	730	1000	760	700	540
o-Xylene	95476	ug/L	--	--	300	400	99	420	250	400	390	440	430	460	320	380	600	650	700	700	390	6.8	530	130	280	530	350	300	220
Semivolatile Organic Compounds																													
benzoic acid	65850	ug/L	--	--	NA	ND	ND	NA	<17	NA	<58	<11	<11	<11	NA	ND	NA	ND	NA	ND	NA	ND	NA	<17	NA	<11	<12	<11	<11
bis(2-Ethylhexyl)phthalate	117817	ug/L	0.6	6	NA	ND	ND	NA	1.9 /UB	NA	<2.3	2.1 JB/UJ	*5.8*	*1.6 J*	NA	*1.4*	NA	ND	NA	ND	ND	ND	*<2.1*	1.5 /UB	NA	0.61 J/U	1.4 JB/UJ	*2.5*	<0.45
bis(2-chlorethyl)ether	108601	ug/L	--	--	NA	ND	ND	NA	<0.21	NA	<1.1	<0.21	<0.22	<0.22	NA	ND	NA	ND	NA	ND	ND	ND	<0.67	<0.21	NA	<0.21	<0.22	<0.22	<0.22
Dibenzofuran	132649	ug/L	--	--	NA	ND	ND	NA	2	NA	3.4 J/	2.5	2.1	1.6	NA	0.52	NA	ND	NA	ND	ND	ND	0.53	0.36	NA	1.0 J	0.45 J/J	0.37 J	<0.19
Acetophenone	98862	ug/L	--	--	NA	ND	ND	NA	<0.27	NA	<1.4	<0.27	<0.28	<0.27	NA	ND	NA	ND	NA	ND	ND	ND	<0.45	<0.28	NA	<0.28	<0.28	<0.28	34
Diethyl phthalate	84662	ug/L	--	--	NA	ND	ND	NA	<0.45	NA	<2.4	<0.45	<0.46	<0.45	NA	ND	NA	ND	NA	ND	ND	1.4	<0.57	0.46	NA	<0.46	<0.47	<0.46	3.9
1,4-dichlorobenzene	106467	ug/L	15	75	NA	ND	ND	NA	<0.19	NA	<1.0	<0.19	<12	<0.19	NA	ND	NA	ND	NA	ND	ND	ND	<0.92	<0.19	NA	<0.19	<0.20	<4.6	<0.19
4-chloroaniline	106478	ug/L	--	--	NA	1200	ND	NA	<0.12	NA	<0.63	<0.12	<0.12	<0.12	NA	ND	NA	ND	NA	ND	ND	ND	<0.081	<0.12	NA	<0.12	<0.13	<0.12	<0.12
2,4 Dimethylphenol	105679	ug/L	--	--	NA	ND	ND	NA	<0.83	NA	<4.3	<0.83	2.2 J	2.9 J	NA	ND	NA	ND	NA	ND	ND	1.5	<4.0 /UJ	<0.84	NA	3.3 J/	4.6 /J	2.3 J	<0.84
2,6-Dinitrotoluene	606202	ug/L	0.005	0.05	NA	ND	ND	NA	<0.28	NA	<1.5	<0.28	<0.29	<0.28	NA	0.6	NA	ND	NA	ND	ND	ND	<0.38	<0.29	NA	<0.29	<0.29	<0.29	<0.29
4,6-Dinitro-2-methylphenol	534521	ug/L	--	--	NA	ND	ND	NA	<1.6	NA	<8.4	<1.6	<1.6	<1.6	NA	ND	NA	ND	NA	ND	ND	ND	<3.1 /UJ	<1.6	NA	<1.6	<1.7	<1.6	<1.6
Di-n-butylphthalate	84742	ug/L	--	--	NA	ND	ND	NA	<0.68	NA	<3.5	<0.68	1.8 J	<0.68	NA	ND	NA	ND	NA	ND	ND	ND	<2.5	<0.68	NA	<0.68	<0.71	1 J	<0.68
Di-n-octylphthalate	117840	ug/L	--	--	NA	ND	ND	NA	<0.49	NA	<2.6	<0.49	<0.5	<0.49	NA	ND	NA	ND	NA	ND	ND	ND	<0.53	<0.50	NA	<0.50	<0.52	<0.5	<0.50
Fluorene	86737	ug/L	80	400	NA	ND	ND	NA	3.2	NA	<1.0	<0.19	0.74	<0.19	NA	0.32	NA	ND	NA	ND	ND	ND	<0.2	<0.19	NA	<0.19	<0.20	<0.19	<0.19
Isophorone	78591	ug/L	--	--	NA	ND	ND	NA	<1.8	NA	<5.3	<0.18	<0.18	<0.18	NA	1.4	NA	ND	NA	ND	ND	ND	<0.38	<0.18	NA	<0.18	<0.19	<0.18	<0.18
1-methylnaphthalene	90120	ug/L	--	--	NA	ND	ND	NA	33	NA	56	48 /J	44	47	NA	ND	NA	ND	NA	ND	ND	ND	26	14	NA	32 /B	17 /J	16	36
2-Methylnaphthalene	91576	ug/L	--	--	NA	760	15	NA	44	NA	63	55 /J	47	50	NA	35	NA	33	NA	58	43	ND	33	15	NA	37 /B	16 /J	18	36
Naphthalene	91203	ug/L	8	40	NA	**350**	*29*	NA	**79**	NA	**130**	**130 /J**	**180**	**130**	NA	**87**	NA	**92**	NA	**130** M	**100**	0.35	**83**	**42**	NA	**120 /U**	**63/J**	**85**	**120**
n-Nitrosodiphenylamine	62759	ug/L	0.7	7	NA	ND	ND	NA	<0.36	NA	<1.9	<0.36	<0.48	<0.47	NA	ND	NA	ND	NA	ND	ND	ND	<065	<0.37	NA	<0.37	<0.38	<0.48	<0.48
Pentachlorophenol	87865	ug/L	0.1	1	NA	ND	ND	NA	<1.1	NA	<5.8	<1.1	<1.1	<1.1	NA	ND	NA	ND	NA	ND	ND	ND	<3.0 /UJ	<1.1	NA	<1.1	<1.2	<1.1	<1.1
Phenanthrene	85018	ug/L	--	--	NA	ND	ND	NA	<0.30	NA	<1.6	<0.30	<0.31	<0.30	NA	ND	NA	ND	NA	ND	ND	ND	<0.28	<0.31	NA	<0.31	<0.32	<0.31	<0.31
Phenol	108952	ug/L	1200	6000	NA	ND	ND	NA	<0.48	NA	7.1 J/	6.5 /J	<0.49	3.3 J	NA	ND	NA	ND	NA	ND	ND	ND	<1.0 /UJ	<0.49	NA	5.1 /B	3.4 J/J	2.5	4.3 J
3&4-methylphenol	1319773	ug/L	--	--	NA	ND	ND	NA	39	NA	100	110 /J	91	44	NA	ND	NA	8.9	NA	17 M	NA	ND	84 /J	9.3	NA	72 J/	40 /J	16	26
2-methylphenol	95487	ug/L	--	--	NA	ND	ND	NA	3.2	NA	15 J/	12 /J	7.3	7.2	NA	ND	NA	ND	NA	ND	ND	ND	2.5 J/J	<0.88	NA	7.1	9.2 /J	3.5	3.5 J
2,4,5-Trichlorophenol	95954	ug/L	--	--	NA	ND	ND	NA	<1.1	NA	<5.8	<1.1	<1.1	<1.1	NA	ND	NA	ND	NA	ND	ND	ND	0.85 /J	<1.1	NA	1.8 J/	<1.2	<1.1	<1.1
2,4,6-Trichlorophenol	88062	ug/L	--	--	NA	ND	ND	NA	<1.0	NA	<5.3	<1.0	<1	<1.0	NA	ND	NA	3.7	NA	ND	ND	ND	<2.9 /J	<1.0	NA	<1.0	<1.1	<1	<1.0
Natural Attenuation Parameters																													
Dissolved Iron		mg/L	0.15	0.3	**61.7**	**62.9**	**14**	**60.9**	**68.4**	NA	NA	NA	NA	NA	**23.1**	**9.71**	**28.5**	**35.6**	**49.2**	**40.2**	**26.4**	**1.2**	**31**	**7.17**	NA	NA	NA	NA	NA
Dissolved Manganese		ug/L	25	50	**1350**	**1530**	**780**	**1450**	**821**	NA	NA	NA	NA	NA	**1080**	**646**	**1190**	**1620**	**2210**	**1280**	**836**	**80**	**809**	**142**	NA	NA	NA	NA	NA
Total Iron		mg/L	0.15	0.3	NA	**68.9**	NA	NA	NA	NA	NA	NA	NA	NA	NA	**18.3**	**27.9**	**40.1**	**40.6**	**54.6**	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Manganese		ug/L	25	50	NA	**1580**	NA	NA	NA	NA	NA	NA	NA	NA	NA	**1070**	**1110**	**1640**	**1820**	**1540**	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alkalinity (Dissolved		mg/L	--	--	NA	140	150	160	180	NA	NA	NA	NA	NA	NA	190	160	210	200	300	260	290	220	210	NA	NA	NA	NA	NA
Chloride (Dissolved)		mg/L	125	250	NA	16	4.3	7.6	NA	NA	NA	NA	NA	NA	NA	1.7	1.1	1.2	1.3J	21	12	3.9	10	NA	NA	NA	NA	NA	NA
BOD-5		mg/L	--	--	NA	37	NA	NA	NA	NA	NA	NA	NA	NA	NA	8	ND	20	13	18	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ammonia-N		mg/L	--	--	NA	2.3	1.4	NA	NA	NA	NA	NA	NA	NA	NA	1.4	1.8	2	1.5	1.8	1.1	ND	NA	NA	NA	NA	NA	NA	NA
Total Kjeldahl-N		mg/L	--	--	NA	12	4.7	8.7	NA	NA	NA	NA	NA	NA	NA	7.2	3.6	6.2	4.4	7.9	4.6	1.3	5.7	NA	NA	NA	NA	NA	NA
Nitrate + Nitrite Nitrogen		mg/L	2	10	1.1	0.46	2.7*	0.21	0.14	NA	NA	NA	NA	NA	0.38	*3.4*	ND	0.2	*2.2*	1.09	*4.2*	*2*	*3.4*	*5.2*	NA	NA	NA	NA	NA
Total Organic Carbon (TOC)		mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	65	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate		mg/L	125	250	9.1	8.4	16	4.5	13	NA	NA	NA	NA	NA	20	40	35	24	37	29	54	20	27	48	NA	NA	NA	NA	NA

Summary of Groundwater Analytical Results
Site 1 (Fire Training Area)
Volk Field Combat Readiness Training Center
Wisconsin Air National Guard
Camp Douglas, Wisconsin

			NR 140									
		Units	PAL	ES	WW-6R							
Analyte					8/1/2008	10/13/2009	9/21/2010	2/8/2011	12/15/2011	3/13/2012	6/19/2012	10/3/2012
Volatile Organic Compounds	CAS Number											
Benzene	71432	ug/L	0.5	5	**5.6**	<0.55	<0.19	*1.7*	0.26 J	<0.19	<0.19	<0.19
n-Butylbenzene	104518	ug/L	--	--	5	3.0	1.6	5	6.1	2.4	1.8	0.37 J
sec- Butylbenzene	135988	ug/L	--	--	3.4	4.1	2.2	5.3	6.5	3.4	2.5	1.1
tert-Butylbenzene	98066	ug/L	--	--	ND	0.32	<0.20	0.39	0.41 J	0.23	0.21 J	<0.20
1,1 - Dichloroethane	75343	ug/L	85	850	ND	<1.4	<0.20	<0.20	<0.20	<0.20	<0.2	<0.20
1,2-dichloroethane	107062	ug/L	0.5	5	ND	<1.1	<0.30	<0.30	<0.30	<0.30	<0.3	<0.30
1,4-dichlorobenzene	106467	ug/L	15	75	ND	<0.50	<0.23	<0.23	<0.23	<0.23	<0.23	<0.20
trans-1,3-Dichloropropene	10061026	ug/L	0.02	0.2	ND	<0.45	<0.19	<0.19	<0.25	<0.19	<0.19	<0.19
Chloromethane	74873	ug/L	3	30	ND	0.38 B/UB	<0.40	<0.40	<0.40	<0.40	0.46 J	<0.40
cis-1,2-Dichloroethene	156592	ug/L	7	70	ND	<1.2	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25
trans - 1,2 - Dichloroethene	156605	ug/L	20	100	ND	<1.8	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25
Ethylbenzene	100414	ug/L	140	700	4.4	5.2	4.5	11	9.4	4.4	4.1	0.25 J
Isopropylbenzene	98828	ug/L	--	--	3.1	4.7	3.1	5.5	6.2	3.1	2.9	1.2
p-Isopropyltoluene	99876	ug/L	--	--	2.9	2.1	0.96	3.4	4.7	1.1	0.69 J	<0.23
Methyl-tert-butyl ether	1634044	ug/L	12	60	ND	<0.76	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29
Methylene Chloride	75092	ug/L	0.5	5	ND	<1.5	<0.40	<0.40	<0.40	<0.40	<0.4	<0.40
Naphthalene	91203	ug/L	8	40	**41**	*37*	*27*	**51**	**48**	*24*	*26*	<0.19
n-Propylbenzene	103651	ug/L	--	--	2.8	4.2	2.8	5.5	6.2	2.8	2.6	0.75
Tetrachloroethene	127184	ug/L	0.5	5	ND	<1.3	<0.30	<0.30	<1.0	<0.30	<0.3	<0.30
Toluene	108883	ug/L	160	800	28	5.2	2.9	16	11	1.5	1.6	0.37 UB
1,1,1-Trichloroethane	71556	ug/L	40	200	ND	<2.0	<0.21	<0.21	<0.25	<0.21	<0.21	<0.21
Trichloroethene	79016	ug/L	0.5	5	ND	0.39	0.24	*0.54*	0.27 J	<0.21	*0.5 J*	<0.21
Total Trimethylbenzene		ug/L	96	480	57	31.8	20.4	67.0	76.0	21.6	10.3	<0.91
1,2,4-Trimethylbenzene	95636	ug/L	--	--	45	27	17	57	62	18	8.6	0.68
1,3,5-Trimethylbenzene	108678	ug/L	--	--	12	4.8	3.4	10	14	3.6	1.7	<0.23
Total Xylenes		ug/L	400	2000	60	66	41	130	125	47	38	<5.55
m&p-Xylene	1330207	ug/L	--	--	32	39	21	87	84	27	13	0.85 J
o-Xylene	95476	ug/L	--	--	28	27	20	43	41	20	25	4.7
Semivolatile Organic Compounds												
benzoic acid	65850	ug/L	--	--	ND	NA	<17	NA	<11	<11	<11	<12
bis(2-Ethylhexyl)phthalate	117817	ug/L	0.6	6	ND	NA	*2.1 /UB*	NA	1.3 J/U	1.3 JB/UJ	*1.8*	<0.46
bis(2-chlorethyl)ether	108601	ug/L	--	--	ND	NA	<0.21	NA	<0.42	<0.21	<0.23	<0.23
Dibenzofuran	132649	ug/L	--	--	3.1	NA	<0.19	NA	1.7	0.33 J/J	0.8	<0.20
Acetophenone	98862	ug/L	--	--	ND	NA	<0.27	NA	<0.28	<0.28	<0.28	1.40
Diethyl phthalate	84662	ug/L	--	--	ND	NA	<0.45	NA	<0.47	<0.46	<0.46	<0.47
1,4-dichlorobenzene	106467	ug/L	15	75	ND	NA	<0.19	NA	<0.20	<0.19	<0.23	<0.20
4-chloroaniline	106478	ug/L	--	--	ND	NA	<0.12	NA	<0.13	<0.12	<0.12	<0.13
2,4 Dimethylphenol	105679	ug/L	--	--	ND	NA	2.1	NA	<0.85	<0.84	<0.85	<0.86
2,6-Dinitrotoluene	606202	ug/L	0.005	0.05	ND	NA	<0.28	NA	<0.29	<0.29	<0.29	<0.29
4,6-Dinitro-2-methylphenol	534521	ug/L	--	--	ND	NA	<1.6	NA	<1.7	<1.6	<1.6	<1.7
Di-n-butylphthalate	84742	ug/L	--	--	ND	NA	<0.68	NA	<1.0	<0.68	1 J	<0.71
Di-n-octylphthalate	117840	ug/L	--	--	ND	NA	<0.49	NA	<0.51	<0.50	<0.51	<0.52
Fluorene	86737	ug/L	80	400	2.2	NA	0.60	NA	1.1	0.29 J/J	0.37 J	<0.20
Isophorone	78591	ug/L	--	--	ND	NA	<0.18	NA	<0.19	<0.18	<0.19	<0.19
1-methylnaphthalene	90120	ug/L	--	--	ND	NA	9	NA	16	2.3 /J	10	0.24 J
2-Methylnaphthalene	91576	ug/L	--	--	39	NA	7.8	NA	14	<0.17	5	<0.18
Naphthalene	91203	ug/L	8	40	*29*	NA	*9.7*	NA	*17*	<0.18	*26*	<0.19
n-Nitrosodiphenylamine	62759	ug/L	0.7	7	ND	NA	<0.36	NA	<0.83	<0.37	<0.48	<0.49
Pentachlorophenol	87865	ug/L	0.1	1	ND	NA	<1.1	NA	<1.1	<1.1	<1.1	<1.2
Phenanthrene	85018	ug/L	--	--	2.2	NA	0.96	NA	0.89 J/	<031	0.38 J	<0.32
Phenol	108952	ug/L	1200	6000	ND	NA	<0.48	NA	<0.50	<0.49	<0.49	<0.51
3&4-methylphenol	1319773	ug/L	--	--	ND	NA	<1.4	NA	<1.5	<1.4	<1.4	<1.5
2-methylphenol	95487	ug/L	--	--	ND	NA	<0.86	NA	<0.90	<0.88	<0.89	<0.91
2,4,5-Trichlorophenol	95954	ug/L	--	--	ND	NA	<1.1	NA	<1.1	<1.1	<1.1	<1.2
2,4,6-Trichlorophenol	88062	ug/L	--	--	ND	NA	<1.0	NA	<1.0	<1.0	<1	<1.1
Natural Attenuation Parameters												
Dissolved Iron		mg/L	0.15	0.3	**6.4**	**0.401**	**3.13**	NA	NA	NA	NA	NA
Dissolved Manganese		ug/L	25	50	**390**	*45.5*	**250**	NA	NA	NA	NA	NA
Total Iron		mg/L	0.15	0.3	NA	NA	NA	NA	NA	NA	NA	NA
Total Manganese		ug/L	25	50	NA	NA	NA	NA	NA	NA	NA	NA
Alkalinity (Dissolved		mg/L	--	--	120	89	120	NA	NA	NA	NA	NA
Chloride (Dissolved)		mg/L	125	250	2.9	6.2	NA	NA	NA	NA	NA	NA
BOD-5		mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA
Ammonia-N		mg/L	--	--	0.42	NA	NA	NA	NA	NA	NA	NA
Total Kjeldahl-N		mg/L	--	--	2.3	0.31	NA	NA	NA	NA	NA	NA
Nitrate + Nitrite Nitrogen		mg/L	2	10	*2.2*	*5.1*	2.4	NA	NA	NA	NA	NA
Total Organic Carbon (TOC)		mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate		mg/L	125	250	14	5.5	6.7	NA	NA	NA	NA	NA

Notes:

1 This table presents a historical summary of the analytical results for samples collected at Site 1.
2 Only detected compounds and metals are listed.
3 ug/L = micrograms per liter.
4 mg/L = milligrams per liter.
5 NR 140 = Wisconsin Administrative Code, Chapter NR 140, Public Health Groundwater Standards.
6 PAL= NR 140 Preventive Action Limit.
7 ES = NR 140 Enforcement Standard.
8 -- = NR 140 standards have not been established.
9 ND = Compound or metal not detected above the reporting limit.
10 J = Compound or metal was detected below the quantitation limit, concentration is estimated.
11 NA = Not analyzed.
12 Well locations designated with "R" are replacement wells
13 Priority Pollutant Metals have not been sampled since September 13, 2000. Therefore, are not reported in this table.
14 B = Analyte detected at a similar concentration in a blank
14 U = not detected
15 x/x = Laboratory flag/data review flag.
16 *Italicized* : Concentration attains or exceeds PAL.
17 **Bolded** Concentration exceeding the ES.

Footnotes:

a) The NR140 ES and PAL values are based on January 2012 NR Register #673.

