

40-341



DEPARTMENT OF THE ARMY
BALTIMORE DISTRICT, U.S. ARMY CORPS OF ENGINEERS
P.O. BOX 1715
BALTIMORE, MD 21203-1715

REPLY TO
ATTENTION OF

April 1, 1994

Engineering Division

Mr. Dominick A. Orlando
Mail Stop 5-E-4
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Dear Mr. Orlando:

In accordance with the request in your letter of March 29, 1994, we have enclosed a copy of the Inventory Project Report (INPR) for the former National Defense Storage Stockpile Depot at Curtis Bay, Maryland. The site number of this property under the Defense Environmental Restoration Program for Formerly Used Defense Sites (DERP-FUDS) is C03MD0201.

The INPR includes the Site Survey Summary Sheet, Location Map, Site Map, Findings and Determination of (Site) Eligibility, Project Summary Sheets for each of the three projects (i.e., building demolition/debris removal, PRP/HTRW, and ordnance/explosive waste), EPA Form 2070, and Risk Assessment Form for ordnance/explosive waste.

If you have further questions regarding the INPR for the former National Defense Storage Stockpile Depot site, please contact Mr. William C. Piccirilli, Design Manager, at (410) 962-3542.

Sincerely,

Christina E. Correale
Chief, Hazardous, Toxic, and
Radioactive Waste Branch

Enclosures

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SITE SURVEY SUMMARY SHEET
FOR
DERP-FUDS SITE NO. C03MD0201
24 JUNE 1992

SITE NAME: National Defense Storage Stockpile Depot, Curtis Bay

LOCATION: Curtis Bay, Anne Arundel County, Maryland; See Location Map, Attachment A.

SITE HISTORY: The United States Government acquired 798.10 acres fee by deeds from 11 individual owners in 1918. An additional 1.85 acres were acquired by deed in 1942, and 0.19 of an acre was acquired by condemnation in 1945. Between 1918 and the mid 1960's an additional 25.98 acres were added to the site by accretion. These properties, totalling 826.12 acres, were acquired for the establishment of the Curtis Bay Ordnance Depot. The site later became known as the National Defense Storage Stockpile Depot, Curtis Bay, Maryland. Between 1918 and 1958, the site was used by the Department of the Army as a receiving, shipping, storage and maintenance depot for munitions as well as a storage depot for critical materials. The critical materials included thorium, zinc, lead, chemical and refractory chrome ore, aluminum, tin, and copper. Improvements installed by the Department of the Army at the site include 181 storage magazines and other buildings, one 316-ft wooden patrol bridge, one 250-ft wooden dock, eight underground storage tanks (USTs), 14 electrical transformers, and other site improvements such as railroad tracks, lighting, and roads. On 8 August 1958, 10.26 acres of the site were reassigned to The United States Army Reserve Center, Curtis Bay (USARC). On 24 March 1966, an additional 26.81 acres were reassigned to USARC. The remaining 789.05 acres of the site were reported excess to the General Services Administration (GSA). Documentation indicating the date of excess by the Department of Defense (DOD) to GSA was not available. A survey of the GSA property resulted in a reduction in area from 789.05 to 768.87 acres. This adjustment brought the total area of the entire site to 805.94 acres. By Quitclaim Deed dated 16 June 1972, GSA conveyed 220.99 acres to Anne Arundel County, Maryland. Anne Arundel County conveyed same to Dickinson Associates by deed dated 19 June 1972, who then subdivided same property and sold parcels for the establishment of the Baymeadow Industrial Park. On 13 May 1974, USARC reported 3.81 acres excess to GSA, who then conveyed same to the Maryland Department of Transportation for highway purposes. An additional 6.04 acres were reported excess by USARC to GSA on 19 December 1978. By deed dated 15 October 1980, Anne Arundel County acquired 84.66 acres fee from GSA. Anne Arundel County then acquired 7.04 acres fee from GSA by Quitclaim Deed dated 20 October 1981. On 27 April 1982, GSA transferred 0.54 of an acre to USARC.

Subsequent ownership and use of the 805.94-acre site is as follows: USARC, an active DOD facility, currently occupies 27.76

NATIONAL DEFENSE STORAGE STOCKPILE DEPOT, CURTIS BAY
CURTIS BAY, ANNE ARUNDEL COUNTY, MARYLAND
SITE NO. C03MD0201

acres as an Army reserve center. The Maryland Department of Transportation currently uses the 3.81-acre parcel for highway purposes. The Baymeadow Industrial Park property, which was acquired and developed by Dickinson Associates (now The Airport Square Companies), consists of 220.39 acres and is used primarily as a distribution center by approximately 20 individual owners, including Panasonic, Toyota, Isuzu, and Martin Marietta. Anne Arundel County currently owns three parcels, totalling 91.70 acres, all of which are not developed. However, subsequent to the acquisition of the 84.66-acre property in 1980, Anne Arundel County used same for the subsurface injection of sewage sludge between 1981 and 1984. The remaining 462.28 acres of the 805.94-acre site are owned by GSA and used by four tenants: the National Security Agency (NSA), the U.S. Army, the Baltimore City Canine Corps (BCCC), and the Defense Logistics Agency (DLA). NSA occupies Building 1021 for storage. The U.S. Army uses Buildings 1001 and 1003 as maintenance shops. BCCC maintains a training center on GSA property. The major tenant is DLA which operates the Defense National Stockpile Center, a storage center for numerous metals, ores, and low-level radioactive materials. The properties occupied by USARC, NSA, the U.S. Army, and the Defense National Stockpile Center are active DOD facilities and are ineligible for DERP-FUDS. The remaining properties owned or occupied by Baymeadow Industrial Park, Anne Arundel County, and BCCC are determined to be formerly used by DOD and are eligible for DERP-FUDS.

SITE VISIT: Mr. Vincent R. Hill and Ms. June Ching of EA Engineering, Science, and Technology, under contract to the U.S. Army Corps of Engineers, Baltimore District, conducted a site visit of the 805.94-acre site on 8 October 1991. During the site visit, Mr. Hill and Ms. Ching met with Ms. Lynn Palmer and Mr. Sam Minnite of the Anne Arundel County Office of Economic Development. On 17 October 1991, Mr. Hill and Mr. John Walch of EA conducted an additional investigation of the site. During the 17 October site visit, Mr. Hill and Mr. Walch met with Mr. Bert Haus, Vice President of The Airport Square Companies and Mr. William Fritz, Facility Manager of the Defense National Stockpile Center, Curtis Bay.

CATEGORY OF HAZARD: BD/DR, PRP/HTRW, and Potential OEW.

PROJECT DESCRIPTION:

a. BD/DR. There are 105 buildings, one 316-foot wooden patrol bridge, one 250-foot wooden dock and other DOD-installed improvements remaining at the site. Forty-two of the 105 buildings are in various stages of collapse and represent cave-in and falling hazards. Nineteen of the 42 buildings are located on

NATIONAL DEFENSE STORAGE STOCKPILE DEPOT, CURTIS BAY
CURTIS BAY, ANNE ARUNDEL COUNTY, MARYLAND
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the 84.66-acre Anne Arundel County property and the other 23 buildings are located on property used by DLA. The 250-foot wooden dock, located on property used by DLA, is dilapidated and could pose a hazard to small boats and waterskiers.

b. PRP/HTRW. Environmental investigations performed at the 84.66-acre Anne Arundel County property have identified contamination associated with heavy metals and low-level radioactivity in groundwater and soil samples. Based on current available information, it was not possible to determine the source of the site contamination or whether it was associated with former DOD activities and/or subsequent owner activities.

c. Potential OEW. The site was formerly used by DOD for storage and maintenance of ammunition. Based upon former site usage, the potential presence of ordnance-related materials may constitute a potential safety hazard at the site.

d. CON/HTRW. No further action. During the period of former site usage, the Army installed eight underground storage tanks (USTs) and 14 electrical transformers. DLA removed the 14 transformers in 1986 and the eight USTs in 1987.

