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ENVIRONMENTAL CONTAMINATION

Corps Needs to Reassess Its Determinations That Many Former Defense Sites Do Not Need Cleanup

G A O

Accountability ⋆ Integrity ⋆ Reliability

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Abbreviations

BD/DR	building demolition and debris removal
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CON/HTRW	containerized hazardous, toxic, and radioactive waste
DCI	data collection instrument
DOD	Department of Defense
EPA	Environmental Protection Agency
FUDS	formerly used defense sites
GAO	General Accounting Office
HTRW	hazardous, toxic, and radioactive waste
NDAI	no DOD action indicated
OEW	ordnance and explosive waste
SARA	Superfund Amendments and Reauthorization Act of 1986

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Accountability * Integrity * Reliability

United States General Accounting Office
Washington, D.C. 20548

August 23, 2002

The Honorable John D. Dingell
Ranking Minority Member
Committee on Energy and Commerce
House of Representatives

The Honorable Tom Sawyer
House of Representatives

The Department of Defense (DOD) estimates that cleaning up contamination and hazards at thousands of properties that it formerly owned or controlled will take more than 70 years and cost from $15 billion to $20 billion. These formerly used defense sites (FUDS), now owned by states, local governments, and individuals, are used for parks, farms, schools, and homes. Many of these properties, which can range in size from less than an acre to many thousands of acres, were acquired or used by DOD more than 30 to 40 years ago and in some cases more than 100 years ago. Hazards at these properties can include unsafe buildings; hazardous, toxic, and radioactive wastes; containerized hazardous wastes; and ordnance and explosive wastes. The U.S. Army Corps of Engineers (Corps) is responsible for identifying, investigating, and cleaning up such hazards if DOD caused them.

Since 1984, the Corps has determined that more than 4,000 of the 9,181 properties potentially eligible for its FUDS cleanup program do not have hazards that require further Corps study or cleanup action. The Corps made these determinations following a preliminary assessment of eligibility in which the Corps first established whether the properties were ever under DOD control and thus eligible for the FUDS program. If a property met this criterion, the Corps then determined if any hazards caused by DOD might be present. To make this determination, Corps guidance calls for (1) obtaining available information on the present and prior uses of the site from records, owners, and federal, state, and local agencies; (2) requesting from the current owner both information on any hazards caused by DOD that might be present and permission to physically inspect

the property; and (3) visiting the site to examine it for obvious signs of hazards. If the Corps does not find evidence that hazards caused by DOD might be present, the Corps designates the properties as "No DOD action indicated, Category I" (NDAI).[1] Corps guidance also calls for the owner to be notified of the NDAI determination. The Corps will reconsider an NDAI determination, and, if necessary, take appropriate action if evidence of DOD-caused hazards is found later. However, the Corps does not generally initiate further review, but relies on owners and federal and state regulatory agencies for new information about potential hazards caused by DOD.

Depending on the types of hazards, the Environmental Protection Agency (EPA) or state environmental regulatory agencies may be responsible for ensuring that the Corps meets applicable cleanup requirements and standards. EPA and some states have questioned the adequacy of the Corps' process for assessing the presence of potential hazards and the validity of some of its determinations that no DOD action is indicated. In this context, you asked us to determine the extent to which the Corps (1) has a sound basis for its NDAI determinations and (2) has communicated its NDAI determinations to owners and to the regulatory agencies that may have responsibility and notified the owners that it will reconsider an NDAI determination if evidence of DOD-caused hazards is found later.

To determine if the Corps has a sound basis for its NDAI determinations, we reviewed a statistical sample of 635 of 4,023 NDAI files at nine Corps districts selected from 21 of the 22 Corps districts that execute the FUDS program.[2] These 21 districts accounted for 99.8 percent of the NDAIs at the time of our review. We excluded 32 of the 635 properties from our analysis because the files contained evidence that the property either was not eligible for the FUDS program or that a cleanup project was proposed. Based on our sample, we estimate that 3,840 of the 4,023 determinations in our study population met the definition of an NDAI—the property was

[1]The Corps previously used the term "no further action" (NOFA) to characterize this determination. Beginning in fiscal year 2001, the Corps changed the "no further action" designation to "no DOD action indicated" (NDAI).

[2]The Corps uses its database of FUDS properties on a daily basis to plan, schedule, and monitor the FUDS program, so there are constant changes and updates. In June 2001, when we selected our random sample, there were 4,030 NDAIs in the 22 districts. We did not include the Huntington district in our review because it had only seven NDAIs and was not considered a practical choice to examine if selected.

eligible for the FUDS program and the Corps determined that no further study or cleanup action was needed. We reviewed each file to determine if it contained evidence that the Corps (1) had reviewed or obtained information on the prior uses of the site that would allow it to identify the types of hazards potentially resulting from DOD's use and (2) had taken sufficient steps to assess the presence of potential hazards. We did not question the soundness of an NDAI determination based on the absence of a single piece of information, such as a site map or a record of contact with an owner. Rather, we based our assessment of the Corps' efforts on the totality of the evidence in the file. Our questioning of an NDAI determination does not mean that the property is contaminated; rather, it indicates that the Corps' file did not contain evidence that the Corps took steps to identify and assess potential hazards at the property that would support the NDAI determination. To determine whether the Corps communicated its NDAI determinations to owners and the regulatory agencies and notified owners of its willingness to reconsider an NDAI decision, we examined the NDAI files for evidence that the Corps had done so. The results of our analysis can be projected to the NDAI population in the 21 districts. The percentages and numbers of questionable NDAIs and those related to the universe of NDAIs presented in this report are statistical estimates based on our analysis of 603 NDAI files. We express the precision of the results of our analysis (that is, the sampling errors associated with these estimates) as 95 percent confidence intervals.[3] All percentage estimates have sampling errors of plus or minus 10 percentage points or less, unless otherwise stated. All other numeric estimates have sampling errors of plus or minus 10 percent of the value of those estimates or less, unless otherwise stated.

[3]Each of these intervals contains the actual (unknown) population value for 95 percent of the samples we could have drawn. As a result, we are 95 percent confident that each of the confidence intervals in the report will include the true value in the study population.

Results in Brief

Our analysis of Corps files indicates that the Corps does not have a sound basis for determining that about 38 percent, or 1,468, of 3,840 formerly used defense sites do not need further study or cleanup action.[4] The Corps' determinations are questionable because there is no evidence that the Corps reviewed or obtained information that would allow it to identify all the potential hazards at these properties or that it took sufficient steps to assess the presence of potential hazards. For example, we estimate that for about 74 percent of all NDAI properties, the files do not indicate that the Corps reviewed or obtained information such as site maps or photos that would show facilities, such as ammunition storage facilities, that could indicate the presence of hazards (e.g., unexploded ordnance). We also estimate that the files for about 60 percent of all NDAI properties do not indicate that the Corps contacted all the current owners to obtain information about potential hazards.[5] In addition, the Corps appeared to have overlooked or dismissed information in its possession that indicated hazards might be present. For example, at a nearly 1,900-acre site previously used as an airfield by both the Army and the Navy, the file included a map showing bomb and fuse storage units on the site that would suggest the possible presence of ordnance-related hazards. However, despite the map, we found no evidence that the Corps searched for such hazards. In other cases, the files contained no evidence that the Corps took sufficient steps to assess the presence of potential hazards. For example, although Corps guidance calls for a site visit to look for signs of potential hazards, we estimate that the files do not show that Corps conducted the required site visits for 686,[6] or about 18 percent, of all NDAI properties. The problems with the Corps' assessments occurred, in part, because Corps guidance does not specify (1) what documents or level of detail the Corps should obtain when looking for information on the prior uses of and the facilities located at FUDS properties to identify potential hazards or (2) how to assess the presence of potential hazards. For example, some

[4]The lower and upper bounds of the 95 percent confidence interval are 1,201 and 1,750, respectively. We adjusted the number of NDAIs in our study population to reflect the small portion of properties in our sample that we excluded from our analysis because the files contained evidence that the property either was not eligible for the FUDS program or that a cleanup project was proposed.

[5]The lower and upper bounds of the 95 percent confidence interval are 44 percent and 75 percent, respectively.

[6]The lower and upper bounds of the 95 percent confidence interval are 456 and 974, respectively.

Corps district staff stated that there was no guidance showing the types of hazards normally found at certain types of facilities. Since many properties may have not been properly assessed, the Corps does not know the number of additional properties that may require cleanup, the hazards that are present at those properties, the risk associated with these hazards, the length of time needed for cleanup, or the cost to clean up the properties.

Our analysis also indicates that the Corps frequently did not notify owners of its determinations that the properties did not need further action, as called for in its guidance, or instruct the owners to contact the Corps if evidence of DOD-caused hazards was found later. Based on our review of Corps files, we estimate that the Corps did not notify all the current owners of its determinations for about 72 percent of the properties that the Corps determined do not need further study or cleanup action. Even when the Corps notified the owners of its determinations, we estimate that at about 91 percent of these properties it did not instruct the owners to contact the Corps if evidence of potential hazards was found later.[7] In some cases, several years elapsed before the Corps notified owners of its determinations. This lack of communication with the owners hinders the Corps' ability to reconsider, when appropriate, its determinations that no further study or cleanup action is necessary. The Corps also did not notify EPA or state environmental agencies of its determinations or of potential hazards it identified that were not the result of DOD use, even though these agencies may have regulatory responsibilities to ensure that cleanup occurs. Although there is no specific requirement for the Corps to notify regulatory agencies of non-DOD contamination, its failure to do so results in missed opportunities to assist the agencies' efforts to carry out their statutory responsibilities to protect human health and the environment.

We are including recommendations in this report that address the need for the Corps to (1) develop more specific guidelines and procedures for identifying and assessing potential hazards at FUDS and (2) use the revised guidelines and procedures to review its NDAI files and determine which properties should be reassessed. We are also recommending that the Corps consistently implement procedures to ensure that owners and regulatory agencies are notified of NDAI determinations and its policy of

[7]The lower and upper bounds of the 95 percent confidence interval are 70 percent and 99 percent, respectively.

reconsidering its determinations if evidence of DOD-caused hazards is found later.

In commenting on a draft of this report, DOD stated that it did not agree that the Corps did not (1) consistently obtain information necessary to identify potential hazards at FUDS or (2) take sufficient steps to assess the presence of potential hazards. Although DOD included a number of statements that described the Corps' procedures and process for evaluating FUDS in its comments, it did not provide any evidence to support its position. Further, DOD partially agreed with our recommendations and indicated that efforts are underway to evaluate current Corps guidance and determine if revisions or additional guidance are needed. DOD also indicated that it has plans to reevaluate two to five NDAIs per year at each state's request. In addition, DOD provided a number of technical comments and clarifications, which we incorporated as appropriate.

Background

Under the Defense Environmental Restoration Program, DOD is authorized to identify, investigate, and clean up environmental contamination and other hazards at FUDS. The environmental restoration program was established by section 211 of the Superfund Amendments and Reauthorization Act of 1986 (SARA), which amended the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA).[8] Under the environmental restoration program, DOD's activities addressing hazardous substances, pollutants, or contaminants are required to be carried out consistent with section 120 of CERCLA.

[8]In the early 1980s, congressional concern about abandoned military buildings and debris in Alaska and releases of hazardous substances from federal facilities laid the foundation for the DOD environmental restoration program. The Defense Appropriations Act of 1984 (P.L. 98-212) provided 1 year of funding for the cleanup of hazardous substances released from DOD properties and the removal of unsafe or unsightly DOD buildings and debris. Annual appropriations for these activities have continued, but since 1986 they have been funded under the Defense Environmental Restoration Accounts established by Congress as part of DOD's environmental restoration program.

