**State of Wisconsin**
**DEPARTMENT OF NATURAL RESOURCES**
**2300 N. Dr. Martin Luther King, Jr. Drive**
**Milwaukee, WI 53212-3128**

**Tony Evers, Governor**
**Preston D. Cole, Secretary**
Telephone 608-266-2621
Toll Free 1-888-936-7463
TTY Access via relay - 711

March 26, 2019

Mr. Eric Ogden
Oak Creek Rawson Industrial, LLC
100 S. Wacker Drive, Suite 950
Chicago, IL 60606

SUBJECT: Review of Site Investigation Report and Remedial Action Plan
Biogenesis (Former), 610 W. Rawson Avenue, Oak Creek, WI
DNR BRRTS # 02-41-107191 & 06-41-582006 FID # 241020010

Dear Mr. Ogden:

On February 1, 2019, the Wisconsin Department of Natural Resources (DNR) received the *Site Investigation Report & Remedial Action Plan* (Report), dated February 1, 2019, by The Sigma Group, Inc. (Sigma) for the site referenced above. In the Report, Sigma summarizes the environmental work conducted to date and proposes a remedial action plan (RAP) to address identified contamination. The site investigation (SI) portion of the Report was reviewed for compliance with Wis. Admin. Code ch. NR 716 and the RAP was reviewed for compliance with Wis. Admin. Code ch. NR 724. The DNR is providing the following comments, based upon the review of the Report and file information.

**Background**

The site is comprised of two parcels (formerly 610 West Rawson Avenue and 7045 South 6th Street) that have been combined into one 10.5-acre property with the address of 610 West Rawson Avenue (the Property). The Property was used as a bulk fuel storage, mixing and distribution facility from approximately 1955 to the mid-1980s, which included the use of numerous underground and aboveground storage tanks (USTs and ASTs). The USTs and ASTs were registered with the State as containing #6 fuel oil, leaded gasoline, waste oil and new oil. These petroleum products were delivered to the Property via a railroad spur that cut across the lower midsection of the Property from the rail line along the western Property boundary. The eastern parcel is a leaking UST site that was reported in 1990 and closed by the DNR in 1996, after investigation of petroleum releases and remediation that included soil excavation, groundwater dewatering and disposal.

Biogenesis/BioVersal bought the Property in 1990 and used the facilities for mobile soil and sediment washing treatment processes and for manufacturing chemicals until approximately 2015. The Safety Data Sheets (SDSs) included in the Report identified chemicals used at the Property as including, but not limited to, alcohols, acetates, glycols, caustics and acids made into proprietary blends such as surfactants/dispersants, fire suppressants, and odor control products. Most ASTs and USTs were removed by 1992, with the last ASTs removed by 2005. This site was opened in 1995 after the DNR completed a site inspection that documented numerous areas of surface spillage around the large ASTs and the southwest building, and other leaking ASTs and containers.

At the time the Report was submitted to the DNR, all buildings, drums and other containers, and select asphalt and concrete pavement had been removed from the Property in preparation for redevelopment. The proposed development includes a 180,000 square foot warehouse style building and paved parking areas.

**Site Investigation – Emerging Contaminants of Concern**

The DNR concurs with Sigma that the volatile organic compound (VOC), polychlorinated biphenyl (PCB) and RCRA metal contaminants investigated to date have been adequately defined. However, the DNR does not agree with Sigma's conclusion that per- and polyfluoroalkyl substances (PFAS) and 1,4-dioxane were not likely used at

this site and that sampling for these substances is unnecessary. PFAS are emerging contaminants of concern as they have been widely used in surfactants and cleaning products, which were manufactured on this property, as PFAS impart oil, stain, grease and water repellency, in addition to their use in firefighting products. Although Biogenesis' fire suppressants are currently marketed as PFAS alternatives, many of these types of firefighting products still contain small percentages of PFAS. Therefore, the DNR is requiring an investigation of potential PFAS sources and the extent of PFAS contamination at the site, if found.

