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August 23, 2021
Project No. 200397

Ms. Sydney Hewson
Michigan Department of the Environment, Great Lakes and Energy – Air Quality Division
Marquette District
1504 West Washington Street
Marquette, MI 49855

Michigan Department of Corrections, Marquette Branch Prison (K2153):
Response to the Violation Notice dated August 5, 2021

Dear Ms. Hewson:

This letter is in response to the Michigan Department of the Environment, Great Lakes and Energy (EGLE), Air Quality Division (AQD) Violation Notice (VN) dated August 5, 2021. The VN notes that sample results from the Michigan Department of Corrections, Marquette Branch Prison's (MBP) fuel oil tank exceeds the 15 parts per million (ppm) limit. The deviation cited in the NV is as follows:

Process Description	Rule/Permit Condition Violated	Comments
Fuel oil tank to supply No.2 fuel to FG-BOILERS and EU-EMGGEN1	EU-EMGGEN1 SC. II. 1. The permittee shall burn only diesel fuel in EU-EMGGEN1 with the maximum sulfur content of 15 ppm (0.0015 percent) by weight, and a minimum Cetane index of 40 or a maximum aromatic content of 35 volume percent.	The facility submitted fuel oil analysis results on August 2, 2021, showing the fuel oil sulfur content of 22 ppm. This exceeds the permit limit for EU-EMGGEN1 of 15 ppm.

As requested, this letter provides information regarding the above citation, including: the date the alleged violations occurred; an explanation of the causes and duration of the alleged violations; whether the violations are ongoing; a summary of the actions that have been taken and are proposed to be taken to correct the violations; the dates by which these actions will take place; and what steps are being taken to prevent a reoccurrence.

First, the MBP has requested the additional quality assurance/quality control (QA/QC) information associated with the laboratory results. This information has not been made available to MBP. It is possible that the QA/QC information is not available or that the laboratory has identified an anomaly in its analysis. For this reason, MBP may question the validity of the test data received from Titan Lab and upon which this VN is based. In addition, going forward, MBP will only accept test data as valid when accompanied by the appropriate QA/QC data. In the very least, there is uncertainty in any laboratory result and MBP would like information on the detection limit, as well as uncertainty in the number that was reported, and assurance that the analysis was done correctly. It should be noted that the sample itself was a grab sample, though MPB believes the sample is representative of the fuel in the tank.

The US Environmental Protection Agency (EPA) has noted some difficulties in sampling and analyzing ultra-low sulfur diesel (ULSD) downstream of the refinery, and made accommodations for this in reviewing sample results. For example, under 40 CFR 80.580(d)(1), a negative declaration is allowed of at least 2 ppm to allow for test variability.

That being said, MBP does not believe that anything other than ULSD has been stored in this particular tank. It is our understanding that the standard for ULSD has been in place since 2006, and this tank was installed after that date. In addition, in reviewing delivery information, it appears that only ULSD was purchased for this tank.

The amounts used over the last few years have been small and very few deliveries have been received. In particular, the amounts used in the emergency generator (the boilers are not subject to the 15 ppm limit) have been very low:

Emission Unit	2018		2019		2020	
	Hours	Diesel Usage	Hours	Diesel Usage	Hours	Diesel Usage
FG-BOILERS	0	0	0	0	1	140
EU-EMGEN1	12	630	17.4	900	14.4	760

As we indicated in our letter dated June 9, 2021, no ULSD has been purchased for MBP since 2018, and only one shipment was received in 2017.

Immediate Corrective Actions: As soon as the sulfur in fuel from this tank was questioned, MBP stopped testing the emergency generator using the diesel fuel. This emergency generator can fire both natural gas and ULSD and testing will only take place while burning natural gas until new fuel is purchased for the emergency generator. MBP may use a temporary tank of ULSD or may wait until additional fuel is added to the tank and testing is performed to demonstrate compliance with the 15 ppm sulfur limit. It is our understanding that ULSD shipped from the refinery is averaging just over 2 ppm and, if this fuel is added to the tank, it would be possible to average under 15 ppm sulfur, making the entire tank ULSD.

Preventive Actions: MBP has contacted the Michigan Department of Technology, Management and Budget (MDTMB) concerning the contract with fuel suppliers, and our need to have a fuel analysis with each shipment of ULSD. We are working with the MDTMB to have the following language (or something similar) included in each contract:

> "With each shipment of ULSD, a copy of recent analytical that specifically identifies the fuel as ULSD and shows the specific sulfur content (and compliance with the 15 ppm S limit) and cetane index representing fuel included in the shipment. The fuel analysis included with each shipment will be done using ASTM D975 or a USEPA approved method and will demonstrate compliance with the 15 ppm sulfur limit and will show a cetane index minimum of 40."

MBP will only accept for delivery ULSD that is accompanied by an analysis showing sulfur content and cetane index indicating compliance with the permit limits.

If you have any questions or require additional information, please contact me at 248.324.4785 or email llwoolley@fishbeck.com.

