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February 17, 2000

RE: Area of Concern #5
Fraser Shipyards, Inc.
Superior, Wisconsin
WID988639597
SEH No. FRASE9401.00

Mr. Steve LaValley
WI Department of Natural Resources
1705 Tower Avenue
Superior, WI 54880



Dear Mr. LaValley:

Fraser Shipyards, Inc. (Fraser) received correspondence dated January 10, 2000 from the Wisconsin Department of Natural Resources (WDNR) regarding denial of the closure request for Area of Concern (AOC) #5. Short Elliott Hendrickson Inc. (SEH) submitted the Case Summary and Close Out Forms on behalf of Fraser more than ten months earlier on February 24, 1999. In accordance with Wisconsin Administrative Code, NR 726.05(5), within 30 days after receipt of a request for case closure, the Department shall either close the case or acknowledge in writing the request for closure and provide an estimated date by which the department intends to determine whether the site can be closed. The closure request for AOC #5 was not reviewed in a timely manner resulting in additional costs for Fraser and SEH to reconstruct the events leading to the request for closure.

The denial for closure was based on two comments by the close out committee:

1. Samples from two borings at the 2 to 2.5 feet below the surface exceed standards for soils found in NR 720, Wis. Adm. Code. There was no site specific RCL or engineering controls proposed.
2. Mercury was detected in B-9 and B-10 and was not addressed in the submittal.

Fraser, SEH, and the WDNR have discussed the issue related to Comment 1 on several occasions and have worked through a systematic approach to addressing the RCL exceedances in the shallow soil samples. The issue of mercury in the borings at this AOC has not been raised previously by the WDNR and accordingly was not deemed an issue. The mercury was discovered during the initial sampling at the AOC in January 1994 and was reported in previous documents. The following paragraphs outline our understanding of the history of the investigation activities to address the contamination at this AOC and the justification for requesting closure.

Background Information

Initial investigation of AOC #5 revealed a soil lead concentration of 685 mg/kg in one boring and a soil chromium concentration of 274 mg/kg in another boring at a depth of 2 to 2.5 feet below ground surface (bgs). These concentrations exceed the ch. NR 720 residual soil cleanup levels (RCLs) for an industrial site of 500 mg/kg and 200 mg/kg, respectively. Two additional soil samples were collected at this time in which no RCL exceedances were noted. One sample was collected from the 2 to 2.5 foot depth interval and the other from the ground surface at 0 to 0.5 feet.

A Toxicity Characteristic Leach Procedure (TCLP) as well as an ASTM water leach procedure was performed on the soil sample with the highest total lead concentration. A TCLP was also performed on the soil sample with the highest chromium concentration. These analyses were performed at WDNR request to document that leaching of the metals would not impact groundwater. No detectable concentrations of lead or chromium were noted in either of the leach procedures indicating that neither the lead nor chromium is significantly leachable under either normal rainfall conditions or more aggressive landfill conditions.

The Fraser property is located in an area built over the past 100 years of heterogeneous fill material. It was our understanding that the WDNR agreed that it may not be possible to define the degree and extent of lead and chromium concentration under these conditions, much less attribute those concentrations to on site activities.

In this regard, the WDNR directed Fraser to determine if lead or chromium had impacted the groundwater, develop a storm water monitoring plan, and determine if a risk to human health from direct contact with the surface soils existed. On March 13, 1996, Fraser submitted a work plan titled, "Additional Investigation Work Plan" and met with the WDNR on June 7, 1996 regarding the conditional approval of that work plan. As stated in an August 22, 1996 correspondence from the WDNR regarding AOC #5, "The Department agrees with SEH's proposal on defining the degree and extent."

