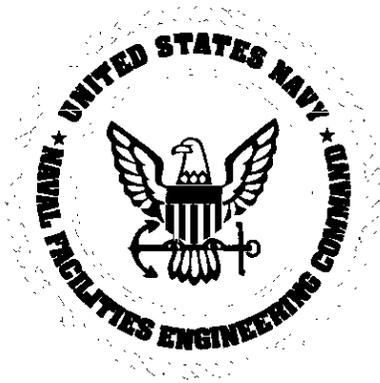


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FACT SHEET 6 FOR 1996 ENVIRONMENTAL INVESTIGATION RESULTS ZONE H CNC
CHARLESTON SC
6/1/1996
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NAVAL BASE, CHARLESTON Environmental Cleanup Program

This fact sheet is one of a series to inform interested citizens about the environmental investigations and cleanup actions at Naval Base, Charleston. Other fact sheets will be written at appropriate points in the program and in response to public interest. Distribution is coordinated through the Public Affairs Office at Naval Facilities Engineering Command, Southern Division, (803) 820-5771.

ZONE H - ENVIRONMENTAL INVESTIGATION RESULTS

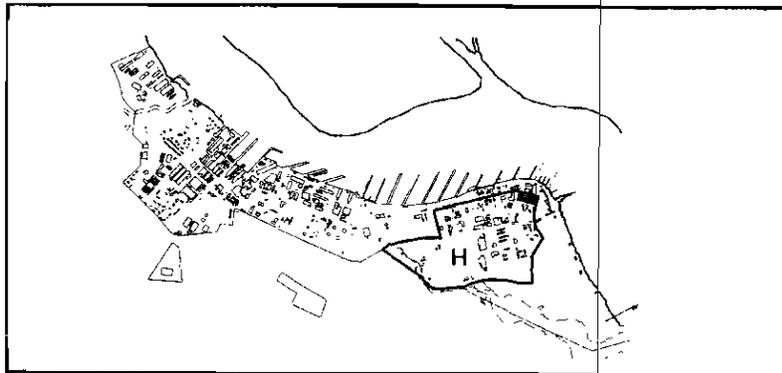
SUMMARY

Results of the environmental investigation for the first of 12 "zones" have been compiled, interpreted, and presented to state and federal regulators who will use the results as a basis for making decisions about continued cleanup efforts. This fact sheet summarizes the results of the RCRA Facility Investigation (RFI) recently completed at Zone H.

BACKGROUND

Naval Base Charleston was geographically divided into 12 zones (A - L) to aid in prioritizing the environmental investigation of the base. Zone H was selected as having the highest priority for investigation and cleanup because of its potential for reuse.

Zone H is the southern end of the base, excluding the waterfront. Environmental investigations associated with the Zone H RCRA Facility Investigation report were completed in mid-1995 and the final document reporting all the findings was submitted to State and Federal environmental regulators in December 1995. The Zone H RCRA Facility Investigation Report is currently under review by regulatory agencies.



Naval Base Charleston

REVIEW OF THE INVESTIGATION AND CLEANUP PROCESS

Beginning in 1993, water, soil, and sediment samples were collected as set forth in the regulator-approved Work Plan. The samples were then analyzed by a laboratory, and the results used to evaluate risk to human health and the environment. The Zone H RCRA Facility Investigation Report includes all the information collected during this process.

Using information from the risk evaluation, the Navy and regulators will work together to make decisions about the site, such as:

- ① Should cleanup be undertaken?
- ② What should cleanup levels be?
- ③ What cleanup methods should, or can be used?

Answers to these questions are essential for planning the next step in the process, which is cleanup.

RESULTS

A summary of the Zone H Risk Assessment results is provided on the adjoining page. The following is a brief description of each column header which should help explain the results.

SITE

Each site, called either a Solid Waste Management Unit (SWMU) or Area of Concern (AOC) has its own unique identification number.

MATRIX

The “matrix” is the type of material that was sampled, such as water or soil.

INCREMENTAL LIFETIME EXCESS CANCER RISK (ILCR)

These columns provide risk information on the probability of getting cancer from exposure to the contaminants at that site.

• 1 in 10,000 risk = 10^{-4}

• 1 in a million risk (1,000,000) = 10^{-6}

- Cancer risk (or ILCR) greater than one in 10,000 ($>10^{-4}$) generally requires cleanup action.
- Cancer risk less than one in a million ($<10^{-6}$) generally does not require cleanup action.
- Cases falling in between these two values will require risk management decisions regarding cleanup, as explained on page 1.

The table shows the risk factors both for site workers, (W), and potential site residents, (R).

HAZARD INDEX

The Hazard Index is a value used to express toxicity risk (non-cancer causing risk).

- A Hazard Index less than one (<1) indicates that no toxic effect is likely.
- A Hazard Index greater than one (>1) indicates that a toxic effect is likely.