Attachment A.2 – Pre-remedial Soil Analytical Tables

Attachment A2
Summary of Historic Soil Analytical Results
Site 1 (Fire Training Area)
Volk Field Combat Readiness Training Center
Wisconsin Air National Guard
Camp Douglas, Wisconsin
and
Hardwood Range
Wisconsin Air National Guard
Juneau County, Wisconsin

	Unit	Industrial Direct-Contact RCLs	GW RCLs	Historical NR 720 RCL	Sample Location and Depth (feet-bgs)											
					VF1 B-1			VF1 B-2			VF1 B-3			VF1 B-4		
					(0.5)	(3.5)	(8.5)	(0.5)	(3.5)	(8.5)	(1.0)	(3.5)	(8.5)	(0.5)	(3.5)	(8.5)
Date Sampled					1/26/88	1/26/88	1/26/88	1/26/88	1/26/88	1/26/88	1/26/88	1/26/88	1/26/88	1/26/88	1/26/88	1/26/88
Benzene	ug/Kg	7410	5.12	5.5	**16000**	*6500*	**19000**	ND	ND	ND	ND	ND	ND	*2000*	ND	*41*
Ethylbenzene	ug/Kg	37000	1570	2900	*17000*	*6300*	*15000*	ND	ND	ND	ND	ND	ND	*4800*	ND	110
Toluene	ug/Kg	818000	1107.2	1500	*3600*	*2000*	*5700*	ND	ND	ND	ND	ND	ND	*2500*	ND	51
Xylenes	ug/Kg	258000	3940	4100	*83000*	*31000*	*60000*	ND	ND	ND	ND	ND	ND	*9800*	ND	190
Tetrachchloroethylene	ug/Kg	153000	4.54	--	0.94	0.7	0.58	ND	ND	ND	ND	ND	ND	0.53	ND	ND
Trichloroethene	ug/Kg	8810	3.58	--	33	17	14	ND	ND	ND	ND	ND	ND	8	ND	ND
Naphthalene	ug/Kg	26000	658.741	--	ND	7.3	7.3	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	ug/Kg	2200000	--	--	9.7	15	14	ND	ND	ND	ND	ND	ND	ND	ND	ND
Diethyl Phthalate	ug/Kg	100000000	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium (1)	mg/Kg	-	360000	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper (1)	mg/Kg	40900	91.6	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel (1)	mg/Kg	19800	13	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc (1)	mg/Kg	100000	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (1)	mg/Kg	800	27	500	5.7	0.8	0.6	1.8	<0.5	<0.5	1.7	1.6	<0.5	62	3.9	0.9
PCBs	ug/Kg	744	9.384	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Petroleum Hydrocarbons	mg/Kg	see footnote	--	--	22000	8600	8600	260	<100	<100	260	130	<100	11000	220	1500

Source: Final 2009 Annual Monitoring Report (MWH 2010)

Attachment A2
Summary of Historic Soil Analytical Results
Site 1 (Fire Training Area)
Volk Field Combat Readiness Training Center
Wisconsin Air National Guard
Camp Douglas, Wisconsin
and
Hardwood Range
Wisconsin Air National Guard
Juneau County, Wisconsin

	Unit	Industrial Direct-Contact RCLs	GW RCLs	Historical NR 720 RCL	Sample Location and Depth (feet-bgs)											
					VF1 B-5			VF1 B-6			VF1 B-7			VF1 B-8		
					(0.0)	(3.5)	(10.5)	(0.0)	(3.5)	(8.5)	(0.0)	(3.5)	(8.5)	(0.0)	(3.5)	(8.5)
Date Sampled					1/27/88	1/27/88	1/27/88	1/27/88	1/27/88	1/27/88	1/27/88	1/27/88	1/27/88	1/28/88	1/28/88	1/28/88
Benzene	ug/Kg	7410	5.12	5.5	ND	ND	*110*	*120*	*1200*	*970*	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/Kg	37000	1570	2900	ND	ND	360	370	*6000*	*8500*	ND	ND	ND	ND	ND	ND
Toluene	ug/Kg	818000	1107.2	1500	ND	ND	500	800	*2600*	*1800*	ND	ND	ND	ND	ND	ND
Xylenes	ug/Kg	258000	3940	4100	ND	ND	880	2200	*25000*	*84000*	ND	ND	ND	ND	ND	ND
Tetrachchloroethylene	ug/Kg	153000	4.54	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	ug/Kg	8810	3.58	--	ND	ND	ND	ND	5.7	8.6	ND	ND	ND	ND	ND	ND
Naphthalene	ug/Kg	26000	658.741	--	ND	ND	ND	ND	ND	2.7	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	ug/Kg	2200000	--	--	ND	ND	ND	ND	ND	2.7	ND	ND	ND	ND	ND	ND
Diethyl Phthalate	ug/Kg	100000000	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium (1)	mg/Kg	-	360000	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper (1)	mg/Kg	40900	91.6	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel (1)	mg/Kg	19800	13	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc (1)	mg/Kg	100000	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (1)	mg/Kg	800	27	500	5.8	1.2	<0.5	77.5	55	1.9	1.8	0.9	<0.5	11.05	0.5	<0.5
PCBs	ug/Kg	744	9.384	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Petroleum Hydrocarbons	mg/Kg	see footnote	--	--	280	600	420	830	3000	3200	<100	<100	<100	160	<100	<100

Attachment A2
Summary of Historic Soil Analytical Results
Site 1 (Fire Training Area)
Volk Field Combat Readiness Training Center
Wisconsin Air National Guard
Camp Douglas, Wisconsin
and
Hardwood Range
Wisconsin Air National Guard
Juneau County, Wisconsin

	Unit	Industrial Direct-Contact RCLs	GW RCLs	Historical NR 720 RCL	Sample Location and Depth (feet-bgs)											
					VF1 B-9			VF1 B-10			VF1 B-11			VF1 B-12		
					(0.0)	(3.5)	(8.5)	(0.5)	(3.5)	(8.5)	(1.0)	(3.5)	(8.5)	(1.0)	(3.5)	(8.5)
Date Sampled					1/28/88	1/28/88	1/28/88	2/9/1988	2/9/1988	2/9/1988	2/9/1988	2/9/1988	2/9/1988	2/9/1988	2/9/1988	2/9/1988
Benzene	ug/Kg	7410	5.12	5.5	ND	ND	ND	ND	ND	ND	ND	ND	**15000**	ND	ND	ND
Ethylbenzene	ug/Kg	37000	1570	2900	ND	ND	ND	ND	ND	ND	ND	ND	**40000**	ND	ND	ND
Toluene	ug/Kg	818000	1107.2	1500	ND	ND	ND	ND	ND	ND	ND	ND	*37000*	ND	ND	ND
Xylenes	ug/Kg	258000	3940	4100	ND	ND	ND	ND	ND	ND	ND	ND	*88000*	ND	ND	ND
Tetrachchloroethylene	ug/Kg	153000	4.54	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	ug/Kg	8810	3.58	--	ND	ND	ND	ND	ND	ND	ND	ND	3.3	ND	ND	ND
Naphthalene	ug/Kg	26000	658.741	--	ND	ND	ND	ND	ND	ND	ND	ND	1.8	ND	ND	ND
2-Methylnaphthalene	ug/Kg	2200000	--	--	ND	ND	ND	ND	ND	ND	ND	ND	2.4	ND	ND	ND
Diethyl Phthalate	ug/Kg	100000000	--	--	ND	ND	1	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium (1)	mg/Kg	-	360000	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper (1)	mg/Kg	40900	91.6	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel (1)	mg/Kg	19800	13	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc (1)	mg/Kg	100000	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (1)	mg/Kg	800	27	500	2.3	0.9	<0.5	4.4	1	<0.5	1.8	0.6	0.9	2.2	1.5	0.7
PCBs	ug/Kg	744	9.384	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Petroleum Hydrocarbons	mg/Kg	see footnote	--	--	<100	100	<100	570	<100	<100	<100	<100	<100	<100	<100	<100

Attachment A2
Summary of Historic Soil Analytical Results
Site 1 (Fire Training Area)
Volk Field Combat Readiness Training Center
Wisconsin Air National Guard
Camp Douglas, Wisconsin
and
Hardwood Range
Wisconsin Air National Guard
Juneau County, Wisconsin

	Unit	Industrial Direct-Contact RCLs	GW RCLs	Historical NR 720 RCL	Sample Location and Depth (feet-bgs)											
					VF1 B-13			VF1 B-14			VF1 B-15			VF1 B-16	VF1 SB-17	
					(1.5)	(3.5)	(8.5)	(1)	(3.5)	(8.5)	(0.5)	(3.5)	(8.5)	(6)	(3)	(6)
Date Sampled					02/09/88	02/10/88	02/10/88	02/10/88	02/10/88	02/10/88	02/10/88	02/10/88	02/10/88	11/02/89	11/02/89	11/02/89
Benzene	ug/Kg	7410	5.12	5.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA
Ethylbenzene	ug/Kg	37000	1570	2900	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA
Toluene	ug/Kg	818000	1107.2	1500	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA
Xylenes	ug/Kg	258000	3940	4100	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA
Tetrachchloroethylene	ug/Kg	153000	4.54	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA
Trichloroethene	ug/Kg	8810	3.58	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA
Naphthalene	ug/Kg	26000	658.741	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA
2-Methylnaphthalene	ug/Kg	2200000	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA
Diethyl Phthalate	ug/Kg	100000000	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA
Chromium (1)	mg/Kg	-	360000	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	2	3.2	1.4
Copper (1)	mg/Kg	40900	91.6	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.7	1.4	U
Nickel (1)	mg/Kg	19800	13	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	U	U	U
Zinc (1)	mg/Kg	100000	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.4	3.9	U
Lead (1)	mg/Kg	800	27	500	0.8	0.6	<0.5	7.1	1	0.6	1.7	<0.5	<0.5	1.2	2	0.67
PCBs	ug/Kg	744	9.384	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA
Total Petroleum Hydrocarbons	mg/Kg	see footnote	--	--	<100	<100	<100	<100	<100	<100	<100	<100	<100	NA	NA	NA

Attachment A2
Summary of Soil Analytical Results
Site 1 (Fire Training Area)
Volk Field Combat Readiness Training Center
Wisconsin Air National Guard
Camp Douglas, Wisconsin
and
Hardwood Range
Wisconsin Air National Guard
Juneau County, Wisconsin

	Unit	Industrial Direct-Contact RCLs	GW RCLs	Historical NR 720 RCL	Sample Location and Depth (feet-bgs)												
					VF1 SB-18		VF1 SB-19		VF1 SB-20		VF1 B-21		VF1 B-22		VF1 SB-23		
					(3)	(6)	(2)	(8)	(2.5)	(8.5)	(2.5)	(8)	(2.5)	(8)	(2.5)	(8)	(12.5)
Date Sampled					11/02/89	11/02/89	11/07/89	11/07/89	11/07/89	11/07/89	11/07/89	11/07/89	11/07/89	11/07/89	11/07/89	11/07/89	11/07/89
Benzene	ug/Kg	7410	5.12	5.5	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/Kg	37000	1570	2900	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/Kg	818000	1107.2	1500	NA	NA	11	5.5	U	5.5	U	U	U	U	U	U	U
Xylenes	ug/Kg	258000	3940	4100	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachchloroethylene	ug/Kg	153000	4.54	--	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	ug/Kg	8810	3.58	--	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bis(2-ethylhexyl)phthalate	ug/Kg	123000	--		NA	NA	U	U	U	U	U	U	U	U	U	U	U
Naphthalene	ug/Kg	26000	658.741	--	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	ug/Kg	2200000	--	--	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Diethyl Phthalate	ug/Kg	100000000	--	--	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium (1)	mg/Kg	--	360000	--	4.6	1.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper (1)	mg/Kg	40900	91.6	--	10	U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel (1)	mg/Kg	19800	13	--	1.1	U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc (1)	mg/Kg	100000	--	--	44	6.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (1)	mg/Kg	800	27	500	100	12	2.2	2.7	3.7	0.92	4.2	1.3	1.8	1.2	4.4	2	1.3
PCBs	ug/Kg	744	9.384	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Petroleum Hydrocarbons	mg/Kg	see footnote	--	--	NA	NA	U	U	U	U	U	U	U	U	485	U	U

Attachment A2
Summary of Soil Analytical Results
Site 1 (Fire Training Area)
Volk Field Combat Readiness Training Center
Wisconsin Air National Guard
Camp Douglas, Wisconsin
and
Hardwood Range
Wisconsin Air National Guard
Juneau County, Wisconsin

	Unit	Industrial Direct-Contact RCLs	GW RCLs	Historical NR 720 RCL	Sample Location and Depth (feet-bgs)											
					VF1 SB-24		VF1 SB-25		VF1 SB-26		VF1 SB-27		VF1 SB-28		VF1 SB-29	
					(2)	(8)	(2)	(8)	(2)	(8)	(2)	(8)	(2.5)	(8)	(2)	(8)
Date Sampled					11/07/89	11/07/89	11/28/89	11/28/89	11/08/89	11/08/89	11/08/89	11/08/89	11/07/89	11/07/89	11/08/89	11/08/89
Benzene	ug/Kg	7410	5.12	5.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/Kg	37000	1570	2900	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/Kg	818000	1107.2	1500	U	U	U	U	U	U	U	U	U	U	U	U
Xylenes	ug/Kg	258000	3940	4100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachchloroethylene	ug/Kg	153000	4.54	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	ug/Kg	8810	3.58	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bis(2-ethylhexyl)phthalate	ug/Kg	123000	--	--	650	1100	U	U	U	U	U	U	U	U	U	U
Naphthalene	ug/Kg	26000	658.741	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	ug/Kg	2200000	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Diethyl Phthalate	ug/Kg	100000000	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium [(1)]	mg/Kg	--	360000	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper [(1)]	mg/Kg	40900	91.6	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel [(1)]	mg/Kg	19800	13	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc [(1)]	mg/Kg	100000	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead [(1)]	mg/Kg	800	27	500	7.6	3.3	37	15	18	4.2	1.7	1.2	2.7	1.5	1.7	0.78
PCBs	ug/Kg	744	9.384	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Petroleum Hydrocarbons	mg/Kg	see footnote	--	--	660	1000	730	1350	20	36	U	U	U	U	380	20

Attachment A2
Summary of Soil Analytical Results
Site 1 (Fire Training Area)
Volk Field Combat Readiness Training Center
Wisconsin Air National Guard
Camp Douglas, Wisconsin
and
Hardwood Range
Wisconsin Air National Guard
Juneau County, Wisconsin

	Unit	Industrial Direct-Contact RCLs	GW RCLs	Historical NR 720 RCL	Sample Location and Depth (feet-bgs)			
					VF1 SB-30		VF1 SB-31	
					(2)	(8)	(2)	(8)
Date Sampled					11/8/89	11/8/89	11/8/89	11/8/89
Benzene	ug/Kg	7410	5.12	5.5	ND	ND	ND	ND
Ethylbenzene	ug/Kg	37000	1570	2900	ND	ND	ND	ND
Toluene	ug/Kg	818000	1107.2	1500	U	U	U	U
Xylenes	ug/Kg	258000	3940	4100	ND	ND	ND	ND
Tetrachchloroethylene	ug/Kg	153000	4.54	--	ND	ND	ND	ND
Trichloroethene	ug/Kg	8810	3.58	--	ND	ND	ND	ND
Bis(2-ethylhexyl)phthalate	ug/Kg	123000	--		U	U	U	U
Naphthalene	ug/Kg	26000	658.741	--	ND	ND	ND	ND
2-Methylnaphthalene	ug/Kg	2200000	--	--	ND	ND	ND	ND
Diethyl Phthalate	ug/Kg	100000000	--	--	ND	ND	ND	ND
Chromium (1)	mg/Kg	--	360000	--	NA	NA	NA	NA
Copper (1)	mg/Kg	40900	91.6	--	NA	NA	NA	NA
Nickel (1)	mg/Kg	19800	13	--	NA	NA	NA	NA
Zinc (1)	mg/Kg	100000	--	--	NA	NA	NA	NA
Lead (1)	mg/Kg	800	27	500	2.7	1.7	2.2	0.75
PCBs	ug/Kg	744	9.384	--	NA	NA	NA	NA
Total Petroleum Hydrocarbons	mg/Kg	see footnote	--	--	24	26	28	U

Attachment A2
ummary of Soil Analytical Results
Site 1 (Fire Training Area)
ield Combat Readiness Training Center
Wisconsin Air National Guard
Camp Douglas, Wisconsin
and
Hardwood Range
Wisconsin Air National Guard
Juneau County, Wisconsin
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Notes:1. This table presents a historical summary of the analytical results for soil samples collected at Site 1.
2. NR 720 Industrial Direct-Contact RCL = Wisconsin Administrative Code, Chapter NR 720, Soil Cleanup Standards, Residual Contaminant Level.(ca December 2013 or 1990)
3. PCB = Polychlorinated biphenyls.
4. -- = NR 720 RCL not established.
5. ND = Compound or metal not detected.
6. U = Compound or metal detected below the detection limit.
7. NA = Not Analyzed.
8. Concentrations in bold attain or exceed NR 720 RCLs (ca December 2013).
9. Concentrations italicized attain or exceed Historical NR 720 RCLs (ca 1990) but do not exceed current RCLs

Footnote:
(1) = Concentrations were compared to NR 720 Table 2 Industrial values.

Attachment A.3 – Post-remedial Soil Analytical Tables

Table 6
Summary of 2009 Soil Boring Analytical Results
Volk Field CRTC - Site 1
Wisconsin Air National Guard
Camp Douglas, WI

				Location ID:	VF1-SB31			VF1-SB31			VF1-SB32			VF1-SB32			VF1-SB33			VF1-SB33		
				Sample Date:	10/8/2009			10/8/2009			10/8/2009			10/8/2009			10/8/2009			10/8/2009		
				Sample Depth (ft):	1-2	Lab	Valid	10-12	Lab	Valid	1-2	Lab	Valid	10-12	Lab	Valid	1-2	Lab	Valid	10-12	Lab	Valid
				Sample ID:	VF1-SB31-1-2	Qualifier	Qualifier	VF1-SB31-10-12	Qualifier	Qualifier	VF1-SB32-1-2	Qualifier	Qualifier	VF1-SB32-10-12	Qualifier	Qualifier	VF1-SB33-1-2	Qualifier	Qualifier	VF1-SB33-10-12	Qualifier	Qualifier
Compounds	**NR 720 Industrial Direct-Contact RCL (mg/kg)**	**GW RCLs (mg/kg)**	**Historical NR 720 RCL (mg/kg)**	**Exposure Pathway**																		
VOCS (mg/kg) [1]																						
Acetone	100000	3.69	140,000	Inhalation	0.28	J	0.76 UB	3.5	U		3.4	U		0.7	U		3.7	UV		1.4	U	
n-Butylbenzene	108	--	NS	--	0.026	U		0.12	U		0.11	U		0.024	U		0.12	UV		0.046	U	
sec-Butylbenzene	145	--	NS	--	0.025	U		0.11	U		0.11	U		0.023	U		0.12	UV		0.045	U	
tert-Butylbenzene	183	--	NS	--	0.029	U		0.13	U		0.13	U		0.026	U		0.14	UV		0.052	U	
Ethylbenzene	37	1.57	400	Inhalation	0.024	U		0.11	U		0.1	U		0.022	U		0.11	UV		0.043	U	
Isopropylbenzene	268	--	860	Inhalation	0.044	U		0.21	U		0.19	U		0.041	U		0.21	UV		0.08	U	
p-Isopropyltoluene	162	--	NS	--	0.024	U		0.097	J		0.1	U		0.022	U		0.11	UV		0.043	U	
Naphthalene	26	0.658	460	Inhalation	0.086	U		0.4	U		0.39			0.079	U		0.42	UV		0.16	U	
n-Propylbenzene	264	--	260	Industrial Soil [5]	0.043	U		0.2	U		0.19	U		0.04	U		0.21	UV		0.078	U	
Toluene	818	1.1072	670	Inhalation	0.032	U		0.15	U		0.14	U		0.029	U		0.15	UV		0.058	U	
1,2,4-Trimethylbenzene	219	1.38	260	Industrial Soil [5]	0.022	U		0.08	J		0.095	U		0.02	U		0.1	UV		0.039	U	
1,3,5-Trimethylbenzene	182	1.38	10,000	Industrial Soil [5]	0.025	U		0.18			0.31			0.023	U		0.12	UV		0.03	J	
m,p-Xylene	388	3.94	NS	--	0.049	U		0.23	U		0.22	U		0.045	U		0.24	UV		0.089	U	
o-Xylene	434	3.94	NS	--	0.044	U		0.078	J		0.19	U		0.041	U		0.21	UV		0.08	U	
Total Xylenes	258	3.94	1900	Inhalation	0.093	U		0.078			0.41	U		0.086	U		0.45	UV		0.169	U	
GENERAL CHEMISTRY																						
Percent Solids [2]	--	--	NS	NS	89.8			94.9			97.1			96.5			93			96.2		
Total Organic Carbon (mg/kg)	--	--	NS	NS	6200			NA			2800			NA			5100			NA		
SVOCS (mg/kg) [3]																						
Bis(2-ethylhexyl)phthalate	123	--	20,400	Ingestion	0.3	Q,B	UB	0.26	Q,B	UB	0.46	Q,B		0.22	Q,B	UB	0.52	Q,B	UB	0.24	Q,B	IB
Benzo(a)pyrene	0.211	0.47	0.21	Industrial Soil [5]	0.07	U		0.067	U		0.064	U		0.065	U		0.087			0.066	U	
Benzo(g,h,i)perylene	--	--	NS	--	0.09	U		0.087	U		0.084	U		0.084	U		0.049	J		0.086	U	
Chrysene	211	0.145	210	Industrial Soil [5]	0.044	U		0.042	U		0.041	U		0.041	U		0.043	U		0.018	J	
Dibenzofuran	1020	--	20400	Ingestion	0.14	U		0.13	U		0.13	U		0.13	U		0.13	U		0.13	U	
Diethylphthalate	100000	--	2,300	Inhalation	0.14	U		0.13	U		0.13	U		0.13	U		0.14	U		0.13	U	
Dimethylphthalate	--	--	NS	--	0.095	U		0.091	U		0.088	U		0.033	J		0.093	U		0.09	U	
Di-n-butylphthalate	61600	5.03	2,300	Inhalation	0.083	JB	0.15 UB	0.14	U		0.19	B	UB	0.057	JB	0.14 UB	0.14	U		0.14	U	
Fluorene	22000	14.81	40900	Ingestion	0.039	U		0.037	U		0.12			0.036	U		0.038	U		0.037	U	
Fluoranthene	22000	88.81	40,900	Ingestion	0.076	U		0.073	U		0.045	J		0.071	U		0.074	U		0.065	J	
Indeno(1,2,3-cd)pyrene	2.11	--	2.1	Industrial Soil [5]	0.031	U		0.03	U		0.029	U		0.029	U		0.084			0.029	U	
3 & 4-Methylphenol	30800	--	51,100	Ingestion	0.38	U		0.37	U		0.35	U		0.36	U		0.37	U		0.36	U	
2-Methylnaphthalene	2200	--	4100	Industrial Soil [5]	0.072	U		0.069	U		0.066	U		0.067	U		0.07	U		0.068	U	
Naphthalene	26	0.658	460	Inhalation	0.033	U		0.032	U		0.031	U		0.031	U		0.032	U		0.031	U	
Phenanthrene	--	--	NS	--	0.042	U		0.04	U		0.24			0.039	U		0.041	U		0.04	U	
Pyrene	16500	54.47	30700	Ingestion	0.039	J		0.026	J		0.12			0.037	U		0.16			0.1		
METALS (mg/kg) [4]																						
Lead	800	27	500	Industrial Dir. Cont.	17.6			0.27	U		4.0			0.32	U		3.2			0.11		

Notes included on final page of Table.

