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In reply, please refer to:
EPHSD/HEER
REDHILL.MEM/BFS1

19 January 1990

MEMORANDUM

TO: Chief, Safe Drinking Water Branch
Chief, Solid and Hazardous Waste Branch

FROM: Manager, Hazard Evaluation and Emergency Response

SUBJECT: Site Characterization Phase I, Red Hill Oily Waste Disposal Pit Site, Pearl Harbor, Oahu, Hawaii.

Please find attached, one set of the draft planning documents (Work Plan, Sampling and Analysis Plan, Health and Safety Plan, and the Community Relations Plan) for the Red Hill Oily Waste Disposal Pit for your review and comment. We are particularly interested in RCRA, UST, SDWA and ground water protection concerns. The attached form has been developed to simplify your review efforts. Please provide your comments on the review form and return it to our office by 9 February 1990.

Please call me or Mr. Bruce Schlieman at x8256 if you have any questions.

J. MARK INGOGLIA

COMMENT.IPR/BFS1

INSTALLATION RESTORATION PROGRAM (IRP)
DOCUMENT REVIEW AND COMMENT FORM

NAME OF DOCUMENT(S): Site Characterization Phase I, Red Hill Oily Waste Disposal Pit Site, Pearl Harbor, Oahu, Hawaii.
The set of draft planning documents includes one copy each of the following: Work Plan, Sampling and Analysis Plan, Health and Safety Plan, and the Community Relations Plan.

DATE DOCUMENT RECEIVED:

TARGET DATE FOR RETURNING COMMENTS TO HEER: **9 February 1990.**
Attached is a brief summary of the work plan (Comments can be handwritten if more convenient)

COMMENTS:

SUMMARY OF RED HILL OILY WASTE PIT WORK PLAN

The Naval Supply Center Red Hill Oily Waste Disposal Pit site is located within the boundaries of the Red Hill Fuel Depot, Pearl Harbor Naval Base, Oahu, Hawaii. The site is located about 3,300 feet west of the Red Hill underground fuel storage tanks, about 700 feet southwest of the Red Hill fresh water pumping station, and about 50 feet east of South Halawa Stream.

History of Operation

The original pit was constructed and operated from 1943 to 1948, and was unlined. This pit had a basal area of 1,250 square feet, a surface area of 3,150 square feet, and was 14 feet deep. From 1949 to 1972, the disposal pit was not in operation, though the site was apparently used to collect and store waste materials. From 1972 to 1987, a new asphalt/concrete lined pit was constructed and operated at the site of the original pit, though with a different orientation. The new pit has a base area of 1,750 square feet, a surface area of 3,850 square feet, and is 10 feet deep.

The two pits were utilized for treatment and disposal of oily wastes. The pits received oily wastes and sludges that were generated from the cleaning of sixteen to twenty 3000,000 barrel (12.6 million gallon) underground fuel tanks at the Red Hill fuel depot. These tanks were used primarily to store Navy Special Fuel Oil, in addition to jet fuel (JP-5), aviation gasoline, and diesel fuel. From an underground pipe system, wastes could be routed from the underground tanks into the old pit or into bypass piping which discharged into South Halawa Stream.

Treatment at the disposal pits consisted of separation into water, oil, and sludge components. Water was evaporated and/or delivered to South Halawa Stream, and the oil was skimmed for re-use. On at least one occasion, sludge residues were burned with other miscellaneous materials, including tires and diesel fuel.

Off-site surface soil contamination has occurred periodically. During the early 1980s wastes were pumped from the pit and dumped on the ground via a hose. During the 1970s, sludges removed from the asphalt lined pit were dumped on the soils west of the pit. In the 1940s, a 1.2 million gallon fuel spill contributed to off-site soil contamination.

Contaminants

Five potential contaminant sources at the site have been identified (old pit; new pit; associated system of sumps, piping, and above ground storage tanks; discharge to South Halawa Stream; and unauthorized discharges to the ground) as well as three major contaminant migration pathways (air, surface water, and subsurface transport). Suspected contaminants at the site include waste fuel constituents, polynuclear aromatic hydrocarbons (PNAs), phenols, metals, solvents, and possibly dioxin from the burning of wastes.

Exposure to the contaminants could include: inhalation, ingestion, and direct contact (dermal contact). General receptors may include area residents, aquatic and terrestrial biota, and site visitors.

Transport Pathways for Contaminants

Air transport is assumed to be significant for the volatilization of contaminants from the new waste disposal pit.

Surface water flow is assumed to be significant since the piping system for the discharge of fluids directly into South Halawa Stream still exist and since surface water runoff from the northeast portion of the site appears to drain into South Halawa Stream.

Subsurface transport is assumed to be significant for all five of the potential contaminant sources. Subsurface transport of the contaminants may occur horizontally through the perched water table zone until discharged as stream base flow, or vertically until eventually impacting the basal aquifer.

Phase I Field Investigations

Soil (surface and subsurface) samples will be collected in the vicinity of the old/new pit and analyzed for the range of expected contaminants. Subsurface sampling will be accomplished by conduct of vertical borings to a depth of 60 feet, and by angle borings designed to collect soil samples from beneath the new pit. Three monitoring wells will also be installed near the pit and ground water samples will be compared to background values.

Goals for Phase I include the following:

1. Establish background metals concentrations in site soils, surface water, and ground-water quality.

2. Evaluate the surface water migration pathway by obtaining sediment and water quality data.

3. Evaluate the air migration pathway by obtaining site-specific air meteorology data and by performing ambient air monitoring.

4. Evaluate the potential for contamination associated with the above and below ground service piping.

5. Verify the nature of contamination at the end of the pit discharge pipe, and at the unauthorized waste discharge area, by collecting and analyzing surface and trench soil samples.