



RICK SNYDER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
GRAND RAPIDS DISTRICT OFFICE



C. HEIDI GREETHER
DIRECTOR

August 7, 2018

VIA E-MAIL AND U.S. MAIL

Mr. Dave Latchana
Wolverine World Wide, Inc.
9341 Courtland Drive, NE
Rockford, Michigan 49351

Dear Mr. Latchana:

SUBJECT: Wolverine World Wide Inc. (Wolverine) GZA May 4, 2018, Draft Quality Assurance Project Plan (QAPP)
Former Wolverine Tannery, House Street Area, and Wolven / Jewell Area – Michigan Department of Environmental Quality (MDEQ) Comments

The MDEQ requests revisions of the Wolverine / GZA May 4, 2018, Draft QAPP Former Wolverine Tannery, House Street Area, and Wolven / Jewell Area as noted below and in the attached June 15, 2018, memo from Kirby Shane, MDEQ Laboratory Director, and Carol Smith, Organic Unit Supervisor:

- 1) A.3.1 – Change the MDEQ Project Manager to Karen Vorce.
- 2) A.4 – Does Wolverine intend to submit a Sampling and Analysis Plan (SAP) that will include the QAPP as an attachment, or is this intended to be a stand-alone Quality Assurance document?
- 3) A.4.1 – Change the MDEQ Project Manager to Karen Vorce on the Project Organization Chart.
- 4) A.5.3.2 – Clarify that the perfluorooctane sulfonic acid (PFOS) and perfluorooctanoic acid (PFOA) Soil Criteria protective of groundwater for drinking water uses mentioned in the second paragraph are proposed criteria. Also, correct 70 parts per billion, to parts per trillion in the last paragraph and in A.5.4.2 in the last sentence.
- 5) A.6.1 – Residential water supply well assessments should not be utilized to characterize the extent and relative concentrations of per- and poly-fluoroalkyl substances (PFAS), as stated in the second bullet. These assessments are necessary to identify and mitigate unacceptable groundwater ingestion risks.
- 6) A.7 - Clarify that the PFOS and PFOA Soil Criteria mentioned are proposed criteria. Define "PALS" in the fourth paragraph.
- 7) A.7- The data summary table should include the collection / analysis frequencies and acceptance criteria for all Data Quality Indicators (DQIs).

- 8) A.8 – Are there Special Training / Certifications that should be provided for the laboratories (QAPP or Management Plan), or for drilling, surveying, or waste handling procedures?
- 9) B.5 – Add a table for the laboratory DQIs and include the collection / analysis frequencies and acceptance criteria.
- 10) D.1 – The laboratory data validation should include a tiered review process starting with the analyst, including ensuring sample preparation and analysis information is correct and complete, analytical results are correct and complete, all reporting and detection limits are correct, the appropriate Standard Operating Procedures (SOPs) have been followed and are identified in the project records, proper documentation procedures have been followed, and all nonconformances have been documented. Following the completion of the initial verification by the analyst, an experienced peer or supervisor should ensure adherence to the requested analytical method SOP, correct interpretation of chromatograms, spectra, etc., correctness of numerical input when computer programs are used (checked randomly), correct identification and quantitation of constituents with appropriate qualifiers, numerical correctness of calculations and formulas (checked randomly), acceptability of Quality Control data, documentation that instruments were operating according to method specifications (calibrations, performance checks, etc.), documentation of dilution factors, standard concentrations, etc., and a sample holding time assessment. A third-level review should be performed by the Laboratory Project Manager to verify the completeness of the data report and to ensure that project requirements are met for the analyses performed. This review should be completed for all samples, and not limited to 10%, as proposed.
- 11) D.2- Validation should be performed on samples collected from all sources and matrices, and not only residential water supply samples.
- 12) D.2 – What level of validation will be conducted? Stage 2B, Stage 4?
- 13) D.2 – Will the U.S. Environmental Protection Agency (EPA) Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (U.S. EPA, 2017) and Contract Laboratory Program National Functional Guidelines for High Resolution Methods Data Review (U.S. EPA, 2016) be utilized in the validation process?
- 14) D.3 – Will the J+ and J- bias qualifiers be utilized also?
- 15) D.3.1 – Specify the methods that will be used to assess precision, accuracy, completeness, sensitivity, and the representativeness of field and laboratory data to ensure the data falls in line with the Data Quality Objectives.
- 16) D.3.1 – Specify that corrective actions will be made for data gaps resulting from the qualification of or loss of data.
- 17) Table B.4.1 – Several laboratory SOP Documents are referenced, but not provided.
- 18) SOP A19 – The Drinking Water Sampling Procedure states in 1.b that PFAS Point of Entry Treatment System influent samples may be collected after a water softener or sediment trap. Will the softener or trap effect the representativeness of the sample relative to a true “raw” influent sample?

