

Baker

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September 6, 1994

Commander
Atlantic Division
Naval Facilities Engineering Command
1510 Gilbert Street (Building N-26)
Norfolk, Virginia 23511-2699

Attention: Ms. Katherine Landman
Code 1823

Subject: Contract N62470-89-D-4814
Navy CLEAN, District III
Contract Task Order (CTO) 0232
IDW Sampling and Analysis
MCB Camp Lejeune, North Carolina

Dear Ms. Landman:

This letter describes the sample collection activities, results and recommendations for the disposal of investigative-derived waste (IDW) present at Site 35, Marine Corps Base, Camp Lejeune, North Carolina. The IDW was generated during the recently completed RI/FS field investigation.

The primary objectives of the IDW sampling were to characterize the waste (hazardous versus nonhazardous) and to determine the appropriate disposal requirements. These objectives were achieved by sampling and analysis of representative soil and liquid IDW, review of background analytical results associated with the site, and discussions with TSDF personnel.

Upon completion of the field investigation portion of the RI/FS, the IDW was contained as follows:

- Soil cuttings and drilling mud were temporarily stored in a lined roll-off box and covered.
- Drilling fluids, development water and purge water were stored in two 5,000 gallon tankers.
- Product/purge water from monitoring well MW-2, which contains petroleum product, was kept separate from other liquid IDW and contained in a 55-gallon drum.
- Equipment decontamination fluids were contained in two 55-gallon drums.

A composite sample was collected from the soil container and analyzed for TCL organics and TAL metals. Composite samples were collected from each of the tankers and drums containing liquid IDW and analyzed for TCL volatile organics (EPA method 601 and 602 [including methyl tertiary butyl ether]), TCL semivolatiles, pesticides and PCBs, and TAL metals (total and dissolved).

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The results of TCL organics and TAL metals analysis on the soil cuttings contained in the roll-off box were inconclusive. Baker will obtain an additional soil sample for analysis via Toxicity Characteristic Leaching Procedure (TCLP), including hazardous waste characteristics. This data will be used to identify the appropriate means of disposing these soil cuttings.

Results from the liquid IDW sample analysis indicate that detectable concentrations are below TCLP regulatory levels and can be categorized as non-hazardous waste. However, various volatile organic and semi-volatile organic compounds were detected at levels above background which suggests that it would be inappropriate to discharge the liquid IDW directly to the ground surface at the site. Based on the analytical results Baker recommends that the two drums of equipment decontamination fluids (sample number 35-IDWDR-02), the drum containing petroleum product (sample number 35-IDWDR-01) and the two - 5,000 gallon tankers (sample numbers 35-IDWTK-01 and 35-IDWTK-02) be hauled off site and treated/disposed by a waste subcontractor. Results of the IDW sample analyses are summarized in Table 1.

If the above recommendations are approved by LANTDIV/MCB Camp Lejeune, Baker will solicit bids and arrange for a subcontractor to dispose of the liquid IDW. We anticipate that the disposal of the liquid IDW could begin the week of September 5, 1994. The estimated cost to dispose of the IDW should not exceed \$10,500.

If you have any questions, please do not hesitate to contact me at (412)269-2063.

Sincerely,

BAKER ENVIRONMENTAL, INC.



Daniel L. Bonk, P.E.
Project Manager

DLB/JSC/ldq
Attachments

cc: Mr. Neal Paul

TABLE 1
SUMMARY OF ANALYTICAL RESULTS
FOR IDW SAMPLE ANALYSIS
SITE 35 - CAMP GEIGER AREA FUEL FARM
MCB CAMP LEJEUNE, NORTH CAROLINA