AVAILABLE STUDIES AND REPORTS: (available in CENAB-EN-HN files)

"Close Out Inspection Report for former Army Ordnance Depot in Anne Arundel County, Maryland", U.S. Nuclear Regulatory Commission, 7 July 1977.

"Site Contamination Assessment, U.S. Army Curtis Bay Ordnance Depot, Anne Arundel County, Maryland", prepared by Woodward-Clyde Consultants for Coca-Cola Enterprises, 22 February 1989.

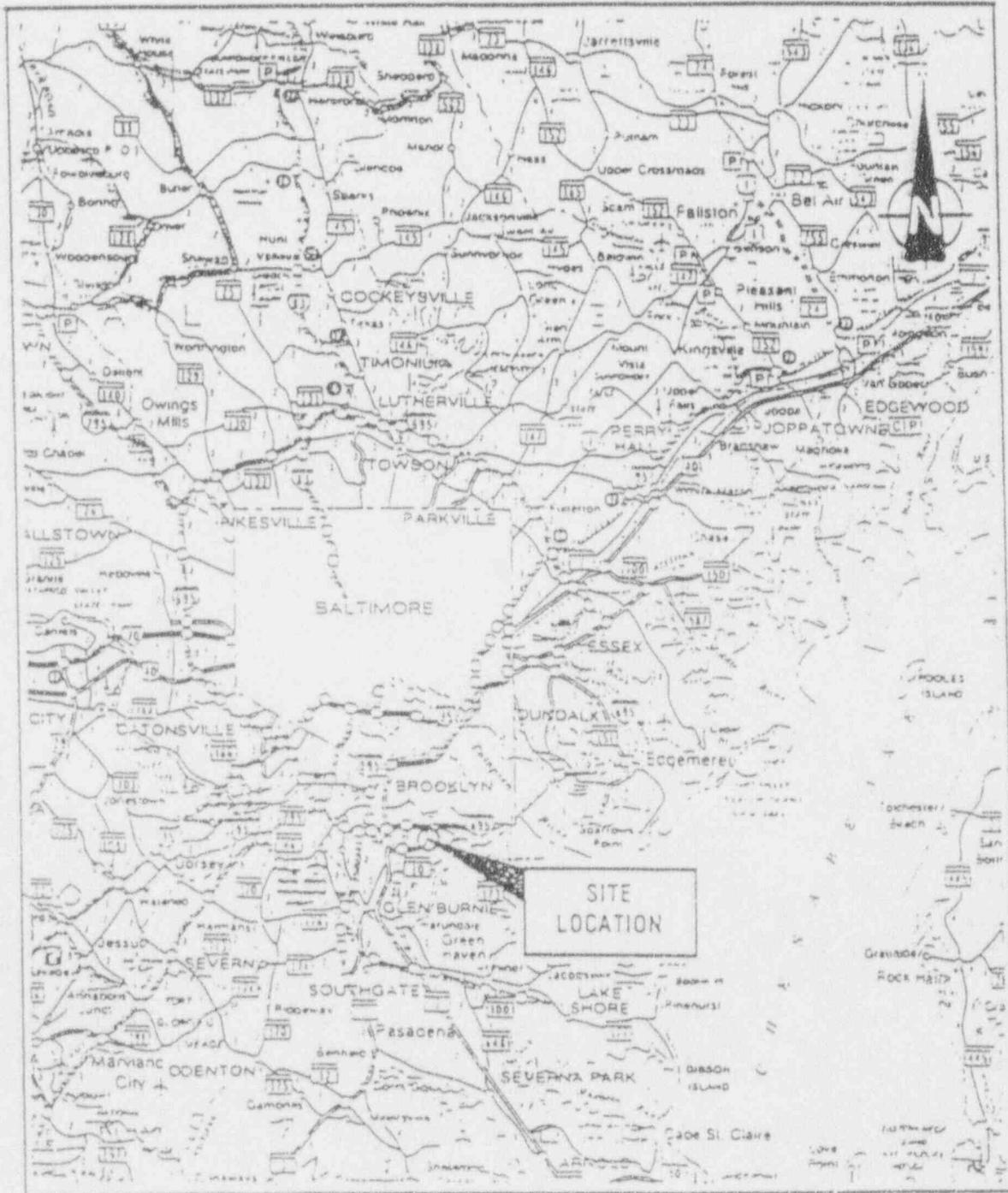
"Preliminary Findings, Phase I Site Assessment, Bay Meadows II," prepared by Tetnys Consultants for Dickinson-Heffner, Inc., 1 May 1989.

Letter summary of Sludge Application to 84.66-acre Anne Arundel County Property, prepared by Kenneth L. McCall, Sludge Disposal Superintendent, Anne Arundel County, Maryland, 6 November 1991.

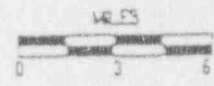
"Summary of Leachability Studies of Stockpile Ores and Minerals," prepared by F. Kevin Reilly, Defense Logistics Agency, Defense National Stockpile Center, 23 January 1992.

PA POC: H. Leland Reeser, CENAB-EN-HN, (410) 962-2186.

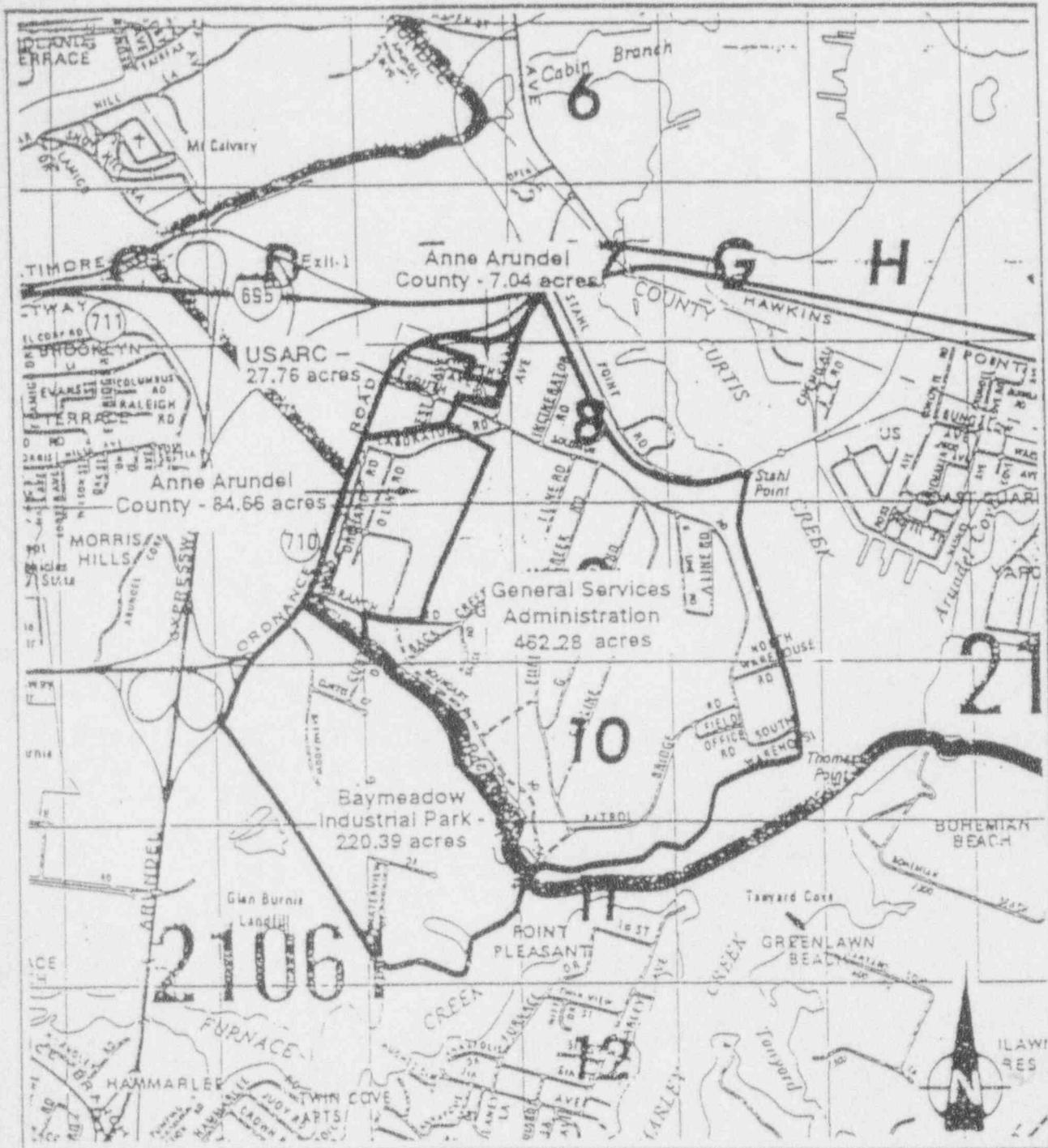
ATTACHMENT A
 LOCATION MAP
 NATIONAL DEFENSE STORAGE STOCKPILE DEPOT, CURTIS BAY
 SITE NO. C03MD0201