Source: Final 2009 Annual Monitoring Report (MWH 2010)

Table 6
Summary of 2009 Soil Boring Analytical Results
Volk Field CRTC - Site 1
Wisconsin Air National Guard
Camp Douglas, WI

				Location ID:	VF1-SB34			VF1-SB34			VF1-SB35			VF1-SB35			VF1-SB36			VF1-SB36		
				Sample Date:	10/8/2009			10/8/2009			10/8/2009			10/8/2009			10/8/2009			10/8/2009		
				Sample Depth (ft):	1-2	Lab	Valid	10-12	Lab	Valid	1-2	Lab	Valid	10-12	Lab	Valid	1-2	Lab	Valid	10-12	Lab	Valid
				Sample ID:	VF1-SB34-1-2	Qualifier	Qualifier	VF1-SB34-10-12	Qualifier	Qualifier	VF1-SB35-1-2	Qualifier	Qualifier	VF1-SB35-10-12	Qualifier	Qualifier	VF1-SB36-1-2	Qualifier	Qualifier	VF1-SB36-10-12	Qualifier	Qualifier
Compounds	**NR 720 Industrial Direct-Contact RCL (mg/kg)**	**GW RCLs (mg/kg)**	**Historical NR 720 RCL (mg/kg)**	**Exposure Pathway**																		
VOCS (mg/kg) [1]																						
Acetone	100000	3.69	140,000	Inhalation	14	U		3.1	U		0.71	U		14	U		0.71	U		0.71	U	
n-Butylbenzene	108	--	NS	--	1.4			0.48			0.024	U		1.2			0.024	U		0.024	U	
sec-Butylbenzene	145	--	NS	--	0.45	U		0.21			0.023	U		0.45	U		0.023	U		0.023	U	
tert-Butylbenzene	183	--	NS	--	0.53	U		0.011	J		0.027	U		0.53	U		0.027	U		0.027	U	
Ethylbenzene	37	1.57	400	Inhalation	0.43	U		0.12			0.022	U		0.25	J		0.022	U		0.022	U	
Isopropylbenzene	268	--	860	Inhalation	0.81	U		0.066		J	0.041	U		0.81	U		0.041	U		0.041	U	
p-Isopropyltoluene	162	--	NS	--	0.61			0.19			0.022	U		0.75			0.022	U		0.018	J	
Naphthalene	26	0.658	460	Inhalation	6.4			0.45			0.081	U		0.65	J		0.081	U		0.08	U	
n-Propylbenzene	264	--	260	Industrial Soil [5]	0.79	U		0.15		J	0.04	U		0.79	U		0.04	U		0.04	U	
Toluene	818	1.1072	670	Inhalation	0.58	U		0.091			0.017	J		0.88			0.03	U		0.03	U	
1,2,4-Trimethylbenzene	219	1.38	260	Industrial Soil [5]	5			1.2			0.041			3.5			0.02	U		0.02	U	
1,3,5-Trimethylbenzene	182	1.38	10,000	Industrial Soil [5]	3.1			0.34			0.018	J		1.8			0.023	U		0.024		
m,p-Xylene	388	3.94	NS	--	0.9	U		0.39			0.019	J		1.6			0.046	U		0.046	U	
o-Xylene	434	3.94	NS	--	5			0.18			0.041	U		1			0.041	U		0.041	U	
Total Xylenes	258	3.94	1900	Inhalation	5			0.57			0.046			2.6			0.87	U		0.87	U	
GENERAL CHEMISTRY																						
Percent Solids [2]	--	--	NS	NS	95.6			95.1			95.5			96.2			94.8			96.3		
Total Organic Carbon (mg/kg)	--	--	NS	NS	8900			NA			3400			NA			<530			NA		
SVOCS (mg/kg) [3]																						
Bis(2-ethylhexyl)phthalate	123	--	20,400	Ingestion	0.7	Q,B	UB	0.098	UQ		0.097	UQ		0.18	Q,B	UB	0.32	Q,B	UB	0.24	B,Q,M	UB
Benzo(a)pyrene	0.211	0.47	0.21	Industrial Soil [5]	0.066	U		0.066	U		0.066	U		0.066	U		0.066	U		0.066	U	
Benzo(g,h,i)perylene	--	--	NS	--	0.086	U		0.086	U		0.085	U		0.085	U		0.086	U		0.086	U	
Chrysene	211	0.145	210	Industrial Soil [5]	0.042	U		0.042	U		0.042	U		0.042	U		0.042	U		0.042	U	
Dibenzofuran	1020	--	20400	Ingestion	2.4			0.057	J		0.13	U		0.11	J		0.13	U		0.11	J	
Diethylphthalate	100000	--	2,300	Inhalation	0.13	U		0.13	U		0.13	U		0.13	U		0.13	U		0.13	U	
Dimethylphthalate	--	--	NS	--	0.09	U		0.041	J		0.047	J		0.09	U		0.032	J		0.09	U	
Di-n-butylphthalate	61600	5.03	2,300	Inhalation	0.14	U		0.065	JB	0.14 UB	0.061	JB	0.14 UB	0.054	JB	0.14 UB	0.05	JB	0.14 UB	0.081	JB	0.14 UB
Fluorene	22000	14.81	40900	Ingestion	3.9			0.026	J		0.036	U		0.041			0.037	U		0.056	Y	
Fluoranthene	22000	88.81	40,900	Ingestion	0.072	U		0.073	U		0.072	U		0.072	U		0.072	U		0.072	U	
Indeno(1,2,3-cd)pyrene	2.11	--	2.1	Industrial Soil [5]	0.029	U		0.029	U		0.029	U		0.029	U		0.029	U		0.029	U	
3 & 4-Methylphenol	30800	--	51,100	Ingestion	0.36	U		0.37	U		0.36	U		0.36	U		0.36	U		0.36	U	
2-Methylnaphthalene	2200	--	4100	Industrial Soil [5]	12			0.56			0.095			0.29			0.068	U		0.31		
Naphthalene	26	0.658	460	Inhalation	4.1			0.2			0.023	J		0.031	U		0.031	U		0.031	U	
Phenanthrene	--	--	NS	--	6.4			0.056			0.034	J		0.04	U		0.04	U		0.04	UM	
Pyrene	16500	54.47	30700	Ingestion	0.46			0.013	J		0.012	J		0.037	U		0.038	U		0.028	J	
METALS (mg/kg) [4]																						
Lead	800	27	500	Industrial Dir. Cont.	5.8			1.1		J	2.1			0.32	U		2.2			1.3		

Notes included on final page of Table.

Table 6
Summary of 2009 Soil Boring Analytical Results
Volk Field CRTC - Site 1
Wisconsin Air National Guard
Camp Douglas, WI

				Location ID:	VF1-SB37			VF1-SB37			VF1-SB38			VF1-SB38			VF1-SB39 [6]			VF1-SB40 [7]		
				Sample Date:	10/8/2009			10/8/2009			10/8/2009			10/8/2009			10/8/2009			10/8/2009		
				Sample Depth (ft):	1-2	Lab	Valid	10-12	Lab	Valid	1-2	Lab	Valid	10-12	Lab	Valid	10-12	Lab	Valid	10-12	Lab	Valid
				Sample ID:	VF1-SB37-1-2	Qualifier	Qualifier	VF1-SB37-10-12	Qualifier	Qualifier	VF1-SB38-1-2	Qualifier	Qualifier	VF1-SB38-10-12	Qualifier	Qualifier	VF1-SB39-10-12	Qualifier	Qualifier	VF1-SB40-10-12	Qualifier	Qualifier
Compounds	**NR 720 Industrial Direct-Contact RCL (mg/kg)**	**GW RCLs (mg/kg)**	**Historical NR 720 RCL (mg/kg)**	**Exposure Pathway**																		
VOCS (mg/kg) [1]																						
Acetone	100000	3.69	140,000	Inhalation	3.5	U		6.9	U		0.69	U		7	U		0.69	U		3.5	U	
n-Butylbenzene	108	--	NS	--	0.12	U		5.7			0.023	U		2.1			0.37			6.6		
sec-Butylbenzene	145	--	NS	--	0.11	U		3.1			0.022	U		1.1			0.16			3.2		
tert-Butylbenzene	183	--	NS	--	0.13	U		0.34			0.026	U		0.29			0.026	U		0.32		
Ethylbenzene	37	1.57	400	Inhalation	0.11	U		3.4			0.021	U		0.53			0.09			2.8		
Isopropylbenzene	268	--	860	Inhalation	0.2	U		2			0.04	U		0.54			0.045		J	1.7		
p-Isopropyltoluene	162	--	NS	--	0.11	U		2.9			0.021	U		2			0.15			2.9		
Naphthalene	26	0.658	460	Inhalation	0.4	U		3.9			0.078	U		2			0.41			4.7		
n-Propylbenzene	264	--	260	Industrial Soil [5]	0.2	U		3.8			0.039	U		0.48			0.099		J	3.4		
Toluene	818	1.1072	670	Inhalation	0.047	J		2.9		J	0.01	J		0.44			0.088			1.8		J
1,2,4-Trimethylbenzene	219	1.38	260	Industrial Soil [5]	0.16			27			0.03			17			0.88			28		
1,3,5-Trimethylbenzene	182	1.38	10,000	Industrial Soil [5]	0.095	J		10			0.014	J		8.7			0.26			11		
m,p-Xylene	388	3.94	NS	--	0.14	J		14			0.045	U		4.4			0.3			11		
o-Xylene	434	3.94	NS	--	0.2	U		8.1			0.04	U		3.4			0.15			6.9		
Total Xylenes	258	3.94	1900	Inhalation	0.23	J		22.1			0.085	U		7.8			0.45			17.9		
GENERAL CHEMISTRY																						
Percent Solids [2]	--	--	NS	NS	94.7			96.8			95.2			96.3			95.4			97.7		
Total Organic Carbon (mg/kg)	--	--	NS	NS	1300			NA			13000			NA			NA			NA		
SVOCS (mg/kg) [3]																						
Bis(2-ethylhexyl)phthalate	123	--	20,400	Ingestion	0.43	Q,B	UB	0.3	Q,B	UB	0.55	Q,B	UB	0.063	JQ,S	UJ	0.098	UQ	UJ	0.077	JQ,B	0.096 UB
Benzo(a)pyrene	0.211	0.47	0.21	Industrial Soil [5]	0.066	U		0.065	U		0.066	U		0.066	U		0.066	U		0.065	U	
Benzo(g,h,i)perylene	--	--	NS	--	0.086	U		0.085	U		0.086	U		0.085	U		0.086	U		0.084	U	
Chrysene	211	0.145	210	Industrial Soil [5]	0.042	U		0.041	U		0.042	U		0.042	U		0.042	U		0.041	U	
Dibenzofuran	1020	--	20400	Ingestion	0.13	U		0.11	J		0.13	U		0.13	U		0.049	J		0.14		
Diethylphthalate	100000	--	2,300	Inhalation	0.13	U		0.13	U		0.094	J		0.13	U		0.13	U		0.065	U	
Dimethylphthalate	--	--	NS	--	0.09	U		0.089	U		0.091	U		0.089	U		0.052	J		0.05	J	
Di-n-butylphthalate	61600	5.03	2,300	Inhalation	0.077	JB	0.14 UB	0.18	B	UB	0.092	JB	0.14 UB	0.22	B	UB	0.048	JB	0.14 UB	0.19	B	UB
Fluorene	22000	14.81	40900	Ingestion	0.037	U		0.055			0.032	J		0.036	U		0.023	J		0.077		
Fluoranthene	22000	88.81	40,900	Ingestion	0.072	J		0.13	U		0.026	J		0.072	U		0.073	U		0.071	U	
Indeno(1,2,3-cd)pyrene	2.11	--	2.1	Industrial Soil [5]	0.077	U		0.089	U		0.03	U		0.029	U		0.029	U		0.029	U	
3 & 4-Methylphenol	30800	--	51,100	Ingestion	0.36	U		0.36	U		0.34	J		0.36	U		0.36	U		0.36	U	
2-Methylnaphthalene	2200	--	4100	Industrial Soil [5]	0.26			4.3			0.22			2.3			0.48			4.9		
Naphthalene	26	0.658	460	Inhalation	0.15			2.9			0.032	U		1.5			0.14			3.4		
Phenanthrene	--	--	NS	--	0.027	J		0.054			0.03	J		0.028	J		0.046			0.077		
Pyrene	16500	54.47	30700	Ingestion	0.14			0.015	J		0.078			0.037	U		0.038	U		0.018	J	
METALS (mg/kg) [4]																						
Lead	800	27	500	Industrial Dir. Cont.	93			0.86			68.2			0.33	U		1.6		J	0.77		

Notes included on final page of Table.

Table 6
Summary of 2009 Soil Boring Analytical Results
Volk Field CRTC - Site 1
Wisconsin Air National Guard
Camp Douglas, WI

Notes:
NS = no standard, compound not available for use in the US EPA soil screening calculator, and a US EPA Regional Screening Level does not exist.
NA = not analyzed
NR 720 RCL - Wisconsin Administrative Code, Natural Resources Chapter NR 720 Residual Contaminant Level (ca December 2013 and Historical, 1990)
Bolded values indicate attainment or exceedance of a respective RCL concentration
ID = identification
ft = feet
ug/kg = micrograms per kilogram
mg/kg = milligrams per kilogram
VOCs = volatile organic compounds
SVOCs = semivolatile organic compounds
U = not detected
J = estimated value
Q = laboratory control sample recovery outside acceptable limits
/R = unusable
UJ = estimated quantitation limit
Y/ = replicate/duplicate precision outside acceptance limits
UB = not detected analyte detected in a blank
S = surrogate recovery outside acceptable limits
V = elevated reporting limit due to limited volume or dilution of sample

Footnotes:
1) VOCs analyzed by Method SW846 8260B. Only compounds detected are included in this table.
2) Percent solids analyzed by Method EPA 8000C.
3) SVOCs analyzed by Method SW846 8270C. Only compounds detected are included in this table.
4) Lead analyzed by Method SW846 6010C.
5) Compound not available for screening using the US EPA soil screening website, therefore no NR 720.19 RCL generated.
As a result, the soil standard used is the US EPA Regional Screening Level for Residiential soil.
6) Sample VF1-SB39-10-12 is a duplicate of Sample VF1-SB34-10-12
7) Sample VF1-SB40-10-12 is a duplicate of Sample VF1-SB37-10-12

Attachment A.4 – Pre Remaining Soil Contamination Soil Analytical Tables

Attachment A.4
Summary of Pre-Remedial Soil Analytical Results Exceeding RCLs
Site 1 (Fire Training Area)
Volk Field Combat Readiness Training Center

		Industrial Direct Contact RCL (ca 2013)	GW RCL (ca 2013)	Generic NR 720 RCL (ca 1990)	Sample Location and Depth (feet-bgs)									
					VF1 B-1			VF1 B-4 (3.5)		VF1 B-5	VF1 B-6			VF1 B-11
					0.5	3.5	8.5	0.5	8.5	8.5	0	3.5	8.5	8.5
Date Sampled	**Unit**				1/26/88	1/26/88	1/26/88	1/26/88	1/26/88	1/27/88	1/27/88	1/27/88	1/27/88	2/9/1988
Benzene	ug/Kg	7410	5.12	5.5	**16000**	*6500*	**19000**	*2000*	*41*	*110*	*120*	*1200*	*970*	**15000**
Ethylbenzene	ug/Kg	37000	1570	2900	*17000*	*6300*	*15000*	*4800*	110	360	370	*6000*	*8500*	**40000**
Toluene	ug/Kg	818000	1107.2	1500	*3600*	*2000*	*5700*	*2500*	51	500	800	*2600*	*1800*	*37000*
Xylenes	ug/Kg	258000	3940	4100	*83000*	*31000*	*60000*	*9800*	190	880	2200	*25000*	*84000*	*88000*
Tetrachchloroethylene	ug/Kg	153000	4.54	-	0.94	0.7	0.58	0.53	ND	ND	ND	ND	ND	ND
Trichloroethene	ug/Kg	8810	3.58	-	33	17	14	8	ND	ND	ND	5.7	8.6	3.3
Naphthalene	ug/Kg	26000	658.74	-	ND	7.3	7.3	ND	ND	ND	ND	ND	2.7	1.8
2-Methylnaphthalene	ug/Kg	2200000	--	-	9.7	15	14	ND	ND	ND	ND	ND	2.7	2.4
Diethyl Phthalate	ug/Kg	1E+08	--	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium[(1)]	mg/Kg	-	3.60E+05	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper(1)	mg/Kg	40900	91.6	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel[(1)]	mg/Kg	19800	13.00	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc[(1)]	mg/Kg	100000	--	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead[(1)]	mg/Kg	800	27	500	5.7	0.8	0.6	62	0.9	<0.5	77.5	55	1.9	0.9
PCBs	ug/Kg	744	0.009384	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Petroleum Hydrocarbons	mg/Kg	(see 10)	--	-	22000	8600	8600	11000	1500	420	830	3000	3200	<100

Source: Final 2009 Annual Monitoring Report (MWH 2010)

Notes:

1 This table presents only the pre-remedial soil analytical results for Site 1 because post-remedial results were below RCLs.

2. Not-to-Exceed Direct-Contact RCL = Wisconsin Administrative Code, Chapter NR 720, Industrial Direct-Contact Soil Cleanup Standards, Residual Contaminant Level (ca December 2013)

3. PCB = Polychlorinated biphenyls

4. --= NR 720 RCL not established.

5. ND = compound or metal not detected.

6. U = Compound or metal detected below the detection limit.

7. NA = Not Analyzed.

8. Concentrations in bold attain or exceed NR 720 Industrial Direct-Contact RCLs (ca December 2013).

9. Concentrations italicized exceed historical NR 720 RCLs (ca 1990) but do not exceed current RCLs (ca December 2013)

10. Current D-C RCLs are split into six types of Total Petroleum Hydrocarbons while historical samples were entire spectrum.