Detected Compounds	TCLP Regulatory Levels ($\mu\text{g/L}$)	Sample No: 35-IDWRB-01 Media: Soil ID: Roll-Off Box (mg/kg)	Sample No.: 35-IDWDR-01 Media: Water ID: Prod/H ₂ O From MW-2 ($\mu\text{g/L}$)	Sample No.: 36-IDWDR-02 Media: Water ID: Equipment Decon ($\mu\text{g/L}$)	Sample No.: 36-IDWTK-01 Media: Water ID: Development and Purge Water From Field Investigation ($\mu\text{g/L}$)	Sample No.: 35-IDWTK-02 Media: Water ID: Development and Purge Water From Field Investigation ($\mu\text{g/L}$)
Acetone	--	0.121	ND	ND	ND	ND
Butylbenzylphthalate	--	0.4	ND	ND	ND	ND
Benzo(b)fluoranthene	--	0.251	ND	ND	ND	ND
delta-BHC	--	0.00052	ND	ND	ND	ND
4,4'-DDD	--	0.0019	ND	0.13	ND	0.022
4,4'-DDT	--	0.0028	ND	0.12	ND	ND
Aluminum	--	3,600	134,000	483	60,100	180,000
Arsenic	5,000	2.2	11.2	ND	31.5	22.5
Barium	100,000	14.6	1,820	31.9	430	1,480
Beryllium	--	ND	41.0	17.2	ND	15.2
Cadmium	1,000	0.20	14.9	1.4	3.3	6.6
Calcium	--	29,100	193,000	22,900	547,000	1,180,000
Chromium	5,000	7.1	782	19.4	186	434
Cobalt	--	ND	101	9.9	19.3	70.8
Copper	--	2.6	41.5	31.5	48.2	95.6
Iron	--	3,380	136,000	7,900	39,600	193,000
Lead	5,000	16.5	5.1	20.7	38.8	108
Magnesium	--	737	12,200	1,450	14,000	33,100
Manganese	--	22.0	348	161	318	1,570
Mercury	200	0.38	0.14	ND	ND	ND
Nickel	--	ND	231	32.0	72.0	154
Potassium	--	217	8,210	30,400	8,710	33,200
Selenium	1,000	ND	13.5	1.0	ND	ND

TABLE 1 (Continued)
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Sodium	--	239	9,400	72,400	95,900	162,000
Thallium	--	ND	1.4	ND	ND	0.20
Vanadium	--	8.0	477	15.2	173	280
Zinc	--	21.0	1,140	558	226	753
Naphthalene	--	ND	690	ND	ND	ND
2-Methylnaphthalene	--	ND	1,376	ND	ND	ND
Dibenzofuran	--	ND	126	ND	ND	ND
Fluorene	--	ND	1,199	ND	ND	ND
Phenanthrene	--	ND	307	ND	ND	ND
Alpha-BHC	--	ND	.054	ND	ND	ND
gamma-BHC	--	ND	.085	ND	ND	.011
4-4'-DDE	--	ND	0.41	ND	ND	.017
Endrin	20	ND	0.25	ND	ND	ND
Endosulfan II	--	ND	.085	ND	ND	ND
4,4'-DDD	--	ND	4.7	ND	ND	ND
Endosulfan Sulfate	--	ND	0.11	ND	ND	ND
Methoxychlor	10,000	ND	0.16	ND	ND	ND
Endrin Ketone	--	ND	.064	ND	ND	.015
Endrin aldehyde	--	ND	0.45	ND	ND	ND
beta-BHC	--	ND	ND	.016	0.12	ND
Benzene	500	ND	ND	ND	1.1/1.5	ND
Ethylbenzene	--	ND	ND	0.7/0.5	2.0/3.2	0.4/0.8
Toluene	--	ND	ND	ND	0.3/0.5	0.5/0.9
Xylenes	--	ND	ND	1.7/1.0	3.6/4.7	2.2/2.9
Chloroform	6,000	ND	ND	ND	0.3/0.2	ND

TABLE 1 (Continued)
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cis-1,2-dichloroethene	--	ND	ND	ND	16.8/19.3	1.0/1.2
trans-1,2-dichloroethene	--	ND	ND	ND	1.2/1.4	0.8/0.6
Tetrachloroethene	--	ND	ND	ND	0.3/0.2	ND
Dieldrin	--	ND	ND	ND	ND	0.014
Silver	5,000	ND	ND	4.3	2.2	8.3

Notes: ⁽¹⁾ Indicates that there are no TCLP regulatory levels for this compound.
⁽²⁾ ND indicates that the compound was not detected during analysis.