NOTE: See site map, Attachment B.



**ATTACHMENT B
SITE MAP
NATIONAL DEFENSE STORAGE STOCKPILE DEPOT, CURTIS BAY
SITE NO. C03MD0201**



DIRECTIONS: From Baltimore City, take MD Route 295 south to Interstate 695 east to Glen Burnie. From I-695, take MD Route 10 south. Take MD Route 710 east (Ordinance Road). Make a right at the first access road to the Anne Arundel County property (first road after the entrance to the Baymeadow Industrial Park).



DEFENSE ENVIRONMENTAL RESTORATION PROGRAM
FOR FORMERLY USED DEFENSE SITES
FINDINGS AND DETERMINATION OF ELIGIBILITY
NATIONAL DEFENSE STORAGE STOCKPILE DEPOT, CURTIS BAY
CURTIS BAY, ANNE ARUNDEL COUNTY, MARYLAND
SITE NO. C03MD0201

FINDINGS OF FACT

1. The United States Government acquired 798.10 acres fee by deeds from 11 individual owners in 1918. An additional 1.85 acres were acquired by deed in 1942, and 0.19 of an acre was acquired by condemnation in 1945. Between 1918 and the mid 1960's, an additional 25.98 acres were added to the site by accretion. These properties, totalling 826.12 acres, were acquired for the establishment of the Curtis Bay Ordnance Depot. The site later became known as the National Defense Storage Stockpile Depot, Curtis Bay, Maryland.

2. Between 1918 and 1958, the site was used by the Department of the Army as a receiving, shipping, storage and maintenance depot for munitions as well as a storage depot for critical materials. The critical materials included metals, ores and low-level radioactive metals such as thorium. Improvements installed by the Army consisted of 181 storage magazines and other buildings, one 316-foot long wooden patrol bridge, one approximately 250-foot long wooden pier, 8 underground fuel storage tanks (USTs), 14 electrical transformers, and other site improvements including outdoor lighting, roads, and railroad tracks. The site was not under other than Department of Defense (DOD) control during the period of DOD use.

3. On 8 August 1958, 10.26 acres of the 826.12-acre site were reassigned to the United States Army Reserve Center, Curtis Bay (USARC), an active DOD facility. On 24 March 1966, an additional 26.81 acres were reassigned to USARC from the National Defense Storage Stockpile Depot site. The remaining 789.05 acres of the site were reported excess to the General Services Administration (GSA). Documentation indicating the date of excess by DOD to GSA was not available. GSA assumed accountability of a 543.19-acre portion on 29 July 1965 and the remaining 245.86-acre portion on 24 August 1966. A survey of the GSA property resulted in a reduction in area from 789.05 acres to 768.87 acres. The difference in acreage may have been attributable to variations in property line determinations along the shoreline. This adjustment brought the total area of the entire site to 805.94 acres.

By Quitclaim Deed dated 16 June 1972, Anne Arundel County, Maryland acquired 220.39 acres fee from GSA. Anne Arundel County then conveyed 220.39 acres fee of same to Dickinson Associates by deed dated 19 June 1972, who then subdivided same and sold parcels for the Baymeadow Industrial Park. On 13 May 1974, USARC

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CURTIS BAY, ANNE ARUNDEL COUNTY, MARYLAND
SITE NO. C03MD0201

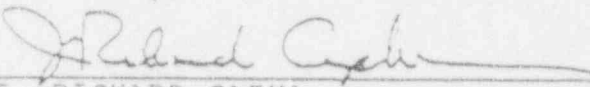
reported 3.81 acres excess to GSA, who then conveyed same to the Maryland Department of Transportation for highway purposes. An additional 6.04 acres were reported excess by USARC to GSA on 19 December 1978. On 15 October 1980, GSA conveyed 84.66 acres fee to Anne Arundel County by deed. By Quitclaim Deed dated 20 October 1981, Anne Arundel County acquired 6.04 acres fee plus an additional 1.00-acre fee parcel from GSA. There was no language in any of the deeds from GSA to Anne Arundel County obligating or absolving the Federal Government from restoration, nor any reverter or recapture clauses. On 27 April 1982, GSA transferred 0.54 of an acre to USARC. The remaining 462.28 acres of the 805.94-acre site are still owned by GSA and used by four tenants: the National Security Agency (NSA); the U.S. Army; the Defense Logistics Agency (DLA); and the Baltimore City Canine Corps (BCCC). All of the GSA tenants are active DOD components, with the exception of BCCC, which uses a 2,600 square foot building (0.06 of an acre) under a "friendly agreement" with GSA.

DETERMINATION

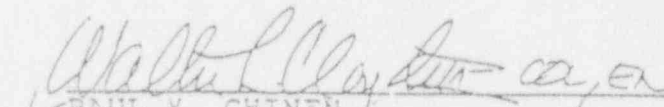
Based on the foregoing Findings of Fact, 315.96 acres (Baymeadow Industrial Park, 220.39 acres; Anne Arundel County, 91.70 acres; Maryland Department of Transportation, 3.81 acres; and BCCC, 0.06 of an acre) have been determined to be formerly used by DOD and therefore, eligible for the Defense Environmental Restoration Program for Formerly Used Defense Sites (DERP-FUDS), established under 10 U.S.C 2701 et seq. The remaining 489.98 acres of the 805.94-acre site are currently being used by DOD and therefore, ineligible for DERP-FUDS.

Recommended for Signature:

2 FEB 93
Date


J. RICHARD CAPKA
Colonel, Corps of Engineers
Commanding

2 SEP 93
Date


PAUL Y. CHINEN
Brigadier General, USA
Commanding

PROJECT SUMMARY SHEET
FOR

DERP-FUDS BD/DR PROJECT NO. C03MD020101
NATIONAL DEFENSE STORAGE STOCKPILE DEPOT, CURTIS BAY
CURTIS BAY, ANNE ARUNDEL COUNTY, MARYLAND
SITE NO. C03MD0201
24 JUNE 1992

PROJECT DESCRIPTION: The Department of the Army installed 181 storage magazines and other buildings, one 316-foot wooden patrol bridge, one 250-foot wooden dock and other appurtenances associated with the former National Defense Storage Stockpile Depot. Currently, 105 of the DOD-installed buildings remain on the site. Forty-two of the 105 buildings are in various stages of collapse and represent cave-in and falling hazards. Nineteen of the 42 buildings are located on the 84.66-acre Anne Arundel County property. These 19 buildings are storage magazines and are constructed of transite, an asbestos-containing material (ACM). Furthermore, the 19 buildings are easily accessed from Ordnance Road and show signs of public contact. The remaining 23 buildings (14 asbestos-sided and 9 brick storage magazines) are located on property used by the Defense Logistics Agency (DLA), an active DOD facility, and are therefore, ineligible for DERP-FUDS. The other 63 buildings remaining on the site are in beneficial use by DLA and do not represent a hazard under DERP-FUDS.

