

11 September 2009



Ms. Claudia Sait  
Maine Department of Environmental Protection  
State House, Station 17  
Augusta, Maine 04333-0017

and

Mr. Michael Daly  
U.S. Environmental Protection Agency, Region I  
1 Congress Street, Suite 1100 (HBT)  
Boston, Massachusetts 02214-2023

SUBJECT: Activation of Extraction Well EW-05B  
Groundwater Extraction & Treatment System, Building 50  
Naval Air Station Brunswick, Maine  
ECC Project No. 5564.001.000.003

Dear Ms. Sait and Mr. Daly:

In accordance with the Final Extraction Well Installation Work Plan (ECC, April 2007) the Navy has installed, developed, and tested new extraction well EW-05B at the Naval Air Station Brunswick (NASB), Maine Groundwater Extraction and Treatment System (GWETS). In a letter dated 20 August 2009, the Navy notified the United States Environmental Protection Agency (USEPA) and the Maine Department of Environmental Protection (MEDEP) that existing extraction well EW-05A was no longer operational and would be deactivated to allow final connection of new extraction well EW-05B to the GWETS. EW-05B is located in a residual "hot-spot" for chlorinated volatile organic compounds (CVOCs) and 1,4-dioxane. As a result, it is anticipated that both the CVOC and 1,4-dioxane loading will increase when EW-05B is brought on-line.

EW-05B will be activated on, or about 21 September 2009, approximately 2 weeks before installation of the HiPOx™ HCU advanced oxidation system for treatment of 1,4-dioxane. The 1,4-dioxane treatment system will be installed during the last week in September 2009. The 3 day pilot test of the HiPOx™ HCU is currently scheduled for 7 - 9 October 2009. It is necessary to begin groundwater extraction at EW-05B prior to activation of the HiPOx 1,4-dioxane treatment system because initial calibration of the HiPOx unit requires steady state groundwater flow and contaminant concentrations. By activating extraction well EW-05B approximately two weeks prior to HiPOx system start-up, both hydraulic and contaminant loading will have reached steady state conditions.

Based on analytical data collected during the HiPOx bench test (February 2009) for composite groundwater samples from the existing extraction well network (i.e., EW-01; EW-02A; and EW-04), it is believed that that 1,4-dioxane concentrations in the GWETS effluent will remain less than 32 µg/L with EW-05B in operation. Nevertheless, the Navy intends to discharge GWETS effluent to the Brunswick Sewer District (BSD) during the period when EW-05B is active until receipt of analytical data for HiPOx confirmatory samples collected during the first week of HiPOx pilot testing. The GWETS will be operating at approximately 50 gallons per minute during this period, or 72,000 gallons per day. The Navy will coordinate this activity with the Brunswick Sewer District before any treated groundwater is discharged to the sewer. Table 1

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provides a conservative estimate of the treated effluent waste characterization profile for residual volatile organic compounds, 1,4-dioxane, and inorganics.

The Navy has received conditional approval to discharge NASB GWETS effluent to the BSD. The letter Navy received from the BSD is attached to this letter. The Navy has provided the historical metals data to the BSD (Condition No. 1) and will provide the BSD with the analytical data collected during the pilot testing of the HiPOx HCU.

Should you have any questions, please do not hesitate to contact Todd Bober, NASB Navy Remedial Project Manager at (215) 897-4911.

Regards,  
**ECC**



Al Easterday  
Sr. Project Manager

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BASCE (E. Benedikt, C. Warren)  
NASB Commanding Officer (CAPT Fitzgerald)  
RAB Brunswick Representative (S. Johnson)  
RAB Harpswell Representative (D. Chipman)  
RAB Topsham Representative (S. Libby)  
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# Brunswick Sewer District

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04 September 2009

Environmental Department  
Naval Air Station Brunswick  
437 Huey Drive  
Brunswick, Maine 04011

Attn: Mr. Walter A. Lach  
Environmental Protection Specialist

Re: Extraction Well EW-05B Activation  
Effluent Discharge to the Municipal Sanitary Sewer System