Attachment A.5 – Vapor Analytical Table

TABLE 4.3
VOLK FIELD ANGB
CAMP DOUGLAS, WI
SOIL GAS SURVEY RESULTS
SITE 1, FIRE TRAINING AREA

Sample	Sum of the Peaks Eluting Prior to Toluene (ppm toluene equivalents)	Benzene (ppm)	Toluene (ppm)	Ethylbenzene and Xylenes (ppm)	TCE (ppm)
VP-1, 6′	<0.5	<0.1	<0.1	<0.2	<0.4
VP-1, 9′	<0.5	<0.1	<0.1	<0.2	<0.4
VP-1, 12′			Water, No Sample		
VP-2, 3′	<0.5	<0.1	<0.1	<0.2	<0.4
VP-2, 6′	<0.5	<0.1	<0.1	<0.2	<0.4
VP-2, 9′	<0.5	<0.1	<0.1	<0.2	<0.4
VP-2, 12′	150	20	44	6	(a)
VP-3, 6′	<0.5	<0.1	<0.1	<0.2	<0.4
VP-3, 9′	<0.5	<0.1	<0.1	<0.2	<0.4
VP-3, 12′	5	<0.5	2	0.7	<0.4
VP-4, 11′			Water, No Sample		
VP-4, 9′			Water, No Sample		
VP-4, 6′	<0.5	<0.1	<0.1	<0.2	<0.4
VP-5, 6′	<0.5	<0.1	<0.1	<0.2	<0.4
VP-6, 6′	<0.5	<0.1	<0.1	<0.2	<0.4
VP-7, 6′			Water, No Sample		
VP-7, 4.5′	<0.5	<0.1	<0.1	<0.2	<0.4
VP-8, 6′			Water, No Sample		
VP-8, 4.5′	<0.5	<0.1	<0.1	<0.2	<0.4
VP-9, 5′	<0.5	<0.1	<0.1	<0.2	<0.4
VP-10, 5′	<0.5	<0.1	<0.1	<0.2	<0.4
VP-11, 6′	<0.5	<0.1	<0.1	<0.2	<0.4
VP-12, 4.5′	<0.5	<0.1	<0.1	<0.2	<0.4
VP-13, 4.5′	<0.5	<0.1	<0.1	<0.2	<0.4
VP-14, 6′	<0.5	<0.1	<0.1	<0.2	<0.4
VP-15, 6′	<0.5	<0.1	<0.1	<0.2	<0.4
VP-16, 6′	<0.5	<0.1	<0.1	<0.2	<0.4
VP-17, 6′	<0.5	<0.1	<0.1	<0.2	<0.4
VP-18, 8′	<0.5	<0.1	<0.1	<0.2	<0.4
VP-19, 9′	<0.5	<0.1	<0.1	<0.2	<0.4
VP-20, 10.5′	<0.5	<0.1	<0.1	<0.2	<0.4
VP-21, 9′	4,700	(a)	100	60	(a)
VP-22, 9′	<0.5	<0.1	<0.1	<0.2	<0.4
VP-23, 9′	<0.5	<0.1	<0.1	<0.2	<0.4
VP-24, 9′	<0.5	<0.1	<0.1	<0.2	<0.4
VP-25, 9′	<0.5	<0.1	<0.1	<0.2	<0.4
VP-26, 9′	<0.5	<0.1	<0.1	<0.2	<0.4

TABLE 4.3 - Continued
VOLK FIELD ANGB
CAMP DOUGLAS, WI
SOIL GAS SURVEY RESULTS
SITE 1, FIRE TRAINING AREA

Sample	Sum of the Peaks Eluting Prior to Toluene (ppm toluene equivalents)	Benzene (ppm)	Toluene (ppm)	Ethylbenzene and Xylenes (ppm)	TCE (ppm)
VP-27, 9′	<0.5	<0.1	<0.1	<0.2	<0.4
VP-28, 9′	<0.5	<0.1	<0.1	<0.2	<0.4
VP-29, 9′	<0.5	<0.1	<0.1	<0.2	<0.4
VP-30, 9′	<0.5	<0.1	<0.1	<0.2	<0.4
VP-31, 9′	<0.5	<0.1	<0.1	<0.2	<0.4
VP-32, 9′	1,500	(a)	70	90	(a)
VP-33, 9′	<0.5	<0.1	<0.1	<0.2	<0.4
VP-34, 9′	<0.5	<0.1	<0.1	<0.2	<0.4
VP-35, 9′	<0.5	<0.1	<0.1	<0.2	<0.4
VP-36, 9′	<0.5	<0.1	<0.1	<0.2	<0.4
VP-37, 9′	<0.5	<0.1	<0.1	<0.2	<0.4
VP-38, 9′	<0.5	<0.1	<0.1	<0.2	<0.4
VP-39, 9′	<0.5	<0.1	<0.1	<0.2	<0.4
VP-40, 9′	<0.5	<0.1	<0.1	<0.2	<0.4
VP-41, 9′	<0.5	<0.1	<0.1	<0.2	<0.4
VP-42, 3′	<0.5	<0.1	<0.1	<0.2	<0.4
VP-42, 6′	<0.5	<0.1	<0.1	<0.2	<0.4
VP-43, 6′	<0.5	<0.1	<0.1	<0.2	<0.4
VP-44, 6′	<0.5	<0.1	<0.1	<0.2	<0.4
VP-45, 6′	<0.5	<0.1	<0.1	<0.2	<0.4
VP-46, 6′	<0.5	<0.1	<0.1	<0.2	<0.4
VP-47, 6′	<0.5	<0.1	<0.1	<0.2	<0.4
VP-48, 6′	<0.5	<0.1	<0.1	<0.2	<0.4
VP-49, 6′	<0.5	<0.1	<0.1	<0.2	<0.4
VP-50, 6′	<1	<0.2	<0.2	<0.4	<1
VP-51, 6′	<1	<0.2	<0.2	<0.4	<1
VP-52, 6′	<0.5	<0.1	<0.1	<0.2	<0.4
VP-53, 6′	<0.5	<0.1	<0.1	<0.2	<0.4
VP-54, 9′	2,000	250	170	30	(a)
VP-55, 9′	<0.5	<0.1	<0.1	<0.2	<0.4
VP-56, 9′	<0.5	<0.1	<0.1	<0.2	<0.4

(a) Unable to qualitate from chromatogram.

Source: Final Remedial Investigation Report, Site 1 Fire Training Area (ES 1990)

Source: Final Remedial Investigation Report, Site 1 Fire Training Area (ES 1990)

Attachment A.6 – Other Media of Concern – Not Applicable

Attachment A.7 – Water Level Elevations

Attachment A.7
Summary of Groundwater Elevations
Site 1 (Fire Training Area)
Volk Field Combat Readiness Training Center
Wisconsin Air National Guard
Camp Douglas, Wisconsin

Well Number	Ground Surface Elevation (ft-msl)	Top of Casing Elevation (ft-msl)	Top of Screen Elevation (ft-msl)	Bottom of Screen Elevation (ft-msl)	Groundwater Elevation 7/30/03 (ft-msl)	Groundwater Elevation 8/31/04 (ft-msl)	Groundwater Elevation 5/19/05 (ft-msl)	Groundwater Elevation 8/01/06 (ft-msl)	Groundwater Elevation 11/15/06 (ft-msl)	Groundwater Elevation 4/30/07 (ft-msl)	Groundwater Elevation 6/21/07 (ft-msl)	Groundwater Elevation 7/31/08 (ft-msl)	Groundwater Elevation 10/13/09 (ft-msl)	Groundwater Elevation 9/20/10 (ft-msl)	Groundwater Elevation 2/8/11 (ft-msl)	Groundwater Elevation 12/13/11 (ft-msl)	Groundwater Elevation 3/12/12 (ft-msl)	Groundwater Elevation 6/18/2012 (ft-msl)	Groundwater Elevation 10/2/2012 (ft-msl)
VF1 MW-01R	911.3	912.96	903.3	893.3	901.28	902.64	901.62	901.03	901.21	902.06	901.59	905.03	901.62	903.74	902.42	902.24	901.97	902.38	900.95
VF1 MW-2R	913.4	915.88	906.6	896.3	901.85	903.25	902.13	901.57	901.76	902.58	902.14	905.57	902.15	904.30	902.98	NM	NM	NM	NM
VF1 MW-3R	913.6	916.17	906.3	896.0	901.72	903.11	902.01	901.42	901.62	902.44	901.99	905.47	901.99	904.19	902.83	902.61	902.34	902.78	901.35
VF1 MW-4	911.2	912.81	878.7	868.7	901.34	902.70	901.67	901.08	901.28	902.11	901.66	905.00	901.65	903.76	902.61	902.24	901.98	902.37	900.96
VF1 MW-10/MW-10R	915.3	918.16	906.9	896.6	901.68	903.07	NM	901.39	901.61	902.42	901.98	NM	NM	904.23	902.84	902.60	902.32	902.81	901.34
VF1 MW-13	908.7	911.16	900.7	890.7	901.02	902.40	NM	900.85	901.01	901.18	901.41	NM	NM	903.45	902.18	902.03	901.83	902.13	900.75
VF1 MW-14	908.8	911.28	869.8	864.8	901.02	902.37	NM	900.81	900.98	901.82	901.36	NM	NM	903.37	902.10	901.95	901.72	902.08	900.68
VF1 MW-15P	908.70	911.48	875.7	865.7	NI	NI	NI	NI	NI	NI	NI	NI	NI	903.27	901.98	901.78	901.54	901.96	900.91
VF1 MW-16P	911.30	913.48	879.3	869.3	NI	NI	NI	NI	NI	NI	NI	NI	NI	903.88	903.10	902.41	902.16	902.55	901.13
VF1 MW-17P	914.30	916.77	879.3	869.3	NI	NI	NI	NI	NI	NI	NI	NI	NI	904.22	905.89	902.52	902.27	902.71	901.26
VF1 MW-18P	912.80	915.04	878.8	868.8	NI	NI	NI	NI	NI	NI	NI	NI	NI	904.12	902.81	902.54	902.31	902.69	901.67
VF1 MW-19P	915.20	917.10	879.2	869.2	NI	NI	NI	NI	NI	NI	NI	NI	NI	904.34	903.01	902.72	902.50	902.95	901.62
VF1 MW-20P	910.40	913.15	852.4	847.4	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	902.13	901.89	902.28	900.85
VF1 MW-21P	910.10	912.76	877.1	867.1	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	902.02	901.78	902.18	900.76
ET-1/ET-1R	920.8	923.57	908.5	898.2	902.81	904.32	NM	902.51	902.76	903.48	903.08	NM	NM	905.45	903.97	903.72	903.36	903.92	902.47
ET-2/ET-2R	917.3	919.97	907.8	897.5	901.10	903.53	902.39	901.82	902.04	902.81	902.38	905.95	902.43	904.65	903.28	903.04	902.75	903.22	901.79
ET-3	915.4	917.52	905.4	896.4	901.54 FP	903.24 FP	902.19 FP	901.58 FP	901.83 FP	902.69 FP	902.25 FP	905.72 FP	902.26	904.40	903.09	902.86	902.58	903.03	901.59
ET-5	916.7	918.77	906.2	897.2	901.23 FP	903.27 FP	902.30 FP	901.75 FP	902.00 FP	902.86 FP	902.28 FP	905.80	902.43 FP	904.61	903.17	902.93	902.62	903.10	901.67
WW-1	915.7	917.12	902.7	892.7	901.86 FP	903.29 FP	902.16 FP	901.55 FP	901.80 FP	902.60 FP	902.14 FP	905.69	902.22	904.37	903.06	902.82	902.52	903.00	901.57
WW-2/WW-2R	917.5	919.64	907.4	897.1	902.07	903.51	NM	901.76	904.01	902.77	902.35	NM	NM	904.64	903.21	902.98	902.70	903.21	901.75
WW-3/WW-3R	915.6	918.38	907.4	897.1	902.02	903.44	NM	901.74	901.95	902.74	902.30	NM	NM	904.52	903.18	902.94	902.67	903.12	901.69
WW-4/WW-4R	915.8	918.47	906.5	896.2	901.92 FP	903.11 FP	902.23 FP	901.66 FP	901.89 FP	902.68 FP	902.21	905.75	902.27	904.46	903.09	902.85	902.57	903.02	901.61
WW-5/WW-5R	916.5	918.98	906.9	896.6	902.00	903.33 FP	903.33	901.62	901.85 FP	902.64 FP	902.17 FP	905.75	902.27	904.45	903.10	902.86	902.56	903.03	901.60
WW-6/WW-6R	916.8	919.28	907.1	896.8	902.13 FP	903.31 FP	902.32 FP	901.76 FP	901.98 FP	902.76 FP	902.31 FP	905.89	902.41	904.60	903.23	NM	902.71	903.19	901.74

Source: Final 2011-2012 Monitoring Report (MWH 2013)

Notes:
1. ft-msl = feet above mean sea level datum.
2. FP = Free product present in well. Groundwater elevation has been corrected when the presence of free product is greater than 0.01 feet.
3. An "R" following a well identification indicates a replacement well. Wells MW-2R, MW-3R, MW-10R, ET-1R, ET-2R, WW-2R, WW-3R, WW-4R, WW-5R, AND WW-6R are replacement wells installed in July and August 2001. Elevations are shown for replacement wells.
4. AB = Well has been abandoned.
5. NI = Well not installed.
6. NM = Water level not measured.

Screened within the water table.
Screened within the aquifer.

Attachment A.8 – Product Thickness Measurements

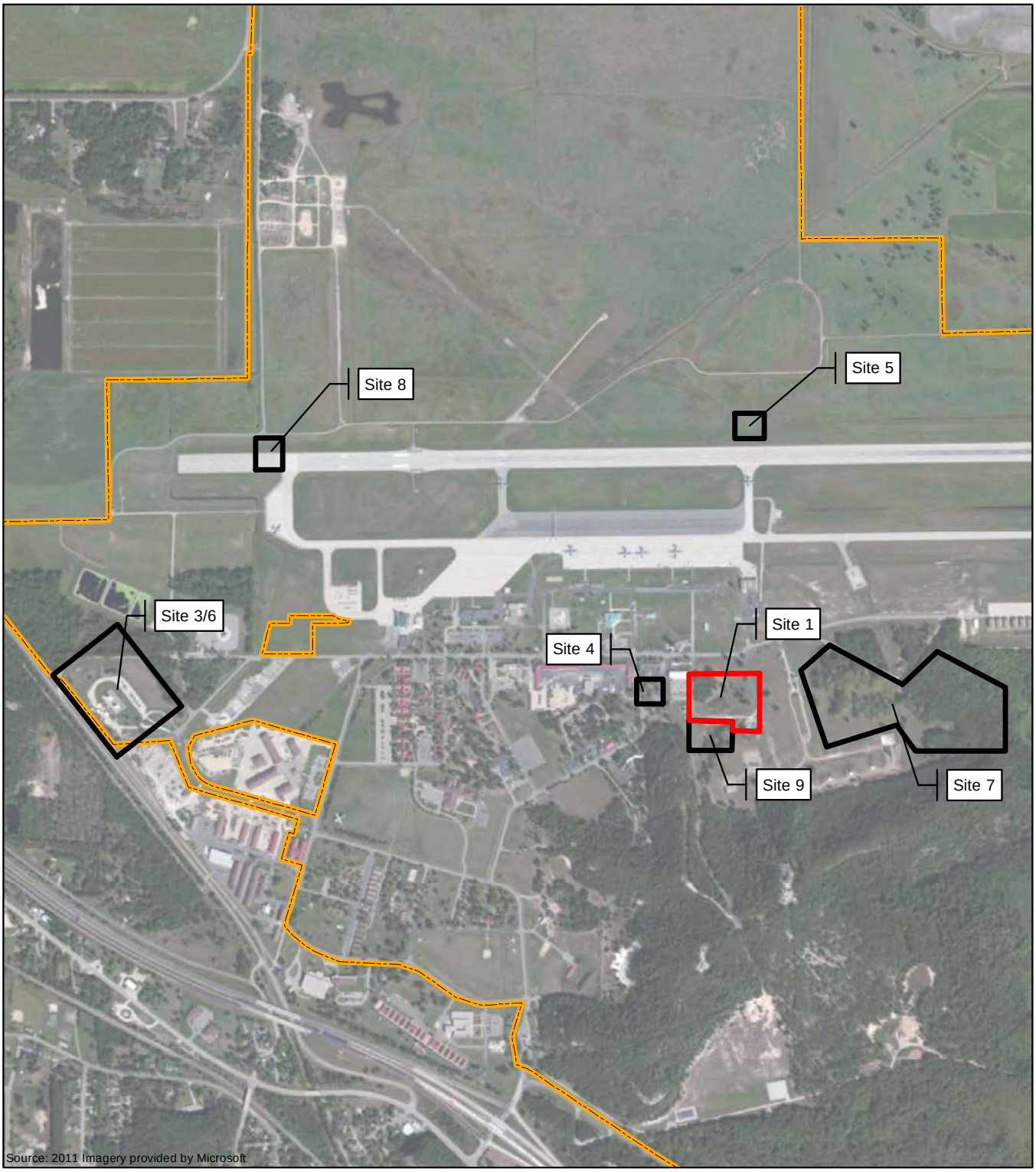
Summary of Product Thickness Measurements
Site 1 (Fire Training Area)
Volk Field Combat Readiness Training Center
Wisconsin Air National Guard
Camp Douglas, Wisconsin

	WW-1				ET-3				ET-5				WW-6R				WW-4R				WW-5R			
Date	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Product Volume Purged (L)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Product Volume Purged (L)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Product Volume Purged (L)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Product Volume Purged (L)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Product Volume Purged (L)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Product Volume Purged (L)
21-Oct-02	13.66	13.67	0.01	--	14.03	14.05	0.02	0.01	15.19	15.20	0.01	--	15.59	15.61	0.02	0.01	NM	15.15	NM	--	NP	NM	0	--
27-Dec-02	14.45	14.46	0.01	--	14.85	14.86	0.01	0.02	16.01	16.07	0.06	0.02	16.45	16.48	0.03	0.01	15.70	16.11	0.41	0.25	NP	NM	0.00	--
27-Jan-03	14.80	14.81	0.01	--	15.17	15.19	0.02	--	16.28	16.74	0.46	--	16.78	16.79	0.01	--	16.10	16.18	0.08	--	NP	NM	0.00	--
26-Feb-03	15.10	15.11	0.01	--	15.47	15.48	0.01	--	16.50	17.33	0.83	0.5	17.08	17.09	0.01	--	16.37	16.42	0.05	0.04	NP	NM	0.00	--
25-Mar-03	15.11	15.12	0.01	--	15.47	15.48	0.01	--	16.51	17.37	0.86	0.5	17.10	17.11	0.01	--	16.38	16.40	0.02	0.005	NP	NM	0.00	--
22-Apr-03	15.00	15.01	0.01	--	15.37	15.38	0.01	--	16.43	17.14	0.71	0.3	17.00	17.01	0.01	--	16.28	16.30	0.02	--	NP	NM	0.00	--
30-May-03	14.61	14.63	0.02	--	14.98	15.00	0.02	--	16.18	16.20	0.02	--	16.61	16.62	0.01	--	15.87	15.89	0.02	--	NP	NM	0.00	--
25-Jun-03	14.97	14.98	0.01	--	15.35	15.36	0.01	--	16.46	16.81	0.35	0.15	16.96	16.97	0.01	--	16.25	16.26	0.01	--	NP	NM	0.00	--
30-Jul-03	15.25	15.26	0.01	--	15.54	15.98	0.44	0.5	16.62	17.54	0.92	0.2	17.14	17.15	0.01	--	16.54	16.55	0.01	--	NP	NM	0.00	--
29-Aug-03	15.51	15.52	0.01	--	15.76	16.36	0.60	0.2	16.84	18.04	1.20	1.0	17.49	17.50	0.01	--	16.78	16.79	0.01	--	NP	NM	0.00	--
26-Sep-03	15.56	15.67	0.11	0.15	15.86	16.37	0.51	0.3	16.93	18.03	1.10	0.75	17.56	17.57	0.01	--	16.86	16.87	0.01	--	NP	NM	0.00	--
06-Apr-04	15.15	15.30	0.15	0.2	15.51	15.79	0.28	0.25	16.74	16.88	0.14	0.1	17.19	17.21	0.02	--	NP	16.47	0.00	--	NP	NM	0.00	--
30-Jun-04	13.17	13.18	0.01	--	13.49	13.82	0.33	0.15	14.73	14.85	0.12	0.15	15.18	15.21	0.03	--	14.38	14.99	0.61	0.5	NP	NM	0.00	--
31-Aug-04	13.82	13.83	0.01	--	14.18	14.28	0.10	0.15	15.35	15.50	0.15	0.15	15.78	15.97	0.19	0.25	15.08	15.36	0.28	0.3	15.63	15.65	0.02	--
12-Oct-04	14.37	14.38	0.01	--	14.73	14.84	0.11	0.15	15.89	16.01	0.12	0.15	16.34	16.44	0.10	0.15	15.61	15.94	0.33	0.3	15.19	15.20	0.01	--
23-Dec-04	14.57	14.58	0.01	--	14.93	15.03	0.10	0.15	16.06	16.45	0.39	0.30	16.57	16.64	0.07	0.15	15.81	16.13	0.32	0.3	14.41	14.40	0.01	--
09-Feb-05	14.58	14.59	0.01	--	14.95	14.96	0.01	--	16.08	16.43	0.35	0.30	16.60	16.64	0.04	0.15	15.89	15.99	0.10	0.15	16.43	16.44	0.01	--
20-May-05	14.95	14.96	0.01	--	15.25	15.59	0.34	0.15	16.31	16.94	0.63	0.20	16.95	17.00	0.05	--	16.23	16.27	0.04	--	NP	NM	0.00	--
01-Aug-06	15.39	16.10	0.71	--	15.77	16.44	0.67	--	16.85	17.53	0.68	--	17.52	17.53	0.01	--	16.78	16.90	0.12	--	NP	17.36	0.00	--
15-Nov-06	15.27	15.48	0.21	--	15.61	15.94	0.33	--	16.71	16.94	0.23	--	17.30	17.31	0.01	--	16.58	16.60	0.02	--	17.13	17.14	0.01	--
08-Feb-07	15.33	15.72	0.39	0.6	15.59	16.03	0.44	0.275	16.80	17.17	0.37	0.275	17.40	17.41	0.01	--	16.66	16.75	0.09	0.015	17.23	17.24	0.01	--
30-Apr-07	14.49	14.62	0.13	0.05	14.81	14.91	0.10	0.03	15.98	15.99	0.01	--	16.52	16.53	0.01	--	15.79	15.80	0.01	--	16.34	16.35	0.01	--
21-Jun-07	14.96	15.04	0.08	0.015	15.27	15.28	0.01	--	16.47	16.57	0.10	0.025	16.97	16.98	0.01	--	NP	16.26	NP	--	16.81	16.82	0.01	--
31-Oct-07	14.31	14.34	0.03	--	14.67	14.77	0.10	0.03	15.79	15.80	0.01	--	16.31	16.32	0.01	--	15.61	15.61	0.00	--	16.15	16.16	0.01	--
22-Feb-08	15.11	15.13	0.02	--	15.48	15.54	0.06	0.02	16.56	16.74	0.18	0.040	17.11	17.12	0.01	--	16.41	16.42	0.01	--	16.95	16.96	0.01	--
07-May-08	NP	12.53	NP	--	12.89	12.99	0.10	0.015	14.05	14.06	0.01	--	NP	14.58	NP	--	NP	13.83	NP	--	NP	14.37	NP	--
31-Jul-08	NP	11.43	NP	--	11.80	11.81	0.01	--	NP	12.97	NP	--	NP	13.39	NP	--	NP	12.72	NP	--	NP	13.23	NP	--
15-Oct-08	NP	13.12	NP	--	13.39	13.40	0.01	0.05	14.55	14.57	0.02	0.1	NP	15.08	NP	--	NP	14.40	NP	--	NP	14.93	NP	--
20-Nov-08	--	13.71	sheen	0.05	14.06	14.08	0.02	0.1	15.15	15.18	0.03	0.15	--	15.67	NP	--	NM	NM	--	--	--	15.52	sheen	0.05
26-May-09	--	14.21	NP	--	--	14.57	sheen	--	--	15.68	sheen	--	--	16.19	NP	--	--	15.48	NP	--	--	16.05	NP	--
24-Aug-09	--	14.27	sheen	0.05	--	14.62	sheen	0.05	15.70	15.72	0.02	0.15	--	16.23	NP	--	--	15.53	NP	--	--	16.08	NP	--
13-Oct-09	--	14.90	sheen	0.05	--	15.26	NP	--	16.35	16.36	0.01	0.1	--	16.87	sheen	0.1	--	16.20	NP	--	--	16.71	sheen	0.1
17-Mar-10	--	14.33	sheen	--	--	14.70	sheen	--	15.83	15.84	0.01	0.1	--	16.39	NP	--	--	15.62	NP	--	--	16.19	NP	--
20-Sep-10	--	12.75	NP	--	--	13.12	NP	--	--	14.16	NP	--	--	14.68	NP	--	--	14.05	NP	--	--	14.53	NP	--
08-Feb-11	--	14.06	NP	--	14.42	14.43	0.01	--	--	15.06	NP	--	--	16.05	NP	--	--	15.38	NP	--	--	15.88	NP	--
13-Dec-11	--	14.30	NP	--	14.42	14.66	NP	--	--	15.06	NP	--	--	15.84	NP	--	--	15.62	NP	--	--	16.12	NP	--
12-Mar-12	--	14.60	NP	--	14.42	14.94	NP	--	--	15.06	NP	--	--	16.15	NP	--	--	15.90	NP	--	--	16.42	NP	--
18-Jun-12	--	14.12	NP	--	14.42	14.49	NP	--	--	15.06	NP	--	--	15.67	NP	--	--	15.45	NP	--	--	15.95	NP	--
02-Oct-12	--	15.55	NP	--	14.42	15.93	NP	--	--	15.06	NP	--	--	17.10	NP	--	--	16.86	NP	--	--	17.38	NP	--
Total Removed				1.165				2.6				5.71				0.82				1.86				0.15

Source: Final 2011-2012 Annual Monitoring Report (MWH 2013)

Notes:
1. ft = feet
2. L = Liters
3. NM = Not measured
4. NP = No product detected in well.