The 250-foot wooden dock is dilapidated and could pose a hazard to small boats and water skiers should any of its 1 ft x 15 ft planks break off and float into Curtis Bay. However, the dock is located on property used by DLA and is therefore, ineligible for DERP-FUDS.

Concerning the 316-foot wooden patrol bridge, R.E. Michael Company, an owner of a parcel in the Baymeadow Industrial Park, has refurbished approximately 100 feet of the bridge for recreational purposes. DLA removed the decking and railing from the rest of the bridge during the summer of 1991. The patrol bridge does not represent a hazard under DERP-FUDS.

Other appurtenances that remain on site, from the period of former DOD use, consist of railroad tracks, lighting and roads. These appurtenances do not represent a hazard under DERP-FUDS.

PROJECT ELIGIBILITY: Records indicate that the 19 storage buildings located on the Anne Arundel County property were built and used by the Army during the period of former site usage. These 19 buildings represent potential safety hazards.

POLICY CONSIDERATIONS: The property on which the 19 buildings are located has a continuous history of ownership by a local government, Anne Arundel County, Maryland, from the last date of former DOD ownership to the present. Furthermore, the 19

NATIONAL DEFENSE STORAGE STOCKPILE DEPOT, CURTIS BAY
DERP-FUDS BD/DR PROJECT NO. C03MD020101
CURTIS BAY, ANNE ARUNDEL COUNTY, MARYLAND
SITE NO. C03MD0201

buildings have not been beneficially used by owners subsequent to DOD use and are therefore eligible for remediation under DERP-FUDS. It is not known whether the hazardous conditions of the 19 buildings existed at the time DOD usage ceased. The proposed project does not address asbestos-containing materials (ACM) except where part of and incidental to a proposed BD/DR project.

PROPOSED PROJECT: The proposed project consists of the demolition of 19 corrugated asbestos-sided storage buildings, two of which have collapsed due to past fires, and the removal/disposal of all debris associated with the 19 buildings installed by DOD on the 84.66-acre Anne Arundel County property.

DD FORM 1391: Attached.

BD/DR CHECKLIST: Attached.

DISTRICT POC: H. Leland Reeser, CENAB-EN-HN, (410) 962-2186.

BD/DR PROJECT SUMMARY SHEET CHECKLIST
FOR
DEAP-FUDS BD/DR PROJECT NO. C03MD020101

True or False

1. F The title transfer document which conveyed the site from DOD or GSA specifically requires the Government to restore the site. (If true, provide details under Project Eligibility.)
2. T An owner, subsequent to DOD usage, has not been compensated by the Government in lieu of site restoration. (If false, provide details under Policy Considerations.)
3. T The title transfer document which conveyed the site from DOD or GSA does not absolve the Government from site restoration. (If false, provide details under Policy Considerations.)
4. T USACE can obtain a right of entry to the site. (If false, provide details under Policy Considerations.)
5. T The site has not been owned by a private interest since DOD usage. (Address under Policy Considerations regardless of whether true or false.)
6. F Execution of the project would not primarily benefit private interests. (If false, provide details under Policy Considerations.)
7. Hazard(s) (Specify under Project Eligibility):
 - a. Structural.
 - b. X Cave-in or engulfment.
 - c. Climbing.
 - d. Drowning.
 - e. X Other (Falling)
8. T The hazard(s) resulted from DOD activities. (Provide details under Project Eligibility regardless of whether true or false.)
9. T The hazard(s) resulted from military activities rather than civil works activities. (If false, provide details under Policy Considerations.)

*95.57 acres of the 305.94-acre site have not been owned by private interests since DOD usage (91.70 acres, Anne Arundel County; 3.81 acres, Maryland Department of Transportation; and 0.06 of an acre, Baltimore City Canine Corps).

NATIONAL DEFENSE STORAGE STOCKPILE DEPOT, CURTIS BAY
DERP-FUDS BD/DR PROJECT NO. C03MD020101
CURTIS BAY, ANNE ARUNDEL COUNTY, MARYLAND
SITE NO. C03MD0201

10. F The hazard(s) existed at the time DOD usage ceased. (Provide details under Project Eligibility regardless of whether true or false.)

11. T The hazard(s) still exists. Owners cannot be reimbursed for any response activities. (If false, provide details under Policy Considerations.)

12. T The structure(s) was not altered or beneficially used by owners subsequent to DOD usage. (Address under Policy Considerations regardless of whether true or false.)

13. F The project does not involve partial demolition of a structure (must be all or nothing). (If false, provide details under Policy Considerations.)

14. T The project does not address asbestos containing materials (ACM), except where part of and incidental to a proposed project. (Address under Policy Considerations regardless of whether true or false.)

* It is not known whether the hazardous conditions of the 19 buildings on the Anne Arundel County property existed at the time DOD usage ceased.

PROJECT SUMMARY SHEET
FOR
DERP-FUDS PRP/HTRW PROJECT NO. C03MD020102
NATIONAL DEFENSE STORAGE STOCKPILE DEPOT, CURTIS BAY
CURTIS BAY, ANNE ARUNDEL COUNTY, MARYLAND
SITE NO. C03MD0201
24 JUNE 1992

PROJECT DESCRIPTION: Between 1918 and 1958, the site was used by the Department of the Army as a receiving, shipping, storage, and maintenance depot for munitions as well as a storage depot for critical materials, including metals, ores and low-level radioactive metals such as thorium. Environmental investigations conducted by current site owners have identified contamination on property of the former National Defense Storage Stockpile Depot. A pre-acquisition site contamination assessment performed in 1989 for Coca-Cola Enterprises, concerning the 84.66-acre property owned by Anne Arundel County, reported that soil samples taken over a 30-acre portion of the property showed elevated levels of five heavy metals: arsenic, copper, lead, mercury, and zinc. Laboratory analysis of groundwater samples from the same area revealed levels of arsenic, chromium, and lead which exceeded the National Primary Drinking Water Regulations (NPDWR) maximum contaminant level (MCL) for arsenic, chromium, and lead in three of four monitoring wells.

Another site assessment report, prepared in May 1989 for Dickinson-Heffner, Inc. (now The Airport Square Companies), concentrated on the radiological evaluation of the soil beneath four former storage buildings on the 84.66-acre property currently owned by Anne Arundel County. The report identified five elements that were above background levels in soil samples taken beneath the four buildings: total thorium, lead-212, radium-226, actinium-228, and thallium-208. Although above background levels, none of the elements measured in the surface soils beneath the buildings were above the maximum allowable levels (MALs) set by the Nuclear Regulatory Commission (NRC). Of nine elements measured in the soil samples, only potassium-40 levels beneath the four buildings were very similar to the levels measured in the background sample, suggesting that potassium-40 may be a naturally occurring element at the site.

