

MEMO

State of Maine Department of Environmental Protection  
Bureau of Remediation and Waste Management  
Division of Remediation

**TO:** File Defense Fuel Supply, Harpswell  
**FROM:** Jean Firth, Oil and Hazardous Materials Specialist *Jean Firth*  
**DATE:** July 11, 2007  
**RE:** Surface water and seep sampling

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**Purpose:** Staff from the Department attended a public meeting with the Town of Harpswell regarding redevelopment of the Mitchell Field site on June 6, 2007. During this meeting several attendees expressed concern about possible exposure to contamination from "seeps" along the onsite beach and the potential health risk to people using the beach. Since there was apparently no data from these "seeps" the Department agreed to collect samples for contaminants associated with past activities at the site.

**Sampling Activities:** On June 12, 2007, I met Len Freeman at the site so he could show me the locations of the "seeps". The first location was located approximately 40 feet north of the access gate to the pier. Water was observed flowing from the bank across rocks onto the beach. The water did not create a defined channel on the beach. On closer inspection the flow was from a culvert. Samples were collected for volatile organic compounds (VOCs) and gasoline range organics (GRO) were collected. The flow was not sufficient to fill the sample bottle required for diesel range organics (DRO). This sample location is identified as Culvert 1.

Mr. Freeman then identified two other locations of concern on the beach, which were located approximately 100 feet south of the pier. One location was a culvert and the other a stream located approximately 15 feet apart. We then explored the beach further south for other potential sample locations. A seep area was found along a steep embankment approximately 60 feet south of the stream. Although water was seeping from this area there was no define flow channel. Samples were collected with a direct push sampler and a peristaltic pump, however, due to the clayey nature of the soil a steady flow of water was not achieved. Samples were collected for VOC and GRO. This sample was identified as Seep.

Samples were collected from the Stream for GRO and VOCs; this sample was identified as Stream. The stream was approximately 4 feet wide and 18 inches deep at the sampling point. The nearby culvert was located in the bank approximately three feet above the beach. There was a significant flow of water from this culvert which flowed across the beach to the stream. The temperature of the water from this location was significantly colder than the other samples collected. Samples from this location were collected for GRO, VOCs and DRO. This sample location is identified as Culvert 2.

Samples were placed in a cooler on ice along with a trip blank for transport to the Health and Environmental Testing Lab. Samples were delivered to the lab on June 12<sup>th</sup>.

**Sample Results:** No contaminants were detected in samples from Culvert 1 or the Stream. Acetone was the only contaminant found in the Seep sample at 15 parts per billion (ppb). There are no federal or state risk standards for direct contact to surface water. However, to put this number in perspective, a site specific risk number established for another site for direct contact to acetone in surface water was set at 630 ppb. It should also be noted that acetone is a common laboratory contaminant.

The only other contaminant detected was GRO at 12 ppb from Culvert 2. Again, there is no federal or state standard for direct contact to surface water for GRO. GRO is a mixture of petroleum compounds and VOCs typically including benzene, toluene and xylenes. These compounds pose the greatest health risk in the GRO mixture. However, none of these VOCs were detected in this sample.

Location	Culvert 1	Culvert 2	Stream	Seep	Trip Blank
Contaminant	ppb	ppb	ppb	ppb	ppb
Acetone	ND	ND	ND	<b>15</b>	ND
All other VOCs	ND	ND	ND	ND	ND
GRO	ND	<b>12</b>	ND	ND	NA
DRO	NA	ND	NA	NA	NA

**Conclusion:** The levels of contaminants detected in these samples do not pose a significant risk through direct contact to surface water and seep water along the beach at Mitchell Field.

**Attachments:**

1. Sample Location Map
2. Sample Results