



801 S. Carpenter Ave.
Kingsford, MI 49802

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Jan. 17, 2022

Via Email & Letter

Ms. Jenine Camilleri
Enforcement Unit Supv., EGLE AQD
P.O. Box 30260
Lansing, MI 48989-7760

Mr. Michael Conklin
EGLE AQD Marquette District
1504 West Washington St.
Marquette, MI 49855

Dear Ms. Camilleri & Mr. Conklin,

Grede has had a chance to review the sample data provided from samples that were witnessed to be collected from the Grede facility on 9/28/21, and collected from 216 Henford which was not witnessed by any Grede employees. We have provided that information to a facility that is well known and respected in the foundry community and considered an expert in ferrous materials, APL Labs. Attached is the response from Mr. Jitu Shaw (BSc, BE. PE Metallurgist & President APL).

Based off this review and lack of data on other investigative points (wind, other sources, testing procedures), we cannot conclusively claim this material is from our facility or tied to the Steelcraft baghouse. Therefore Grede will not at this time make any determination as to whether it was in violation of R 336.1901(b), General Condition 12 of MI-ROP-B1577-2020.

Grede has made every effort to and will continue to operate within its operating permit and has continued with making improvements to its environmental operating systems and training, notably all EHS and Plant Management are now certified opacity readers, and significant testing and observations are being completed that far exceed O&M requirements. Grede does take our position in the community seriously and will work with our neighbors on improving life and prosperity for the City of Kingsford in which Grede is the largest employer.

Grede asks that EGLE AQD withdraw this NOV based on these findings.





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Sincerely,

A handwritten signature in black ink, appearing to read 'Tyler Hill', written over a horizontal line.

Tyler Hill
Plant Manager
Grede LLC – Iron Mountain





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APL Review

Introduction.....

Analytical Process Laboratory, Inc. (APL) has been selected for a reviewing this data from Grede Foundry. (Iron Mountain. Div). This test results are believed to be analyzed by state of Michigan designated laboratory. These data identified as (a) Grede Steel craft Bag house) (b) 216 Hen Ford Ave. Kings Ford. Mi) (c) Grede Roof).

This laboratory results are from samples taken from various location only. There are no mention of any laboratory equipment used. such as...I C P-MS. Atomic Absorption. Optical Emission...etc as well as procedures used. Such as US-EPA method-7000. State of Michigan-approved. or Internal developed procedure. This report did not revealed any "Blank" standards used. Any reference materials used , Any correction equations were used for each element to minimize the impact of Interference.In order to obtain Unambiguous and Unbiased results for any "unknown" samples to be analyzed for Cd. Zinc. Copper. Iron.Nickel. Lead .Barium.Chromium. Titanium...etc. Since absent of this information, It will be hard to ensure that the analytical results met the required criteria. Analysis of the reference materials verify and confirmed the quality of the results and the precision of the equipment used..

Analytical Process Laboratory (A P L) is a ISO-17025 certified facility. Grede Foundry-Iron mountain div. is a regular customer since 1985. A P L Inc. analyzed samples for Grey Iron material they produced along with Scrap metals they used in producing this Grey Iron castings. We analyzed slag samples. A P L inc. is fully familiar of alloying elements used for production.

Opinion.....

This submitted report for various samples taken from different location does not appeared a consistent foundry "dust" or a "Fly" residue.

Example...(1) Iron (FE) is a major element in making a casting. Indicated 6 X lower on a roof and 200 X lower on a street surface.

(2) Lead (Pb) 7 x more on roof than Bag house.

(3) Nickel 20 X lower on roof than Bag house.

(4) Arsenic , Cadmium is not not existed in Iron nor slag to detect this level.

(5) Zinc. More amount of Zinc on roof and street than dust bag house. How can you have 5 to 10 X more Zinc out side the bag house ?

Conclusion.....

The reported results are not consistent for a Iron Foundries products. By studying these report it indicated us a recent study performed by various analyst. Like **Gunawardana-2012. Gadd & Kennrdy. (2000) Fauser (1999) & Adachia & Tainoshob (2004)**

and Schauer (2006) Fukuzaki (1986) in reference to the main sources of Non-Exhaust-

vehicular emission that contribute to road dust are tire, brake and road surface wear.

It has been taken in consideration the wear of tire's life. The average mass of a new car tire is approximately 8 kg. and during its lifetime , it loses up to 1.5 kg. So some period time 10-20% rubber enters the environment due to abrasion. Main street, Round-about or a high traffic area or a corner location where high acceleration, breaking or cornering will generate

rubber dust & residue

All these researcher reported that the source of Zinc. Cadmium. Nickel. Lead. Mo. Copper.

Chromium and Arsenic. are from tire wear." Zinc. was the most abundant heavy metal from tire wear." This higher amount come from ZnO(Zinc Oxide) and ZnS (Zinc Sulfide) to tire during vulcanization. (according to **Mr. Ozaki-2004 finding**) It mentioned that tire contained as much as up to 4-5 % Zinc.

Other study has been conducted by scientist named Mr. Baekken-1993 and Mr Lee- 1997

Mr. Legret and Mr. Pagotto in 1999. All of these scientist agreed that the source of Zinc. Cd. Ni. Cu. Ba. Ti. Pd. Fe. Sr...are from tire, brake, emission & Road surface wear generated by products. & Flying ash laying around roof top. or a side street where it settle down.

A recent study also contributed further that surrounding industries, like paint producer. Plating industry. Leather industry, Steel foundry...etc will add more harm in potential environmental risk by generating heavy metals residue on roof top or a flat surface.

Mr. Duong & Mr. Lee (2011) in their study reported that higher speed & traffic area prone to have higher dust accumulation.

It is my personal opinion by looking these results that laboratory must confirmed their finding by disclosing reference tests. EPA-7000 or other equivalent established procedure



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precision, accuracy of the results for verification of these data. Thanks.

Jitu Shah. BSc. BE. PE

Metallurgist /Pres.

www.apl-inc.net