DOD delegated its authority for administering the FUDS program to the U.S. Army; in turn, the U.S. Army delegated execution of the program to the Corps. To be eligible for cleanup under the FUDS program, a property must have been owned by, leased to, possessed by, or otherwise controlled by DOD during the activities that caused hazards. These hazards consist of

- unsafe buildings, structures, or debris,[9] such as leaning or weakened load-bearing walls or supports; open-sided platforms or floors more than 6 feet above the next lower level; and any pit, depression, or tank that can collect or contain standing water, such as underground missile silos, septic tanks, and sewers;

- hazardous, toxic, and radioactive waste, which includes contaminants such as arsenic, certain paints, some solvents, petroleum and some related products, and toxic pollutants from landfills;

- containerized hazardous, toxic, and radioactive waste, such as transformers and underground and aboveground storage tanks that contain petroleum, solvents, or other chemicals; and

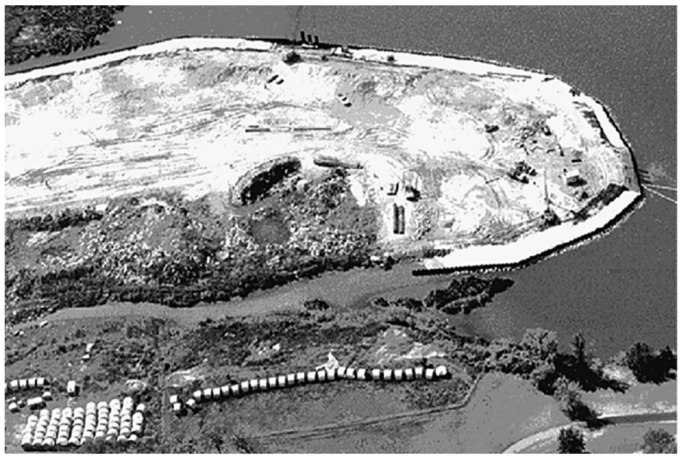
- ordnance and explosive waste such as military munitions and chemical warfare agents.

Figure 1 shows examples of the types of hazards that might be found at FUDS properties.

[9]According to the Corps, this type of hazard is a DOD responsibility only on property that is currently owned by state or local governments or native corporations.

Figure 1: Examples of Hazards That Might Be Present at FUDS Properties

Unsafe buildings, structures, or debris



Hazardous, toxic, and radioactive waste (landfill)

Containerized hazardous, toxic, and radioactive waste (underground storage tank)

Ordnance and explosive waste (60mm mortar round)

Source: U.S. Department of Defense and www.uxoinfo.com.

According to DOD's fiscal year 2001 report on the status of its various environmental cleanup programs, there were 9,181 properties identified by the Corps, the states, or other parties as potentially eligible for cleanup under the FUDS program.[10] To determine if an identified property is eligible for the FUDS program, the Corps conducts a preliminary assessment of eligibility to establish whether the property was ever owned or controlled by DOD and if hazards from DOD's use are potentially present. Corps officials point out that the preliminary assessment of eligibility is not intended to be a comprehensive evaluation of the FUDS property; instead, it is a screening effort intended to determine if potential hazards caused by DOD exist and, if so, whether additional study or cleanup actions are required to address such hazards. Corps guidance generally calls for staff to use the following procedures when conducting a preliminary assessment of eligibility:

- obtain available information on the present and prior uses of the site from real estate and archival records; present and former owners; and other federal, state, and local agencies;
- identify any relevant conditions, such as a release of liability or a requirement to restore the property, in real estate deeds that would affect the federal government's liability;
- contact the current owner to obtain permission for an initial survey of the property to determine if DOD-caused hazards are potentially present; and
- visit the property to examine it for obvious signs of hazards and identify any areas that may require further study or testing.

[10]See U.S. General Accounting Office, *Environmental Contamination: Cleanup Actions at Formerly Used Defense Sites*, GAO-01-557 (Washington, D.C.: July 31, 2001) for information on the number and location of FUDS properties that are eligible for cleanup, the types of hazards identified, and status of cleanup projects. The report is available, at no charge, on the GAO Web site at http://www.gao.gov/.

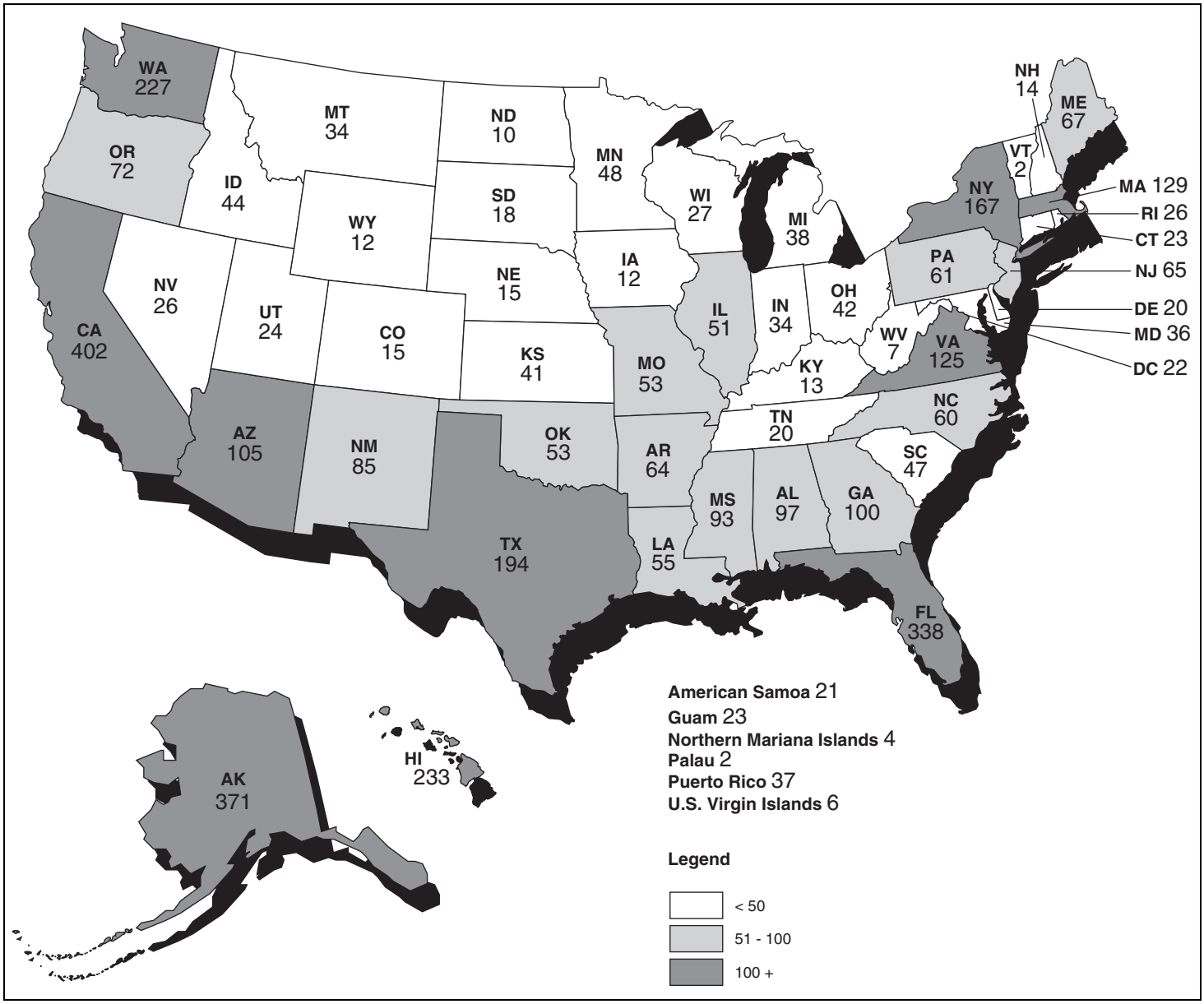
At the end of the preliminary assessment of eligibility, the Corps determines if any further study or cleanup action is needed. If the Corps determines that no further action is needed, the property is designated as NDAI.[11] According to Corps guidance, the districts must notify current owners of the result of the preliminary assessment of eligibility within 30 to 60 days after the final NDAI determination.

Because FUDS properties may have changed significantly since DOD owned or controlled them, the facilities once present and any potential hazards that may still exist may not be obvious. For example, former DOD facilities at a FUDS property may have been renovated, destroyed, or removed, and areas no longer used may be overgrown with vegetation, making potential hazards more difficult to detect. As a result, key components of the Corps' preliminary assessment of eligibility are (1) obtaining historical documents, such as maps and photos that can aid Corps staff in identifying and locating the facilities at the property and indicate how the property was used (prior uses and the activities that took place), and (2) conducting an inspection of the property (site visit) to check for existing hazards caused by DOD.

Although DOD guidance states that CERCLA is the statutory framework for the environmental restoration program, in recent years EPA has questioned whether the Corps' process is consistent with CERCLA, and both EPA and some state regulatory officials have questioned its adequacy. While the Corps is required to carry out the program in consultation with EPA, the Corps is not required to consult with state regulatory agencies until hazards are discovered. Corps guidance now instructs staff to keep EPA and state regulatory agencies informed of the status and disposition of each NDAI determination, but the Corps does not consult with EPA or the states when making its determination because it considers the preliminary assessment of eligibility an internal management process. Figure 2 shows the location of the 4,030 FUDS properties that the Corps has designated as NDAI.

[11]The Corps can also designate the property as NDAI if (1) the current owner refuses right of entry, (2) cleanup projects have been initiated or completed by past or current owners, (3) cleanup would be limited to removal of asbestos-containing material or lead-based paint, or (4) past or current owners have used the buildings or facilities, such as underground storage tanks, present on the property.

Figure 2: Geographic Distribution of 4,030 FUDS Properties That the Corps Has Determined Require No Further DOD Study or Cleanup Action



Note: When we selected our random sample in June 2001, there were 4,030 NDAIs.

Source: GAO's analysis of data provided by the Corps of Engineers.

About 38 Percent of the Corps' Determinations That No DOD Action Is Indicated Are Questionable

Based on our review of NDAI files, we estimate that the Corps does not have a sound basis for about 38 percent or 1,468,[12] of the estimated 3,840 NDAI determinations in our study population because the property files did not contain evidence showing that the Corps consistently reviewed or obtained information that would have allowed it to identify all of the potential hazards at the properties or that it took sufficient steps to assess their presence. In many cases, when attempting to identify potential hazards resulting from DOD activities, the Corps apparently did not obtain relevant information about former DOD activities and facilities at the properties, such as buildings and underground storage tanks constructed and used by DOD. For example, based on our review of Corps files, we estimate that for about 74 percent, or 2,828,[13] of all NDAI determinations, the Corps did not review or obtain site maps, aerial photos, or ground photos that could provide information about potential hazards (e.g., a site map showing an ammunition storage facility could suggest the presence of unexploded ordnance). Furthermore, in a number of cases, it appeared that the Corps overlooked or dismissed information in its possession when it looked for evidence of potential hazards. In addition, we estimate that the Corps did not conduct a site visit at 686,[14] or about 18 percent, of all NDAI properties despite Corps guidance that requires site visits to determine if potential hazards are present. The problems we noted occurred, in part, because Corps guidance is not specific about what documents the Corps should obtain, the level of detail required when seeking information on the prior uses of the FUDS properties and the facilities located at them, or how to assess the presence of potential hazards.

[12]The lower and upper bounds of the 95 percent confidence interval are 1,201 and 1,750, respectively.

[13]The lower and upper bounds of the 95 percent confidence interval are 2,520 and 3,105, respectively.

[14]The lower and upper bounds of the 95 percent confidence interval are 456 and 974, respectively.

Corps Did Not Consistently Obtain Information Needed to Identify Potential Hazards at FUDS

The files for the NDAI properties that we reviewed did not always indicate that the Corps reviewed or obtained information that would have aided in identifying potential hazards at the properties. Information on what DOD activities occurred, what DOD facilities existed, and where those activities and facilities were located at FUDS can provide leads about potential hazards and where they might be. Such information could be obtained from site maps showing buildings or facilities at the property; aerial and ground photos; current landowners; or federal, state, and local agencies. However, although Corps guidance instructs staff to obtain available information on the present and prior uses of the site, the FUDS manual offers no specific guidelines on what documents or level of detail to obtain.[15] While our review indicates that at some sites Corps staff obtained site maps, aerial or ground photos, or information from owners or other agencies, it appeared that the Corps did not do so consistently; as a result, potential hazards may have been overlooked.