Attachment B. Maps & Figures

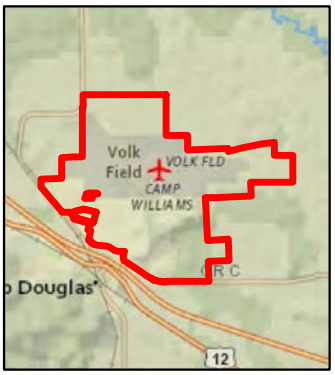


Legend

- Sites
- Site 1
- Installation Boundary

N

0 500 1,000 2,000 3,000 Feet



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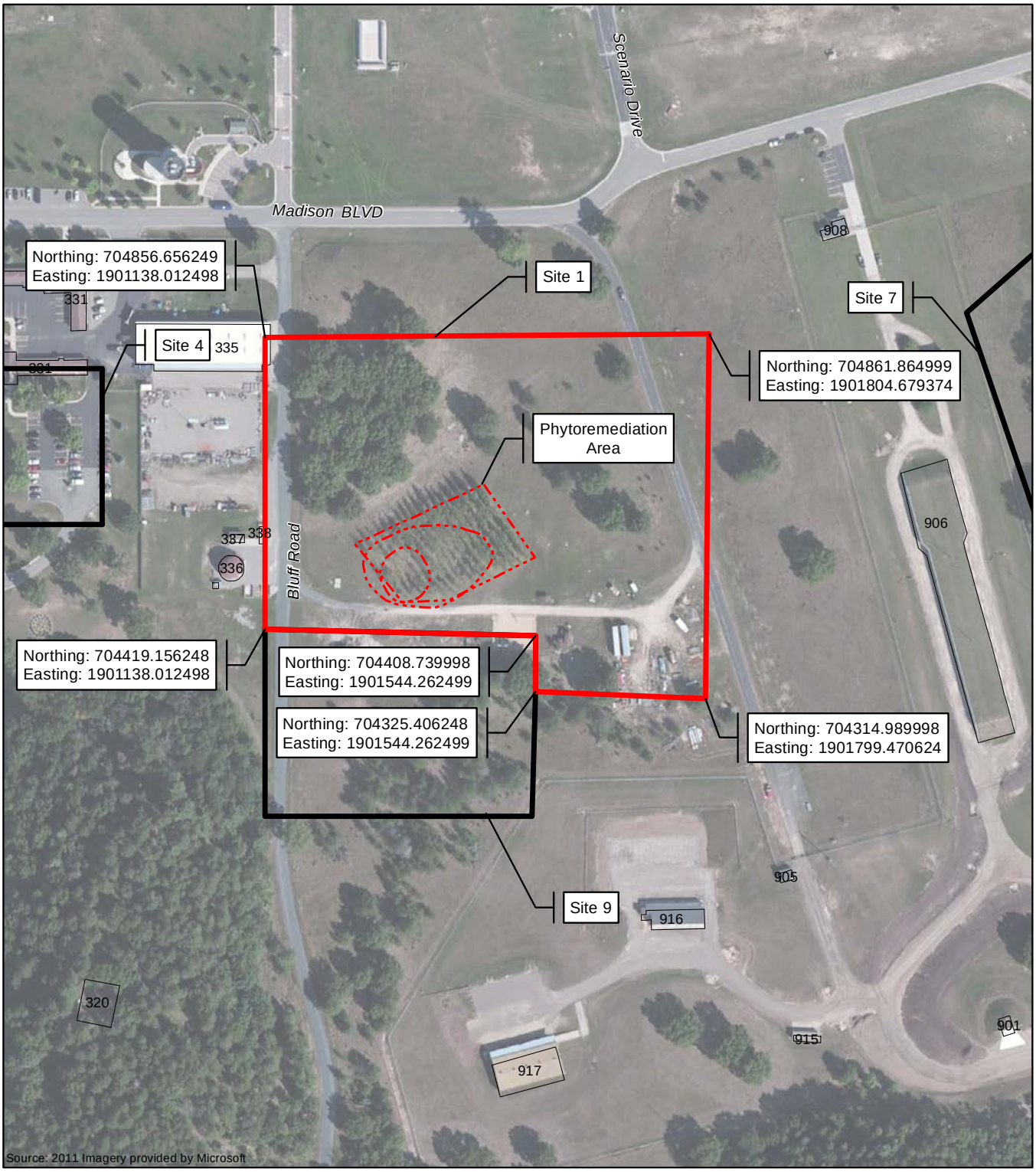
B.1.a. LOCATION MAP

WISCONSIN AIR NATIONAL GUARD
CAMP DOUGLAS, WI

PROJECT: G:\GIS_DATA\Great Lakes\Volk Field\Projects\
Figure B1a Site Location Map.mxd

FIGURE: B.1.a	DATE: 12/23/2013



Legend

- Other Site Boundary
- Site 1 Boundary
- Phytoremediation Area
- Building

Note: Coordinates are in Wisconsin South, State Plane, using NAD83, in feet

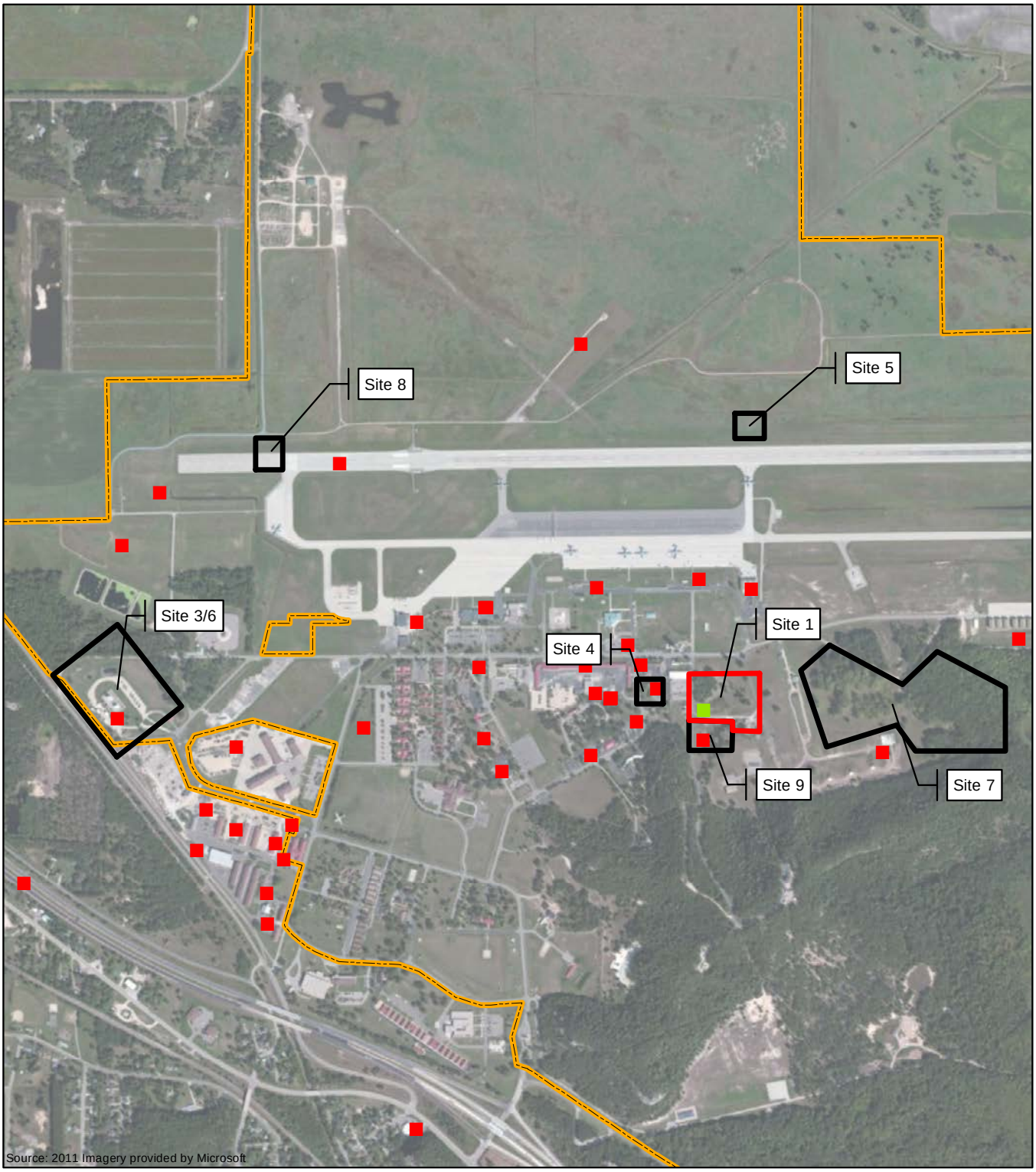
0 125 250 500 Feet

B.1.b. DETAILED SITE MAP

WISCONSIN AIR NATIONAL GUARD
CAMP DOUGLAS, WI

PROJECT: G:\GIS_DATA\Great Lakes\Volk Field\Projects\
Figure B1b Site 1 Map.mxd

FIGURE: B.1.b	DATE: 2/27/2014

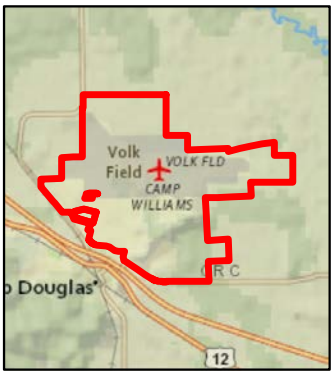


Legend

- Open Site - Ongoing cleanup
- Closed Site - Completed Cleanup
- Sites
- Site 1
- Installation Boundary

N

0 500 1,000 2,000 3,000 Feet



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RR SITE MAP
VOLK FIELD

WISCONSIN AIR NATIONAL GUARD
CAMP DOUGLAS, WI

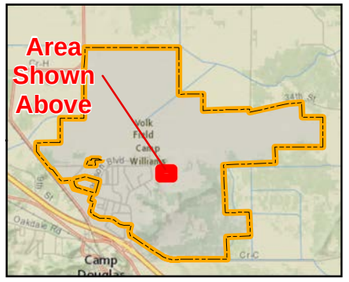
PROJECT: G:\GIS_DATA\Great Lakes\Volk Field\Projects\
Figure 3 RR Sites.mxd

FIGURE: 3	DATE: 12/19/2013

Source: Final Remedial Investigation Report, Site 1, Fire Training Area, HAZWRAP, July 1990

Legend

- Historic Soil Boring
- Exceedances of NR720 Industrial Direct-Contact RCLs, ca December 2013
- Approximate Areal Extent of Soil Contamination (Historical NR720 RCLs, ca 1990)



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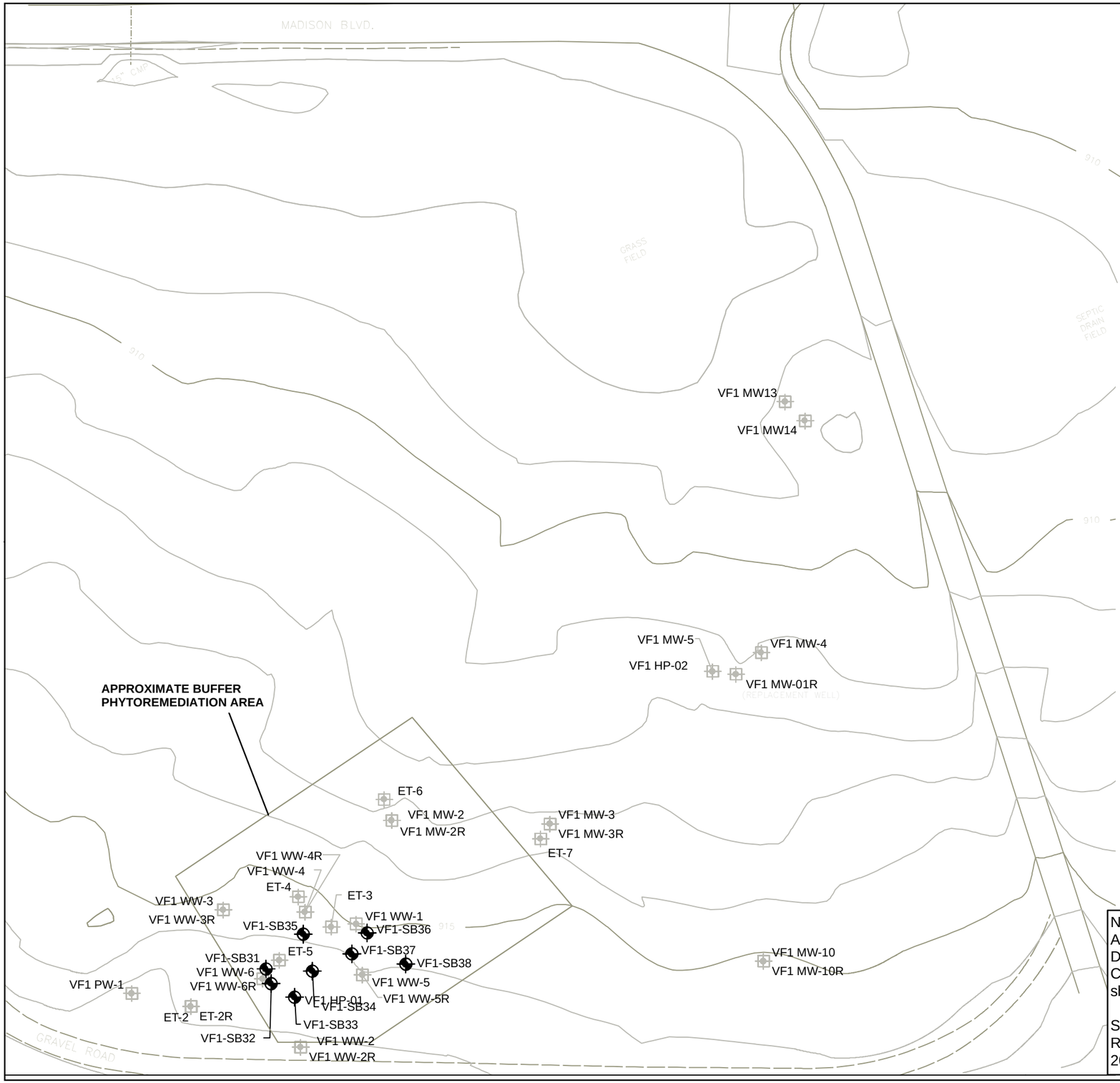
B.2.a. PRE-REMEDIAL SOIL CONTAMINATION

WISCONSIN AIR NATIONAL GUARD
CAMP DOUGLAS, WI

PROJECT: G:\GIS_DATA\Great Lakes\Volk Field\Projects\Figure B2a Preremedial Soil Contamination 11x17.mxd

FIGURE: B.2.a | DATE: 6/11/2014



LEGEND

910	GROUND CONTOUR
	FENCE
VF1 MW-4	MONITORING WELL LOCATION AND NUMBER
VF1 WW-1	WATER WITHDRAWAL WELL LOCATION AND NUMBER
ET-3	EXPLORATION TECHNOLOGY WELL LOCATION AND NUMBER
VF1-SB31	OCTOBER 2009 SOIL BORING LOCATION AND NUMBER

NOTES

1. BASE MAP DEVELOPED FROM A TOPOGRAPHIC SURVEY DRAWING OF VOLK FIELD CRTC, SITE 1, CAMP DOUGLAS, WISCONSIN, BY KL ENGINEERING, INC. DATED JUNE, 1997.
2. BORING VF1-SB31 WAS PUNCHED IN CLOSE PROXIMITY TO 1989 BORING VF1 SB-18. BORING VF1-SB32 WAS PUNCHED IN CLOSE PROXIMITY TO 1988 BORING VF1 B-1. BORING VF1-SB34 WAS PUNCHED IN CLOSE PROXIMITY TO 1988 BORING VF1 SB-4. BORING VF1-SB37 WAS PUNCHED IN CLOSE PROXIMITY TO 1988 BORING VF1 B-6.
3. GROUND CONTOUR INTERVAL IS ONE FOOT.

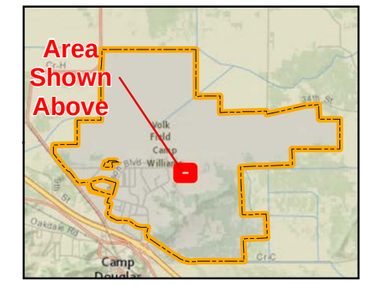
north

0 60 120

SCALE IN FEET

Note: There were no exceedances of the Wisconsin Administrative Code, Chapter NR 720, Industrial Direct-Contact Soil Cleanup Standards, Residual Contaminant Levels (ca December 2013) in 2009 shallow soil or vadose zone borings.

Source: Final 2009 Annual Monitoring Report, Remedial Action Operations, Site 1, MWH, September 2010.