HTRW contamination of the site may be related to three main sources. They are:

a. Defense Logistics Agency (DLA) Stockpiles: From 1918 to 1958, the primary mission of the depot was related to the storage and maintenance of ammunition. A secondary mission of the depot that began after 1952 was the storage of critical and strategic materials. These materials included zinc, lead, chemical and refractory chrome ore, aluminum, tin, copper, thorium, and uranium. Once the property was excessed to the General Services Administration (GSA) in 1958, its primary mission was limited to

NATIONAL DEFENSE STORAGE STOCKPILE DEPOT, CURTIS BAY
DERP-FUDS PRP/HTRW PROJECT NO. C03MD020102
CURTIS BAY, ANNE ARUNDEL COUNTY, MARYLAND
SITE NO. C03MDC201

the storage of critical materials. Currently, the Defense National Stockpile Center, a DLA facility, stores numerous materials including arsenic, copper, lead, zinc, mercury and low-level radioactive materials on property adjacent to the 84.66-acre Anne Arundel County property. According to William Fritz, Facility Manager at the Defense National Stockpile Center, these materials are all kept on concrete pads and covered if they are susceptible to wind and rain erosion. In addition, according to Mr. Kevin Reilly, Environmental Chemist for DLA, EP Toxicity tests at pH 4 and 5 and a TCLP test, conducted according to EPA Guidelines indicate that the stockpile ores, with the exception of fluorspar (acid grade), do not leach under those test conditions. Fluorspar stockpiles at the site are stored on concrete pads and covered.

b. Former Critical Materials Storage on Anne Arundel County and Baymeadow Industrial Park Properties: Between 1952 and 1958, DOD stored radioactive materials, consisting of thorium and uranium, at the 84.66-acre Anne Arundel County property and the Baymeadow Industrial Park property. According to Mr. Fritz, no other materials such as heavy metals were stockpiled at the two properties.

c. Subsurface Injection of Sewage Sludge: On 17 July 1981, the 84.66-acre Anne Arundel County property was authorized by the Director of Administration of Anne Arundel County to be used by the Bureau of Public Works as an interim County sludge disposal site. Between 1981 and 1984, approximately 1,152.4 dry tons of digested sewage sludge was applied to 46.2 acres of the 84.66-acre property. Applied sludge concentrations for lead and chromium, identified as contaminants of concern at the site, ranged from 21.6 to 499.7 mg/kg and 17.4 to 236 mg/kg, respectively.

Based upon the current INPR investigation and review of existing studies and documentation, it is apparent that potential HTRW liabilities at the site associated with former DOD site use would be limited to possible contamination from historical storage of critical materials prior to 1958. Subsequent activities that may have contributed to site contamination, including the subsurface injection of sewage sludge by Anne Arundel County and the critical material stockpiling by DLA, would not be the responsibility of DOD under DERP-FUDS.

PROJECT ELIGIBILITY: During the period of former DOD usage, the site was used as a critical material storage depot. Based upon the nature of activities that were conducted at the site during former DOD and subsequent owner usage, and the soil and

NATIONAL DEFENSE STORAGE STOCKPILE DEPOT, CURTIS BAY
DERP-FUDS PRP/HTRW PROJECT NO. C03MD020102
CURTIS BAY, ANNE ARUNDEL COUNTY, MARYLAND
SITE NO. C03MD0201

groundwater contamination at the site, a PRP/HTRW investigation to determine potential DOD responsibility and subsequent owner responsibility for contamination at the site is eligible under DERP-FUDS.

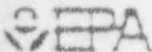
POLICY CONSIDERATIONS: There are no policy considerations under DERP-FUDS that prohibit the proposal of a PRP/HTRW investigation.

EPA FORM 2070-12: Attached.

PROPOSED ACTIVITIES: The INPR should be referred to CEMRD for determination of further action.

DISTRICT POC: H. Leland Reeser, CENAB-EN-HN (410) 962-2186.

National Defense Storage Stockpile Depot, Curtis Bay
 Project No. U03MD020102
 OSWER DIRECTIVE 9345.0-01



POTENTIAL HAZARDOUS WASTE SITE
 PRELIMINARY ASSESSMENT
 PART 1 - SITE INFORMATION AND ASSESSMENT

1. IDENTIFICATION

1.1 SITE IDENTIFICATION NUMBER

II. SITE NAME AND LOCATION

01 SITE NAME AND ADDRESS (or description) of site

02 STREET ROUTE NO. OR SPECIFIC LOCATION IDENTIFIER

National Defense Storage Stockpile Depot Ordinance Road (Route 710)

03 CITY

04 STATE | 05 ZIP CODE

06 COUNTY

07 COUNTRY OR CONG. DIST.

Curtis Bay

MD | 21226

Anne Arundel

08 COORDINATES LATITUDE

LONGITUDE

10 DIRECTIONS TO SITE (describe route to site)

From Baltimore City, take MD Route 295 south to Interstate 695 east to Glen Burnie. From I-695, take MD Route 10 south. Take MD Route 710 east (Ordinance Rd.). Make a right at the first access road after the Baymeadow Industrial Park.

III. RESPONSIBLE PARTIES

01 Owner of site

02 STREET Address, including zip code

See attached.

03 CITY

04 STATE | 05 ZIP CODE

06 TELEPHONE NUMBER

07 OPERATOR of process (include name and address)

08 STREET Address, including zip code

Same as above.

09 CITY

10 STATE | 11 ZIP CODE

12 TELEPHONE NUMBER

13 TYPE OF OPERATOR (check one)

- A. PRIVATE B. FEDERAL C. STATE D. COUNTY E. MUNICIPAL
 F. OTHER G. UNKNOWN

14 OPERATOR NOTIFICATION ON FILE (check all that apply)

- A. RCRA 3001 DATE RECEIVED: MONTH DAY YEAR B. UNCONTROLLED WASTE SITE (RCRA 4024) DATE RECEIVED: MONTH DAY YEAR C. NONE

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION

02 Check all that apply

- YES DATE 10-17-01 MONTH DAY YEAR A. EPA B. EPA CONTRACTOR C. STATE D. OTHER CONTRACTOR
 NO E. LOCAL HEALTH OFFICIAL F. OTHER

CONTRACTOR NAME(S): EA Engineering, Science, & Technology, Inc

03 SITE STATUS (check one)

04 YEARS OF OPERATION

- A. ACTIVE B. INACTIVE C. UNKNOWN 1998 | 1998 UNKNOWN

05 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN OR ALLEGED

In 1989, presence of heavy metals detected in soil and groundwater samples on the 84.88 acre Anne Arundel Co. property. A subsequent soil investigation in 1989 revealed the presence of low-level radioactive elements (thorium, lead-212, and others).

06 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION (check one) (1 - High environmental priority; 2 - Moderate environmental priority; 3 - Disposition of hazardous materials and activities)

- A. HIGH B. MEDIUM C. LOW D. NONE

VI. INFORMATION AVAILABLE FROM

01 CON (NO)

02 OF

03 TELEPHONE NUMBER

See attached.

04 PERSON RESPONSIBLE FOR ASSESSMENT

05 AGENCY

06 ORGANIZATION

07 TELEPHONE NUMBER

08 DATE

H. Leland Reaser

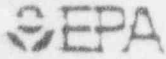
USACE

CENAB-EN- HN

(410) 962-2186

10-08-01

National Defense Storage Stockpile Depot, Curtis Bay
 Project No. C021D0201Q
 OSWER DIRECTIVE 8945.1-01