The random sample of NDAI files that we reviewed contained little evidence that Corps staff reviewed or obtained site maps to identify potential hazards. Maps can provide detailed information on the facilities that were present when DOD owned or used the site and could aid the Corps in identifying potential hazards resulting from military activities at the site. For example, although there were no DOD structures remaining at an anti-aircraft artillery site whose file we reviewed, a detailed map showed the exact location of a gun emplacement, an ammunition magazine, a motor pool area, a mess hall, seven barracks, two administrative buildings, a communications building, a drainage area, a septic tank, a grease rack, a 5,000-gallon storage tank, an oil storage facility, a pump house, a grease trap, two generators, a paint shed, a latrine, and a refueling area.

[15]The FUDS Manual provides general policy guidance on the execution of the FUDS program and is intended to provide information and guidance to Corps staff. The manual consolidates previous program guidance but does not supersede any applicable regulations, contract requirements, or command authority. The first FUDS manual was issued in 1993. Efforts are underway to update the existing FUDS manual, which was issued in 1998.

Obtaining such maps for sites could provide knowledge of site facilities and could lead Corps staff to identify potential locations of hazardous substances, ordnance, or unsafe buildings. Without the site map, many of these facilities might not have been identified as features that were likely to be located at an anti-aircraft artillery site. Further, without the map, it might have been difficult to establish the former locations of these facilities because of the size of the property and the length of time that has elapsed between DOD's use and the Corps' assessment. However, despite the usefulness of site maps, based on our review, we estimate that for about 77 percent, or 2,972,[16] of all NDAI properties, the files do not contain site maps or references to a map review.

There was also little evidence that the Corps obtained aerial or ground photos of the FUDS to identify potential hazards. Photos, like maps, can provide information that may be useful in identifying potential hazards. In addition to providing information on what facilities existed and where they were located when the military owned or used the site, photos can also provide information on the condition of the facilities when the military was present. This information is particularly important because if a facility was in good condition when the military disposed of the property, but has since been allowed to deteriorate, the Corps is not responsible for cleanup. Photos can also help the Corps identify areas that were used as landfills or other disposal sites. However, based on the information contained in the Corps' files, we estimate that for about 92 percent, or 3,522, of all NDAI determinations, the files do not contain aerial or ground photos or indicate that photos were reviewed as part of the Corps' process.

In addition, there was little evidence that the Corps used the current owner (or owners) as a source of information for the majority of the sites that we reviewed. The current owner has the potential to provide information about a FUDS property. If the current owner is the person who first obtained the property from DOD, then the owner might be able to describe

[16]The lower and upper bounds of the 95 percent confidence interval are 2,656 and 3,249, respectively.

the facilities that were present at acquisition and explain what has become of those facilities. Even if the current owner is not familiar with the DOD activities conducted at the site, the owner might be able to describe the current condition of the property and note any hazards present. Based on our review of NDAI files, we estimate that the Corps did not contact all the current owners for about 60 percent, or 2,319, of all NDAI properties in our study population.[17]

Information on FUDS may also be available from various local, state, and federal agencies. For example, during a preliminary assessment for one property in the New York district, the Corps obtained information on

- the potential presence of ammunition or explosive wastes from the city police department;
- facilities that may have been at the site during military use from a city environmental office, the port authority transportation department, the city police department, and the national archives;
- site maps from the city library; and
- permits issued for underground storage tanks from the city building department.

However, it appears that the Corps seldom asked these kinds of agencies for information. For example, a New Jersey state official told us that his department has 15,000 files on sites within the state, but the Corps has never gone through the department's files. We estimate that the Corps contacted a local, state, or federal agency to obtain information that could indicate potential hazards for only about 10 percent, or 375, of the 3,840 NDAI properties in our study population.[18]

Camp O'Reilly, a FUDS in Puerto Rico, exemplifies how obtaining historical information on how a site was used or current information on the condition of the property could have helped the Corps identify potential hazards. Camp O'Reilly was a 907-acre military post that included 591 buildings and

[17]The lower and upper bounds of the 95 percent confidence intervals for the percentage and total are 44 percent and 75 percent, and 1,688 and 2,909, respectively.

[18]The lower and upper bounds of the 95 percent confidence intervals for the percentage and total are 2 percent and 28 percent, and 64 and 1,081, respectively.

other facilities and housed about 8,000 troops from August 1942 to June 1945. In September 1992, the Corps determined that there were no hazards at Camp O'Reilly that were eligible for FUDS cleanup and designated the site as NDAI. Yet, there is no evidence in the Corps' files that the Corps obtained or reviewed maps, archival photos, or studies, or that it contacted the current owners to identify potential hazards during its preliminary assessment of eligibility for Camp O'Reilly. Had the Corps obtained and made use of historical information, it could have identified a number of potential hazards. In July 1997, the University of Puerto Rico, the current owner, contacted the Corps and indicated that several locations on the property contained hazards caused by DOD use. In a second assessment—with the aid of the owner's information, site maps, and records—the Corps identified three 15,000-gallon underground storage tanks, an area adjacent to a drinking water source that is "highly" contaminated with oil by-products, a 12,000-square-foot landfill, and a concrete structure (15 feet wide, 70 feet long, and 60 feet deep) filled with water that presents a drowning hazard. These hazards have all been determined to result from DOD use of the property and are eligible for cleanup under the FUDS program.

Information on potential hazards found at certain types of FUDS properties may also be useful in identifying potential hazards at other similar properties. For example, in August 1994, the Corps issued "Procedures for Conducting Preliminary Assessments at Potential Ordnance and Explosive Waste Sites." This document notes that certain types of former sites are highly likely to contain unexploded ordnance and that such sites "must not be determined as [NDAI] unless strong evidence or extenuating circumstances can be presented as to why no [ordnance] contamination is expected." The sites specified in the document included Army airfields, auxiliary airfields, practice bombing ranges, rifle ranges, and prisoner of war camps. Although these procedures are not referenced in the FUDS Manual, and we cannot show a cause-and-effect relationship between the issuance of the procedures and the more frequent identification of unexploded ordnance as a potential hazard, we found that that Corps staff identified unexploded ordnance as a possible hazard at these types of sites more often after the issuance of these procedures. For example, in our sample, which included 48 auxiliary airfields, unexploded ordnance was identified as a possible hazard at only 8 of 36 sites that the Corps reviewed before the procedures were issued. In contrast, for the 12 auxiliary airfields in our sample that the Corps reviewed after the procedures were issued, the Corps identified unexploded ordnance as a potential hazard at 10 of the airfields. Our sample also included 15 prisoner of war camps. Before the

procedures were issued, unexploded ordnance was not identified as a possible hazard at any of the seven sites the Corps reviewed. After the procedures were issued, five of the eight prisoner of war camps in our sample were identified as having potential unexploded ordnance hazards.

The Corps also developed a formal guide for assessing Nike missile sites. In addition we found that a FUDS project manager in the Corps' Fort Worth district developed an informal guide for assessing 14 different types of FUDS properties that listed the hazards most likely to be found at each. For example, if a property contained a laundry facility, this informal guide indicates that staff should look for dry cleaning solvents and tanks. Similarly, for a property containing an unmanned radar station, staff should look for underground storage tanks. The Fort Worth project manager told us that he developed the guide because he did not know what to look for when he began working in the FUDS program. However, while the use of such procedures or guides appears to be useful in identifying potential hazards at certain types of sites, we were able to identify or obtain only the three guides discussed previously.

Corps Did Not Take Sufficient Steps to Assess the Presence of Potential Hazards

We found that at times Corps officials overlooked or dismissed information in their possession that indicated potential hazards might be present. Often, these problems appear to have involved a failure to act upon information obtained during identification efforts or a failure to consider information from owners or from federal, state, or local environmental agencies. In other cases, the information in the file suggested potential hazards at the site and did not indicate the basis for the Corps' NDAI determination. We also found instances where it appears that the Corps' assessment focused on only one of the four potential hazards included in the Corps' program—unsafe buildings, structures, or debris; hazardous, toxic, and radioactive wastes; containerized hazardous wastes; and ordnance and explosive wastes. According to several headquarters and district officials, the FUDS program was focused primarily on cleaning up unsafe buildings and debris in the early years of the program. Of the NDAI determinations that we believe lack a sound basis, we estimate that the

Corps either overlooked or failed to adequately assess the potential for hazardous wastes at about 88 percent of the properties, for containerized hazards at about 78 percent of the properties, and for ordnance and explosive wastes at about 40 percent of the properties.[19] The following cases illustrate situations where the Corps overlooked or dismissed information in its possession that suggested that hazards might be present:

- The Corps identified a variety of facilities at Fort Casey, an almost 1,050-acre FUDS property in the state of Washington, and developed information on prior uses; yet, the Corps apparently failed to use this information in its assessment of the site. Facilities identified by the Corps included a coal shed, oil and pump houses, a paint shop, a gasoline station, a grease rack location, and a target shelter—indicating, among other things, possible hazardous containerized and ordnance-related wastes. Yet, the file contained no evidence that these facilities and related potential hazards were considered. The potential hazards stemming from the use of these facilities were not addressed in documents or site visit descriptions, and the site was designated as NDAI. Subsequent to our review, we learned that after the Corps completed its assessment, the state environmental agency performed independent reviews in 1999 and 2001, in part to document any threats or potential threats to human health or the environment posed by this site. The state reported finding hazardous wastes exceeding state cleanup levels that were believed to have occurred during DOD ownership of this site. The state also found what appeared to be fill pipes normally associated with underground storage tanks—something the Corps overlooked during its site visit and overall assessment of this site.

- Fort Pickens is an approximately 1,600-acre FUDS property on the Florida coast that was used to defend against invasion during World Wars I and II. The Corps identified numerous facilities, including a power plant building, oil houses, ordnance warehouses, an ordnance magazine, search light towers, transformers, electric poles, water and "miscellaneous" facilities, and underground storage tanks. A site visit revealed open manholes, confirmed the presence of underground storage tanks and vent pipes and old ammunition lifts with magazines, and identified a septic tank. The Corps also noted vegetation stress and

[19]Because more than one category of potential hazards may be present at a property, the sum of these percentages exceeds 100.

attributed this to the local drought. The file contained no evidence that the Corps assessed the property for possible chemical contamination. Despite noting the potential hazards associated with these types of facilities and uses during its assessment and site visit, the Corps designated the site as NDAI.

- The former Othello Air Force Station (Z-40) was a 77-acre aircraft warning station in the state of Washington. At this site the Corps initially identified approximately 106 facilities, including a diesel plant; an auto maintenance shop; a possible 3,000-gallon underground storage tank and two 25,000-gallon underground storage tanks; a vehicle fueling station and many other oil, grease, ammunition, and paint storage sites; a transformer; and "other structures required for operation of a radar station" that existed during DOD ownership. The presence of these facilities suggests the potential for both containerized and freestanding hazardous wastes and ordnance hazards at the property. However, there was no evidence the Corps considered the former facilities and their characteristics as potential hazards in reaching their NDAI determination, and, according to the file, the site visit was "only a cursory drive-thru inspection." An independent study of this site by the state found hazards (i.e., petroleum compounds such as gasoline, diesel, lube or hydraulic oil; polychlorinated biphenyls; and pesticides) and some chemicals exceeding state cleanup levels at two locations, which are believed linked to military ownership.[20]

- At the Millrock Repair and Storage Depot of New York, the Corps identified potential aboveground storage tanks, gas pumps, a dynamite storage building, and a generator shed. The Corps' file contained conflicting trip reports, one indicating potential oil and gas spills and another indicating that no hazards were found. The initial Corps proposal for designating the site as NDAI was rejected by the appropriate Corps district office, and a cleanup project was proposed to sample for gasoline-related chemicals at the site of former storage tanks and a gas pump. Subsequently, the proposed project was rejected on the

[20]Washington State Department of Ecology, *Preliminary Assessment Report for Formerly Used Defense Site Othello Air Force Station (Z-40)*, *Othello*, *Washington*, prepared for U.S. EPA Region 10, June 2001. The state of Washington randomly selected 10 NDAI-designated FUDS to check the quality of the Corps' determinations. This often involved soil and groundwater sampling with the results compared to state cleanup standards. Eighty percent of the FUDS with NDAI designations were contaminated above state cleanup standards. The Corps assured the state that it would re-evaluate these sites provided funding was available.

grounds that there was no evidence that the hazards were related to DOD's use of the site. Despite the presence of potential hazards, the file contains no evidence that the Corps took additional steps to determine the source of the hazards or that it reported their presence to the appropriate regulatory agencies.