Sincerely,

Lillian L. Woolley, PE
Senior Chemical Engineer

By email
Attachment
Copy: Janine Camilleri, EGLE-AQD (Lansing)
Edward Lancaster, EGLE-AQD (Lansing)
Trever LeBarre – Michigan Department of Corrections

Attachment 1

Control #	400420210715
Date Taken	07/07/2021
Service Meter Reading	0
Fluid Run Time	0
Fluid Added Gal / Qts	0 / 0
Fluid Status	Sampled
Filter Changed	Unknown
Cetane	46.1
Sulfur %	0.0022
API Gravity	35.1
Cloud Point °F	10.4
Pour Point °F	-32.8
Bacteria/Fungi	Negative
Water/Sediment	<0.05
Fuel Color	Red
Fuel Clarity	Clear
Visible Oil	None
Debris	None

TITAN LABORATORIES

COMPLETE FLUIDS ANALYSIS

9052 Yosemite St., Henderson, CO 80640

800-848-4826

Reportable

07/23/2021

Make / Model

Unit/Serial

ABOVE GROUND/20K GAL

Compartment

Diesel Fuel

Fluid Type

#2

WO / Reference

1399215

Current Interpretation

Testing and specifications are in accordance to ASTM D975- Standard for Diesel Fuel. Sulfur limit does exceed ASTM D975 standard of < .0015. If the limit exceeds this amount, we recommend checking with local regulations regarding allowable sulfur limits. All other data is normal. Please reference Cloud and Pour Point to ambient temperature in your area. Resample at normal interval.

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MARQUETTE BRANCH PRISON

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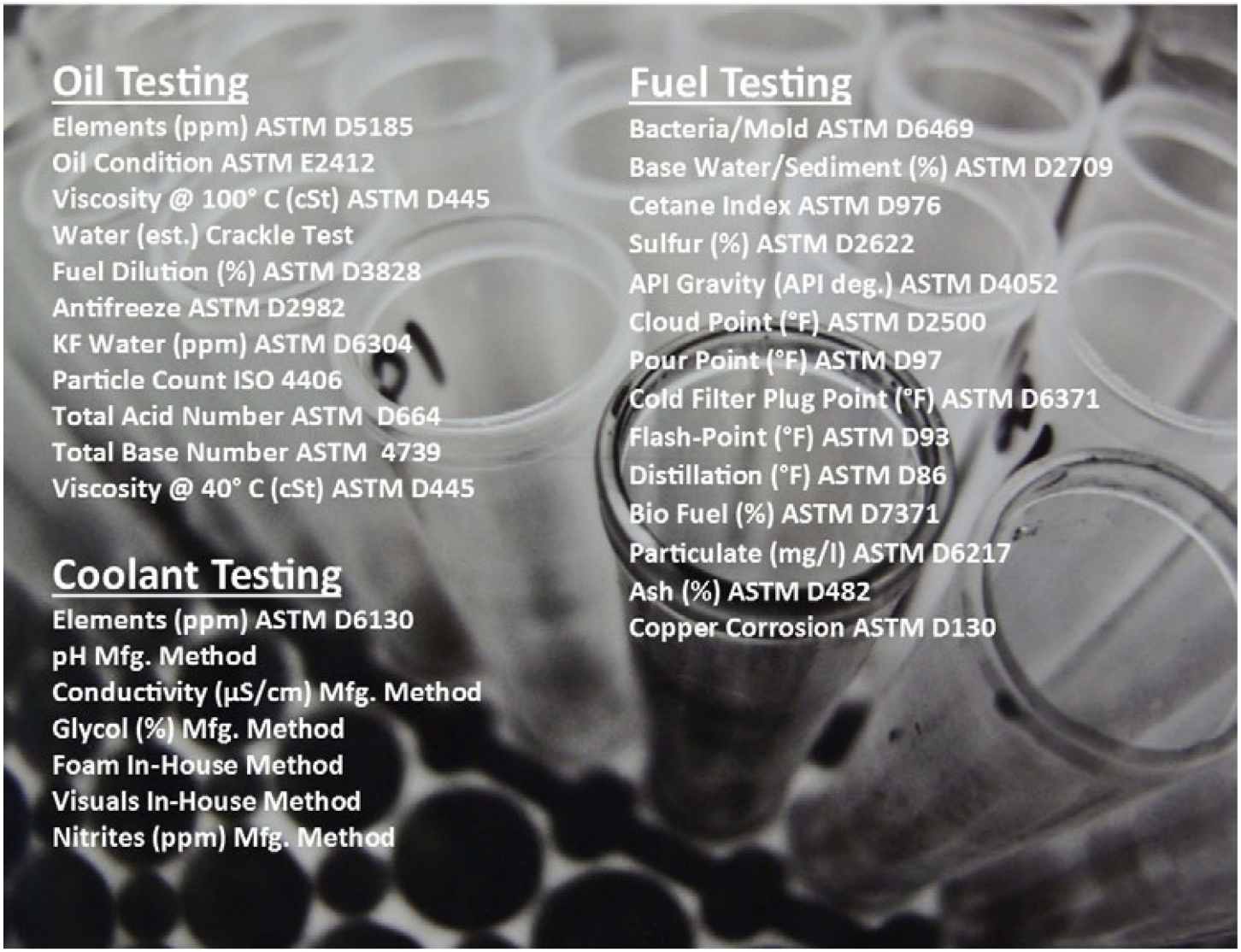

Registered By: **KYLE SMITH** Interpreted By: **KIRA BULLIS**

For additional sample history visit us at www.Sampleresults.com