**POTENTIAL HAZARDOUS WASTE SITE
 PRELIMINARY ASSESSMENT
 PART 2 - WASTE INFORMATION**

IDENTIFICATION
 STATE SITE NUMBER

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

<p>01 PHYSICAL STATES (Check all that apply)</p> <ul style="list-style-type: none"> <input type="checkbox"/> SOLID <input type="checkbox"/> POWDER/FINES <input type="checkbox"/> LIQUID <input type="checkbox"/> OTHER 	<p>02 WASTE QUANTITY AT SITE <small>(Indicate if mixed material)</small></p> <p>TONS _____</p> <p>CUBIC YARDS _____</p> <p>NO. OF DRUMS _____</p>	<p>03 WASTE CHARACTERISTICS (Check all that apply)</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> TOXIC</td> <td><input type="checkbox"/> SOLUBLE</td> <td><input type="checkbox"/> HIGHLY VOLATILE</td> </tr> <tr> <td><input type="checkbox"/> CORROSIVE</td> <td><input type="checkbox"/> INFECTIOUS</td> <td><input type="checkbox"/> EXPLOSIVE</td> </tr> <tr> <td><input type="checkbox"/> RADIOACTIVE</td> <td><input type="checkbox"/> FLAMMABLE</td> <td><input type="checkbox"/> REACTIVE</td> </tr> <tr> <td><input type="checkbox"/> PERSISTENT</td> <td><input type="checkbox"/> UNSTABLE</td> <td><input type="checkbox"/> INCOMPATIBLE</td> </tr> <tr> <td></td> <td></td> <td><input type="checkbox"/> NOT APPLICABLE</td> </tr> </table>	<input type="checkbox"/> TOXIC	<input type="checkbox"/> SOLUBLE	<input type="checkbox"/> HIGHLY VOLATILE	<input type="checkbox"/> CORROSIVE	<input type="checkbox"/> INFECTIOUS	<input type="checkbox"/> EXPLOSIVE	<input type="checkbox"/> RADIOACTIVE	<input type="checkbox"/> FLAMMABLE	<input type="checkbox"/> REACTIVE	<input type="checkbox"/> PERSISTENT	<input type="checkbox"/> UNSTABLE	<input type="checkbox"/> INCOMPATIBLE			<input type="checkbox"/> NOT APPLICABLE
<input type="checkbox"/> TOXIC	<input type="checkbox"/> SOLUBLE	<input type="checkbox"/> HIGHLY VOLATILE															
<input type="checkbox"/> CORROSIVE	<input type="checkbox"/> INFECTIOUS	<input type="checkbox"/> EXPLOSIVE															
<input type="checkbox"/> RADIOACTIVE	<input type="checkbox"/> FLAMMABLE	<input type="checkbox"/> REACTIVE															
<input type="checkbox"/> PERSISTENT	<input type="checkbox"/> UNSTABLE	<input type="checkbox"/> INCOMPATIBLE															
		<input type="checkbox"/> NOT APPLICABLE															

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	GROSS AMOUNT	UNIT OF MEASURE	COMMENTS	PROPERTY
SLW	SLUDGE	UNKNOWN		In 1981, 1982 disposal on 24.66 acre	
OLW	SLY WASTE				
SOL	SOLVENTS				
PFO	PESTICIDES				
COO	OTHER ORGANIC CHEMICALS				
COI	ORGANIC CHEMICALS				
ICD	INORGANIC CHEMICALS				
SAS	SOLIDS				
HEM	HEAVY METALS				

IV. HAZARDOUS SUBSTANCES

CATEGORY	SUBSTANCE NAME	CAS NUMBER	STORAGE/DISPOSAL METHOD	CONCENTRATION	MEASURE OF CONCENTRATION

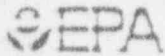
V. FEEDSTOCKS

CATEGORY	FEEDSTOCK NAME	CAS NUMBER	CATEGORY	FEEDSTOCK NAME	CAS NUMBER
FOS			FOS		
FOS			FOS		
FOS			FOS		
FOS			FOS		

VI. SOURCES OF INFORMATION

Kenneth L. McCall, Sludge Disposal Superintendent, Anne Arundel County Department of Utilities, (301) 222-7526.

National Defense Storage Stockpile Depot Curtis Bay
 Project No. C02MD020102
 DSWR DIRECTIVE 9345.0-01



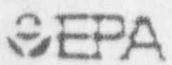
POTENTIAL HAZARDOUS WASTE SITE
 PRELIMINARY ASSESSMENT

IDENTIFICATION
 STATE/DCR SITE NUMBER

PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

HAZARDOUS CONDITIONS AND INCIDENTS

01 <input checked="" type="checkbox"/> GROUNDWATER CONTAMINATION	02 <input checked="" type="checkbox"/> OBSERVED DATE 1/27/80	POTENTIAL	<input type="checkbox"/> ALLEGED
03 POPULATION POTENTIALLY AFFECTED _____	04 NARRATIVE DESCRIPTION	Heavy metals contamination (arsenic, chromium and lead) noted in groundwater sampling and analyses on 84.66 acre Anne Arundel County property.	
01 <input type="checkbox"/> SURFACE WATER CONTAMINATION	02 <input type="checkbox"/> OBSERVED DATE _____	<input type="checkbox"/> POTENTIAL	<input type="checkbox"/> ALLEGED
03 POPULATION POTENTIALLY AFFECTED _____	04 NARRATIVE DESCRIPTION	None noted.	
01 <input type="checkbox"/> CONTAMINATION OF AIR	02 <input type="checkbox"/> OBSERVED DATE _____	<input type="checkbox"/> POTENTIAL	<input type="checkbox"/> ALLEGED
03 POPULATION POTENTIALLY AFFECTED _____	04 NARRATIVE DESCRIPTION	None noted.	
01 <input type="checkbox"/> FIRE/EXPLOSIVE CONDITIONS	02 <input type="checkbox"/> OBSERVED DATE _____	<input type="checkbox"/> POTENTIAL	<input type="checkbox"/> ALLEGED
03 POPULATION POTENTIALLY AFFECTED _____	04 NARRATIVE DESCRIPTION	None noted.	
01 <input type="checkbox"/> DIRECT CONTACT	02 <input type="checkbox"/> OBSERVED DATE _____	<input type="checkbox"/> POTENTIAL	<input type="checkbox"/> ALLEGED
03 POPULATION POTENTIALLY AFFECTED _____	04 NARRATIVE DESCRIPTION	None noted.	
01 <input type="checkbox"/> CONTAMINATION OF SOIL	02 <input checked="" type="checkbox"/> OBSERVED DATE 2/22/80	<input type="checkbox"/> POTENTIAL	<input type="checkbox"/> ALLEGED
03 AREA POTENTIALLY AFFECTED _____	04 NARRATIVE DESCRIPTION	Heavy metals contamination (As, Cu, Pb, Mg and Zn) detected in soil sampling on 84.66 acre Anne Arundel County property. Another report (May 1989) noted that five radioactive elements (total thorium, lead-212, radium-226, actinium-228, and thallium-208) were present in soil sample on same property.	
01 <input type="checkbox"/> DRINKING WATER CONTAMINATION	02 <input type="checkbox"/> OBSERVED DATE _____	<input type="checkbox"/> POTENTIAL	<input type="checkbox"/> ALLEGED
03 POPULATION POTENTIALLY AFFECTED _____	04 NARRATIVE DESCRIPTION	None noted.	
01 <input type="checkbox"/> WORKER EXPOSURE/INJURY	02 <input type="checkbox"/> OBSERVED DATE _____	<input type="checkbox"/> POTENTIAL	<input type="checkbox"/> ALLEGED
03 WORKERS POTENTIALLY AFFECTED _____	04 NARRATIVE DESCRIPTION	None noted.	
01 <input type="checkbox"/> POPULATION EXPOSURE/INJURY	02 <input type="checkbox"/> OBSERVED DATE _____	<input type="checkbox"/> POTENTIAL	<input type="checkbox"/> ALLEGED
03 POPULATION POTENTIALLY AFFECTED _____	04 NARRATIVE DESCRIPTION	None noted.	



POTENTIAL HAZARDOUS WASTE SITE
 PRELIMINARY ASSESSMENT

IDENTIFICATION
 01 STATE | 02 SITE NUMBER

PART 2 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 J. DAMAGE TO FLORA
 04 NARRATIVE DESCRIPTION _____
 02 OBSERVED DATE _____
 POTENTIAL ALLEGED

None noted.

01 K. DAMAGE TO FAUNA
 04 NARRATIVE DESCRIPTION _____
 02 OBSERVED DATE _____
 POTENTIAL ALLEGED

None noted.

01 L. CONTAMINATION OF FOOD CHAIN
 04 NARRATIVE DESCRIPTION _____
 02 OBSERVED DATE _____
 POTENTIAL ALLEGED

None Noted.

