

03.01-12/11/95 00408



DIVISION OF ENVIRONMENTAL PROTECTION

GASTON CAPERTON
GOVERNOR

1356 Hansford Street
Charleston, West Virginia 25301-1401

Laidley Eli McCoy, Ph. D.
DIRECTOR

December 11, 1995

Mr. Jeff Kidwell
Atlantic Division
NAVFACENGCOM
Code 1823
1510 Gilbert Street
Norfolk, Virginia 23511-2699

Re: West Virginia NPDES discharge requirements for the aquifer tests at ABL, Mineral
County

Dear Mr. Kidwell:

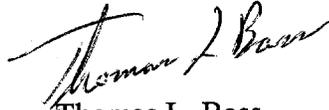
The Office of Waste Management/ Site Investigation and Response (OWM/SIR) referred the Navy's request for groundwater discharge limits for the proposed aquifer pump at Allegany Ballistics Laboratory concerning the CERCLA related activities, to the West Virginia Office of Water Resources (OWR), Industrial Branch.

Enclosed you will find the correspondence from OWR to OWM/SIR dated December 1, 1995 stipulating the regulatory requirements and conditions for the effluent discharge from the proposed aquifer test for Sites 1, 5, and 10.

In the event the required discharge limits are exceeded, OWR has the option of assessing penalties from \$ 2,000 to \$10,000 a day. The assessed penalties will be based on the significance of the impact as well as the significance of the violation to be determined by OWM.

If there are any questions, or if you require further clarification, please contact me at (304) 558-2745.

Sincerely,

A handwritten signature in black ink, appearing to read "Thomas L. Bass". The signature is fluid and cursive, with the first name being the most prominent.

Thomas L. Bass
Environmental Resource Specialist II
Site Investigation and Response
Office of Waste Management

TLB/MS/o

cc: Bruce Beach, EPA
Wendy Noe, MDE
David McBride, ABL
Greg Mott, CH2MHILL



**SITE FILE
REMEDIATION**

RECEIVED
OFFICE OF INVESTIGATION & RESPONSE

DEC - 5 1995

OFFICE OF WASTE MANAGEMENT

COPY

DIVISION OF ENVIRONMENTAL PROTECTION

GASTON CAPERTON
GOVERNOR

1201 Greenbrier Street
Charleston, WV 25311-1088

LAIDLEY ELI McCOY, Ph.D.
DIRECTOR

December 1, 1995

Mr. Tom Bass
ER Specialist
Office of Waste Management
1356 Hansford Street
Charleston,
West Virginia 25301

Re: ABL Groundwater Remediation Discharge
Rocket Center, Mineral County

Dear Mr. Bass:

The Industrial Branch of the Office of Water Resources has received your request concerning a proposed discharge from a groundwater remediation project at the Allegany Ballistics Laboratory in Mineral County.

We have discussed this facility with your office, and we have carefully reviewed the report, dated November 8th, 1995, which you submitted to the Industrial Branch of the Office of Water Resources. Given this input, and given that the site has been long used to burn explosive materials, it is our opinion that the facility may, at a minimum, be contaminated with the following parameters:

1-1-dichloroethane,	Methylene Chloride
1-1-dichloroethylene,	tetrachloroethylene,
1-2-dichloroethane,	trichloroethylene,
cis-1-2-dichloroethylene,	toluene,
trans-1-2-dichloroethylene,	total arsenic
1-1-1-trichloroethane,	hexavalent chromium,
1-1-2-2-tetrachloroethane,	total recoverable lead,
vinyl chloride,	total mercury,
	nitrate and nitrite.

It is our understanding that the waste water will be treated prior to discharge into the North Branch of the Potomac River by using an air stripper. In addition, it is also our understanding that, because the facility is a Superfund site, a WV-NPDES permit is not required, but the proposed discharge must meet the water quality based limitations.

It should be noted that the North Branch is not a trout stream, nor is it being utilized for public drinking water within five downstream miles of the proposed discharge.

The Industrial Branch has carefully reviewed your request and determined that the 7Q10 for the North Branch at Rocket Center is 61.58 cfs. It is our understanding that the absolute maximum flow of the discharge may be as much as 100 gpm, but that the discharge will more probably be between 20 and 30 gpm. At 30 gpm, the discharge will be 0.0432 MGD. Using a 7Q10 of 61.58 cfs, the flow of the North Branch will equal about 39.8 MGD. This means that the discharge will equal 0.108% of the flow of the North Branch at 7Q10 flow.