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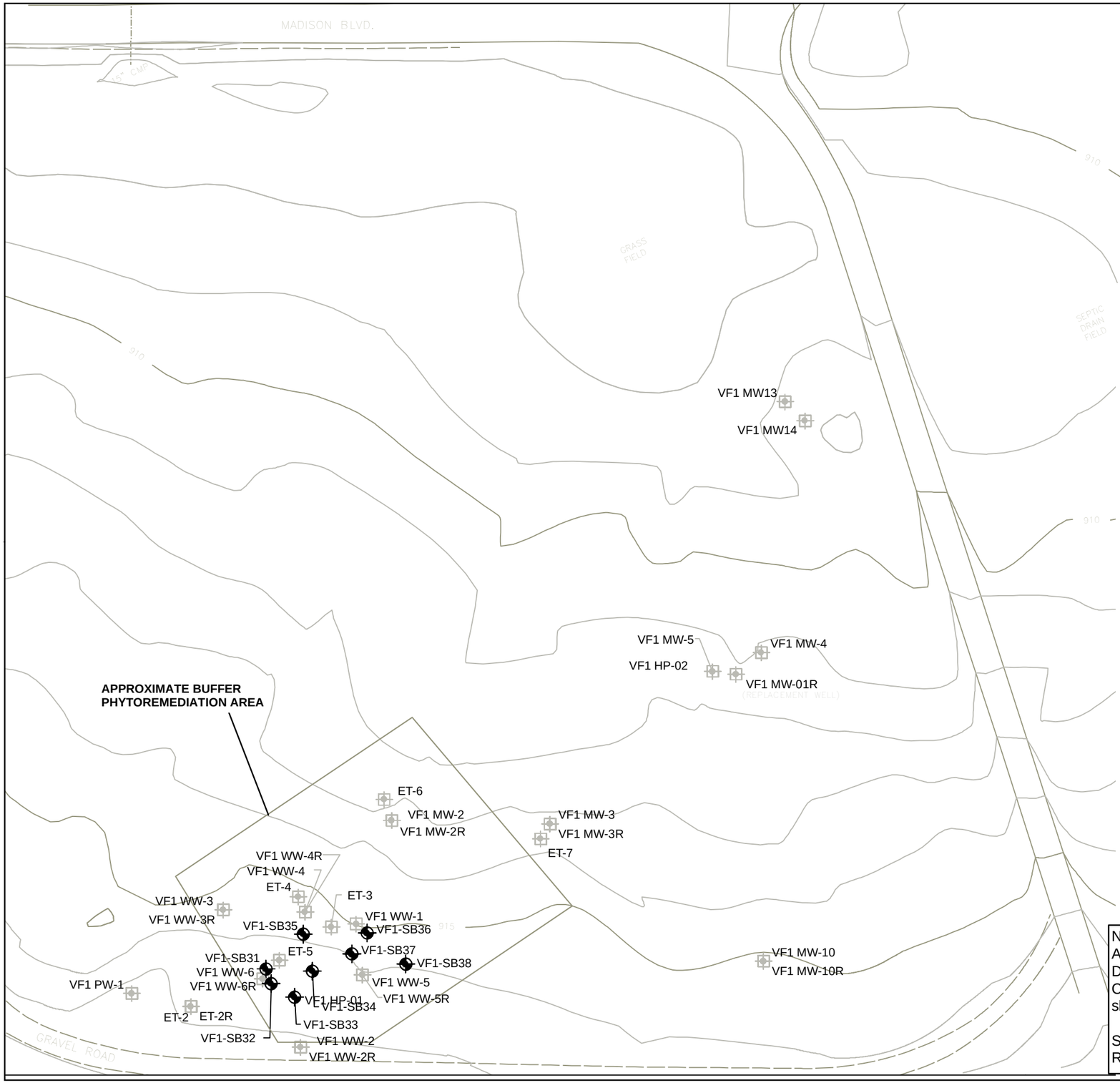
B.2.b. POST-REMEDIAL SOIL CONTAMINATION

WISCONSIN AIR NATIONAL GUARD
CAMP DOUGLAS, WI

PROJECT: G:\GIS_DATA\Great Lakes\Volk Field\Projects\Figure B2b Postremedial Soil Contamination 11x17.mxd

FIGURE: B.2.b	DATE: 6/10/2014



LEGEND

910	GROUND CONTOUR
	FENCE
VF1 MW-4	MONITORING WELL LOCATION AND NUMBER
VF1 WW-1	WATER WITHDRAWAL WELL LOCATION AND NUMBER
ET-3	EXPLORATION TECHNOLOGY WELL LOCATION AND NUMBER
VF1-SB31	OCTOBER 2009 SOIL BORING LOCATION AND NUMBER

NOTES

1. BASE MAP DEVELOPED FROM A TOPOGRAPHIC SURVEY DRAWING OF VOLK FIELD CRTC, SITE 1, CAMP DOUGLAS, WISCONSIN, BY KL ENGINEERING, INC. DATED JUNE, 1997.
2. BORING VF1-SB31 WAS PUNCHED IN CLOSE PROXIMITY TO 1989 BORING VF1 SB-18. BORING VF1-SB32 WAS PUNCHED IN CLOSE PROXIMITY TO 1988 BORING VF1 B-1. BORING VF1-SB34 WAS PUNCHED IN CLOSE PROXIMITY TO 1988 BORING VF1 SB-4. BORING VF1-SB37 WAS PUNCHED IN CLOSE PROXIMITY TO 1988 BORING VF1 B-6.
3. GROUND CONTOUR INTERVAL IS ONE FOOT.

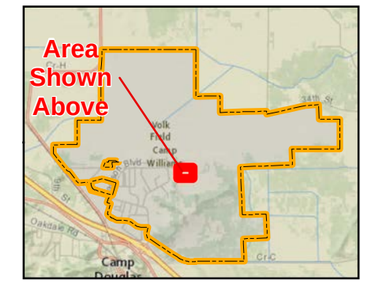
north

0 60 120

SCALE IN FEET

Note: There were no exceedances of the Wisconsin Administrative Code, Chapter NR 720, Industrial Direct-Contact Soil Cleanup Standards, Residual Contaminant Levels (ca December 2013) in 2009 shallow soil or vadose zone borings.

Source: Final 2009 Annual Monitoring Report, Remedial Action Operations, Site 1, MWH, September



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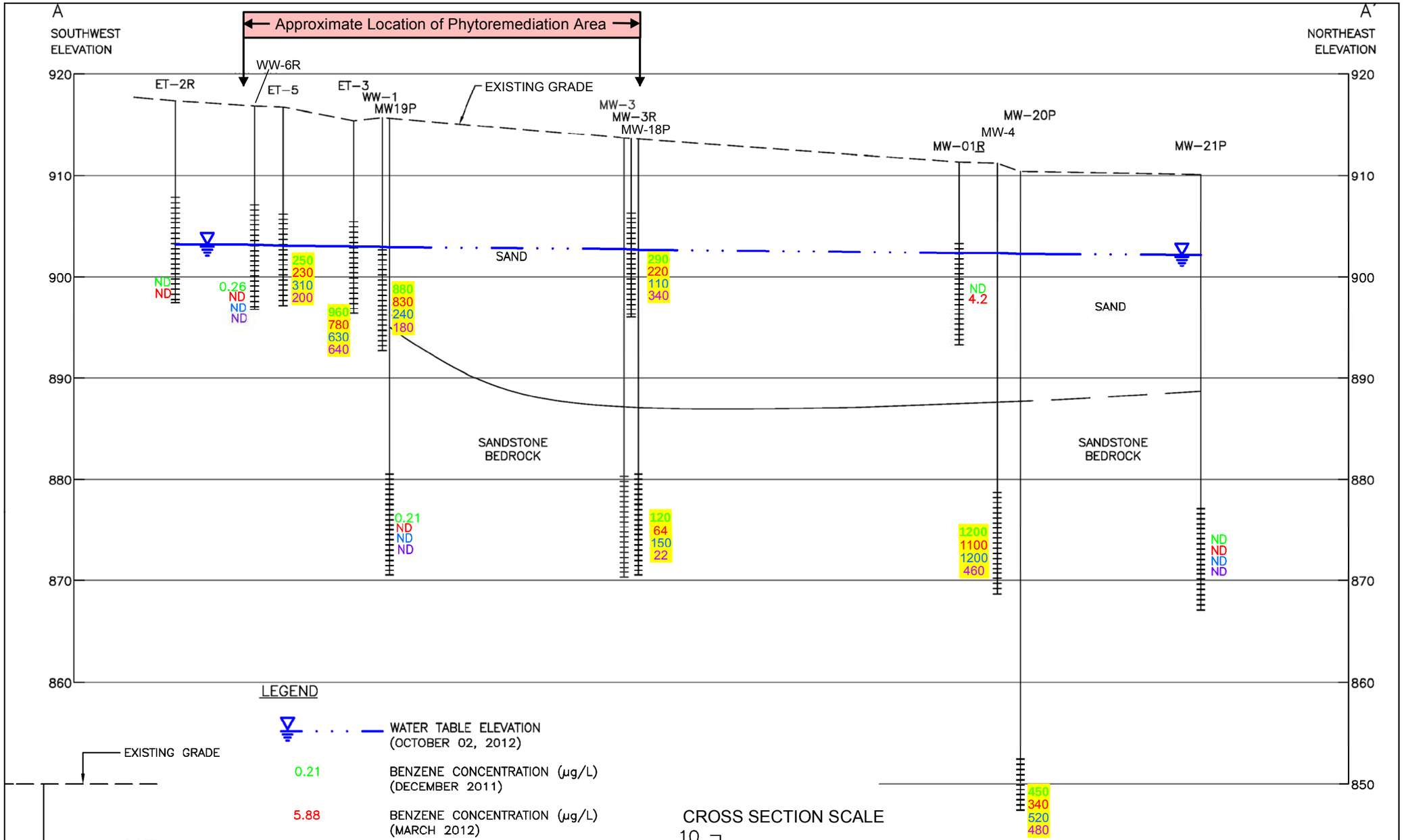
B.2.c. PRE/POST REMAINING SOIL CONTAMINATION

WISCONSIN AIR NATIONAL GUARD
CAMP DOUGLAS, WI

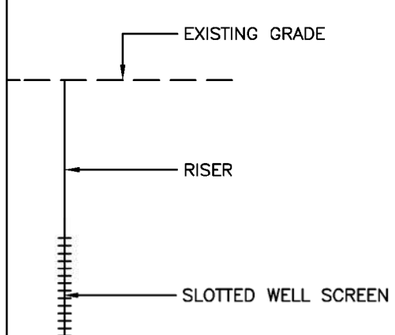
PROJECT: G:\GIS_DATA\Great Lakes\Volk Field\Projects\Figure B2c PrePostremaining Soil Contamination 11x17.mxd

FIGURE: B.2.c	DATE: 6/10/2014



LEGEND

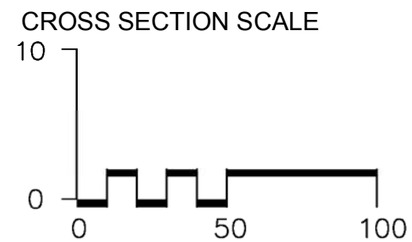
WATER TABLE ELEVATION (OCTOBER 02, 2012)	
0.21	BENZENE CONCENTRATION (µg/L) (DECEMBER 2011)
5.88	BENZENE CONCENTRATION (µg/L) (MARCH 2012)
4.2	BENZENE CONCENTRATION (µg/L) (JUNE 2012)
47.7	BENZENE CONCENTRATION (µg/L) (OCTOBER 2012)
ND	NO DETECTION



WELL DETAIL
NOT TO SCALE

NOTE:
HIGHLIGHTED VALUES ARE ABOVE WISCONSIN Enforcement Standard (ES) FOR BENZENE OF 5.0 µg/L.

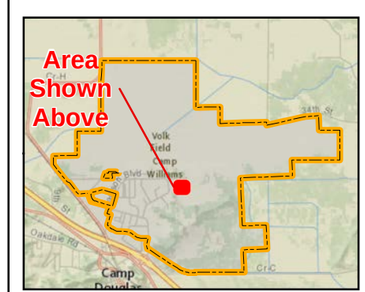
CROSS SECTION SCALE



SCALE IN FEET
VERTICAL EXAGGERATION: FIVE TIMES

Refer to Figure B.3.d for Monitoring Well Locations.

Source: Final 2011/2012 Annual Monitoring Report, MWH, March 2013



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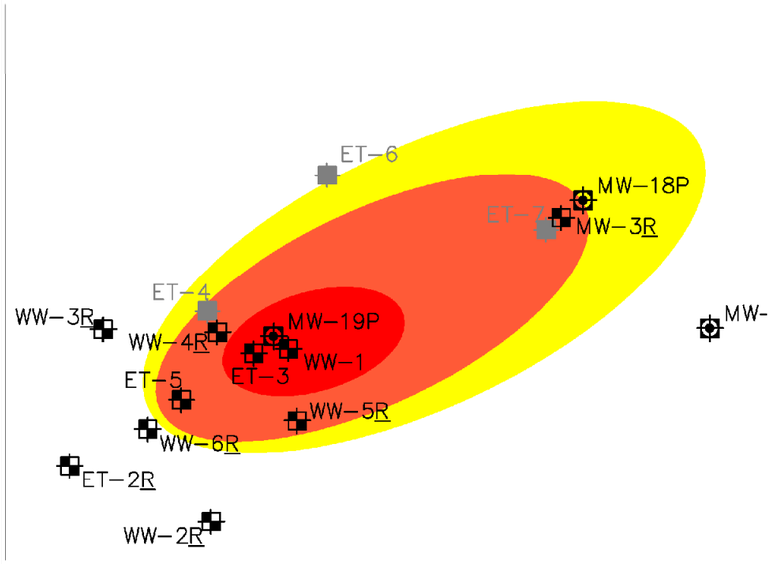
B.3.a. GEOLOGIC CROSS-SECTION

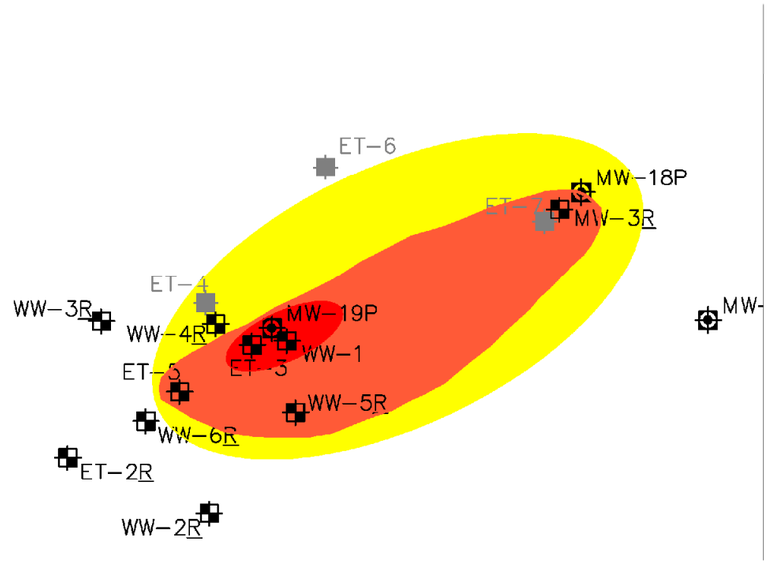
WISCONSIN AIR NATIONAL GUARD
CAMP DOUGLAS, WI

PROJECT: G:\GIS_DATA\Great Lakes\Volk Field\Projects\Figure B3a Geo Cross Section 11x17.mxd

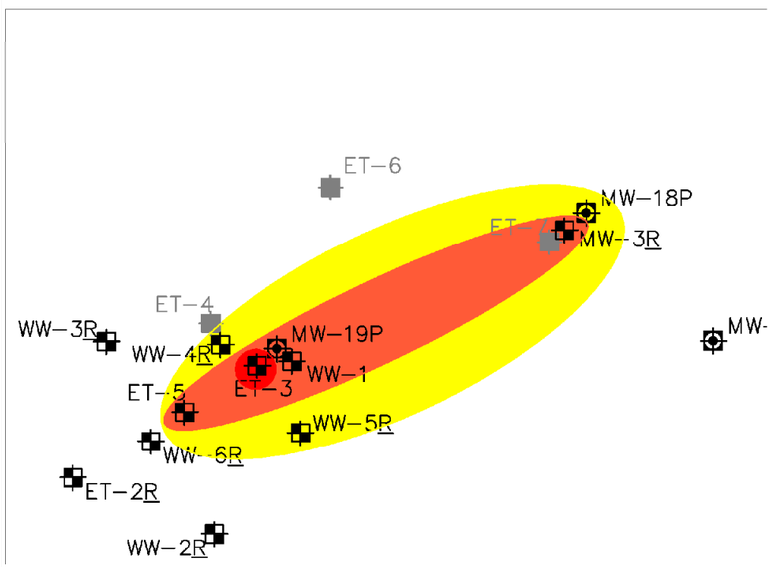
FIGURE: B.3.a | DATE: 6/11/2014



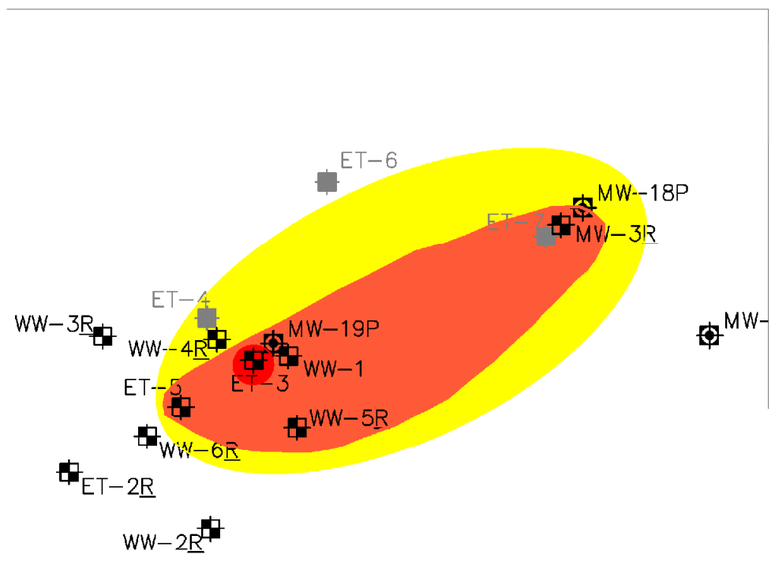
BENZENE CONTOUR IN MONITORING WELLS DECEMBER-2011



BENZENE CONTOUR IN MONITORING WELLS MARCH-2012



BENZENE CONTOUR IN MONITORING WELLS JUNE-2012



BENZENE CONTOUR IN MONITORING WELLS OCTOBER-2012

LEGEND

MW-4	MONITORING WELL LOCATION AND NUMBER
MW-4	PIEZOMETER LOCATION AND NUMBER
MW-5	ABANDONED WELL SEE NOTE NUMBER 10
	5-50 µg/L
	50-500 µg/L
	500-1000 µg/L

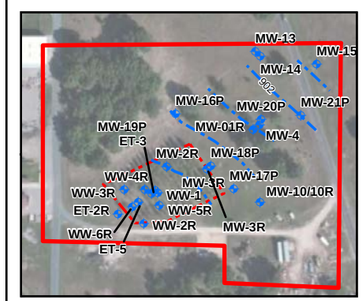
north

0 60 120

SCALE IN FEET

Inset Legend

- Historic Monitoring Well
- Groundwater Contours (Dec. 2011)
- Phytoremediation Area
- IRP Site 1



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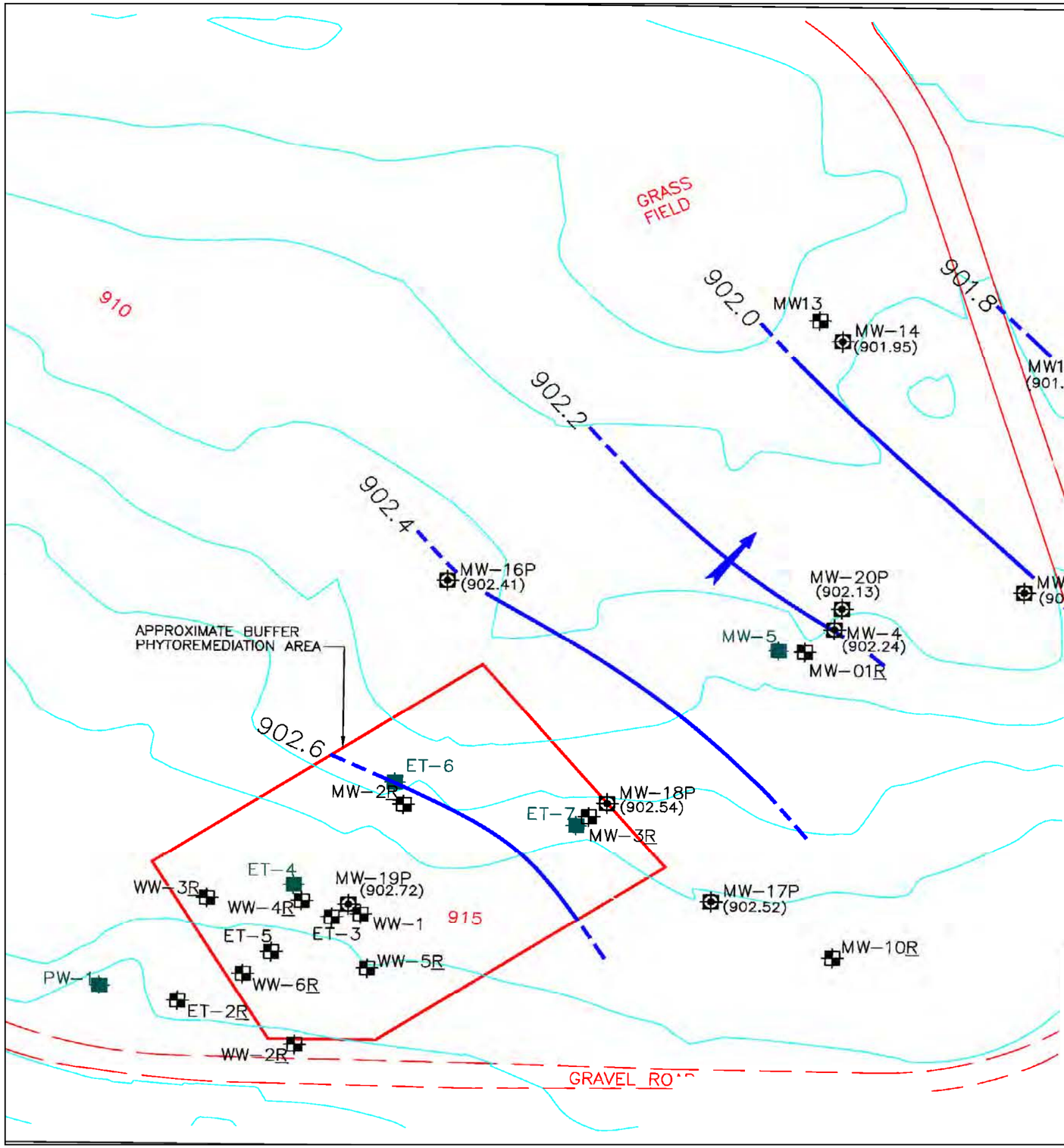
B.3.b. BENZENE ENFORCEMENT STANDARD EXCEEANCE IN MONITORING WELLS