Please make the appropriate revisions and resubmit the QAPP by August 30, 2018.

Mr. Dave Latchana
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August 7, 2018

If you have any questions, please contact the Grand Rapids District Office at the contact information below.

Sincerely,



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

Enclosure

cc: Ms. Polly Synk, Department of Attorney General
Mr. Steve Sliver, PFAS Executive Lead, DEQ
Ms. Kathy Shirey, DEQ
Ms. Amy Peterson, DEQ

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

INTEROFFICE COMMUNICATION

TO: Dave Wierzbicki, Incident Management Specialist,
Remediation and Redevelopment Division

FROM: Kirby Shane, Laboratory Director  
Carol Smith, Organic Unit Supervisor
Laboratory Services Section, Remediation & Redevelopment Division

DATE: June 15, 2018

SUBJECT: Review of DRAFT Quality Assurance Project Plan Former Wolverine
Tannery, House Street Disposal Area, and Woven/Jewell Area; Work
Order 1805309

A request to review sections of the subject Quality Assurance Project Plan (QAPP) from GZA GeoEnvironmental, Inc. was received on May 29, 2018. Specifically, a request to review sections of QAPP 16.0062335.02/62335.52/62677.81, draft Quality Assurance Project Plan Former Wolverine Tannery, House Street Disposal Area, and Woven/Jewell Area, Per- and Polyfluoroalkyl Substances Investigation Program, Effective date 05/04/2018, was made.

A review of the requested sections in the QAPP was done. Additionally, Table B.3.2 was reviewed. The following is a summary of the review:

General Comments

Various references to EPA Method 537 Rev 1.1 were used incorrectly throughout this document. Any reference to drinking water only should reference EPA Method 537 Rev 1.1. Any reference to other matrices should not include 537, 537.1 or the like. There is no EPA Method 537.1. Additional sections of the QAPP that were not requested to be reviewed should be evaluated for this language.

QAPP B.4 page 23, Analytical Methods /Table B.4.1

1. B.4 Analytical Methods, references SW-846 Method 7473, which is a method for the analysis of Mercury. Unable to determine if this is an appropriate method reference for this document based on the review request.
2. Method 537.1 is incorrectly referenced if this is intended to reference EPA Method 537 Rev 1.1.
3. Table B.4.1 incorrectly references EPA Method 537.1. The correct method reference is EPA Method 537 Rev 1.1. Modified Isotope Dilution should not be associated with EPA Method 537 Rev 1.1 per USEPA in method reference naming convention.

QAPP B.7 page 24, Instrument.... Frequency

- No Comment

QAPP C.1.2 page 27, Laboratory Assessments

- No Comment

QAPP D.1 page 29, Data Review..... Validation

1. Line three of the second full paragraph – "...expected range..." could be identified or defined more clearly.
2. Generally, this paragraph could be written more clearly with specific data validation/verification parameters and specific corrective actions identified.

Table A.7.8 – A.7.9 – Reporting Limits

Table A.7.8-A

1. MDEQ Designated Method is identified as 537.1 Modified-ID. Unable to determine where this defined method reference originates.
2. Two compounds, PFNS and PFPeS, do not show method codes, prep method, or RL/LOQ.
3. Footnote 1 indicates to compare PFOA and PFOS ground water concentrations with drinking water criterion, however it appears that concentrations would be in µg/Kg based on this solid samples table.
4. Table A.7.8-A contain 23 compounds.
5. RL/LOQ could be listed in either wet or dry weight.

Table A.7.8-B and C

1. MDEQ Designated Method is identified as 537.1 Modified-ID. Unable to determine where this defined method reference originates.
2. Footnote 1 indicates to compare PFOA and PFOS ground water concentrations with drinking water criterion, however it appears that concentrations would be in µg/Kg based on this solid samples table.
3. Table A.7.8-B contains 23 compounds. Table A.7.8-C contains 27 compounds.
4. RL/LOQ could be listed in either wet or dry weight.

