



October 27, 2017

Mr. James King  
Environmental Restoration Program Manager  
Air National Guard Readiness Center/NGB  
3501 Fetchet Ave. – Shepperd Hall  
Joint Base Andrews, MD 20762-5157

Subject: Review of Draft-Final Remedial Investigation Report  
128<sup>th</sup> Air Refueling Wing, General Mitchell International Airport, Milwaukee, WI  
BRRTS #s: 02-41-579106, 02-41-579107, 02-41-579108, 02-41-579109, 02-41-579110  
FID #: 241496970

Dear Mr. King:

On June 16, 2017, the Wisconsin Department of Natural Resources (DNR) received a “Draft-Final Remedial Investigation” Report (Report), prepared on your behalf by your consultant, Wood (formerly Amec Foster Wheeler). The Report requested review by the DNR and a written response.

#### Background

The 128<sup>th</sup> Air Refueling Wing (ARW) is located at the Air National Guard (ANG) base at General Mitchell International Airport (GMIA). The 128<sup>th</sup> ARW was organized at General Mitchell Field between 1946 and 1948, and began its air refueling mission in the early 1960s. The ARW continues to operate at GMIA, providing fuel to U.S. military and allied aircraft, aero-medical evacuation, and the lift personnel and equipment to strategic locations.

Previous releases at the 128<sup>th</sup> ARW have been reported to the DNR. Previous and current releases include the 1968 Westshore Pipeline release, during which approximately 600,000 gallons of gasoline was spilled, a jet fuel release from the aboveground receipt headers and associated underground piping at Building 610, known as the legacy spill, and a secondary release from an emergency vent located on the roof of Building 606.

#### Report Summary

The Report identifies six Areas of Concern (AOCs) at the ANG base at GMIA. The objective of the Report was to fully delineate the nature and extent of site-specific contaminants in soil and groundwater through investigative activities. Each AOC was investigated via soil and groundwater sampling, with two AOCs being investigated for possible vapor intrusion via sub-slab sampling. The conditions for each AOC are described in the review section.

The Report was reviewed for compliance with Wis. Admin. § NR 716, which explains the requirements for site investigations. The DNR provides the following general comments:

- The Report includes certification by a professional engineer. Wis. Admin. § NR 712.07 requires that a certified professional hydrogeologist prepare or supervise the preparation of submittals involving the assessment of groundwater, when prepared to satisfy the requirements of Wis. Admin. § NR 716. The submittal certification is described in Wis. Admin. § NR 712.09.

- To satisfy the requirements of a site investigation under Wis. Admin. § NR 716 and site closure under Wis. Admin. § NR 726, prepare isoconcentration maps and cross sections for each applicable AOC. These figures must illustrate the horizontal and vertical extent of soil and groundwater contamination with concentration lines interpreted between sampling points.
- On applicable tables and figures, include all relevant data from the previous investigations, including the referenced Leidos activities.
- In the soil data tables, soil concentrations should be compared to Wisconsin's three generic Residual Contaminant Levels (RCLs): groundwater protection pathway, non-industrial direct contact, and industrial direct contact. When comparing soil results, use the newest DNR RCLs, dated March 2017. Additionally, the data on the soil contamination figures should be reflective of the soil data tables in this manner.

The DNR also provides the following comments related to the specific AOCs:

Former Aircraft Washing Area (RW010) – BRRTS #: 02-41-579110

This AOC is the location of the former aircraft washing rack, where aircraft were historically cleaned using the underground detergent, waste oil, and holding tanks. The detergent tank was removed in the 1990s. The Report identified groundwater concentrations of Bis(2-ethylhexyl) phthalate (DEHP) exceeding the Wis. Admin. § NR 140 Preventive Action Limit (PAL) in the first of two sampling rounds from several AOC permanent monitoring wells.

- Describe the current status of the holding and waste oil tanks. Additionally, describe the historical and, if applicable, current contents of the holding tank.
- Describe the current site usage, and whether other products containing DEHP are currently being used on-site.
- Additional groundwater sampling from the permanent monitoring wells is needed to establish a trend for DEHP.

Oil-Water Separator (OW014) & Former Drain Oil Underground Storage Tank (TU015) – BRRTS #: 02-41-579108

These two AOCs are located at Guard West, as indicated on the site map. An oil-water separator (OWS) was replaced between 1994 and 1995, during which time other underground storage tanks (USTs) were reportedly removed. Currently, this area, specifically Building 302, is being used for storage. The Report identified concentrations of polycyclic aromatic hydrocarbons (PAHs) in soil exceeding RCLs for direct contact. Naphthalene was also detected in exceedance of its protection of the groundwater pathway RCL.

Groundwater samples collected from temporary monitoring wells identified various PAHs exceeding their respective Wis. Admin. § NR 140 Enforcement Standards (ESs). These exceedances were absent in groundwater samples collected from permanent monitoring wells. Additionally, three sub-slab samples were collected beneath the slab of Building 302, located at the western edge of the AOC. The concentrations of these sub-slab samples were below DNR vapor risk screening levels (VRSLs).