WISCONSIN AIR NATIONAL GUARD
CAMP DOUGLAS, WI

PROJECT: G:\GIS_DATA\Great Lakes\Volk Field\Projects\
Figure B3b Benzene Concentrations 11x17.mxd

FIGURE: B.3.b	DATE: 4/9/2014



LEGEND

910 — GROUND SURFACE CONTOUR

MW-01R — MONITORING WELL LOCATION NUMBER

MW-4 (902.24) — PIEZOMETER LOCATION, NUMBER, AND POTENTIOMETRIC SURFACE ELEVATION

MW-5 — ABANDONED WELL SEE NOTE NUMBER 10

902.0 — POTENTIOMETRIC SURFACE CONTOUR (CONTOUR INTERVAL: 0.2 FT, DASHED WHERE INFERRED)

GENERAL DIRECTION OF GROUNDWATER FLOW

NOTES

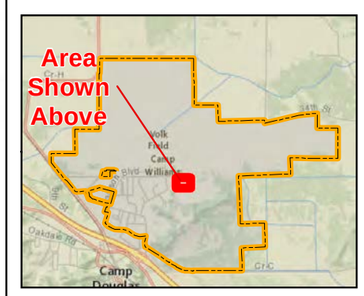
1. BASE MAP DEVELOPED FROM A TOPOGRAPHIC SURVEY DRAWING OF VOLK FIELD CRTC, SITE 1, CAMP DOUGLAS, WISCONSIN, BY KL ENGINEERING, INC., DATED JUNE, 1997.
2. MONITORING WELLS WW-1 THROUGH WW-6 AND ET-1 THROUGH ET-7 INSTALLED IN 1985.
3. MONITORING WELL MW-1 INSTALLED IN 1987.
4. MONITORING WELLS MW-2 THROUGH MW-4 AND WELL PW-1 INSTALLED IN 1988.
5. MONITORING WELLS MW-5 THROUGH MW-8 INSTALLED IN 1989.
6. MONITORING WELLS MW-9 THROUGH MW-12 INSTALLED IN 1990.
7. MONITORING WELL MW01R IS A REPLACEMENT WELL INSTALLED BY ENVIRONMENTAL AND FOUNDATION DRILLING UNDER THE SUPERVISION OF MONTGOMERY WATSON ON MAY 7, 1997.
8. GROUND CONTOUR INTERVAL IS ONE FOOT.
9. REPLACEMENT WELLS IDENTIFIED WITH THE UNDERSCORED LETTER R WERE INSTALLED BY ENVIRONMENTAL AND FOUNDATION DRILLING UNDER THE SUPERVISION OF MWH AMERICAS, INC. IN JULY AND AUGUST OF 2001.
10. WELLS MW-5 THROUGH MW-12, ET-4 THROUGH ET-7 AND PW-1 ABANDONED BY ENVIRONMENTAL AND FOUNDATION DRILLING JULY 2001.
11. MONITORING WELLS MW15P THROUGH MW19P WERE INSTALLED IN SEPTEMBER 2010 BY MWH.
12. MONITORING WELLS MW20P AND MW21P WERE INSTALLED IN DECEMBER 2011 BY MWH.
13. WATER LEVELS MEASURED BY MWH ON DECEMBER 13, 2011.

north

0 60 120

SCALE IN FEET

Source: Final 2011/2012 Annual Monitoring Report, MWH, March 2013



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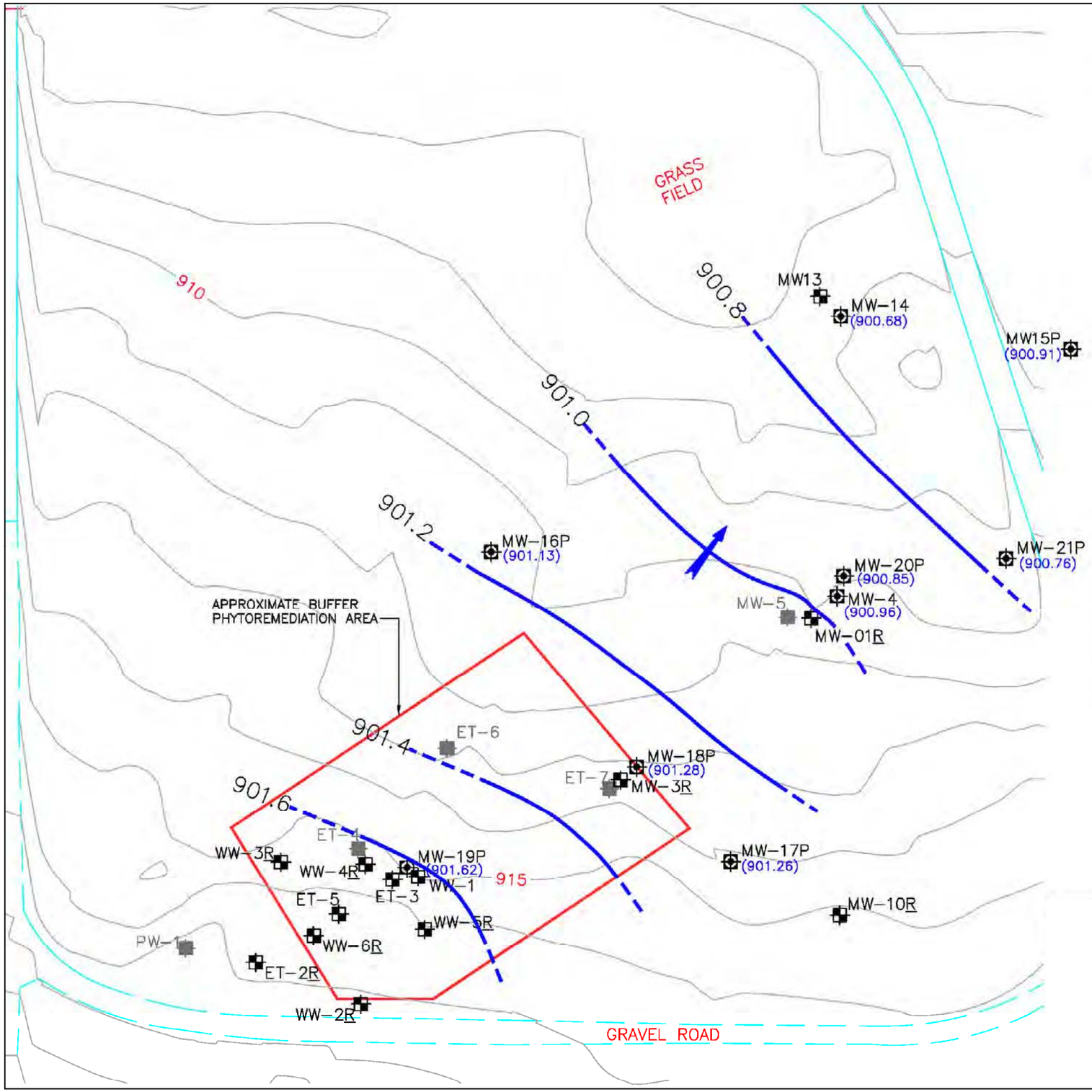
B.3.c. GROUNDWATER FLOW DIRECTION (SEPTEMBER 13, 2011)

WISCONSIN AIR NATIONAL GUARD
CAMP DOUGLAS, WI

PROJECT: G:\GIS_DATA\Great Lakes\Volk Field\Projects\Figure B3c GW Contours 11x17.mxd

FIGURE: B.3.c.1 | DATE: 1/2/2014



LEGEND

- 910 — GROUND SURFACE CONTOUR
- MW-01R — MONITORING WELL LOCATION NUMBER
- MW-4 (901.98) — PIEZOMETER LOCATION, NUMBER, AND POTENTIOMETRIC SURFACE ELEVATION
- MW-5 — ABANDONED WELL SEE NOTE NUMBER 10
- 902.0 — POTENTIOMETRIC SURFACE CONTOUR (CONTOUR INTERVAL: 0.2 FT, DASHED WHERE INFERRED)
- GENERAL DIRECTION OF GROUNDWATER FLOW

NOTES

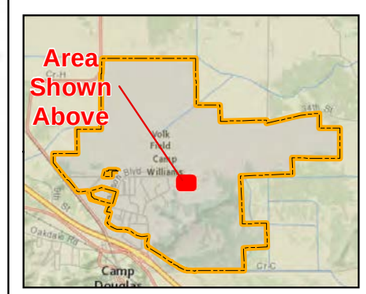
1. BASE MAP DEVELOPED FROM A TOPOGRAPHIC SURVEY DRAWING OF VOLK FIELD CRTC, SITE 1, CAMP DOUGLAS, WISCONSIN, BY KL ENGINEERING, INC., DATED JUNE, 1997.
2. MONITORING WELLS WW-1 THROUGH WW-6 AND ET-1 THROUGH ET-7 INSTALLED IN 1985.
3. MONITORING WELL MW-1 INSTALLED IN 1987.
4. MONITORING WELLS MW-2 THROUGH MW-4 AND WELL PW-1 INSTALLED IN 1988.
5. MONITORING WELLS MW-5 THROUGH MW-8 INSTALLED IN 1989.
6. MONITORING WELLS MW-9 THROUGH MW-12 INSTALLED IN 1990.
7. MONITORING WELL MW01R IS A REPLACEMENT WELL INSTALLED BY ENVIRONMENTAL AND FOUNDATION DRILLING UNDER THE SUPERVISION OF MONTGOMERY WATSON ON MAY 7, 1997.
8. GROUND CONTOUR INTERVAL IS ONE FOOT.
9. REPLACEMENT WELLS IDENTIFIED WITH THE UNDERSCORED LETTER R WERE INSTALLED BY ENVIRONMENTAL AND FOUNDATION DRILLING UNDER THE SUPERVISION OF MWH AMERICAS, INC. IN JULY AND AUGUST OF 2001.
10. WELLS MW-5 THROUGH MW-12, ET-4 THROUGH ET-7 AND PW-1 ABANDONED BY ENVIRONMENTAL AND FOUNDATION DRILLING JULY 2001.
11. MONITORING WELLS MW15P THROUGH MW19P WERE INSTALLED IN SEPTEMBER 2010 BY MWH.
12. MONITORING WELLS MW20P AND MW21P WERE INSTALLED IN DECEMBER 2011 BY MWH.
13. WATER LEVELS MEASURED BY MWH ON OCTOBER 2, 2012.

north

0 60 120

SCALE IN FEET

Source: Final 2011/2012 Annual Monitoring Report, MWH, March 2013



N

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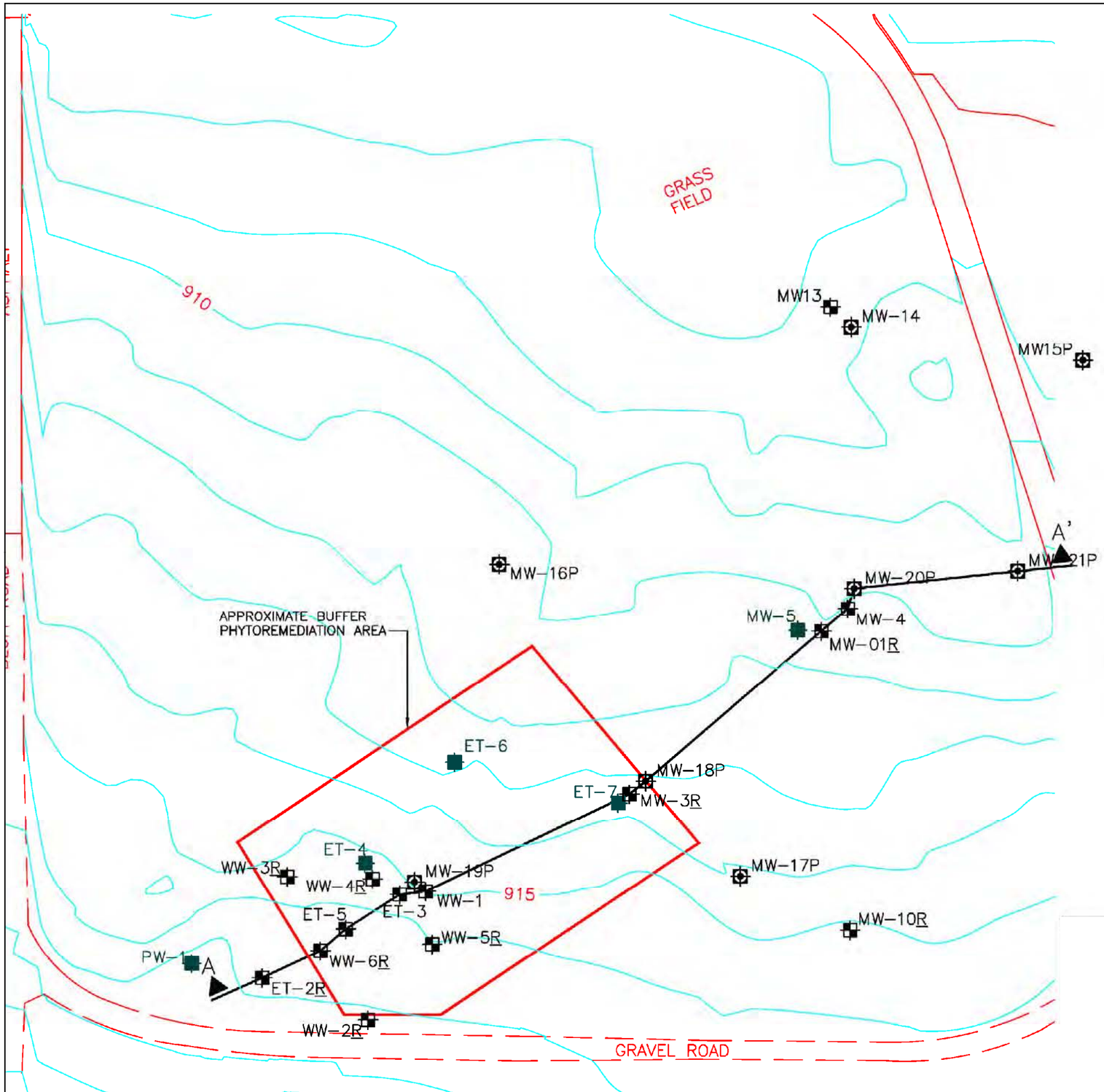
B.3.c. GROUNDWATER FLOW DIRECTION (OCTOBER 2, 2012)

WISCONSIN AIR NATIONAL GUARD
CAMP DOUGLAS, WI

PROJECT: G:\GIS_DATA\Great Lakes\Volk Field\Projects\Figure B3c GW Contours 11x17.mxd

FIGURE: B.3.c.2 | DATE: 1/2/2014



LEGEND

- MW-4 — MONITORING WELL LOCATION AND NUMBER
- MW-4 — PIEZOMETER LOCATION AND NUMBER
- MW-5 — ABANDONED WELL SEE NOTE NUMBER 10
- 910 — GROUND SURFACE CONTOUR
- A A' — CROSS SECTION LOCATION

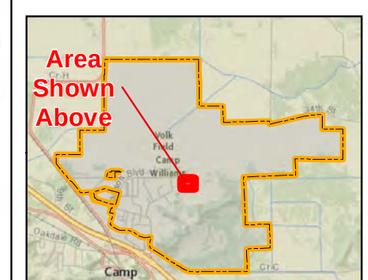
NOTES

1. BASE MAP DEVELOPED FROM A TOPOGRAPHIC SURVEY DRAWING OF VOLK FIELD CRTC, SITE 1, CAMP DOUGLAS, WISCONSIN, BY KL ENGINEERING, INC., DATED JUNE, 1997.
2. MONITORING WELLS WW-1 THROUGH WW-6 AND ET-1 THROUGH ET-7 INSTALLED IN 1985.
3. MONITORING WELL MW-1 INSTALLED IN 1987.
4. MONITORING WELLS MW-2 THROUGH MW-4 AND WELL PW-1 INSTALLED IN 1988.
5. MONITORING WELLS MW-5 THROUGH MW-8 INSTALLED IN 1989.
6. MONITORING WELLS MW-9 THROUGH MW-12 INSTALLED IN 1990.
7. MONITORING WELL MW01R IS A REPLACEMENT WELL INSTALLED BY ENVIRONMENTAL AND FOUNDATION DRILLING UNDER THE SUPERVISION OF MONTGOMERY WATSON ON MAY 7, 1997.
8. GROUND CONTOUR INTERVAL IS ONE FOOT.
9. REPLACEMENT WELLS IDENTIFIED WITH THE UNDERSCORED LETTER R WERE INSTALLED BY ENVIRONMENTAL AND FOUNDATION DRILLING UNDER THE SUPERVISION OF MWH AMERICAS, INC. IN JULY AND AUGUST OF 2001.
10. WELLS MW-5 THROUGH MW-12, ET-4 THROUGH ET-7 AND PW-1 ABANDONED BY ENVIRONMENTAL AND FOUNDATION DRILLING JULY 2001.
11. MONITORING WELLS MW15P THROUGH MW19P WERE INSTALLED IN SEPTEMBER 2010 BY MWH.
12. MONITORING WELLS MW20P AND MW21P WERE INSTALLED IN DECEMBER 2011 BY MWH.

north

0 60 120

SCALE IN FEET



N

Source: Final 2011/2012 Annual Monitoring Report, MWH, March 2013

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B.3.d. MONITORING WELLS

WISCONSIN AIR NATIONAL GUARD
CAMP DOUGLAS, WI

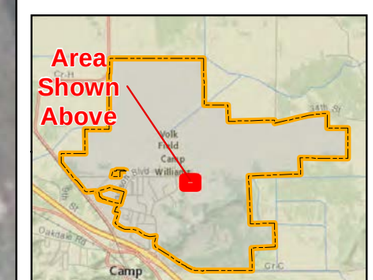
PROJECT: G:\GIS_DATA\Great Lakes\Volk Field\Projects\Figure B3d Monitoring Wells 11x17.mxd

FIGURE: B.3.d | DATE: 12/26/2013

Source: Final Remedial Investigation Report, Site 1, Fire Training Area, HAZWRAP, July 1990

Legend

- Historic Soil Gas Sample
- Approx. Location of Former Fire Training Pit



N

leidos

B.4.a. SITE 1
VAPOR INTRUSION MAP

WISCONSIN AIR NATIONAL GUARD
CAMP DOUGLAS, WI

PROJECT: G:\GIS_DATA\Great Lakes\Volk Field\Projects\Figure B4a Soil Gas Map 11x17.mxd

FIGURE: B.4.a | DATE: 12/26/2013

Documentation of Remedial Action (Attachment C)

DISCLAIMER

Documents contained in Attachment C of the Case Closure – GIS Registry (Form 4400-202) are not included in the electronic version (GIS Registry Packet) available on RR Sites Map to limit file size.

For information on how to obtain a copy or to review the file, please contact the Remediation & Redevelopment (RR) Environmental Program Associate (EPA) at http://dnr.wi.gov/topic/Brownfields/Contact.html

Attachment D. Maintenance Plan & Photographs

ATTACHMENT D

This section, Maintenance Plans and Photographs, is not relevant to the case closure request for IRP Site 1. The site is not located near inhabited buildings or offsite properties; therefore, no vapor mitigation system is required. In addition, the existing phytoremediation system has rendered BTEX concentrations to levels that eliminate the need for an engineered cap over the site or a perimeter fence. The phytoremediation system will remain in place and no further maintenance is required. Therefore, no maintenance plans would be required for site closure.

Attachment E – Monitoring Well Information

ATTACHMENT E
Monitoring Well Information

A figure showing the location of the monitoring wells is included in Attachment B.3.d. All monitoring wells have been located and will be properly abandoned upon the DNR granting conditional closure to the site. Monitoring well construction and development forms are not included because none of the Site 1 wells will remain in-use or be transferred to another party.

Attachment F – Notification to Owners of Impacted Properties

ATTACHMENT F

This section, Notifications to Owners of Impacted Properties, is not relevant to the case closure request for IRP Site 1 because the residual soil and groundwater contamination has been determined to be within the Site 1 boundaries. Site 1 is approximately 2,500 ft from its nearest offsite boundary and the contamination is not expected to migrate off of the site in the future. Therefore, no notifications would be required under ch. NR 725, Wis. Adm. Code.

ATTACHMENT G.1

COPY OF MOST RECENT DEED

Attachment G.1

The copy of the deed provided in this Attachment is a certified copy obtained from the Juneau County Register of Deeds Office. This historic deed is marginally legible. Its origins date back to the Federal Swamp Land Act of September 28, 1850, which granted large tracts of swamp and overflowed land to various states (including Wisconsin) previously held by the federal government. The actual deed is dated September 28th and likely 1865 (the last digit of the year cannot be confirmed). This is likely a reauthorization of the Act on its anniversary. This deed documents large tracts of Wisconsin land being granted to the State. The top half of the second page of the deed (Vol. 392 Page 121) discusses the transfer of land parcels pertinent to Volk Field.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

09 JUN 1986
(Date)

TO WHOM IT MAY CONCERN:

I HEREBY CERTIFY That the attached reproduction(s) is a (extract) copy of documents on file in this office.

IN TESTIMONY WHEREOF I have hereunto subscribed my name and caused the seal of this office to be affixed on the above day and year.