- At the Mount Vernon Municipal Airport in the state of Washington, a nearly 1,900-acre site previously used by both the Army and the Navy, the Corps overlooked information in its possession indicating possible ordnance hazards. In the preliminary assessment of eligibility for this site, the Corps obtained a map showing conditions of the site on June 30, 1944, which indicated bomb and fuse storage units. Although the Corps assessed the site for unsafe buildings and debris and containerized hazards, the file contained no evidence that the Corps searched for possible unexploded ordnance despite both guidance issued by the Corps in 1994, which states that Army airfields are likely to contain unexploded ordnance, and the presence of the bomb and fuse storage units, which would also indicate the potential presence of unexploded ordnance.

We also found that in some cases the files did not contain evidence that Corps staff conducted a site visit, as required by Corps guidance. A site visit is one of the primary methods used by the Corps to determine if the potential hazards are in fact present at a site. For example, if the Corps identifies underground storage tanks as potential hazards because a site was once used as a motor pool facility, a site visit can be used to determine if underground storage tanks are still in place. A typical site visit would include at least a visual check for signs of filler or vent pipes, which would normally protrude aboveground if tanks were still present. Without a site visit, the Corps cannot check for the continued presence of potential hazards. Based on our review of NDAI files, we estimate that about 18 percent, or 686, of the estimated 3,840 NDAIs in our study population did not receive site visits that met Corps requirements: about 428 properties received no site visits, and about 258 properties received site visits conducted from the air or from a vehicle, which are not appropriate, according to Corps program officials.[21]

[21]The lower and upper bounds of the 95 percent confidence interval for the estimate of the number of NDAI properties that did not receive an appropriate site visit are 456 and 974. The lower and upper bounds of the 95 percent confidence intervals for the number of properties that received no site visit or received site visits conducted from a vehicle or from the air are 212 and 749, and 124 and 465, respectively.

The following case illustrates a situation where the Corps conducted the site visit from the air:

- At the former Kasiana Island Base Station in Alaska, the site visit consisted of an over-flight. Although a bunker was noted during the flyover, the contractor conducting the assessment for the Corps said in its report that the area was heavily overgrown. In addition, the file contained no evidence that the Corps tried to identify power sources (and any associated fuel storage tanks) that were likely present to operate the searchlight positions and seacoast radar stations located at the site. Although it was not possible to determine what, if any, hazards may still exist at the site without being on the ground to check for the presence of hazards, the file contained no evidence that the Corps took any further action before designating the site as an NDAI. Subsequent to designating the site as an NDAI, the Corps revisited the site and found two underground storage tanks, several 55-gallon drums, and a storage battery. Tests conducted in the area of the underground storage tanks showed that diesel products in the groundwater exceeded acceptable limits.

For some files designated as NDAI, it appeared that Corps staff remained in their vehicles and took site visit photos from the site's periphery. Figures 3, 4, and 5 are examples of such photos for visits to a former Nike missile site and a former gap filler annex.

Figure 3: Photo of Locked Gate and Corps Staff Notes from a Site Visit to a 255-Acre Former Nike Missile Site

Corps Staff Notes: "Locked gate and road into the missile site area. Property is posted. Owners could not be reached. No available telephone number."

Source: Corps of Engineers files.

Figure 4: Photo of Large Log Home and Corps Staff Notes from a Site Visit to a 255-Acre Former Nike Missile Site

Corps Staff Notes: "Large log home in distance is built on top of a silo. Neighbor stated no H.T.W. [hazardous and toxic waste] at this site."

Source: Corps of Engineers files.

According to a 1986 guide developed by the Corps for assessing Nike missile sites, hazards typically found at Nike sites include petroleum compounds, paints and solvents, leaking underground storage tanks, and lead from batteries. The guide also notes that dumping of wastes was common at Nike sites. On-site dumps were usually located in secluded areas that "would evade the attention of inspecting military officers," according to the guide.

Figure 5: Photo from a Site Visit to a Former Gap Filler Annex

Note: The Corps found no evidence of environmental problems at the site.

Source: Corps of Engineers files.

Gap filler annexes are typically unmanned radar sites that are remotely located. According to the guide developed by Corps staff in Fort Worth, containerized hazards, such as underground or aboveground storage tanks containing petroleum, are usually found at such sites. Transformers containing toxic wastes (polychlorinated biphenyls) have also been found at similar sites.

Because 30 or more years may pass between the closure of a former defense site and a Corps site visit, it is likely that potential hazards would go unnoticed from a vehicle because the area may be too large to see or may be overgrown with vegetation that could hide any evidence of potential hazards. In fact, one of the many concerns expressed by state and EPA officials was that Corps "windshield" or "drive-by" site visits did not involve a thorough assessment of an entire site. While Corps guidance requires a site visit, the guidance provides no specifics, only a general framework for assessing potential hazards. However, Corps officials told us

that site visits conducted from the air or a vehicle are considered inadequate and would not fulfill the requirement to conduct a site visit.

Other Factors Contributed to Inadequate Preliminary Assessments of Eligibility

A number of other factors contributed to inadequate preliminary assessments of eligibility. Corps officials explained that, during the early stages of the FUDS cleanup program, they were hampered by limited knowledge of hazards that might be present. They also explained that the priorities of the program have changed over time. For example, several Corps officials told us that during its early stages, the program's focus was on identifying unsafe building hazards. Later, the focus changed to identifying and removing containerized hazards—primarily underground storage tanks. As a result of changing priorities, not all of the potential hazards were identified and assessed. Moreover, several Corps officials told us that although hazardous, toxic, and radioactive wastes are one category of hazards covered by the program, they cannot propose a project to clean up such hazards without evidence of their existence. However, since 1990, sampling soil and water has not been allowed during the preliminary assessment of eligibility to determine the presence and type of any contamination that might have been caused by DOD activities. According to these officials, without sampling to indicate the presence of hazardous wastes, it is difficult to develop the evidence needed to justify a cleanup project. As a result, NDAI determinations have been made even when the presence of hazardous waste was suspected. Some Corps officials agreed that some of the older NDAI determinations might not be justified and stated that those determinations may need to be reexamined.

Several district officials indicated that although they would like to reexamine some of the NDAI determinations, the FUDS program is now focused on cleaning up hazards already identified, and limited funds are available for reviewing past NDAI determinations. Although Army guidance on the FUDS program issued in March 2001 authorized the districts to reexamine two to five NDAI determinations annually per state in each of the 22 relevant Corps districts if regulatory agencies request the reexaminations and if funds are available, funding shortfalls already hamper the program, according to program officials. For example, the Corps estimates that at current funding levels—approximately $220 million in fiscal year 2002—cleaning up the hazards already identified will take more than 70 years. In its *2001 Funding Strategies* report, the Corps proposed that the Army and DOD increase the annual FUDS program funding by $155 million to approximately $375 million per year. If the

increased funding were approved and sustained, the Corps could complete cleanup by 2050.

Corps Did Not Consistently Notify Owners and Regulatory Agencies about NDAI Determinations and Non-DOD Contamination

In the files we reviewed, we found no evidence that the Corps consistently notified owners of its NDAI determinations, as required by Corps guidance. In some cases, the Corps did not notify the owners for several years after it made the NDAI determinations. In addition, while Corps policy calls for reconsidering an NDAI determination if evidence is later discovered, it appeared that the Corps rarely instructed the owners to contact the Corps with such evidence or told them of the Corps' policy. Furthermore, the Corps did not notify federal and state regulatory agencies of its NDAI determinations because Corps guidance at that time did not require it to do so, even though these agencies might have regulatory responsibilities or could have information that might cause the Corps to reconsider its NDAI determination. The Corps also generally did not notify federal or state regulatory agencies of potential hazards that it identified but determined were not caused by DOD's use. By not routinely notifying the regulatory agencies of hazards caused by non-DOD users, the Corps lost an opportunity to assist these agencies' efforts to protect human health and the environment.

Corps Did Not Consistently Notify Owners about NDAI Determinations

According to Corps guidance, the districts must notify current owners of the result of the preliminary assessment of eligibility. However, based on our review of the NDAI files, we estimate that the Corps did not provide this information to all the current owners at about 72 percent, or 2,779,[22] of the NDAI properties included in our study population. At one district, a Corps official stated that owners were sent notification of NDAI determinations only if they requested it. Further, in spite of the requirement that owners be notified within 30 to 60 days after a final NDAI determination, in some cases the Corps did not notify owners for several years. In one district, notification letters were not sent to owners until 1994, although NDAI determinations had been made as many as 8 years before. The late-arriving letters caused many owners to call the district office with questions about their NDAI determinations. As a result, the

[22]The lower and upper bounds of the 95 percent confidence interval are 2,398 and 3,118, respectively.

district decided to stop sending notification letters to owners. In addition, while Corps policy calls for reconsidering an NDAI determination if evidence of potential hazards is discovered later, we found that the Corps rarely instructed the owners to contact the Corps with such evidence or told them of the Corps' policy. Based on our review of Corps files, we estimate that even when the Corps notified the owners of the NDAI determinations, at about 91 percent of these properties it did not instruct the owners to contact the Corps with evidence of potential hazards, if found later.[23] However, because the preliminary assessment of eligibility is not a comprehensive evaluation of these properties, and the Corps does not routinely review its past NDAI determinations, owners are an essential outside source of new information about potential hazards at a given site. By not notifying owners of the NDAI determinations or advising them to contact the Corps if evidence of potential hazards is discovered, the Corps may be reducing its ability to gather new information about potential hazards and reconsider previous NDAI determinations.

Corps Did Not Consistently Notify EPA and State Regulatory Agencies about NDAI Determinations and Non-DOD Contamination

Even though EPA and state regulatory agencies might have relevant statutory responsibilities or could have information that might cause the Corps to reconsider its NDAI determination, based on our review of Corps files, we estimate that the Corps did not notify the regulatory agencies of the NDAI determinations at the time they were made for about 99 percent of the properties. Although Corps officials told us that they have now provided copies of all the NDAI determinations to the relevant federal and state agencies, some EPA and state officials indicated that they have not yet received copies of the NDAI determinations. Even when notification was provided, it was often done in a way that did not encourage agencies' involvement. For example, one state regulatory agency received a bulk delivery of Corps FUDS summary documents for past NDAI determinations with no explanation. According to state officials, sending agencies NDAI determinations made several years earlier limits the agencies' ability to provide timely input about potential hazards at a given site. Sending bulk deliveries of documents with no explanation does not encourage the involvement of state regulators who might be unfamiliar with Corps documentation or procedures.

[23]The lower and upper bounds of the 95 percent confidence interval are 70 percent and 99 percent, respectively.

Notifying EPA and state regulatory agencies of NDAI determinations in a timely and appropriate manner could facilitate regulators' involvement and address some of the concerns that these agencies have about the adequacy of the Corps' preliminary assessment of eligibility. State regulators told us that their concurrence with an NDAI determination could increase the credibility of the Corps' determination and improve its quality. State regulators indicated that, in some cases, they could provide the Corps with information about FUDS sites and properties adjacent to FUDS sites, including sampling data that could assist the Corps in determining if further study or cleanup actions by DOD were needed. State regulators also told us that they could provide the Corps with best practice guidance on conducting site visits and engaging the public in data-gathering. A state official also pointed out that his state could assist the Corps in gaining entry to a property if the owner refused to allow the Corps to conduct a site visit. Typically, if the owner refuses entry, the Corps designates the property as NDAI.

EPA and some state regulatory agencies believe that the involvement of their agencies is crucial to the successful implementation and review of the Corps' preliminary assessment of eligibility process. One example where state involvement has led to the reconsideration of an NDAI determination is the former Wilkins Air Force Base in Ohio, where a school is now located. Following increased public interest in school sites that were once owned by DOD, the state regulatory agency became concerned about the number of FUDS in the state where schools or school activities are now located and conducted a file review of all FUDS sites with school-related activities. Based on new information from the state agency, and after conducting a joint site visit, the Corps proposed a new project at the former Wilkins Air Force Base. The Army is taking steps to improve communication among the Army, regulators, and other stakeholders. In 2000, the Army created the FUDS Improvement Working Group to (1) address the concerns of regulators and other stakeholders about the FUDS program and (2) identify new or modified policies and procedures that will improve communication.

