



DEPARTMENT OF ECOLOGY

JUL 23 2007

WATER QUALITY PROGRAM

July 12, 2007

Joyce M. Smith
Industrial Stormwater Permit Coordinator
Washington State Dept. of Ecology
PO Box 47696
Olympia, Washington 98504-7696

RE: Level One Source Control Report– Zinc Levels above Benchmark Levels,
Argo (Seattle), WA. Stormwater Permit #S03-001155D

Ms. Smith:

EMR, Inc. (EMR), on behalf of Union Pacific Railroad (UPRR), has prepared this level one response in accordance with Industrial Stormwater General Permit #S03-001155D. Zinc levels of stormwater samples collected: 2nd quarter 2007 (367 µg/L) exceeded the permit zinc benchmark level of 117 µg/L prompted a level one response.

In compliance of Permit #S03-001155D, Section S4, Subsection D, Paragraph 3 analysis for 2nd quarter 2007 copper is 32 µg/L and lead is non-detectible.

EMR conducted an onsite inspection to identify possible sources in accordance with Industrial General Permit #S03-001155DA. Potential cause of stormwater zinc is truck tires. Zinc is a component of vulcanized tire rubber. Particulates are worn off of truck tires due to the friction on asphalt surfaces. Considerable short-radius turning results in tire-dragging and a high rate of tire wear. These particulates are picked up and are entrained by precipitation/surface water runoff flowing into the stormwater catch basins. Galvanized roofs are also a very likely source for zinc although less than 1% land surface area of the site accounts for the total roofed area. Motor oil and hydraulic oil are also potential sources for contaminants for zinc. Except for the railroad tracks, the land surface drained by this stormwater system is asphalt paved and in generally good physical condition. Results of a site inspection indicated the paved drainage area was generally clean. Potential sources of particulates causing elevated zinc levels include:

- Galvanized metal.
- Tire dust in areas of high volume of traffic and forklifts.
- Motor oil and hydraulic oil used by heavy trucks.
- Asphalt parking lots.

Research suggests that the materials that are used to manufacture sewer pipes, such as, galvanized metal, concrete and PVC may also be a source for zinc run-off.

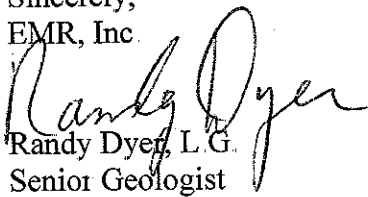
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EMR reviewed potential source and operational control stormwater best management practices and identified two BMPs that may reduce stormwater zinc levels.

- Cleaning out catch basins that have settled sediment and installing sediment fabric in catch basins, and
- Periodic commercial sweeping in the paved drainage area.

UPRR is currently evaluating the implementation of these best management practices and control methods. If you have any questions, please contact us at (425) 861-4561.

Sincerely,
EMR, Inc.



Randy Dyer, L.G.
Senior Geologist

Cc: Norman D. Siler, UPRR
Argo SWPPP – Regulatory Correspondence Section



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Joyce M. Smith
Industrial Stormwater Permit Coordinator
Washington State Dept. of Ecology
PO Box 47696
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RE: Level Three Source Control Report– Turbidity Levels above Action Levels,
Argo (Seattle), WA. Stormwater Permit #S03-001155D

Ms. Smith:

EMR, Inc. (EMR), on behalf of Union Pacific Railroad (UPRR), has prepared this level three response in accordance with Industrial Stormwater General Permit #S03-001155D. Turbidity levels of stormwater samples collected: 4th quarter 2006 (85.7 NTU), 1st quarter 2007 (61.5 NTU), and 2nd quarter 2007 (84 NTU) exceeded the permit turbidity action level of 50 NTU prompted a level three response.

A likely cause of stormwater turbidity is dust and dirt particulates picked up and transported by precipitation/surface water runoff flowing into the stormwater catch basins. Except for the railroad tracks, the land surface drained by this stormwater system is asphalt paved and in generally good physical condition. Results of a site inspection indicated the paved drainage area was generally clean. Three potential sources of particulates causing elevated turbidity levels include:

- Dirt and dust particulates brought into the yard on trucks, rail cars, and employee vehicles;
- Sediment collected in the catch basins; and
- Wind blown dust from the surrounding area.

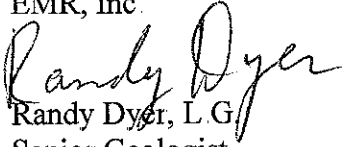
EMR reviewed potential source and operational control stormwater best management practices and identified two BMPs that may reduce stormwater turbidity levels.

- Cleaning out catch basins that have settled sediment and installing sediment fabric in catch basins, and
- Periodic commercial sweeping in the paved drainage area.

July 12, 2007

UPRR is currently evaluating the implementation of these best management practices and control methods. If you have any questions, please contact us at (425) 861-4561.

Sincerely,
EMR, Inc.


Randy Dyer, L.G.
Senior Geologist

Cc: Norman D. Siler, UPRR
Argo SWPPP – Regulatory Correspondence Section