Subject: Authorization to Discharge

Dear Mr. Lach:

Based on the recommendation of our consultant following their review of the data provided to us in TABLE 1 – CONSERVATIVE ESTIMATE OF TREATED EFFLUENT AT 50-60 GPM FROM EXTRACTION WELLS EW-01; EW-02; EW-04; AND EW-05B GROUND-WATER EXTRACTION AND TREATMENT SYSTEM (BUILDING 50) NAVAL AIR STATION, BRUNSWICK, MAINE, attached herein and made part of this authorization, the Brunswick Sewer District is granting authorization to proceed with the proposed effluent discharge from the Ground-Water Extraction and Treatment System (GWETS) to the municipal sanitary sewer system per the:

- o Quantity requested: 50-60 GPM;
- o Time frame requested: 24 hours per day, for 2-3 weeks;
- o And within the Discharge Limits indicated in Table 1.

This authorization to discharge is conditioned upon:

1. The District receiving confirmation, prior to commencement of discharge, that the following metals of concern do not exceed the District's effluent toxicity discharge limit as established by MeDEP, which limits have been provided to the US Navy's consultant ECC for review and report: aluminum, copper, mercury, silver, and selenium.
2. The District to be furnished timely all testing results derived from the HiPOx confirmatory samples collected during the HiPOx pilot testing conducted during the term of this authorization. It is our understanding that the sampling schedule will be daily for the first week, then weekly thereafter.

Yours,  
BRUNSWICK SEWER DISTRICT



Leonard Blanchette  
Assistant General Manager

Copy: Gregory H. Thulen, Treatment Operations Supervisor, Brunswick Sewer District

Encl. (1)

TABLE 1

**CONSERVATIVE ESTIMATE OF TREATED EFFLUENT  
WITH EXTRACTION WELLS EW-01; EW-02A; EW-04; AND EW-05B  
GROUND-WATER EXTRACTION AND TREATMENT SYSTEM (BUILDING 50)  
NAVAL AIR STATION, BRUNSWICK, MAINE**

Parameter <sup>(a)</sup>	Method	Anticipated Range	Discharge Limit <sup>(b)</sup>	MEG (ppb)	MCL (ppb)
<b>TREATMENT PLANT EFFLUENT</b>					
Arsenic, Total	EPA6010B	1 - 3	50	10	10
Chromium, Total	EPA6010B	0.25 - 2	10	40	100
Cyanide, Total	EPA9010	0	34	140	200
Nickel, Total	EPA6010B	0.25 - 2	78	140	100*
Lead, Total	EPA6010B	0	15	10	15
Zinc, Total	EPA6010B	3 - 8	200	2,000	2,000*
Iron, Total	EPA6010B	2 - 8	NA	NA	NA
Manganese, Total	EPA6010B	0 - 2	NA	500	NA
1,1,1-Trichloroethane	EPA8260B	0	750	200	200
1,1-Dichloroethane	EPA8260B	0	94	70	NA
1,1-Dichloroethene	EPA8260B	0	7	0.6	7
<i>cis</i> -1,2-Dichloroethene	EPA8260B	0	70 <sup>(c)</sup>	70	70
<i>trans</i> -1,2-Dichloroethene	EPA8260B	0	--	140	100
Methylene chloride	EPA8260B	0	5	NA	NA
Tetrachloroethene	EPA8260B	0	5	7	5
Trichloroethene	EPA8260B	0	5	32	5
Vinyl chloride	EPA8260B	0	2	0.2	2
1,4-Dioxane	EPA8260B/SIM	20 - 50	NA	32	NA
<p>(a) Results reported in µg/L.</p> <p>(b) Maximum effluent discharge limit established by Brunswick Sewer District Draft Permit (Dec. 1994).</p> <p>(c) Combined 1, 2-dichloroethane (<i>cis</i> and <i>trans</i>) not to exceed 70 µg/L.</p> <p>* - EPA Health Advisory</p> <p>NOTE: EPA = U.S. Environmental Protection Agency.  NA = Discharge limit applicable to treatment plant effluent only.  SIM = Selective Ion Monitoring</p>					