We also noted during our review of NDAI files that the Corps routinely did not notify regulatory agencies when it identified potential hazards that were not the result of DOD use. Although, according to a Corps official, it is "common sense" that the Corps would notify EPA or state regulatory agencies of non-DOD hazards that it identified during its preliminary assessment of eligibility, we estimate that at about 246 NDAI properties the Corps did not notify EPA or state regulatory agencies of non-DOD hazards.[24] For example, when conducting a site visit in Louisiana in 1986, Corps staff identified an underground diesel oil storage tank of unknown size that held approximately 12 inches of diesel oil. The Corps concluded that this hazard was not the result of DOD activities, but was left by the Coast Guard. However, the file contains no evidence that the Corps notified EPA or state regulators of the suspected hazard. An EPA official told us that the Corps never notified EPA of the hazard at this site, and that EPA became aware of the hazard only in 2000, as the result of an initiative it undertook to review Corps FUDS files. While not notifying regulatory agencies of potential hazards that were not the result of DOD use does not affect the Corps' NDAI determination, it presents a lost opportunity to assist regulators in their efforts to protect human health and the environment.

Conclusions

The Corps does not have a sound basis for about a third of its NDAI determinations for FUDS properties. In making its determinations, the Corps was handicapped by a lack of information about how these properties were used and which facilities were present when DOD controlled the property. In addition, the Corps, at times, apparently overlooked or dismissed information in its possession that suggested that hazards might be present. In still other cases, the Corps did not conduct an adequate site visit to assess the presence of hazards. Because of inadequacies in the Corps' process for assessing the presence of DOD-caused hazards at these properties, potential hazards may have gone unnoticed. The Corps also did not consistently notify owners and regulatory agencies of its findings and determinations. By not communicating with these parties, the Corps lost opportunities to obtain information on potential hazards that were not discovered during their preliminary assessment of eligibility, which is not comprehensive.

[24]The lower and upper bounds of the 95 percent confidence interval are 176 and 333, respectively.

These shortcomings resulted, in part, because Corps guidance does not specify what documents or level of detail the Corps should obtain when identifying potential hazards. Also, the guidance does not include information about typical hazards that might be present at certain types of properties or specify how to assess the presence of potential hazards. As a result, the Corps' assessment that almost 4,000 FUDS require no further study or cleanup action may not be accurate. In essence, the Corps does not know the number of additional properties that may require further study or cleanup actions, the hazards that may be present at these properties, or the risk level associated with these hazards. Given that one of the factors used in establishing the Corps' cleanup priorities is the risk that each property poses to the public or to the environment, unless the Corps improves its guidance and reviews past NDAI determinations to determine which sites should be reassessed, the Corps cannot be reasonably certain that it has identified all hazards that may require further study or cleanup action. Without knowing the full extent of the hazards at these properties, the Corps cannot be assured that the properties it is currently cleaning up or that it plans to clean up in the future are the sites that pose the greatest risk. The Corps also cannot estimate how much additional money and time may be needed to clean up properties that were not properly assessed.

Recommendations for Executive Action

To help ensure that all potential hazards are adequately identified and assessed, we recommend that the Secretary of Defense direct the Corps to develop and consistently implement more specific guidelines and procedures for assessing FUDS properties. These guidelines and procedures should

- specify the historical documents such as site maps, aerial and ground photos, and comprehensive site histories that the Corps should try to obtain for each property to identify all of the potential hazards that might have been caused by DOD's use;

- include a listing of typical hazards that might be present at certain types of properties, such as communication facilities or motor pools, and incorporate the guides already developed for ordnance hazards and Nike missile sites into Corps procedures;

- require that the Corps contact other interested parties—including federal, state, and local agencies—as well as owners during the

preliminary assessment of eligibility to discuss potential hazards at the properties; and

- provide instructions for conducting site visits to ensure that each site receives an adequate site visit and that all potential hazards are properly assessed.

To further ensure that all hazards caused by DOD at FUDS properties are identified, we recommend that the Secretary of Defense, as an initial step, direct the Corps to use the newly developed guidance and procedures to review the files of FUDS properties that it has determined do not need further study or cleanup action to determine if the files contain adequate evidence to support the NDAI determinations. If there is an insufficient basis for the determination, those properties should be reassessed.

To ensure that all parties are notified of the Corps' NDAI determinations, we recommend that the Secretary of Defense direct the Corps to develop and consistently implement procedures to ensure that owners and appropriate federal, state, and local environmental agencies are notified of the results of the Corps' preliminary assessments of eligibility in a timely manner. The Corps should also ensure that owners are aware that the Corps will reconsider an NDAI determination if new evidence of DOD hazards is found. In addition, when preliminary assessments of eligibility identify potential hazards that did not result from DOD activities, the procedures should direct the Corps to notify the appropriate regulatory agencies in a timely manner.

Agency Comments and Our Evaluation

We provided a copy of this report to the DOD for review and comment. In written comments on a draft of this report, DOD disagreed with our conclusions, but partially agreed with each of the three recommendations included in this report.

DOD disagreed with our conclusion that the Corps did not consistently obtain information necessary to identify potential hazards at FUDS properties. While DOD acknowledged that the Corps did not have consistent procedures for evaluating FUDS properties during the early years of the program, the agency stated that it does not believe that such inconsistencies led to inadequate assessments. Our conclusion that the Corps did not consistently obtain information necessary to identify potential hazards at FUDS properties is based on our review of over 600 randomly selected NDAI files at nine Corps district offices. We found

numerous instances where the files did not contain evidence that potential hazards associated with the property's prior uses were identified or that Corps staff looked for hazards other than unsafe buildings or debris. Furthermore, during our review, several district officials told us that they would like to reexamine some of the NDAI determinations, but that limited funding is available for this purpose. DOD also stated that the use of tools developed in the later years of the program, such as checklists for specific types of sites, have contributed to a more consistent approach. We agree that tools such as checklists and guides, which provide information on potential hazards that might be found at certain types of FUDS properties, would be useful. However, as we point out in our report, we identified only three such checklists or guides during our review and they were not referenced in the Corps' FUDS manual that provides information and guidance to staff. For this reason, we recommended that the Corps develop guidelines and procedures that include a listing of typical hazards that might be present at certain types of facilities and incorporate the guides already developed.

DOD also disagreed that the Corps did not take sufficient steps to assess the presence of potential hazards at FUDS properties. In its comments, DOD stated that the FUDS eligibility determination was never intended as a means to characterize all the hazards at a site and cannot be compared to the CERCLA preliminary assessment/site inspection. We recognize that the preliminary assessment of eligibility is not, nor is it intended to be, a comprehensive evaluation of a FUDS property, and our report does not compare the Corps' preliminary assessment of eligibility to the CERCLA preliminary assessment/site inspection. DOD also stated that if the Corps determines that a property is eligible for the program, an investigation process is undertaken to determine the extent of DOD-caused hazards at the site. Actually, all eligible FUDS properties do not automatically proceed to the investigative phase. In fact, NDAIs, which account for over 4,000 of the approximately 6,700 properties the Corps has determined are eligible for the FUDS cleanup program, do not undergo further investigation. Only properties eligible for the FUDS program and where the Corps believes that potential hazards caused by DOD may exist undergo further investigation. However, as we point out in our report, we found instances where Corps officials appeared to overlook or dismiss information in their possession that suggested potential hazards might be present, and we included specific examples where this occurred.

DOD partially agreed with our recommendation to develop and consistently implement more specific guidelines and procedures for

assessing FUDS properties. DOD pointed out that the Army, through the FUDS Improvement Initiative, is currently evaluating the need for any additional guidance or requirements. Our report describes some of the shortcomings that we found in the Corps' guidance, and our recommendation identifies key areas where we believe that the Corps' guidelines and procedures should be made more specific.

DOD also partially agreed with our recommendation to use newly developed guidance and procedures to determine if NDAI files contained adequate evidence to support the Corps' determinations. DOD noted that the Corps would reevaluate an NDAI determination if additional information were discovered and pointed out that the Army has already agreed to reevaluate two to five NDAIs per year at each state's request. Our report acknowledges both the Corps' policy of reconsidering an NDAI determination if evidence of DOD-caused hazards is later found and its plans to reevaluate two to five NDAIs per year at each state's request. We do not believe that the Corps should wait to be asked to reconsider its past NDAI determinations. Under the Defense Environmental Restoration Program, DOD and the Corps, as the executive agent for the FUDS program, bear the responsibility of identifying, investigating, and cleaning up, if necessary, DOD-caused hazards at FUDS properties. Therefore, we continue to believe that the Corps should undertake a review of NDAI property files and reassess those properties where the Corps' determinations are not adequately supported.

In response to our recommendation aimed at improving its notification procedures, DOD commented that eligibility determination reports are now routinely provided to the states and, where appropriate, to EPA regional offices, and that recent efforts have increased coordination and communication between regulatory agencies and property owners. DOD also pointed out that the Army plans to include, as part of the FUDS manual revision, guidance that specifically requires notification of landowners and regulatory agencies of all NDAI determinations. While DOD did not specifically comment on our recommendation to develop procedures to direct the Corps to notify the appropriate regulatory agencies when its preliminary assessment of eligibility identifies potential hazards that did not result from DOD activities, DOD indicated in its technical comments that the Corps will notify the proper authorities of such hazards.

In addition to its written comments, DOD also provided a number of technical comments and clarifications, which we incorporated as appropriate. DOD's comments appear in appendix III.

Scope and Methodology

To determine the extent to which the Corps (1) has a sound basis for its determinations that more than 4,000 formerly used defense sites need no further study or cleanup actions and (2) communicated its NDAI determinations to owners and regulatory agencies that may have responsibilities and notified the owners that it will reconsider an NDAI determination if evidence of DOD-caused hazards is found later, we reviewed a statistical sample of 635 NDAI files at nine Corps districts that execute the FUDS program. The districts selected were (1) Alaska, (2) Fort Worth, (3) Jacksonville, (4) Louisville, (5) New York, (6) Omaha, (7) Sacramento, (8) Savannah, and (9) Seattle. The Alaska district was selected with certainty because it had the highest number of NDAIs when we began our review. The remaining 8 districts were selected at random from 21 of the 22 Corps districts that execute the FUDS program, with the probability of selection proportional to the number of NDAIs in their districts. The Huntington district was excluded from our study population because it only had seven NDAIs and was not considered to be a practical choice to examine if selected. The 21 districts from which we selected our random sample accounted for 99.8 percent of the NDAI files. Thirty-two of the properties whose files we selected for review were excluded from our analysis because the files contained evidence that either the property was not eligible for the FUDS program or that a cleanup project was proposed. Each NDAI selected was subsequently weighted in the analysis to account statistically for all eligible NDAIs in the 21 districts, including those that were not selected.

We obtained and reviewed the Corps' policies and procedures and program documents to obtain information about the preliminary assessment of eligibility. We also interviewed past and present FUDS program officials from headquarters and district offices to obtain information about the practices followed by Corps staff in completing this phase. From the information provided by these officials and a review of a sample of NDAI files at the Baltimore district, we developed a data collection instrument (DCI). The DCI was used to document, in a consistent manner, the evidence that we abstracted from each file reviewed and our assessment of the soundness of the Corps' NDAI determination.

We also contacted environmental officials from 17 states that interact with Corps districts on the FUDS program. We judgmentally selected these states to provide a range of opinion and perception of the Corps' preliminary assessment of eligibility. In addition, we contacted officials from EPA regional offices that interact with the Corps' districts included in

our review. These offices included Atlanta (Region 4); Chicago (Region 5); Dallas (Region 6); Denver (Region 8); Kansas City (Region 7); New York City (Region 2); San Francisco (Region 9); and Seattle (Region 10). Appendix I contains additional details on our scope and methodology, and appendix II presents the results of our review of 603 randomly selected NDAI files.

We conducted our review from May 2001 through June 2002 in accordance with generally accepted government auditing standards.

