

M00263.AR.000167
MCRD PARRIS ISLAND
5090.3a

LETTER REGARDING REQUEST TO DISCHARGE WATER INVESTIGATION DERIVED
WASTE FROM SITE 1, SITE 2, SITE 4 SITE 13C, SITE 7, SITE 9 AND SITE 35 WITH
ATTACHMENTS MCRD PARRIS ISLAND SC

4/3/2000

TETRA TECH NUS

**TETRA TECH NUS, INC.**

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PITT-04-0-003

April 3, 2000

Project Numbers 7394 and N0095

Commanding General
Marine Corps Recruit Depot
Attn: Mr. Tim Harrington, NREAO
P.O. Box 19003
Parris Island, SC 29905-9003

Subject: Request to Discharge Water IDW From Sites 1, 2, 4, 13C, 7, and 9 and
SWMU 35 to the MCRD Parris Island WWTP
MCRD Parris Island, South Carolina

Reference: a. CTOs 0020 and 0084
b. CLEAN Contract No. N62467-94-D-0888

Dear Mr. Harrington:

Approximately 200 gallons of water investigation-derived waste (IDW) were generated and containerized during two sampling events conducted in October 1999 and December 1999. As per earlier discussions, TtNUS is requesting that the Depot grant permission to discharge this containerized IDW to the Depot's wastewater treatment plant (WWTP).

TtNUS compiled a summary of the analytical characteristics of water IDW generated during the monitoring well sampling process performed at Site 1 (Incinerator Landfill). Thirty-five gallons of water were containerized during the sampling of one monitoring well in October 1999. The maximum analytical concentrations obtained during groundwater sampling at Site 1 are provided in Table 1. Detected concentrations of TCDD equivalents were one or more orders of magnitude below equivalent federal groundwater maximum contaminant levels (MCLs). Water previously sampled this well in 1998 was approved for discharged to the Depot's WWTP.

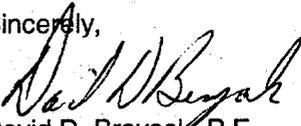
Also, 55 gallons of groundwater were containerized in December 1999. The water was containerized during the sampling of temporary groundwater monitoring wells at Site 4/Site 13C (Dredge Spoils Fire Training Pit/Dredge Spoils Area), Site 7 (Page Field Fire Training Pit), Site 9 (Paint Waste Storage Area), and SWMU 35 (DRMO Salvage Yard). The maximum analytical result obtained during the sampling of these monitoring wells is provided in Table 2. The detected analytical results are one or more orders of magnitude below the criteria listed in 40 CFR 261.24 for RCRA hazardous waste classification.

Lastly, two 55-gallon drums of rinse water were generated from steam cleaning the back hoe used to dig test pits at Site 2 (Borrow Pit Landfill) in October 1999 and at Site 7 (Page Field Fire Training Pit) in December 1999. One drum was generated at each site. Subsurface soil results from the test pitting (shown in Table 3) indicate that detected subsurface soil chemicals were below either MCRD Parris Island background levels for soil and sediment or residential risk-based concentrations (RBCs), indicating that the sites are not contaminated. The maximum detection of aluminum and iron were detected slightly above the residential RBCs at Site 7; however, these detections are below industrial RBCs and background concentrations for sediment.

Based on these results, there is no evidence that the IDW exhibits characteristics of a RCRA-hazardous waste.

If you should have questions, please contact myself at (412) 921-8375 or Jason Brown at (412) 921-8401.

Sincerely,


David D. Brayack, P.E.
Project Manager

jjb

Enclosure

cc: Mr. A. Sanford, SOUTHDIV (with enclosure)
Mr. J. Brown (with enclosure)
Ms. D. Wroblewski/DER (w/o enclosure)
Mr. M. Perry/File 7394 and 7803 (w/o enclosure)

Table 1
IDW Results - Site 1 (Groundwater)
MCRD Parris Island

Chemical	MCL ⁽¹⁾	Maximum Detected Concentration in Groundwater Samples
1,2,3,4,6,7,8 - HPCDD	3000	1.5
OCDD	30000	39
2,3,7,8 - TCDD Equivalents	30	0.017

All values in pg/L

⁽¹⁾ U.S. EPA Drinking Water Regulations and Health Advisories, October 1996. Toxicity equivalent factors used for TCDD equivalents.

