

Fort Monmouth Environmental Condition of Property Assessment  
2005 BRAC  
Phase II Site Investigation Results  
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Comments prepared by

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Observations:

- 1) Some areas have very high levels of contamination; lead in soil at Parcel 83; lead in groundwater at Parcel 57; chromium high in sediments at Parcel 39; PCE, TCE at Parcels 43, 50, and 52.
- 2) The level of Volatile Organic compounds (VOCs) found in soil gas samples taken at several sites is troubling and likely poses the greatest public health threat of all the test results included in this report. It is very important to determine the source of these VOCs and to determine the extent of the VOCs in both soil and in the groundwater. I strongly suggest that you get the DOD to do additional soil gas testing in order to define the extent of the soil gas contamination in the various areas where these test samples were taken. The VOCs in soil gas were found at Parcels 34, 43, 50, and 52.
- 3) I am surprised that no VOCs were found in any of the groundwater testing that was done. It is not clear why they would VOC would not be present in groundwater unless the DOD did not look for VOCs in the samples they took or if the samples that were taken were collected away from where the VOCs were found in soil gas. I strongly suggest that get DOD to do additional groundwater testing in order to define the extent of the VOC groundwater plume.
- 4) For most parcels, only a few samples (2 to 4) were collected from an environmental medium to evaluate the extent of contamination at the site. In most instances, this sampling is insufficient.
- 5) In many instances, no samples were collected from some media.



## Questions to Consider:

- 1) For each parcel, what environmental media were sampled and analyzed? What was the rationale behind testing the media that was selected?
- 2) What criteria/standards did DOD use to determine when a contaminated area requires "further evaluation"? What was the rationale for choosing the criteria/standards that were used?
- 3) Provide a complete list of the criteria/standards for each environmental medium sampled that was used by DOD to determine whether "further evaluation" was needed. i.e, a complete list of the substances analyzed in each medium for each sample.
- 4) What does "further evaluation mean? Clarify what additional testing would be done.
- 5) Non-residential criteria/standards were used in several instances. Shouldn't residential criteria/standards be used to provide for unrestricted future land-use?
- 6) Why are different criteria/standards used at different sites to evaluate the same environmental medium? For example,

P. 27, 39

sediment

LEL/SEL

P. 43, 49, 61

sediment

ER-L/ER-M

- 7) What specific substances were analyzed for each environmental medium sampled at each parcel? i.e., what specific substances were analyzed in soil (surface and subsurface), sediment, soil gas, groundwater and indoor air samples collected at each parcel?
- 8) At each parcel, only select media were sampled. Why was sampling limited to these media at each parcel? What were all media not sampled at every parcel?
- 9) Provide a description of the sampling methods and procedures used to collect samples from each environmental medium that was sampled? i.e., soil sediment, groundwater, soil gas, and indoor air.
- 10) What detection limits were used for each environmental medium?
- 11) What sampling was conducted in the sanitary lines and at the electrical substations? i.e., what substances were analyzed and in what environmental medium?
- 12) In several instances, "no further action" was recommended by DOD

despite the fact that testing identified concentrations of substance that exceeded the criteria/standards used to evaluate the results. Why did this occur?

P. 34 – soil/gas/benzene > non-residential criteria

P. 43 – soil/gas/benzene/DCM > non-residential criteria

P. 50 – soil/gas/PCE > non-residential criteria

10) For soil samples, at what depth were soil samples taken? Were soil samples taken at different depth for the same sample location? If so, how often was this done?

Summary Sampling media and criteria

27	SD	sediment	2	LEL/SEL	FE
		Soil	2	non given	NFA
34	SG	soil gas	3	SG non-residential	NFA/FE IA
38		soil	24	non given	NFA
39	SD	sediment	2	LEL/SEL	FE
		soil	1	non given	NFA
43	SD	sediment	3	ER-L/ER-M	FE
	SG	soil-gas	4	SG non-residential	NFA
	IA	indoor air	2	IA non-residential	FE
49	SD	sediment	3	ER-L/ER-M	FE
	SS	ssoil 0-0.5d	6	NRDCSCC	FE
	SB	ssoil 0-0.5d	1	NRDCSCC	FE
	GW	groundwater	3	NJ GWQC	FE
50	SG	soil gas	5	SG non-residential	NFA
		indoor air	9	non given	FE/no found
52	SG	soil gas	4	SG non-residential	NFA/FE IA
57	SS	ssoil .5-1.0d	10	NRDCSCC	FE
	GW	groundwater	5	NJ GWQC	FE
61	SD	sediment	2	ER-L/ER-M	FE
	SB	ssoil 1.5-2.0d	7	NRDCSCC	FE
69	SD	sediment	2	ER-L/ER-M	FE
	GW	groundwater	2	NJ GWQC	FE
		soil	2	non given	NFA

70		soil	3	non given	NFA
80	GW	groundwater	2	NJ GWQC	FE
		soil	2	non given	NFA
83	SS	ssoil 0-0.5d	6 ?	NRDCSCC	FE
	SS	ssoil .5-1.0d	6 ?	NRDCSCC	FE
	SS	ssoil 1-1.5d	2 ?	NRDCSCC	FE
		groundwater	12 ?	non given	NFA

**LEL/SEL – Lowest Effect Level/Serious Effect Level**

**ER-L/ER-M - Effects Range - Lower/Effects Range – Median from NOAA**

**NRDSCC – Non residential direct-contact soil cleanup criteria**

**NJGWQC – New Jersey Groundwater Quality Criteria**

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