As arranged with your offices, unless you publicly announce the contents of this report earlier, we plan no further distribution of it until 30 days from the date of this letter. We will then send copies to the Secretary of Defense; the Director, Office of Management and Budget; the appropriate congressional committees; and other interested parties. We will also provide copies to others upon request. In addition, the report will be available, at no charge, on the GAO Web site at http://www.gao.gov/.

If you or your staff have any questions, please call me or Edward Zadjura at (202) 512-3841. Key contributors to this report are listed in appendix IV.

(Ms.) Gary L. Jones
Director, Natural Resources and Environment

Additional Details on Our Scope and Methodology

The objectives of our review were to determine the extent to which the U.S. Army Corps of Engineers (Corps) (1) has a sound basis for determining that more than 4,000 formerly used defense sites (FUDS) need no further study or cleanup and for designating those properties as "No Department of Defense (DOD) Action Indicated, Category I" (NDAI) and (2) communicated its NDAI determinations to owners and to the regulatory agencies that may have responsibility and notified the owners that it will reconsider an NDAI determination if evidence of DOD-caused hazards is found later. To address these objectives, we analyzed a statistical sample of 603 NDAI files at nine Corps districts that execute the FUDS program. The districts selected were (1) Alaska, (2) Fort Worth, (3) Jacksonville, (4) Louisville, (5) New York, (6) Omaha, (7) Sacramento, (8) Savannah, and (9) Seattle. The Alaska district was selected with certainty because it had the highest number of NDAIs when we began our review. The remaining districts were randomly selected, with the probability of selection proportional to the number of NDAIs in the district. Table 1 provides additional information on the districts selected for our review, including the states within their boundaries, the number of FUDS properties designated as NDAI, the NDAI files we selected for review, and the number of determinations that we questioned.

Table 1: Corps Districts in Our Sample

Corps district	States and other U.S. jurisdictions within the district's boundaries	NDAI-designated properties	NDAI-designated properties analyzed by GAO	NDAI-designated properties where GAO questioned the Corps' determination
Alaska	Alaska	371	77	33
Fort Worth	Louisiana, Texas[a]	238	68	28
Jacksonville	Florida, Puerto Rico, U.S. Virgin Islands	381	77	27
Louisville	Illinois, Indiana, Kentucky, Michigan, Ohio	178	63	25
New York	New Jersey, New York	232	68	22
Omaha	Colorado, Iowa, Minnesota, Nebraska, North Dakota, South Dakota, Wisconsin, Wyoming	157	60	23

(Continued From Previous Page)

Corps district	States and other U.S. jurisdictions within the district's boundaries	NDAI-designated properties	NDAI-designated properties analyzed by GAO	NDAI-designated properties where GAO questioned the Corps' determination
Sacramento	California,[a] Nevada, Utah	192	64	15
Savannah	Georgia	100	49	27
Seattle	Idaho, Montana, Oregon, Washington	377	77	29
Total		**2,226**	**603**	**229**

[a]Only a portion of this state is included in the geographic boundaries of the district. The Fort Worth district covers most of Texas and has oversight responsibility for 183, or about 94 percent, of the 194 properties in the state designated as NDAI. The Sacramento district covers the northern portion of California and has oversight responsibility for 148, or about 36 percent, of the properties in the state designated as NDAI.

We reviewed each selected file to determine if it contained evidence that the Corps (1) reviewed or obtained information on the buildings, structures, and other facilities (such as underground storage tanks) associated with DOD's use of the site that would allow the Corps to identify the types of hazards potentially resulting from DOD's use and (2) took sufficient steps to assess the presence of potential hazards.

If we did not find evidence in the file that indicated the Corps reviewed or obtained information on prior DOD uses of the site, we concluded that the Corps did not identify all of the hazards that might be present at the site. However, the absence of a single piece of information, such as a site map or record of contact with an owner, did not automatically cause us to question the adequacy of the Corps' efforts to identify the prior uses and the associated potential hazards. Rather, we based our assessment of the Corps' efforts on the totality of the evidence in the file. For example, if the file did not contain a site map, but the file contained evidence that the Corps staff made use of a site map during its assessment, we concluded that the Corps reviewed a site map.

If the file contained evidence that the Corps determined that potential hazards might be present, but did not take certain actions, such as conducting a site visit, we concluded that the Corps did not take sufficient steps to assess the presence of potential hazards at the site. However, if the file contained evidence that a site visit was conducted, such as the date of a site visit, we concluded that the Corps conducted a site visit even if the file

did not contain photos or a trip report. If a file contained evidence that the Corps overlooked or dismissed information in its possession that potential hazards might be present, we concluded that the Corps did not take sufficient steps to assess the presence of potential hazards. If we found either or all of these scenarios when reviewing the files, we determined that the NDAI determinations were questionable. Our questioning of an NDAI determination does not mean that the property is contaminated; rather, it indicates that the Corps' file did not contain evidence that the Corps took steps to identify and assess potential hazards at the property that would support the NDAI determination.

We also reviewed the NDAI files to determine how often the Corps notified owners and regulatory agencies of its NDAI determinations and of its policy of reconsidering the determinations if additional evidence of DOD-caused hazards was found later.

We used a data collection instrument (DCI) to document, in a consistent manner, the evidence that we abstracted from each file and our assessment of the soundness of the Corps' NDAI determinations. Each DCI was independently reviewed and compared to the original file to ensure that the information documented on the DCI was accurate and that our assessment of the Corps' determination was reasonable, i.e., that another person looking at the information in the file would come to the same conclusion about the Corps' determination. We copied the contents of the files to ensure that any further questions or issues could be researched later and that we had sufficient evidence to support the information recorded on the DCI. From the DCIs, we created an electronic database. The members of our team reviewing the files and the person conducting the supervisory review changed for each district. While we rotated staff to reduce bias, we also used this rotation to help increase consistency of judgments. In addition, we conducted an independent quality check of our database entries created from the DCIs. For each of the districts visited, we randomly selected 10 percent of the electronically entered DCIs. An independent verifier checked 100 percent of the data for every question, sub-question, and comment box on the DCI, comparing the "hard copy" of the DCI to the entries found in the database to ensure that there were no data entry errors. Our error rate was 0.379 percent—less than ½ of 1 percent. All errors found were corrected. In addition, we verified 100 percent of the responses to questions and sub-questions on the DCI that were key to supporting our findings.

The information presented in this report consists, in part, of statistical estimates based on our review of randomly selected files. The results of our analysis are projectable to NDAI determinations nationwide, excluding the Huntington district. Because we followed a probability procedure based on random selections, our sample is only one of a large number of samples that we could have drawn. Each sample could have provided different estimates. We therefore express our confidence in the precision of our particular sample's results as 95 percent confidence intervals. Each of these intervals contains the actual (unknown) population value for 95 percent of the samples we could have drawn. As a result, we are 95 percent confident that each of the confidence intervals in the report will include the true value in the study population.

All percentage estimates from the file review have 95 percent confidence intervals whose width does not exceed plus or minus 10 percentage points, unless otherwise noted. All numerical estimates other than percentages (such as averages or totals) have 95 percent confidence intervals whose width does not exceed 10 percent of the value of those estimates, unless otherwise noted. The widths of the confidence intervals are shown as footnotes to the text, where appropriate.

While the results of our analysis are generally projectable nationwide, we also used our selected samples to develop case examples of the preliminary assessments of eligibility conducted by the Corps. These case examples are for illustration only.

Results of Our Analysis of 603 Randomly Selected NDAI Properties

To determine the extent to which the U.S. Army Corps of Engineers (Corps) has a sound basis for its determinations that more than 4,000 formerly used defense sites (FUDS) need no further Department of Defense (DOD) study or cleanup and for designating those properties as "No DOD Action Indicated" (NDAI), we reviewed and analyzed a statistical sample of 603 NDAI files at nine Corps districts. Table 2 shows the property name, the FUDS number, and whether we found, based on our review of the evidence in the file, that the Corps had a sound basis for its NDAI determination. In those cases where we do not believe that the Corps has a sound basis, the table includes an explanation for our finding. Our questioning of an NDAI determination does not mean that the property is contaminated; rather, it indicates that the Corps' file did not contain evidence that the Corps took steps to identify and assess potential hazards at the property that would support the NDAI determination. In the table, we use abbreviations for the four types of hazards: building demolition and debris removal (BD/DR); hazardous, toxic, and radioactive waste (HTRW); containerized hazardous, toxic, and radioactive waste (CON/HTRW); and ordnance and explosive waste (OEW).

Table 2: Results of GAO's Analysis of 603 Randomly Selected NDAI Properties (Shown by Corps District)

Property name/ FUDS number	Sound basis (Y/N)	Reason for GAO's finding
Alaska District		
East Brothers Island Alaska Communications System Submarine Cable Site/ F10AK0094	Y	
Eielson Air Force Base Railroad Right of Way/ F10AK0659	Y	
Eielson Alaskan Long Period Array Research Site 3-45/ F10AK0670	Y	
Air Force Cache #13/ F10AK0410	Y	
Eklunta Army Ammunition Storage Pad Site/ F10AK0553	N	The file does not contain evidence that potential hazards from prior uses were identified or assessed.
Entrance Point, Kodiak/ F10AK0289	Y	
Esther Lake Defense Site/ F10AK0435	N	The file does not contain evidence that an adequate assessment of the site was conducted. Potential hazards from prior uses were not identified or assessed, and a site visit was not conducted.
Excursion Inlet Subport of Embarkation Site/ F10AK0098	N	The file contains no evidence that the Corps looked for hazards other than BD/DR.
Fairbanks Arctic Indoctrination School/ F10AK0555	Y	

(Continued From Previous Page)

Property name/ FUDS number	Sound basis (Y/N)	Reason for GAO's finding
Fairbanks Remote Receiving Radio Station/ F10AK0371	N	Potential HTRW and CON/HTRW hazards. There is no evidence in the file that the contractor considered or assessed the potential hazards associated with the facilities located at this site, e.g., paint shop, garage, communication equipment, or hazards associated with providing power.
Flat Bay Alaska Communications System Submarine Cable Site/ F10AK0439	Y	
Forrester Island Aircraft Warning Station/ F10AK0103	N	Potential HTRW, CON/HTRW hazards. The file does not contain evidence that these hazards were assessed.
Fort Buckley/ F10AK0387	N	The file does not contain evidence that the Corps identified or assessed potential HTRW (solvents) and OEW hazards.
Fort Liscum/ F10AK0325	Y	
Harding Lake Alaska Communications System Radio Relay Site/ F10AK0567	N	Potential CON/HTRW hazard. The file does not contain evidence that this hazard was assessed.
Juneau 12th Street Alaska Communications System Housing Site/ F10AK0383	Y	
Juneau Alaska Communications System Storage Annex/ F10AK0382	Y	
Juneau Radio Station 7-Mile Receiver Site/ F10AK0377	Y	
Air Force Cache #20/ F10AK0417	N	The file does not contain evidence to support the Corps basis. The Corps based its determination on the owner's statement that the owner could find no evidence of hazardous/toxic waste, ordnance, or unsafe debris. However, information in the file indicates that the "owner" contacted was not the current owner.
Kasiana Island Base Station/ F10AK0132	N	The file does not contain evidence that potential HTRW and OEW hazards identified during the site visit were assessed.
Kaslin Bay Harbor Defense Site-Kodiak/ F10AK0281	Y	
Air Force Cache #01/ F10AK0400	Y	
Air Force Cache #21/ F10AK0418	N	The file indicates that the Corps' determination is based on the information provided by the owner that no hazards exist. However, the file indicates that the owner responded that the site had not yet been evaluated.