B. E. Clay
(Authorized Signature)

INDEXED

ENTERED

315335

Register's Office) SS
Juneau County, Wis.)
Received for Record

NOV 16 1992

at 1:45 P.M. and Recorded
in Vol. 392 of Records Page
119-122

Gladyss Kolbe
REGISTER OF DEEDS

Form 1270-1
(May 1976)
☆GPO 777-907

45

The United States of America

No.

To all to whom these presents shall come, Greeting:

Whereas, by the Act of Congress approved September 28th, 1850, entitled, "An Act to enable the State of Arkansas and other States to reclaim the "Swamp Lands" within their limits," it is provided that all the "Swamp and Overflowed Lands" made unfit thereby for cultivation within the State of Wisconsin, which remained unsold at the passage of said Act, shall be granted to said State. And Whereas, in pursuance of instructions from the General Land Office of the United States, the several tracts or parcels of land hereinafter described have been selected as "Swamp and Overflowed Lands" inuring to the said State, under the Act aforesaid, being situated in the District of Lands subject to sale at Stevens Point, Wisconsin, to wit: The North East Quarter of the North West Quarter of Section twelve, the North East Quarter, the South East Quarter of the North West Quarter, the East half of the South West Quarter, and the North West Quarter of the South East Quarter of Section twenty, and the West half of the South West quarter of Section twenty four, all in Township Sixteen North of Range five East, containing in all four hundred and forty acres. Also, the whole of fractional Section one, the whole of fractional Section two, the whole of fractional Section three, the North fractional half of Section four, the West fractional half of the North West Quarter and the West half of the South West Quarter of Section five, the South fractional half, the North East fractional Quarter, and the South fractional half of the North West Quarter of Section six, the North half, the South East Quarter, and the North East Quarter of the North West Quarter of Section seven, the South West Quarter of the South East Quarter, the North West Quarter, and the South half of Section eight, the South half, and the South half of the North East Quarter of Section nine, the East half of the South East Quarter, the South East Quarter of the South West Quarter, the West half of the South West Quarter, and the North West Quarter of the North West Quarter of Section ten, the North West Quarter of the North East Quarter, the South half of the North East Quarter, the South East Quarter, and the West half of Section eleven, the North East Quarter, and the North East Quarter of the South East Quarter, the South East Quarter of the South West Quarter, and the West half of the South West Quarter of Section twelve, the North West Quarter of the North West Quarter of Section thirteen, the North East Quarter of the North East Quarter, the West half of the North East Quarter, the North West Quarter, the West half of the South West Quarter, and the North East Quarter of the South West Quarter of Section fourteen, the whole of Section fifteen, the whole of Section seventeen, the North East Quarter, the South fractional half, and the South fractional half of the North West quarter of Section eighteen, the North half of the North East Quarter and the North East Quarter of the North West Quarter of Section nineteen, the North half, the East half of the South West Quarter, the North East Quarter of the South East Quarter, and the West half of the South East Quarter of Section twenty, the North West Quarter of the North East Quarter, the North West Quarter, and the North West Quarter of the South West Quarter of Section twenty one, the East half, the East half of the North West Quarter, the North West Quarter of the North West Quarter, and the North East Quarter of the South West Quarter of Section twenty two, the East half of the North East Quarter, the North West Quarter, the North East Quarter of the South West Quarter, the West half of the South East Quarter, the South West Quarter, the West half of the North West Quarter, and the South East Quarter of the North West Quarter of Section

46

PAT. ____

[illegible] Quarter of said [illegible]
the whole of Section twenty six, the whole of Section twenty
seven, East half of the South East Quarter and the South East
Quarter of the North East Quarter of Section twenty eight, the North half
of the North East Quarter and the North East Quarter of the North
West Quarter of Section thirty four, the West half of the North West Quarter,
the North East Quarter of the North West Quarter and the North West
Quarter of the North East Quarter of Section thirty five. All in Town
ship Seventeen North of Range two East. Containing in all eleven
thousand four hundred and forty Seven acres and fifteen hundred
ths of an acre. Also, the West fractional half, the South East Quarter
and the West fractional half of the North East Quarter of Section one,
the whole of fractional Section two, the whole of fractional Section three,
the whole of fractional Section four, the whole of fractional Section five,
the whole of fractional Section six, the whole of fractional Section seven,
the whole of Section eight, the whole of Section nine, the whole of Section
ten, the whole of Section eleven, the whole of Section twelve, the whole of
Section thirteen, the whole of Section fourteen, the whole of Section
fifteen, the whole of Section Seventeen, the whole of fractional Section
eighteen, the whole of fractional Section Nineteen, the whole
of Section twenty, the whole of Section twenty one, the whole of Section
twenty two, the whole of Section twenty three, the whole of Section twenty
four, the East half, the South West Quarter, and the South East Quarter
of the North West Quarter of Section twenty five, the whole of Section twenty
six, the whole of Section twenty seven, the whole of Section twenty eight,
the whole of Section twenty nine, the whole of fractional Section thirty,
the whole of fractional Section thirty one, the whole of Section thirty two, the
whole of Section thirty three, the whole of Section thirty four, the West
half, the North East Quarter, the West half of the South East Quarter
and the North East Quarter of the South East Quarter of Section thirty five, all in Township Nineteen North of Range
two East, containing in all Twenty two thousand one hundred and nine
ty three acres and seventy five hundredths of an acre. Also, the South half
the North West fractional Quarter, the South half of the North
West fractional Quarter and the North West fractional Quarter of the
Quarter of Section one, the whole of fractional Section two, the whole
fractional Section three, the whole of fractional Section four, the whole
fractional Section five, the [illegible] Section six, the [illegible]
Section Seven [illegible]

58

[illegible] the North East Quarter of the North East Quarter [illegible] the East half of the East half of the North [illegible] the South West Quarter of the North West Quarter [illegible] the South East Quarter of the North East Quarter Section Twenty-five all in Township Twenty five North of Range [illegible] East containing in all seven thousand five hundred and one [illegible] and five thousandths of an acre, and containing in the aggregate Ten hundred and Seventy-two thousand five hundred and thirty one and seven eight hundredths of an acre according to the Official Plat of Survey of the said Lands returned to the Surveyor General's Office by the Surveyor General, which said Lands the Governor of the said State of Wisconsin did on the Twentieth day of December, one thousand eight hundred and fifty four, request a patent be issued to the said State as provided in the aforesaid Act.

Now therefore Know Ye, That the United States of America, in consideration of the premises, and in conformity with the Act of Congress aforesaid, Have Given and Granted, and by these presents do Give and Grant, unto the said State of Wisconsin, in the proportion specified in the Act of the Legislature thereof aforesaid, the quantity of land above described;

To Have and to Hold the Same, together with all the rights, privileges, immunities and appurtenances thereto belonging, unto the said State of Wisconsin, in fee simple and to its assigns forever.

In testimony whereof, I, Franklin Pierce, President of the United States of America, have caused these letters to be made Patent, and the seal of the General Land Office to be affixed.

Given under my hand at the city of Washington, the thirty first day of May, in the year of our Lord one thousand eight hundred and fifty five, and the independence of the United States the eighty ninth.

L. S. Seal

By the President: Franklin Pierce

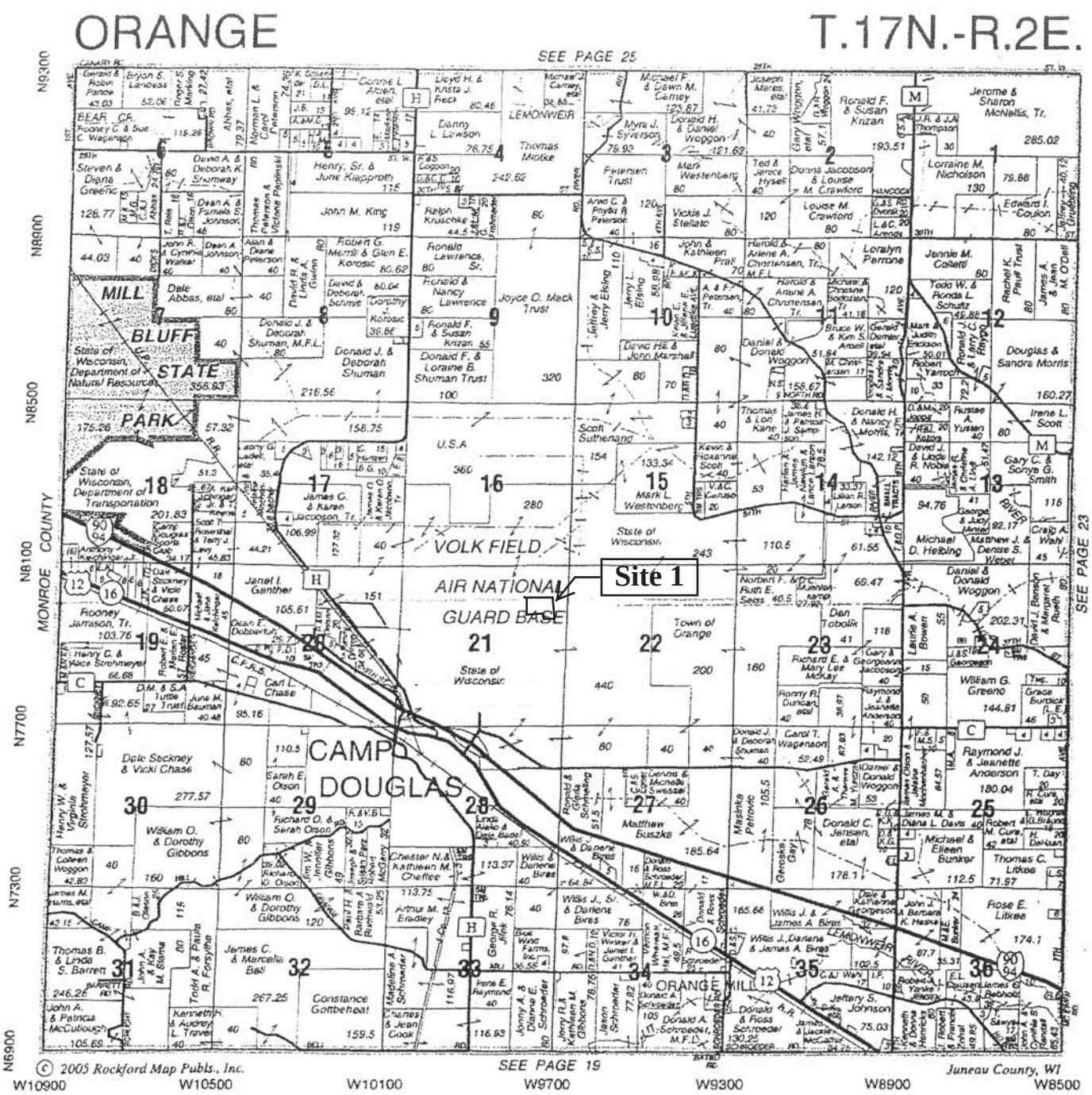
[illegible] E. Bateman Secretary

J. N. Granger Recorder of the General Land Office

ATTACHMENT G.2

EXCERPT FROM THE 2005 JUNEAU COUNTY LAND ATLAS AND PLAT BOOK;

JUNEAU COUNTY PARCEL MAP



Established 1931

OLSON EXCAVATING

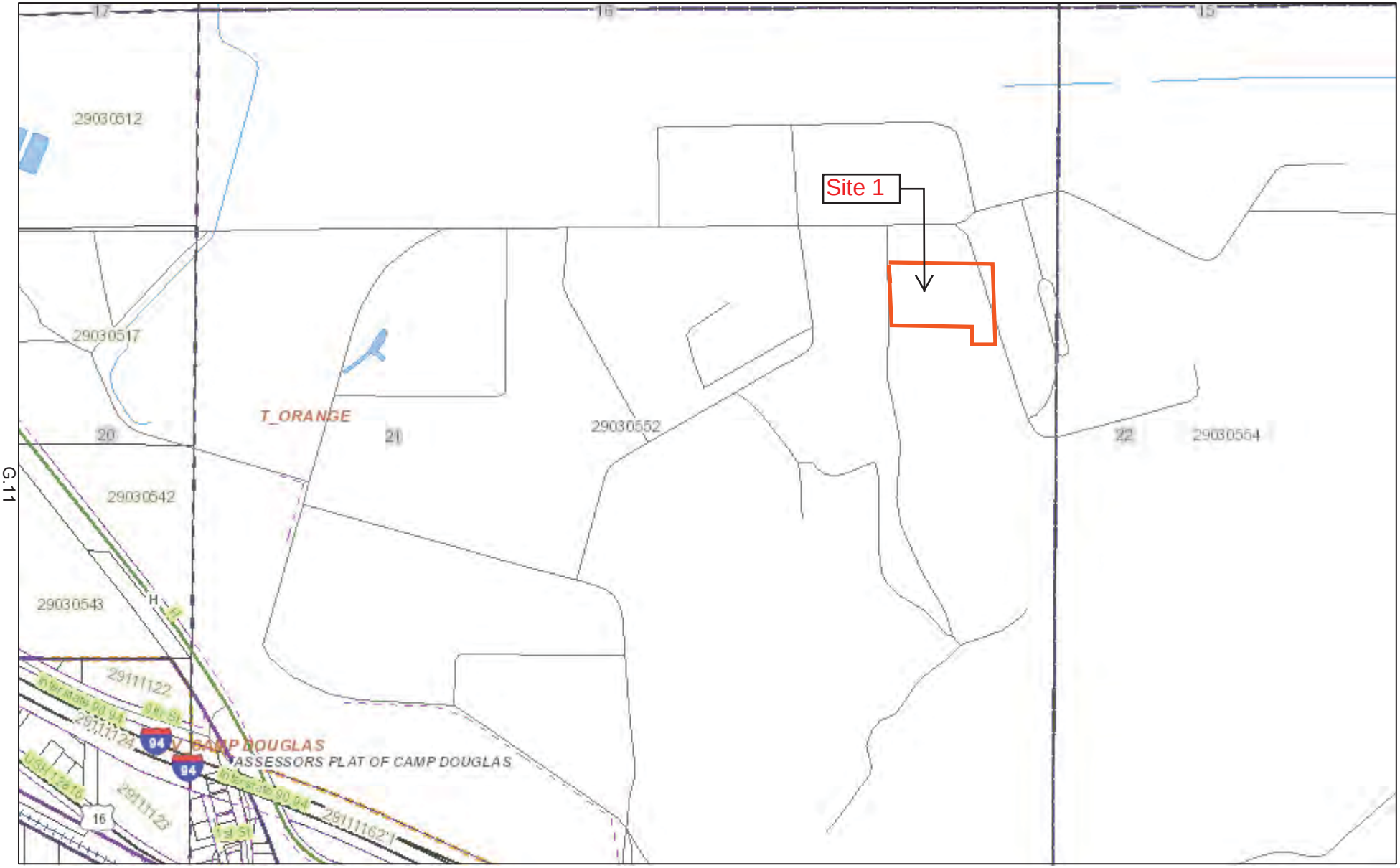
Government, Commercial & Private Contracting

(608) 427-3377

RICHARD, SARAH & MIKE

W10391 OLSON ROAD • CAMP DOUGLAS, WISCONSIN 54618

Juneau Co. Parcel Map



December 20, 2013

Railroads
County Hwy
State Hwy
US Hwy
Interstate Hwy
Local Roads
ROW
Parcels
Subdivisions
Minor Civil Divisions

DISCLAIMER: The maps, locations, bearings, and measurements depicted on this map are produced as a service to assist property owners and users. However, this information is not guaranteed to be accurate and shall not be used in lieu of a properly conducted survey of the property. Juneau County assumes no liability for the accuracy of this map and information. You are on notice that you should report any errors found to Juneau County immediately. CONTACT THE JUNEAU COUNTY LAND INFORMATION OFFICE WITH ANY QUESTIONS OR PROBLEMS (608) 847-9446/(608) 847-9457.

1:13,990

0 0.1 0.2 0.4 mi

0 0.175 0.35 0.7 km

ATTACHMENT G.3

VERIFICATION OF ZONING

Sprinzl, Rich E.

From: Walter, Edwin C Civ USAF ANG WI CRTC/CER <Edwin.Walter@ang.af.mil>
Sent: Thursday, May 29, 2014 10:02 AM
To: Sprinzl, Rich E.
Cc: michael.dunlap@us.af.mil; Arunachalam, Selvam; mikekeic@mwt.net; Luedtke, Kevin E Civ USAF ANG WI CRTC/SF
Subject: RE: Volk Field CRTC, IRP Site 1 Project Closure- Zoning Information request
Attachments: CompPlan_Orange_OnWeb.pdf
Signed By: edwin.walter@us.af.mil

Follow Up Flag: Follow up
Flag Status: Flagged

Rich,
I talked to the Town of Orange Chairman, Mr. Mike Keichinger and Town of Orange Supervisor, Mr. Kevin Luedtke with regard to the current zoning in the Town of Orange. I've included both of them in this email. They both indicated the attached 2006 Town of Orange Comprehensive Plan is the current plan. In the Comprehensive Plan Page 68 Paragraph 2. Land Use Controls A. Zoning ..... it is indicated the Town of Orange has no zoning apart from what Juneau County, the State of Wisconsin and restrictions imposed for aviation purposes (i.e. FAA) with in a three mile radius around Volk Field ANGB.
Thank you,
Ed

-----Original Message-----
From: Sprinzl, Rich E. [mailto:RICHARD.E.SPRINZL@leidos.com]
Sent: Wednesday, May 28, 2014 5:15 PM
To: Walter, Edwin C Civ USAF ANG WI CRTC/CER
Cc: michael.dunlap@us.af.mil; Arunachalam, Selvam
Subject: Volk Field CRTC, IRP Site 1 Project Closure- Zoning Information request
Importance: High

Ed,

Leidos has prepared the WDNR Case Closure/GIS Registry package for IRP Site 1 (Former Fire Training Area) at Volk Field CRTC.

For Attachment G.3 of WDNR Form 4400-202, it requests Verification of Zoning- Documentation (e.g. official zoning map or letter from municipality) of the property's or properties' current zoning status.

Can you please provide this documentation for Volk Field CRTC via email in your earliest convenience?

Feel free to call me if any questions.

Thanks,

Rich Sprinzl, P.E. | Leidos

Environmental Engineer | Environmental Restoration Division

phone: 330.405-5808

mobile: 330.348.1378
richard.e.sprinzl@leidos.com <mailto:richard.e.sprinzl@leidos.com> |
leidos.com/engineering <http://www.leidos.com/engineering>

Table 20: Land Use Projections

	2000	2005	2010	2015	2020	2025
Residential	609	609	656	672	686	686

Source: U.S. Census, DOA, NCWRPC

Although only 425 acres are set aside for residential use in the Future Land Use Plan, the 2,138 acres of land envisioned for residential and rural residential development more than meets the projected need for residential land through the planning period. As noted above, the Town does not see any additional need for industrial or commercial land in the future, beyond the redevelopment of existing commercial operations.

The goal of this land use plan is to balance individual private property rights with the town's need to protect property values community-wide, minimize the conflicts between land uses and keep the cost of local government as low as possible. An essential characteristic of any planning program is that it be ongoing and flexible. Periodic updates to the plan are needed to maintain that it is reflective of current trends

2. Land Use Controls

A. Zoning

1. County Shoreline Jurisdiction

All counties are mandated by Wisconsin law to adopt and administer a zoning ordinance that regulates land-use in shoreland/wetland and floodplain areas for the entire area of the county outside of villages and cities. This ordinance supersedes any town ordinance, unless the town ordinance is more restrictive. The shoreland/wetland and floodplain area covered under this zoning is the area that lies within 1,000 feet of a lake and within 300 feet of a navigable stream or to the landward side of a floodplain whichever distance is greater.

2. No General Zoning (Shoreland Only)

The Town currently has no general zoning, either with the County or on its own. All water bodies in Orange are covered under the County's shoreland zoning. Those zoning regulations apply only to areas within 300 feet of a stream or river, and within 1000 feet of a pond or lake.

The Town has other tools that could be used to implement some of the recommendations from the Comprehensive Plan. Those tools include such things as purchase of land, easements or development rights; subdivision ordinance; mobile/manufactured home restrictions; nuisance regulations; design review for commercial and industrial developments, infrastructure improvements (sewer and water, utilities), road construction and maintenance, and public services, among others.

3. Join a Neighboring Town's Zoning

The Town could pass a resolution to join a neighboring Town's zoning. This alternative would involve §66.30, Wis. Stats. Intergovernmental Agreements, to contract with an adjacent Town for

ATTACHMENT G.4

SIGNED STATEMENT

Attachment G.4

In fulfillment of Wisconsin Department of Natural Resources' requirements for site registry onto their GIS public database (for closed sites); the legal descriptions attached to the GIS registry package are complete and accurate for all of the properties within or partially within the contaminated site's boundaries that have residual groundwater and soil contamination exceeding ch. NR 140 enforcement standards at the time that closure is requested.

Applicable Attachments:

- B.1.a - Location Map for Volk Field CRTC containing Site 1
- B.1.b - GIS coordinates of the Site 1 Boundaries
- G.1 - Legal description of property, as recorded in the Juneau County (WI) Register of Deeds office for Site 1 of Volk Field.
- G.2.a - Page 22 of the 2005 Juneau County Plat Book containing Volk Field
- G.2.b - Juneau County GIS Parcel Map containing portions of Volk Field including Site 1

By signing below, the Responsible Party has acknowledged that the legal property description and site location map are current and accurate for the site of interest.

Name (Print): EDWIN C. WALTER

Title/Position: REAL ESTATE SPECIALIST

Signature:

Date: 4/7/2014