west virginia department of environmental protection

Environmental Enforcement
P. O. Box 662
Teays, WV 25569
Telephone: (304) 757-1693
Fax: (304) 757-3873

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.wvdep.org

# MEMORANDUM

**To:** Joe Hickman, Cynthia Musser

**From:** Douglas A. Kee

**Date:** February 18, 2014

**Subject:** Freedom Industries

This report contains a summary of the sampling activities that I (Kee) conducted at the Freedom Industries spill site. Present during the sampling were various WV DEP employees, US EPA and TechLaw employees, Civil & Environmental Consultants (CEC) employees and the litigant attorneys with Dr. Simonton.

The descriptions for the sample locations will be based on the geography of the Elk River which flows approximately north to south. Therefore, upstream will be North. The first set of samples taken was surface water flow. These samples were taken on January 29, 2014. Sample No. 1 (CM-DAK-01-29-14-3) was taken from the east side of the plant outside of the containment area along the block wall. This sample was collectively named "Culvert Up" by all the parties present. Sample No. 2 (CM-DAK-01-29-14-4) was taken from the flow exiting the culvert from the west side of the containment area. This sample was collectively named "Culvert Down". A trip blank and field blank were taken this day as well. On February 6, 2014, a third sample (CM-DAK-02-06-14-1) was taken from the exposed culvert inside the containment area. All samples were analyzed for 4-Methyl-1-cyclohexanemethanol (MCHM). The following table contains the sample results:

| Parameter | Sample No. 1 (Culvert Up) | Sample No. 2 (Culvert Down) | Sample No. 3 (Culvert Inside) |
|---|---|---|---|
| MCHM, mg/l | 0.036 | 0.074 | 0.180 |

There were seven (7) monitoring wells (MW) installed due to this spill. MW-1, MW-2 and MW-7 are located east of the containment wall and are considered background or up gradient wells. MW-3 through MW-6 are located west of the containment wall between the facility and the river and are the down gradient wells. WV DEP sampled all the monitoring wells with the exception

of MW-1. This well did not recharge sufficiently enough for split samples. Only CEC sampled MW-1. All the monitoring wells were analyzed for MCHM. The WVDEP monitoring well sample data had results of <0.0079 mg/l for MCHM in each well sampled. There was a petroleum odor from the down gradient wells. Because of the odor, MW-3 and MW-4 were also sampled for Total Petroleum Hydrocarbons (TPH) Diesel and Oil Range Organics (DRO and ORO). MW-4 had a TPH-DRO result of 3.6 mg/l and a TPH-ORO result of 0.12 mg/l. MW-3 results for TPH-DRO of <0.018 mg/l and TPH-ORO of <0.049.

No other split data was available at the time of this report.

Alan Kee