(Continued From Previous Page)

Property name/ FUDS number	Sound basis (Y/N)	Reason for GAO's finding
King Island National Guard Site/ F10AK0447	N	Potential HTRW, OEW, and CON/HTRW hazards. The file does not contain evidence that these hazards were assessed.
Kwiguk Aircraft Warning Station/ F10AK0143	Y	
Lemesurier Point Alaska Communications System Submarine Cable Site / F10AK0451	Y	
Lena Point Alaska Communications System/ F10AK0147	Y	
Lisianski Peninsula Base End Station/ F10AK0148	Y	
Air Force Cache #25/ F10AK0420	Y	
Long Island Defense Site/ F10AK0151	Y	
Lyman Anchorage Alaska Communications System Submarine Cable Site/ F10AK1051	Y	
Midway Point Alaska Communications System Submarine Cable Site/ F10AK0441	Y	
Montana Creek Lumber Mill Site/ F10AK0160	Y	
Mud Bay Repeater Site/ F10AK0164	N	The file does not contain evidence that potential CON/HTRW hazards were assessed.
Paxson Lake Research Annex/ F10AK0468	N	The file does not contain evidence that an adequate site assessment was conducted.
Porpoise Islands Defense Site/ F10AK0189	Y	
Port Althorp Navy Base/ F10AK0305	N	The file does not contain evidence that potential HTRW, OEW, and CON/HTRW hazards were assessed.
Port of Whittier, Alaska District Corps of Engineers Camp Site/ F10AK0992	Y	
Portage Upper Engineers Camp/ F10AK0809	N	The file does not contain evidence that potential HTRW, BD/DR, and CON/HTRW hazards were assessed.
Prince of Wales/ F10AK0193	Y	
Port of Haines Dry Dock/ F10AK0309	Y	
Salcha Army Ammunition Storage Pad/ F10AK0200	Y	
Anchorage Antiaircraft Artillery Gun Position No. 7/ F10AK0525	N	The file does not contain evidence that the Corps looked for hazards other than BD/DR.
Seward Army Recreation Site/ F10AK0591	Y	
Seward Radio Station / F10AK0592	Y	
Anchorage Alaska Communications System Family Housing Annex 1/ F10AK0527	Y	
Sitka Alaska Communications System Transmitter/ F10AK0351	Y	

(Continued From Previous Page)

Property name/ FUDS number	Sound basis (Y/N)	Reason for GAO's finding
Sitka National Guard Target Range/ F10AK0337	N	The file does not contain evidence that potential HTRW and OEW hazards were assessed.
Skagway Alaska Communications System Communication Station/ F10AK0213	Y	
Skilak Lake Recreation Site/ F10AK0215	N	The file does not contain evidence that potential HTRW and CON/HTRW hazards were assessed.
St. Lazaria Island Aircraft Warning Station/ F10AK0488	N	Power plant identified as an improvement would indicate potential for PCBs and fuel storage facilities (OEW, CON/HTRW).
Steamer Point Alaska Communications Submarine Cable/ F10AK0224	Y	
Tok Alaska Communications System Radio Relay/ F10AK0234	N	The file does not contain evidence that potential HTRW, BD/DR, and CON/HTRW hazards were assessed.
Tyonek Alaska Communications System Communication Site/ F10AK0240	N	The file does not contain evidence that an adequate site assessment was conducted. The file contains conflicting information on owner's position about the presence of contamination at this site. In addition, although the Corps indicates that both the current owner of the land and the lessee indicated that no contamination was present, the file does not contain evidence that supports the Corps' basis.
Ugashik Lake Recreation Annex/ F10AK0242	Y	
Unalakleet Recreation Annex/ F10AK0596	N	Potential HTRW and CON/HTRW hazards. The contractor indicated in its report that a petroleum, oil, and lubricants (POL) barrel was located on site and recommended sampling to determine if hazardous or toxic materials are present. There is no evidence in the file that the potential hazards were assessed.
Valdez Cemetery Site/ F10AK0362	Y	
Ward Lake Housing Site/ F10AK0248	Y	
Wm Henry Bay Alaska Communications System Submarine Cable Site/ F10AK0252	N	The file does not contain evidence to support the Corps' basis. The Corps' determination is based on information obtained from the current owner that no hazards exist. However, the file indicates that the "owner" contacted was not the current owner.
Anchorage Coast Artillery/ F10AK0531	N	Potential OEW and CON/HTRW hazards. The file does not contain evidence that these hazards were assessed.

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Property name/ FUDS number	Sound basis (Y/N)	Reason for GAO's finding
Anchorage National Guard/ F10AK0424	N	The file does not contain evidence that the Corps assessed this property. There is no evidence in the file that the Corps conducted a site visit or that the current owner responded to a request for information about the property.
Air Force Cache #03/ F10AK0402	N	The file does not contain evidence that the Corps assessed this property. Although the Corps based its determination on correspondence with the owner that indicated that no evidence of hazardous/toxic waste or unsafe debris could be found, the file contains no evidence that the landowner responded to a request for information about the property.
Anchorage to Tok Alaska Communications System Longline / F10AK0046	Y	
Angoon Microwave Station/ F10AK0049	N	The file does not contain evidence that potential CON/HTRW hazards were assessed.
Auke Bay/ F10AK0056	Y	
Barwell Island/ F10AK0058	N	Potential HTRW and CON/HTRW hazards.
Beaver Point/ F10AK0060	Y	
Bethel National Guard Hangar/ F10AK0541	N	Potential HTRW and CON/HTRW hazards.
Bethel National Guard Warehouse/ F10AK0542	Y	
Bethel Tactical Air Navigation Site/ F10AK0513	Y	
Bettles Airport/ F10AK0063	N	Potential HTRW, BD/DR, and CON/HTRW hazards.
Birchwood Alaska Communications System Storage Site/ F10AK0326	Y	
Bird Creek Missile Annex/ F10AK0327	Y	
Blackston Bay Gun Site/ F10AK0426	N	The file does not contain evidence that potential OEW hazard was identified or assessed despite the site's use as a firing range to train Army personnel in the use of mortars, machine guns, and rockets.
Cape Edgecumbe Fire Control Station/ F10AK0428	N	The file does not contain evidence that potential HTRW or CON/HTRW hazards were assessed.
Cape Winslow Aircraft Warning Station/ F10AK0019	N	The file does not contain evidence that potential hazards from prior uses were identified or assessed.
Clearwater Lake Army Training Camp/ F10AK0312	Y	

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Property name/ FUDS number	Sound basis (Y/N)	Reason for GAO's finding
Fort Worth District		
Atlas Air Force Facility S-7/ K06TX0112	Y	
Eagle Pass Auxiliary Field #2/ K06TX0035	Y	
Eagle Pass Auxiliary Field #3/ K06TX0038	N	The file does not contain evidence that the Corps assessed potential OEW or CON/HTRW hazards.
Coast Guard Housing, Fort Crockett/ K06TX1005	N	Potential HTRW and CON/HTRW hazards. Although the file contained information on the actual number and type of facilities (radio transmission station, grease rack, filling station, oil storage, gas station, hospital, etc.) present at this site, there is no evidence that potential hazards associated with these facilities were assessed.
Foster Army Airfield, Auxiliary Landing Field #5/ K06TX0606	Y	
Fort Wolters Refueling Area #1/ K06TX0245	Y	
Fort Wolters Refueling Area #3/ K06TX0244	Y	
Fort Wolters Refueling Area A-C/ K06TX0246	Y	
Fort Wolters Stage Field, Wagley Site/ K06TX0240	Y	
Fort Worth Army Airfield Radio Range Site/ K06TX0236	Y	
Galveston College (Fort Crockett)/ KO6TX0235	Y	
Galveston Independent School/ K06TX1003	N	The file does not contain evidence that potential OEW hazards were assessed.
Former Gaskin Auxiliary Field #2/ K06TX0231	N	The file does not contain evidence that potential CON/HTRW hazards related to prior uses were assessed.
Gibbons Air Force Auxiliary Field/ K06TX0230	N	Potential HTRW and CON/HTRW hazards.
Grand Prairie National Guard Facility/ K06TX0229	N	The file does not contain evidence that potential HTRW and CON/HTRW hazards were assessed.
Camp Plauche/ A06LA0050	N	The file does not contain evidence that the Corps looked for hazards other than BD/DR.
Houston Air Reserve Center/ K06TX1104	Y	
Laredo Radio Beacon Annex/ K06TX0214	Y	
Laredo Tracking Site/ K06TX0216	N	The file does not contain evidence that the Corps looked for hazards other than BD/DR.
Lubbock Military Airfield/ K06TX0004	Y	
Majors Field Auxiliary Field/ K06TX0299	Y	

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Property name/ FUDS number	Sound basis (Y/N)	Reason for GAO's finding
Marfa Army Airfield Radio Range/ K06TX0544	N	The file does not contain evidence that potential HTRW and CON/HTRW hazards associated with the prior uses were identified or assessed.
Camp Villere/ A06LA0078	N	The file does not contain evidence that potential OEW hazards were assessed.
Marfa Army Airfield, Auxiliary Field #1/ K06TX0548	N	The file does not contain evidence that potential CON/HTRW hazards were identified or assessed. Although an underground storage tank was identified as a facility at a similar site, there is no evidence that the Corps looked for this potential hazard at this site.
Meyers Canyon Military Police Camp/ K06TX0201	Y	
Delhi Gap Filler Annex/ A06LA0048	N	The file does not contain evidence that potential CON/HTRW hazards were identified or assessed.
Neil, et al, Properties (Former Krueger Auxiliary Field #1)/ K06TX1120	Y	
Naval Reserve Laboratory/ K06TX0025	Y	
Palacios Army Airfield/ K06TX0162	N	The file does not contain evidence that potential hazards from prior uses were identified or assessed.
Dixie Ordnance Works/ A06LA0103	Y	
Pecos Army Airfield Radio Range Site/ K06TX0555	Y	
Pecos Army Airfield, Toyah Auxiliary Field #4/ K06TX0553	N	The file does not contain evidence that potential CON/HTRW hazards were identified or assessed. Although an underground storage tank was identified as a facility at a similar site, there is no evidence that the Corps looked for this potential hazard at this site.
Pecos River Bridge Military Police Camp/ K06TX0156	Y	
Pelican Spit Military Reservation/ K06TX1062	Y	
Port Arthur Naval & Marine/ K06TX1106	Y	
Port Isabel Air Control & Warning Station/ K06TX0629	N	Potential HTRW, OEW, and CON/HTRW hazards. The file contains no evidence of a site visit.
Riesel Auxiliary Field #1/ K06TX0138	Y	
Fort Macomb/ A06LA0021	Y	
U.S. Army Reserve Center-Hebbronville/ K06TX1110	Y	
Fort Pike/ A06LA0022	N	The file contains evidence of an unresolved OEW issue between the district and Huntsville.

(Continued From Previous Page)

Property name/ FUDS number	Sound basis (Y/N)	Reason for GAO's finding
Wohlfart, et al, Properties (Former Marion Auxiliary Field)/ K06TX1119	N	The file does not contain evidence that the Corps identified or assessed potential hazards associated with portable lights. No energy or fuel source indicated.
Yoakum Auxiliary Field/ K06TX0122	Y	
Hammond Army Airfield/ A06LA0049	N	Potential HTRW, CON/HTRW, and OEW hazards. Although a release of liability was obtained for a portion of site, the file contains no evidence that the remainder of the property is subject to that release or that the potential hazards were assessed.
Lake Charles Army Air Force Crash Boat Landing Site/ A06LA0083	Y	
Legarde General Hospital/ A06LA0024	Y	
Louisiana Ordnance Plant/ A06LA0013	N	The file does not contain evidence that an adequate site assessment was conducted.
Michaud Ordnance Plant/ A06LA0096	N	Potential HTRW and OEW hazards.
Michaud Storage Area/ A06LA0085	N	Potential HTRW, OEW, and CON/HTRW hazards. The file contains little evidence that potential hazards from prior uses were identified and assessed, particularly given the site's proximity to an ordnance plant.
New Orleans Gap Filler Annex/ A06LA0088	N	The file does not contain evidence that potential hazards from prior uses were identified or assessed.
U.S. Naval Hospital/ A06LA0319	N	The file does not contain evidence that potential hazards from prior uses were identified or assessed.
New Orleans Army Air Force Rifle Range/ A06LA0086	Y	
New Orleans Rescue Boat Station/ A06LA0320	Y	
U.S. Naval Reserve Electronics Facility/ A06LA0043	Y	
U.S. Naval Reserve Training Center/ A06LA0039	Y	
Aloe Auxiliary Field #7/ K06TX0052	Y	
Arlington Municipal Airport/ K06TX1114	Y	