Table 2
IDW Results - Groundwater (Sites 4, 7, 13C, 9, 35)
MCRD Parris Island

Chemical	RCRA Criteria⁽¹⁾	Maximum Concentration in Groundwater Samples
Volatiles (ug/L)		
ETHYLBENZENE	NC	1
XYLENES, TOTAL	NC	1
SVOCs (ug/L)		
2-METHYLNAPHTHALENE	NC	13
BIS(2-ETHYLHEXYL)PHTHALATE	NC	65
NAPHTHALENE	NC	11
PCBs/Pesticides (No pesticides or PCBs detected)		
Metals (ug/L)		
ALUMINUM	NC	22800
ANTIMONY	NC	6.3
ARSENIC	5,000	14.5
BARIUM	100,000	50.8
BERYLLIUM	NC	4.3
CADMIUM	1,000	1.2
CALCIUM	NC	186000
CHROMIUM	5,000	8.2
IRON	NC	28000
MAGNESIUM	NC	161000
MANGANESE	NC	605
NICKEL	NC	9.8
POTASSIUM	NC	43600
SELENIUM	1,000	4
SODIUM	NC	2170000
Typical Water Quality Parameters⁽²⁾		
BIOCHEMICAL OXYGEN DEMAND (mg/l)	NC	< 5
CHEMICAL OXYGEN DEMAND (mg/l)	NC	50
CHLORIDE (mg/l)	NC	20,000
FECAL COLIFORM	NC	< 100
FLOURIDE	NC	300
HARDNESS as CaCO ₃ (mg/l)	NC	6,300
NITRATE/NITRITE, AS N (mg/l)	NC	6.8
OIL & GREASE (mg/l)	NC	ND
PH (S.U. range)	NC	4.74 - 10.2
SULFATE (mg/l)	NC	2,200
TOTAL DISSOLVED SOLIDS (mg/l)	NC	35,000
TOTAL ORGANIC CARBON (mg/l)	NC	74
TOTAL SUSPENDED SOLIDS (mg/l)	NC	270

⁽¹⁾ Toxicity characteristic criteria listed in 40 CFR 261.24

⁽²⁾ Typical characteristics of IDW tested during 1998 field investigations.

NC = No Criterion

Table 3
Subsurface Soil Results - Sites 2 and 7
MCRD Parris Island

Detected Chemicals in Site 2 Subsurface Soil	Maximum Detected Concentration in Subsurface Soil Samples	REGION III ⁽¹⁾ RESIDENTIAL SOIL RBC	BACKGROUND - SURFACE SOIL	BACKGROUND - SEDIMENT
Volatile Organics (mg/kg)				
Methylene Chloride	0.009	760	NA	NA
Inorganics (mg/kg)				
Aluminum	2860	7800	7270	24200
Barium	11.4	550	24	28
Calcium	150	NA	766	4000
Chromium	5.6	230	6.2	35.2
Copper	0.53	3100	1.5	10
Iron	337	2300	3920	21500
Lead	3.1	400	12.5	21
Magnesium	90.9	NA	515	6400
Manganese	4.2	160	129	186
Potassium	41.9	NA	313	3200
Zinc	1.5	2300	9.7	45

Detected Chemicals in Site 7 Subsurface Soil	Maximum Detected Concentration in Subsurface Soil Samples	REGION III ⁽¹⁾ RESIDENTIAL SOIL RBC	BACKGROUND - SURFACE SOIL	BACKGROUND - SEDIMENT
Metals (mg/kg)				
ALUMINUM	7880	7800	7270	24200
BARIUM	13.1	550	24	28
CALCIUM	1870	NA	766	4000
CHROMIUM	6.3	230	6.2	35.2
IRON	2350	2300	3920	21500
LEAD	8.3	400	12.5	21
MAGNESIUM	258	NA	515	6400
MANGANESE	7.1	160	129	186
NICKEL	1.5	160	1.8	6
POTASSIUM	135	NA	313	3200
SELENIUM	2.3	39	0.29	ND
SODIUM	48	NA	241	19000
VANADIUM	8.5	55	9.5	50
ZINC	3.1	2300	9.7	45

⁽¹⁾ U.S. EPA (United States Environmental Protection Agency). October, 1999. Risk-Based Concentration Table. Philadelphia, PA. Residential use - 1x10⁻⁶ ICR and HQ = 0.1.

NA = Not applicable

ND = Not detected