Groundwater Monitoring

Fraser installed groundwater monitoring well MW-2 in August 1996 and collected two rounds of groundwater samples using a bailer. Laboratory results indicated concentrations of lead that exceeded the ch. NR140 Enforcement Standard (ES). No concentrations of chromium above the laboratory detection limit were noted. Subsequently, four additional rounds of groundwater samples were collected with a peristaltic pump and filtered prior to laboratory analysis for lead. The results of the four subsequent rounds indicated no detection of lead above the ch. NR 140 ES of 15.0 µg/l.

In addition, to further investigate the potential of dissolved lead contamination in groundwater at AOC #5, six hydraulic probe groundwater samples were collected. Results of the hydraulic probe groundwater samples indicate dissolved lead concentrations ranging from none detected to 1.06 µg/l, again, in compliance with the ch. NR 140 Groundwater Quality Standards.

The WDNR also required that unfiltered groundwater samples be collected to comply with the USEPA preference for unfiltered samples. Fraser collected three rounds of unfiltered groundwater samples as well. The results of the unfiltered groundwater samples ranged from below laboratory detection limits to 8.38 µg/l for lead. Even though the ch. NR 140 ES values apply to filtered samples, the unfiltered groundwater samples for lead remain below the ES values for lead of 15.0 µg/l.

Surface Soil Samples

Fraser collected three additional hand auger surface soil samples to determine if a risk to human health from direct contact with the surface soils existed in accordance with the March 13, 1996 work plan. This sampling was intended to define the degree and extent of shallow soil contamination and provide the worst case scenario for direct contact. This strategy was approved by the WDNR in their conditional approval of the work plan. The surface soil samples did not indicate RCL exceedances for lead or chromium indicating the risk to human health due to direct contact with surface soils was low.

Summary

To date, six rounds of monitoring well groundwater samples have been collected as well as six hydraulic probe groundwater samples surrounding AOC #5. Seven soil samples have also been collected from AOC #5. All these samples have been collected in a relatively small area measuring approximately 45 feet by 10 feet. Soil sample results have been varied, illustrating the heterogeneous nature of the fill soils with only one sample elevated for lead and one for chromium.

Fraser believes they have acted in good faith and have fulfilled the investigation steps required and agreed to by the WDNR. They have shown that surface soils do not pose a significant threat to human health due to direct contact to lead or chromium. They have demonstrated that groundwater has not been impacted by lead or chromium that may be in the fill material and that neither lead nor chromium are significantly leachable to the groundwater.

In addition to the above issues, the close out request denial stated that mercury, which was detected in two of the original four investigation soils borings in 1994 were not addressed in the close out submittal. Mercury has never been an issue at this AOC and has never been mentioned in any of the numerous meetings or correspondence over the years. However, soil mercury concentrations in the original borings ranged from below laboratory detection levels to 0.25 mg/kg. The USEPA "Common Range" for mercury in natural soils as stated in the 1983 EPA document "Office of Solid Waste and Emergency Response, Hazardous Waste Land Treatment" (publication SW-874, Table 6.46) is 0.01 mg/kg to 0.3 mg/kg. In a WDNR correspondence from Bob Schafer dated June 20, 1980, the background level of mercury in Wisconsin soils is 0.01 mg/kg to 0.5 mg/kg. Mercury concentrations detected in soils found at AOC #5 are below or within these stated background levels.

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Fraser requests that the AOC be reconsidered for closure with soils left in place. Fraser has completed the investigation approved in the March 13, 1996 work plan. The investigation results indicate that the impacts to human health and the environment are minimal.

This letter is intended to meet the response requirement of March 31, 2000 as stated in your January 10, 2000 letter. We appreciate your review of this response and are available to discuss this with you or members of the close out committee at your earliest convenience.

Sincerely,
Short Elliott Hendrickson Inc.



Cyrus W. Ingraham, P.E.
Senior Project Manager

GCC/dj/CWI

c: Ron Peterson – Fraser Shipyards, Inc.
Lorraine Stoltzfus – DOJ
Dave Kafura – WDNR, Spooner
Gary LeRoy – WDNR, Spooner
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