Table A.7.9-A

1. Table title indicates Groundwater and Surface Water. Table indicates MDEQ Designated Method as 537.1 Unable to determine where this defined method

reference originates. If this is intended to reference drinking water, the correct method reference is EPA Method 537 Rev 1.1, and Drinking Water should be added to the table title.

2. MDEQ Designated Method is identified as 537.1 Modified-ID. Unable to determine where this defined method reference originates.
3. Two compounds, PFNS and PFPeS, do not show method codes, prep method, or RL/LOQ.

Table A.7.9-B and C

1. Table title indicates Groundwater and Surface Water. Table indicates MDEQ Designated Method as 537.1. Unable to determine where this defined method reference originates. If this is intended to reference drinking water, the correct method reference is EPA Method 537 Rev 1.1, and Drinking Water should be added to the table title.
2. MDEQ Designated Method is identified as 537.1 Modified-ID. Unable to determine where this defined method reference originates.

Table B.3.2 – Sample Preservation Requirements...and Hold Times

1. Table incorrectly references EPA Method 537.1. The correct reference is EPA Method 537 Rev 1.1.
2. Holding time listed for Residential drinking water should be 14 days from collection to sample extraction. Optionally, add 28 days from sample extraction to analysis, all per EPA Method 537 Rev 1.1.
3. If optional hold time from sample extraction to analysis is listed, preservation listed for extracts should be listed as room temperature, per EPA Method 537 Rev 1.1.

Table B.4.1 – Laboratory InstrumentationAnalysis

1. Analytical Method column indicates EPA Method 537.1 with modified Isotope Dilution. Unable to determine where this defined method reference originates.
2. Each Laboratory indicates Soil/Sediment and Groundwater/Surface Water testing by EPA Method 537,... EPA Method 537 is specifically applicable to drinking water only.

Table B.5.2 – Laboratory QC Acceptance Criteria

1. Table B.5.2-B, page 4 indicates acceptable criteria for Laboratory Reagent Blank (LRB) as "No analytes detected at or above the MDL". EPA Method 537 Rev 1.1, Section 4.2 requires that the Method Blank (MB) be evaluated to 1/3 the MRL. Is the LRB the same as the MB?

2. Table B.5.2-C does not specify Drinking Water as a matrix. Only Aqueous, and Aqueous and Soil are specified. If Aqueous is intended to reference drinking water, the appropriate method reference is EPA Method 537 Rev 1.1, and laboratory generated control limits are not allowed.

Appendix A – SOP A09 Chain of Custody....Shipping

1. Page 2 of SOP A09 lists equipment and materials commonly used for labeling, packaging and shipping samples. This list does not include example vendor product catalog numbers. A review of this list of equipment and materials was not done against previously introduced lists of prohibited and acceptable materials.
2. Page 5 of SOP A09, item 5 and top of page 6 indicate a preservation temperature of $4 \pm 2^{\circ}\text{C}$. EPA Method 537 Rev 1.1 indicates a sample transport temperature of $<10^{\circ}\text{C}$ for the first 48 hours and a storage temperature of $\leq 6^{\circ}\text{C}$ and $>0^{\circ}\text{C}$. ASTM D7979 and draft EPA Method 8327 indicate storage temperatures of $\leq 6^{\circ}\text{C}$ and $>0^{\circ}\text{C}$. The reference methods offer a wider window for thermal preservation that may reduce the chance or occurrence of samples not meeting thermal preservation requirements.
3. Page 5 of SOP A09, item 2 should be "blank" instead of "bank".

Appendix A – SOP B1 – PFAS SOPs

1. This SOP describes sample collection procedures for Per- and Poly-Fluorinated Alkyl Substances. A review of SOP B1 was done only with respect to applicability to laboratory analysis.
2. A review of prohibited and allowable items in the table on pages 5 and 6 of this SOP was not done against previously introduced lists of prohibited and acceptable materials.
3. This SOP references the MDEQ Draft Final Wastewater PFAS Sampling Standard Operating Procedures, April 2018. A review of those documents was not completed as part of this review.
4. This SOP references SOP A19 of this QAPP, Drinking Water Sampling Procedure. A review of SOP A19 was not done.
5. No additional comment.

If you have questions regarding this information please contact the DEQ Laboratory at 517-335-9800.