The investigation should also define the extent of the emerging contaminant 1,4-dioxane, if present, as one of the Safety Data Sheets (SDSs) stated that 1,4-dioxane was a component of the product. In addition, 1,4-dioxane is a known stabilizer for trichloroethene (TCE), and high TCE concentrations from unknown sources have been detected in soil and groundwater at the site.

Before proceeding with the PFAS and 1,4-dioxane investigation, submit a work plan for DNR review. Include the rationale for each sampling location and media selected for these analyses and a discussion of the sampling protocol to avoid cross-contamination during sampling activities. Provide a statement indicating that the selected analytical laboratory is experienced with PFAS analysis and understands the potential PFAS contamination sources and PFAS analytical issues.

**Remedial Action Plan**

The DNR concurs with Sigma's current proposal for eight targeted remedial excavations to remove the highest concentrations of VOCs and PCBs to reduce direct contact, groundwater, and vapor intrusion risks associated with the shallow contaminated soil. Confirmation soil samples will be collected from the sidewalls and base of the excavations.

The development of the site with a 180,000 square foot building and paved parking areas will provide engineered barriers to address remaining direct contact risk for residual soil contamination. Soil and groundwater data should be evaluated after completion of the remedial excavations and continued groundwater monitoring to determine whether residual soil and groundwater concentrations warrant the necessity for engineered barriers for protection of direct contact and/or groundwater pathways at the time of closure.

Natural attenuation groundwater monitoring will be completed after property development using existing wells SMW-1, SMW-2, SPZ-1 and possibly MW-102, and new wells and piezometers installed as indicated on Figure 12 in the Report. The DNR recommends installing one additional well within the new building in the area of SMW-28, an area with high levels of groundwater contamination.

A sub-slab venting layer is proposed beneath the new building footprint to address the potential vapor intrusion risk associated with residual contamination. The vapor system must include sub-slab sample ports at various locations so that sampling can be conducted to determine whether the passive venting layer is adequate to prevent a vapor intrusion risk. Sigma stated that the venting system is designed such that it can be converted to an active sub-slab depressurization system if warranted based on post-construction testing results.

**Other DNR Reviews**

On February 8, 2019, Sigma requested DNR concurrence on a hazardous waste determination for disposal of contaminated soil that will be generated during remediation in the southwest corner of the property. The DNR concurred with the proposal in a letter to you dated March 6, 2019.

On February 6, 2019, Sigma submitted a request for approval of a soil management plan to the DNR. The DNR discussed the plan with Sigma and as a result, a revised soil management plan was submitted jointly to the Waste and Materials Management Program and the Remediation and Redevelopment Program on March 18, 2019. The plan is in line for review.

On March 7, 2019, Sigma submitted a request for PECFA funding for the remediation of the PECFA-eligible releases on the property. That submittal is currently being reviewed.

**Schedule**

In consideration of administrative code requirements, the DNR is requesting implementation of the following schedule:

- Per Wis. Admin. Code § NR 716.09(1), the DNR is requesting the submittal of a supplemental site investigation work plan for the investigation of PFAS and 1,4-dioxane, within 60 days of the date of this letter, **by May 27, 2019**. The work plan must comply with Wis. Admin. Code § NR 716.09(2).
- Per Wis. Admin. Code § NR 716.11(2g), the additional site investigation activities must begin within 90 days of the submittal of the work plan.
- Per Wis. Admin. Code § NR 716.15(1), a site investigation addendum report shall be submitted within 60 days after completion of the field investigation.
- Per Wis. Admin. Code § NR 722.15(3), the remedial action must begin within 90 days after Department approval or conditional approval of the remedial action report.
- NR 700 semi-annual progress reports are required until the case is closed.

Thank you for your efforts to protect Wisconsin's environment. If you have any questions, please contact me in writing at the letterhead address, by email at Linda.Michalets@wisconsin.gov, or by telephone at (414) 263-8757.

Sincerely,

Linda Michalets
Hydrogeologist
Remediation and Redevelopment Program

cc: Ms. Kristin Kurzka and Mr. Stephen Meer, The Sigma Group, Inc.