01 M. UNSTABLE CONTAINMENT OF WASTES
 02 POPULATION POTENTIALLY AFFECTED: _____
 04 NARRATIVE DESCRIPTION _____
 02 OBSERVED DATE _____
 POTENTIAL ALLEGED

None noted.

01 N. DAMAGE TO OFFSITE PROPERTY
 04 NARRATIVE DESCRIPTION _____
 02 OBSERVED DATE _____
 POTENTIAL ALLEGED

None noted.

01 O. CONTAMINATION OF SEWERS, STORM DRAINS, WHYPH
 04 NARRATIVE DESCRIPTION _____
 02 OBSERVED DATE _____
 POTENTIAL ALLEGED

None noted.

01 P. ILLEGAL/UNAUTHORIZED DUMPING
 04 NARRATIVE DESCRIPTION _____
 02 OBSERVED DATE _____
 POTENTIAL ALLEGED

None noted.

03 DESCRIPTION OF ANY OTHER KNOWN POTENTIAL OR ALLEGED HAZARDS

III. TOTAL POPULATION POTENTIALLY AFFECTED: _____

IV. COMMENTS

V. SOURCES OF INFORMATION

- "Site Contamination Assessment, U.S. Army Curtis Bay Ordnance Depot, Anne Arundel County, Maryland," prepared by Woodward-Clyde Consultants, 22 Feb. '89
- "Preliminary Findings, Phase I Site Assessment, Bay Meadows II," prepared by Tetra Tech Consultants, May '88

PROJECT SUMMARY SHEET
FOR

DERP-FUDS POTENTIAL OEW PROJECT NO. C03MD020103
NATIONAL DEFENSE STORAGE STOCKPILE DEPOT, CURTIS BAY
CURTIS BAY, ANNE ARUNDEL COUNTY, MARYLAND
SITE NO. C03MD0201
24 JUNE 1992

PROJECT DESCRIPTION: Between 1918 and 1958, the main mission of the depot involved the storage and maintenance of ammunition. Available information indicates that stored ammunition included, but was not necessarily limited to, 75 mm and 155 mm munitions. Ordnance was stored in numerous one-story, above-ground, storage magazines. Maintenance activities included materials transfer activities, bonderizing and general renovations. Bonderizing activities were performed at a bonderizing plant beginning in 1932. The bonderizing operation involved the transfer of propellant from fibre to metal containers. A renovation plant was also installed at the site by the Department of Defense (DOD) in 1932 for the repriming of ammunition. Mr. William Fritz, Facility Manager, Defense National Stockpile Center, indicated that the munitions maintenance buildings were probably located along Curtis Creek at the eastern portion of the site. Buildings 1001 and 1003 are described in archival records as "Popping Plants" for the disarming of munitions. These two buildings are currently used by the U.S. Army as maintenance shops. According to Mr. Fritz, Buildings 1021 and 1022 were probably also used for maintenance activities due to the presence of conveyor belts in the buildings. Buildings 1021 and 1022 are currently used for storage. Available information indicates that ammunition maintenance activities were limited to the portion of the site currently owned by the General Services Administration (GSA). All of the GSA property, with the exception of the BCCC facility, is occupied by active DOD facilities and is ineligible under DERP-FUDS. Available information does not indicate the specific locations of ordnance storage activities. However, two portions of the site that may have been used for ordnance storage activities are the 84.66-acre Anne Arundel County property and the 220.39-acre Baymeadow Industrial Park.

PROJECT ELIGIBILITY: During the period of former DOD usage, the site was used as a receiving, shipping, storage and maintenance depot for munitions. The potential presence of ordnance related materials may constitute a potential safety hazard at the site.

POLICY CONSIDERATIONS: There are no policy considerations under DERP-FUDS that prohibit the proposal of a potential OEW investigation.

PROPOSED ACTIVITIES: The INPR should be referred to CEHND for determination of further action.

NATIONAL DEFENSE STORAGE STOCKPILE DEPOT, CURTIS BAY
DERP-FUDS POTENTIAL OEW PROJECT NO. C03MD020103
CURTIS BAY, ANNE ARUNDEL COUNTY, MARYLAND
SITE NO. C03MD0201

RAC: Attached.

DISTRICT POC: H. Leland Reeser, CENAB-EN-HN, (410) 962-2186.

APPENDIX A
RISK ASSESSMENT PROCEDURES FOR
EXPLOSIVE ORDNANCE (OEW)

National Defense Storage

Site Name Stockpile Depot, Curtis Bay Rater's Name V. Hill
 Site Location Curtis Bay, MD Organization EA Engineering, Science, & Technology
 DERP Project # CU3MDO20103 RAC 2

EOD RISK ASSESSMENT:

This risk assessment procedure was developed in accordance with MIL-STD 882B and AR 385-10.

The EOD risk assessment is based upon documented evidence consisting of records searches, reports of Explosive Ordnance Disposal (EOD) detachment actions, and field observations, interviews, and measurements. These data are used to assess the risk involved based upon the hazards identified at the site. The risk assessment is composed of two factors, hazard severity and hazard probability.

Any field activities should be made with the assistance of qualified EOD personnel.

Part I. Hazard Severity. Hazard severity categories are defined to provide a qualitative measure of the worst credible mishap resulting from personnel exposure to various types and quantities of unexploded ordnance items.

TYPE OF ORDNANCE

A. Conventional Ordnance and Ammunition

	<u>YES</u> <u>VALUE</u>	<u>NO</u> <u>VALUE</u>	<u>VALUE</u>
Small Arms (.32 cal - .50 cal)	2	0	<u>2</u>
Medium/Large Caliber (20 mm and larger)	10	0	<u>10</u>
Bombs, Explosive	10	0	<u>0</u>
Bombs, Practice (w/spotting charges)	6	0	<u>0</u>
Grenades, Hand and Rifle, Explosive	10	0	<u>0</u>
Grenades, Practice (w/spotting charges)	6	0	<u>0</u>

NATIONAL DEFENSE STORAGE STOCKPILE DEPOT, CURTIS BAY
 CURTIS BAY, ANNE ARUNDEL COUNTY, MARYLAND
 POTENTIAL OEW PROJECT NO. C03MDO20103

	<u>YES</u> VALUE	<u>NO</u> VALUE	VALUE
Landmines, Explosive	10	0	<u>0</u>
Landmines, Practice (w/spotting charges)	6	0	<u>0</u>
Rockets, Guided Missiles, Explosive	10	0	<u>0</u>
Detonators, Blasting Caps	10	0	<u>0</u>
Demolition Charges	10	0	<u>0</u>
Conventional Ordnance and Ammunition Value (Maximum of 10).			<u>10</u>

B. Pyrotechnics

	<u>YES</u> VALUE	<u>NO</u> VALUE	VALUE
Any Munition Containing White Phosphorus or other Pyrophoric Material (i.e., Spontaneously Flammable)	10	0	<u>0</u>
Any Munition Containing a Flame or Incendiary Material (i.e., Napalm, Triethylaluminum Metal Incendiaries)	6	0	<u>0</u>
Military Flares	4	0	<u>0</u>
Pyrotechnics Value (Maximum of 10).			<u>0</u>

C. Bulk High Explosives (Bulk explosives not an integral part of conventional ordnance).

	<u>YES</u> VALUE	<u>NO</u> VALUE	VALUE
Primary or Initiating Explosives (Lead Styphnate, Lead Azide, Nitroglycerin, Mercury Azide, Mercury Fulminate, etc.)	10	0	<u>0</u>
Booster, Bursting or Fuse Explosives (PETN, Compositions A, B, C, Tetryl, TNT, RDX, EMX, HBI, Black Powder, etc.)	10	0	<u>0</u>