- Describe the past use of this AOC and what is currently being stored here.
- Describe the current status of the drain oil UST.
- Provide information regarding the OWS, specifically on whether it was replaced or removed and if underground piping is still present.



- There is insufficient data to suggest the source of contamination is historic fill and/or asphalt rather than the UST or OWS or a different source. Further sampling is needed near the UST/OWS and in the areas with elevated naphthalene concentrations.

Suspected Petroleum Contamination: Building 522 (CB018a) – BRRTS #: 02-41-579107 & Prime Beef Drive/Tanker Avenue (CB018b) – BRRTS #: 02-41-579109

These two AOCs are located at Guard Central and are within locations associated with the 1968 Westshore pipeline release. CB018a addresses contamination located adjacent to Building 522, near the intersection of Upset Avenue and Minuteman Drive. The Report identifies PAHs in shallow soil samples exceeding direct contact RCLs. Temporary monitoring well samples also identified PAHs exceeding Wis. Admin. § NR 140 ESs. These exceedances were absent in groundwater samples collected from permanent monitoring wells. The Report attributes the PAH impacts to general site use rather than a specific source area.

Petroleum volatile organic compounds (PVOCs) were identified in soil exceeding the protection of the groundwater pathway RCL. Temporary monitoring well samples also found PVOCs exceeding their respective Wis. Admin. § NR 140 ESs. In permanent monitoring wells, VOCs were found to exceed their respective Wis. Admin. § NR 140 PALs and ESs. A fingerprint analysis was performed on groundwater samples collected from temporary monitoring wells. The results of this analysis indicated that the petroleum impacts appeared to be associated with old or highly weathered gasoline. Additionally, three sub-slab samples were collected beneath the slab of Building 522. The concentrations of the sub-slabs samples were below DNR VRSLs.

AOC CB018b addresses contamination near the petroleum, oil, and lubrication facility, at the intersection of Prime Beef Drive and Tanker Avenue. The Report identifies PAHs in soil samples exceeding direct contact RCLs. Temporary monitoring well samples also identified PAHs exceeding Wis. Admin. § NR 140 PALs and ESs. In permanent monitoring wells, MW-206 had ES exceedances for select PAHs in the first of two sampling rounds. The Report attributes the PAH impacts to the current and historical use of the site. Naphthalene was also detected above the protection of the groundwater pathway RCL at soil boring location SB-04.

- These two AOCs appear to be related to the 1968 Westshore Pipeline release. As this release was previously investigated and closed under BRRTS #: 02-41-000590, no further action is required to delineate the degree and extent of impacts related to this release. However, concentrations of PAHs in soil at both AOCs exceeding direct contact RCLs were identified during the remedial investigation. It does not appear PAHs in soil were investigated extensively as part of the Westshore Pipeline release investigation. Due to the concentrations identified, additional investigative and/or remedial actions related to these exceedances are required.

Vinyl Chloride Groundwater Contamination (CG019) – BRRTS #: 02-41-579106

This AOC identifies a vinyl chloride (VC) groundwater plume located within the southern end of Guard Central. The source of the VC is currently unknown. Previous and current sampling data suggest that the VC contamination is located along the east-west drainage ditch. Wis. Admin. § NR 140 ES exceedances are noted in the shallow groundwater zone, where wells are screened between 5 and 20 feet below ground surface (bgs), and also in the deeper groundwater zone, where wells are screened from 30 to 40 feet bgs. Two wells within the drainage ditch were screened from 40 to 50 feet bgs, but VC was not detected in either of the two sampling events at either location.

- Discuss, and include on AOC figures, all relevant sampling data, including data collected during the Henningson, Durham, Richardson, Inc. (HDR) investigation.

- Use the created isoconcentration figures to assess possible vapor intrusion into nearby buildings and to determine if the degree and extent of VC contamination has been defined. To assess vapor intrusion, refer to the DNR's vapor intrusion guidance, "Addressing Vapor Intrusion at Remediation & Redevelopment Sites in Wisconsin," RR-800.
- To assess the need for remedial action, including natural attenuation, sample all available permanent monitoring wells with prior detections of vinyl chloride to establish current trends.
  - Remedial action should be considered on the basis of possible receptors and migration pathways; whether there is a threat to human health or the environment. After further sampling, evaluate the need for remedial action, including monitored natural attenuation, in terms of risk.

The site investigation is an iterative process. If applicable, future sampling results may indicate that further assessment is needed to define the degree and extent of contamination in all affected media.

The DNR understands that Wood intends to submit successive documents describing the next steps for these AOCs. The future documents should incorporate the comments outlined in this letter and be in compliance with the Wis. Admin. § NR 700 series.

The DNR appreciates the efforts you are taking to address the contamination at these AOCs. If you have any questions about this letter, please contact me, the DNR Project Manager, at (414) 263-8699, or by email at [Riley.Neumann@wisconsin.gov](mailto:Riley.Neumann@wisconsin.gov).

Sincerely,



Riley D. Neumann  
Hydrogeologist  
Remediation & Redevelopment Program

cc: Master Sergeant Brian Schrader, Environmental Manager, 128<sup>th</sup> ARW (electronic)  
John Raltson, Project Manager, Wood Group (Electronic)