The table shows the risk factors for both site workers, (W), and potential site residents, (R).

TOTAL PETROLEUM HYDROCARBONS (TPH)

Total Petroleum Hydrocarbons are elements of petroleum products. The State of South Carolina requires that if TPH values are above 100 parts per million in soil, cleanup is required. A **Yes** in this column indicates the site requires cleanup.

PRIMARY CONTRIBUTORS TO RISK/HAZARD
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This column lists the chemicals at each site that cause the most concern regarding risk and hazard. Complete results can be found in the RCRA Facility Investigation Report found at the Information Repository.

SUMMARY OF RISK AND HAZARD PROJECTIONS — ZONE H

Site	Matrix	ILCR			Hazard Index		TPH	Primary Contributors to Risk/Hazard
		> 10 ⁻⁴	10 ⁻⁴ /10 ⁻⁶	< 10 ⁻⁶	< 1	> 1		
SWMU 9 GROUP								
SWMU 19	Soil		R,W		W	R	YES	PCBs, Arsenic, BaP, Copper
SWMU 20	Soil		R,W		R,W			BaP
SWMU 121	Soil	R	W		W	R	YES	PCBs, Arsenic, BaP, Beryllium, Copper
AOC 649	Soil		R	W	R,W		YES	BaP
AOC 650	Soil		R,W		R,W		YES	BaP, PCBs
AOC 654	Soil			R,W	R,W			None
SWMU 9	Groundwater		R,W			R,W		Benzidine, Arsenic, Vinyl chloride, Hexachlorobenzene
SWMU 14 GROUP								
SWMU 14	Soil		R,W		W	R	YES	Arsenic, BaP, Beryllium
SWMU 15	Soil	R	W		W	R		Arsenic, BaP
AOC 670	Soil		R,W		W	R	YES	Arsenic, BaP
AOC 684	Soil		R,W		R,W		YES	Arsenic, BaP Beryllium
SWMU 14	Groundwater		R,W		W	R		BEHP, TCDD, Aluminum
SWMU 13	Soil		R	W	R,W		YES	BaP
	Groundwater		R,W		R,W			Beryllium
SWMU 17	Soil	R	W		R,W		YES	PCBs, BaP
	Groundwater	R,W				R,W		Benzidine, Chlorobenzene, 1,4-DCB, 1,2,4-TCB
SWMU 159	Soil			R,W	R,W		YES	None
	Sediment			R,W	R,W			None
SWMU 178	Soil		R	W	R,W		YES	BaP
	Groundwater			R,W	R,W			None
AOC 653	Soil		R,W		R,W		YES	BaP
	Groundwater	R,W				R,W		Arsenic
AOC 655	Soil		R,W		R,W		YES	PCBs, BaP, Dieldrin
	Groundwater	R,W				R,W		Arsenic, Chlordane
AOC 656	Soil		R	W	R,W		YES	BaP
	Groundwater		R,W		R,W			TCDD
AOC 659	Soil			R,W	R,W		YES	None
AOC 660	Soil			R,W	R,W			None
	Groundwater			R,W	R,W			None
AOC 662	Soil			R,W	R,W			None
	Groundwater			R,W	R,W			None
AOC 663/SWMU 136	Soil	R	W		W	R	YES	Arsenic, BaP, PCBs, 4,4'-DDE, Aluminum
	Groundwater	R	W			R,W		TCDD
AOC 665	Soil		R	W			YES	BaP
AOC 666	Soil	R	W		W	R	YES	Arsenic, BaP, PCBs, Mercury, Vanadium, NNPA
	Groundwater		R,W		R,W			Vinyl chloride, Chloromethane
AOC 667/SWMU 138	Soil			R,W	R,W		YES	BaP
	Groundwater			R,W	R,W			None

NOTES:

R = Resident risk/hazard projection
W = Worker risk/hazard projection

BaP = Benzo(a)pyrene equivalents
BEHP = bis (2-Ethylhexyl) phthalate
NNPA =N-nitroso-di-n-propylamine
PCBs = Polychlorinated Biphenyls

TCDD = Tetrachloro dibenzo dioxin
1,2,4-TCB = 1,2,4-Trichlorobenzene
1,4-DCB = 1,4-Dichlorobenzene

FOR MORE INFORMATION

The Zone H RCRA Facility Investigation Report is available for public access at the Information Repository maintained at:

*Dorchester Road Regional Branch
Charleston County Library
6325 Dorchester Road
North Charleston, SC 29418
(803) 552-6466*

For more information on the Naval Base Charleston environmental cleanup program, call or write:

*Mr. Jim Beltz
Public Affairs Office
Naval Facilities Engineering Command
Southern Division
P.O. Box 190010
North Charleston, SC 29419-9010
(803) 820-5771*

**Public Affairs Office
Naval Facilities Engineering Command
Southern Division
P.O. Box 190010
North Charleston, SC 29419-9010**

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