In accordance with the EPA approved Toxic Pollutant Control Permitting Strategy, it is required "For IWCs less than or equal to 1%, a wasteload allocation will be derived based on 5% of the receiving stream's assimilative capacity. The wasteload allocation will be converted to a concentration limitation using the applicable discharge flow, and the concentration limitation will be imposed as a monthly average limitation. A daily maximum limitation will be imposed equal to 1.5 times the monthly average limitation." An "IWC" is an abbreviation for "Instream Waste Concentration," and it is based on the percentage of the discharge compared to the 7Q10 flow of the receiving stream.

Using Appendix E of Legislative Rules, West Virginia Water Resources Board, Series I, Requirements Governing Water Quality Standards (1985),

To determine the average monthly and maximum daily water quality based limitations which should be imposed on the discharge from your proposed treatment system, our office used the following formulas:

$$\text{Allowable (Pounds per Day)} = \frac{7Q10 (WQS - \text{Background Conc.})}{0.185}$$

$$\text{Assumed background concentration} = 0$$

$$\text{Allow only 5\% of the assimilative capacity} = (\text{Allowable Pounds per Day}) (0.05)$$

$$\text{Average Monthly Concentration} = \frac{\text{Wasteload Allocation}}{(8.34) (\text{Effluent Discharge})}$$

$$\text{Daily Maximum Concentration} = (1.5) (\text{Average Monthly})$$

Parameter	unit	Average Monthly	Daily Maximum
Total suspended solids (technology based limit)	mg/l	30	60
BOD5**	mg/l	30	80
COD	mg/l	monitor	monitor
Nitrite*	mg/l	46.2	69.3
Nitrate	mg/l	monitor	monitor
Total Recoverable Lead*	ug/l	148.0	222.0
Arsenic*	mg/l	2.3	3.5
Hexavalent Chromium*	ug/l	462.0	693.0
Total mercury*	ug/l	7	10.5
1-1-Dichloroethylene*	ug/l	8.8	13.2
1-1-Dichloroethane**	ug/l	22	59
1-2-Dichloroethane**	ug/l	180	574
trans-1-2--dichloroethylene**	ug/l	25	66
Tetrachloroethylene**	ug/l	52	164
1-1-1-Trichloroethane**	ug/l	22	59
Trichloroethylene**	ug/l	26	69
Toluene**	ug/l	28	74
Vinyl Chloride**	ug/l	97	172
Methylene chloride**	ug/l	36	170

pH* - maintained between 6.0 - 9.0 s.u

* Water quality based limits

** Due to similarity of the above pollutants and the pollutants find in the wastewaters generated from the Organic Chemicals, Plastics, and Synthetic Fibers (40 CFR-414.64 and 414.101) , it is the writer's judgement to utilize the Transfer Technology Concept to establish average monthly and max. daily for these pollutants.

Total recoverable lead shall not be analyzed using the 40-CFR-136 colorimetric analytical method.

Sampling Frequency:

It is required to obtain two grab samples of the discharge every eight (8) hours with equal duration.

Biomonitoring requirements:

Since the Instream Waste Concentration is less than 1%, therefore, per State's Toxic Pollutant Control Strategy:

LC50 > 40%

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Acute Toxicity:

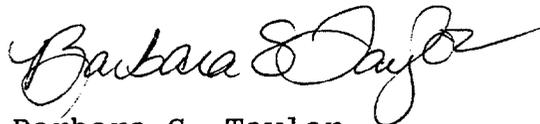
$TUa = 100/LC50 = 100/40 = 2.5 TUa$

It is the writer's judgement to require a 24 hour composite sample consisting of three (3) grab samples (one every eight hours) and conduct 48 - hour statics, acute toxicity testing for two species.

If you have any questions, please do not hesitate to contact Mr. Mohammad B. Shafiei of my staff at 304-558-5588. Our teletypewriter number is 304-558-2751.

Sincerely,

OFFICE OF WATER RESOURCES



Barbara S. Taylor
Chief

cc: George Dasher, Geologist, Groundwater Program
Mohammad Shafiei, Engineer, Industrial Permits
Bill Timmermeyer, Inspector, Mineral County
Dave Watkins, Leader, Groundwater Program
Wayne Wilson, Lead Person, Groundwater Program

Maryland Department of the Environment
2500 Broening Highway
Baltimore, MD 21224