NATIONAL DEFENSE STORAGE STOCKPILE DEPOT. CURTIS BAY

CURTIS BAY, ANNE ARUNDEL COUNTY, MARYLAND

POTENTIAL OEW PROJECT NO. C03MDO20103

	<u>YES</u> VALUE	<u>NO</u> VALUE	VALUE
Military Dynamite	10	0	<u>0</u>
Less Sensitive Explosives (Ammonium Nitrate, Favier Explosives, etc.)	3	0	<u>0</u>
High Explosives Value (Maximum value of 10).			<u>0</u>

D. Propellants

	<u>YES</u> VALUE	<u>NO</u> VALUE	VALUE
Solid or Liquid Propellants	6	0	<u>6</u> <u>6</u>

E. Chemical Agents/Radiological Materials/Munitions

	<u>YES</u> VALUE	<u>NO</u> VALUE	VALUE
Radiological	25	0	<u>0</u>
Toxic Chemical Agents (Choking, Nerve, Blood, Blister)	25	0	<u>0</u>
Incapacitating Agent (BT)	10	0	<u>0</u>
Riot Control and Miscellaneous (Vomiting, Tear, Chlorine, Mustard Simulant)	5	0	<u>0</u>
Any Munition Containing Smoke, Illumination, Signal Charge	4	0	<u>0</u>

Chemical Agents/Radiological Materials/Munitions Value (Maximum 25).
0

Total Ordnance and Explosive Waste Characteristics Value (Total =
A + B + C + D + E with a Maximum value of 61).
16

NATIONAL DEFENSE STORAGE STOCKPILE DEPOT, CURTIS BAY
CURTIS BAY, ANNE ARUNDEL COUNTY, MARYLAND
POTENTIAL OEW PROJECT NO. CO3MD020103

TABLE 1

HAZARD SEVERITY

Description	Category	Value
CATASTROPHIC	I	≥ 21
CRITICAL	II	$\geq 13 < 21$
MARGINAL	III	$\geq 5 < 13$
NEGLIGIBLE	IV	< 5

* Apply Hazard Severity to Table 3.

NATIONAL DEFENSE STORAGE STOCKPILE DEPOT, CURTIS BAY
 CURTIS BAY, ANNE ARUNDEL COUNTY, MARYLAND.
 POTENTIAL OEW PROJECT NO. C03MDO20103

Part II. Hazard Probability. The probability that a hazard has been or will be created due to the presence and other rated factors of explosive ordnance (EXO) on a formerly used DOD site.

AREA, EXTENT, ACCESSIBILITY OF CONTAMINATION

A. Locations of Contamination

	<u>YES</u> VALUE	<u>NO</u> VALUE	VALUE
Within Tanks, Pipes, Vessels or Other confined locations.	5	0	<u>0</u>
On the surface or within 3 feet.	5	0	<u>5</u>
Inside walls, ceilings, or other parts of Buildings or Structures.	4	0	<u>0</u>
Subsurface, greater than 3 feet in depth.	3	0	<u>0</u>
Value for location of EXO (Maximum Value of 5).			<u>5</u>

B. Distance to nearest inhabited locations or structures likely to be at risk from EXO site (roads, parks, playgrounds, and buildings).

<u>Distance to Nearest Target</u>	VALUE
Less than 1250 feet	5
1250 feet to 0.5 miles	4
0.5 miles to 1.0 mile	3
1.0 mile to 2.0 miles	2
2.0 miles to 5.0 miles	1
Over 5.0 miles	0
Distance to Persons Value (Maximum Value of 5).	<u>5</u>

NATIONAL DEFENSE STORAGE STOCKPILE DEPOT, CURTIS BAY
 CURTIS BAY, ANNE ARUNDEL COUNTY, MARYLAND
 POTENTIAL OEW PROJECT NO. C03MD020103

C. Numbers and types of Buildings within a 2 mile radius measured from the hazardous area, not the installation boundary.

Number of Buildings	VALUE
0	0
1 to 10	1
11 to 50	2
51 to 100	3
101 to 250	4
251 or Over	5
Number of Buildings Value (Maximum Value of 5).	<u>2</u>

D. Types of Buildings

	VALUE
Educational, Child Care, etc.	5
Residential, Hospitals, Hotels, etc.	5
Commercial, Shopping Centers, etc.	5
Industrial Warehouse, etc.	4
Agricultural, Forestry, etc.	3
Detention, Correctional	2
Military	1
No Buildings	0
Types of Buildings Value (Maximum Value of 5).	<u>5</u>

E. Accessibility to site refers to the measures taken to limit access by humans or animals to ordnance and explosive wastes. Use the following guidance:

Barrier	Assigned Value
A 24-hour surveillance system (e.g., television monitoring or surveillance by guards or facility personnel) which continuously monitors and controls entry onto the facility;	0

or Barrier	Assigned Value
An artificial or natural barrier (e.g., a fence combined with a cliff), which completely surrounds the facility; and a means to control entry, at all times, through the gates or other entrances to the facility (e.g., an attendant, television monitors, locked entrances, or controlled roadway access to the facility).	0
Security guard, but no barrier	1
A barrier, (any kind of fence) but no separate means to control entry	2
Barriers do not completely surround the facility	3
No barrier or security system	5
Accessibility Value (Maximum Value of 5).	<u>3</u>

F. Site Dynamics - This deals with site conditions that are subject to change in the future, but may be stable at the present. Examples would be excessive soil erosion by beaches or streams, increasing land development that could reduce distances from the site to inhabited areas or otherwise increase accessibility.

	VALUE
None Anticipated	0
Expected	5
(Maximum Value of 5)	<u>5</u>

Total value for hazard probability. = . . .
 Sum of Values A through F. 25
 (Not to exceed 30). Apply this value
 to Hazard Probability Table 2 to determine
 Hazard Level.

NATIONAL DEFENSE STORAGE STOCKPILE DEPOT, CURTIS BAY

CURTIS BAY, ANNE ARUNDEL COUNTY, MARYLAND,
 POTENTIAL OEW PROJECT NO. C03MD020103

TABLE 2

HAZARD PROBABILITY

Description	Level	Value
FREQUENT	A	≥27
PROBABLE	B	≥21 <27
OCCASIONAL	C	≥15 <21
REMOTE	D	≥ 8 <15
IMPROBABLE	E	<8

* Apply Hazard Probability to Table 3.

Part III. Risk Assessment. The risk assessment value for this site is determined using the following Table 3. Enter with the results of the hazard probability and hazard severity values.

TABLES 1 AND 2

HAZARD SEVERITY - II
 (from Table 1)

HAZARD PROBABILITY - B
 (from Table 2)

NATIONAL DEFENSE STORAGE STOCKPILE DEPOT, CURTIS BAY
 CURTIS BAY, ANNE ARUNDEL COUNTY, MARYLAND
 POTENTIAL OEW PROJECT NO. C03MD020108

TABLE 3

Probability Level		FREQUENT A	PROBABLE B	OCCASIONAL C	REMOTE D	IMPROBABLE E
Severity Category:						
CATASTROPHIC	I	1	1	2	3	4
CRITICAL	II	1	2	3	4	5
MARGINAL	III	2	3	4	4	5
NEGLECTIBLE	IV	3	4	4	5	5

Note: The risk assessment code for EXO is not equivalent to the risk assessment code prescribed in AR 385-10.

RISK ASSESSMENT CODE (RAC)

- RAC 1 Imminent Hazard - Emergency action required to mitigate the hazard or protect personnel (i.e., fencing, physical barrier, guards, etc.).
- RAC 2 Action required to mitigate hazard or protect personnel. Feasibility study is appropriate.
- RAC 3 Action required to evaluate potential threat to personnel. High priority Site Inspection is appropriate.
- RAC 4 Action required to evaluate potential threat to personnel. Site Inspection is appropriate.
- RAC 5 No action required.

Justification. In narrative form, summarize the documented evidence that supports this risk assessment.

The site was used by the Department of Defense to store and maintain munitions, including 75 and 155mm caliber munitions, and propellants. The site can be accessed from a nearby road and is located in a commercial area. Future development of the site is expected.