(Continued From Previous Page)

Property name/ FUDS number	Sound basis (Y/N)	Reason for GAO's finding
Atlas Air Force Facility S-1/ K06TX0106	N	Potential HTRW and CON/HTRW hazards. The file indicates that aboveground structures at this former Atlas missile facility are being beneficially used. The file contains conflicting information about the presence of underground structures (diesel storage tank). One document in the file claims the storage tank was removed, another that the structures were inaccessible. The file indicates that the owners were not "reachable and that access to the property was not possible." Potential HTRW hazards were dismissed based on a statement from a neighbor that no hazards existed.
Barksdale Communication Annex/ K06TX0092	Y	
U.S. Army Reserves Organizational Maintenance Shop (Beaumont Petroleum, Oils, Lubricants)/ K06TX0044	Y	
Brooks Military Airfield/ K06TX0001	Y	
Barksdale Family Housing Annex/ A06LA0042	Y	
Bryan Air Force Base Radio Range Annex/ K06TX0315	Y	
Burton Auxiliary Field #4/ K06TX0314	N	The file does not contain evidence that the Corps identified the prior uses of this site or the potential hazards associated with them.
City of Ballinger Property/K06TX1121	N	Potential HTRW and CON/HTRW hazards. The file does not contain evidence that potential hazards associated with the presence of an aboveground storage tank identified during the site visit were assessed.
City of Galveston/K06TX1001	N	Potential HTRW and OEW hazards. The 1948 "dedudding" not sufficient today; lead contamination already present, indicating possible OEW contamination.
City of Grand Prairie Property/ K06TX1113	Y	
Colorado City Air Force Auxiliary Airfield/ K06TX0648	Y	
Coleman Army Airfield/ K06TX0089	N	Potential CON/HTRW hazards. The file contains no evidence that the Corps attempted to identify or locate additional underground storage tanks suspected to be present or to determine if any of the tanks removed had leaked.

(Continued From Previous Page)

Property name/ FUDS number	Sound basis (Y/N)	Reason for GAO's finding
Jacksonville District		
Fort McRee/ I04FL0154	N	Potential OEW hazards. The file indicates that the range was cleared using 1948 detection technology, which, according to the Corps' Center of Excellence for OEW, does not indicate that the site is clear of the hazard.
Fort Pickens/ I04FL0063	N	The file does not contain evidence that potential HTRW, OEW, and CON/HTRW hazards identified during the site visit and records search were assessed further.
Fort Lauderdale North Strafing Target/ I04FL0100	Y	
Gilchrist Radio Relay Annex #4/ I04FL0250	N	Potential HTRW and CON/HTRW hazards. The file does not contain evidence that potential hazards associated with prior uses were identified and assessed.
Golden Glades Housing Area/ I04FL0440	N	The file does not contain evidence that potential OEW hazards (ammunition storage bunkers identified by records search) were assessed.
Sunny Isles Gun Range / I04FL1010	Y	
Herlong Airport/I04FL0010	Y	
Hillsborough Army Airfield/ I04FL0181	N	The file does not contain evidence that an adequate site assessment was conducted.
Homestead Army Airfield/ I04FL0262	N	The file does not contain evidence that potential hazards from prior uses were identified or assessed.
Homestead Nike Hawk Missile Site 59/ I04FL0088	Y	
Horseshoe Point Radio Annex #10/ I04FL0212	Y	
Jacksonville Beach Shore Patrol/ I04FL1014	Y	
Jupiter Island Recreation Site/ I04FL0304	Y	
Army Air Defense Command Facility No. 9/ I04FL0261	Y	
MacDill Administrative Annex/ I04FL1030	Y	
Malone Auxiliary Airfield #2/ I04FL0666	N	The file does not contain evidence that potential hazards from prior uses were identified or assessed. Although the file indicates that the site received a certificate of "dedudding" (1947), there is no evidence that potential OEW hazards were assessed.

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Property name/ FUDS number	Sound basis (Y/N)	Reason for GAO's finding
Marianna Army Airfield/I04FL0061	N	Potential CON/HTRW hazards. The file does not contain evidence to support the Corps' decision that a proposed project to remove underground storage tanks at this site be reversed because of beneficial use by subsequent owners. Several documents in the file indicate that not all of the underground storage tanks were beneficially used.
McCoy Radio Beacon Annex/ I04FL0326	N	The file does not contain evidence that potential HTRW and CON/HTRW hazards were assessed.
McCoy Air Force Base Inner Terminal Visual/Oral Range/ I04FL0219	Y	
Melbourne Beach Research Annex/ I04FL1039	Y	
Melbourne Beach Tracking Annex/ I04FL0201	Y	
661st Radar Site/ I04FL1049	N	Potential HTRW hazards. The file contains evidence that a project was proposed to further assess sampling data. The file does not contain evidence that explains why the project was not conducted and why an NDAI determination was made.
Miami Beach Tracking Annex/ I04FL1073	Y	
Miami Dry Storage Warehouse/ I04FL0272	N	The file does not contain evidence that the Corps assessed potential CON/HTRW hazards.
Miami Embarkation Post/ I04FL0295	Y	
Moreno Point Military Reservation/ I04FL1143	Y	
Morrisson Field Housing/ I04FL0328	Y	
Neister Missile Tracking Annex/ I04FL0758	Y	
New Smyrna Boat Facility/ I04FL1080	N	The file does not contain evidence that potential HTRW and CON/HTRW hazards from prior uses were assessed.
North Indiatlantic Tracking Annex/ I04FL1081	Y	
Penny Outlying Field/ I04FL1086	Y	
Pinellas County Fairgrounds/ I04FL0406	Y	
Ream General Hospital/ I04FL0409	Y	
Rhombic Antenna Site/ I04FL1136	Y	
Russell Radio Beacon/ I04FL1089	Y	
Site 7 Outlying Field (OLF)/ I04FL0820	Y	
St. Johns Bluff Military Reservation/ I04FL0417	Y	
Temple Terrace Radio Relay Annex #1/ I04FL0420	Y	
Titusville Satellite Gun Field/ I04FL0421	Y	

(Continued From Previous Page)

Property name/ FUDS number	Sound basis (Y/N)	Reason for GAO's finding
Tomoka Outlying Field/ I04FL0824	Y	
Trout Creek Satellite Field/ I04FL0422	Y	
Umatilla Anti-Aircraft Artillery Searchlight/ I04FL0223	N	Potential HTRW and CON/HTRW hazards. The file does not contain evidence that the Corps looked for hazards other than BD/DR.
Unknown-Former Military Site-Orange County, FL/ I04FL1155	Y	
Unknown/ I04FL1154	Y	
Homestead Helicopter Annex/ I04FL0268	Y	
USAF Homestead Hercules Missile Site-95/ I04FL0230	N	The file does not contain evidence that potential hazards from prior uses were identified or assessed.
Army Fourth Corps Headquarters/ I04FL1111	Y	
U.S. Army Reserve Center-Key West/ I04FL0354	Y	
Army Small Arms Range/ I04FL1169	N	Potential HTRW and OEW hazards. The file does not contain evidence that an adequate assessment of the potential hazards was conducted.
Key West Defense Area Site KW-80/ I04FL0363	Y	
U.S. Army Reserve Center-Perry/ I04FL0374	Y	
Welch Convalescent Hospital/ I04FL0346	Y	
West Martello Tower/ I04FL0427	N	The file does not contain evidence that potential HTRW, OEW, and CON/HTRW hazards that would be associated with the prior uses of this site, specifically gun emplacements (ordnance, solvents, etc.) and fuel were identified or assessed.
Wickers Stadium/ I04FL0224	Y	
Antilles Engineer Compound/ I02PR0985	N	The file does not contain evidence that the Corps assessed potential HTRW and CON/HTRW hazards associated with facilities (incinerator, gas station [underground storage tanks, oils, solvents], or chlorination plant) that had been present.
Mayaguez Auxiliary Airfield/ I02PR0541	N	Potential HTRW, BD/DR and CON/HTRW hazards. The file does not contain evidence that an adequate assessment of the site was conducted. It does not appear that all DOD facilities identified as part of records search were verified and checked to determine current beneficial use(s).
Mayaguez Missile Annex/ I02PR0988	Y	

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Property name/ FUDS number	Sound basis (Y/N)	Reason for GAO's finding
Punta Las Marias Searchlight and Fire Control Site/ I02PR0031	N	The file does not contain evidence that potential hazards from prior uses were identified and assessed.
Punta Maldonado Searchlight and Fire Control Site/ I02PR0032	N	The file does not contain evidence that potential hazards from prior uses were identified and assessed.
Punta Vacia Talega Fire Control Site/ I02PR0033	N	The file does not contain evidence that potential hazards from prior uses were identified or assessed or that the Corps looked for hazards other than BD/DR.
Navy Degaussing Station/ I02VI0987	N	Potential HTRW and CON/HTRW hazards. The file did not contain evidence that these potential hazards associated with prior uses were assessed. There was no evidence of a site visit.
Army Air Force Regional & Convalescent Hospital/ I04FL0253	Y	
Bithlo Radio Relay Annex/ I04FL0315	N	The file does not contain evidence that potential hazards from prior uses were identified and assessed.
Bolles Ferry and Park/ I04FL0992	Y	
Bonita Springs Radio Relay Annex #5/ I04FL0298	Y	
Buckingham Air Force Base/ I04FL0165	N	Potential OEW and BD/DR hazards. The file contains evidence that the site was used as a gunnery training school and that rockets were found under runways. Pictures from site visit also indicate potential BD/DR hazards.
Callahan Outlying Field/ I04FL0853	Y	
Cape Canaveral Aircraft Warning Service Station #23/ I04FL0235	N	The file contains no evidence that the Corps considered potential HTRW or CON/HTRW hazards that might have resulted from power/fuel for the equipment and personnel at this site.
Carlisle Outlying Field/ I04FL0112	Y	
Cecil Field Naval Weapon Annex/ I04FL0839	Y	
Clarks Siding Missile Fuel Annex/ I04FL0236	Y	
Clermont Aircraft Watch Station No. 71/ I04FL0297	Y	
Dade Bombing Range/ I04FL1118	N	The file does not contain evidence that potential HTRW and OEW hazards were assessed.
Alliance Auxiliary Field #4/ I04FL0144	Y	
Eglin Field MX-544 Site/ I04FL0647	N	The file does not contain evidence that potential hazards from prior uses were identified or assessed.
Engineer Board Field Station/ I04FL0208	Y	

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Property name/ FUDS number	Sound basis (Y/N)	Reason for GAO's finding
Flagler Beach Airport/ I04FL1002	Y	
Louisville District		
47th Street & Central Avenue Gunsite/ E05IL3340	N	The file does not contain evidence that the Corps looked for hazards other than BD/DR.
Alpena Naval Radio Station/ E05MI1183	Y	
Army Ordnance Warehouse #4001/ E05MI1177	Y	
Buick Layaway Warehouse/ E05MI0154	Y	
Detroit Glider Depot/ E05MI1179	N	The file does not contain evidence that potential hazards from prior uses were identified or assessed.
Eagle Harbor Naval Radio Station/ E05MI1189	Y	
Fisher Lay-Away Warehouse/ E05MI0156	Y	
Grand Rapids Weather School/ E05MI1181	Y	
Melvindale Ordnance Forge Plant/ E05MI1203	Y	
Nike Battery 61/ E05MI0124	Y	
Naval Ordnance Plant-Centerline/ E05MI0273	Y	
Camp McDowell/ E05IL3302	Y	
Bonney Floyd Company/ G05OH0287	N	The file does not contain evidence that the Corps assessed potential HTRW or CON/HTRW hazards.
Camp Millard/ G05OH0004	Y	
Camp Sherman/ G05OH0043	N	The file does not contain evidence that potential hazards from prior uses were identified or assessed or that the Corps looked for hazards other than BD/DR.
Crosley Corp/ G05OH0969	N	The file does not contain evidence that a potential OEW hazard indicated by the presence of proximity fuses was assessed.
Dayton Army Airfield/ G05OH0011	N	The file does not contain evidence that potential HTRW or CON/HTRW hazards were assessed. A handwritten review note asking if an underground storage tank was present at this site does not appear to have been acted on.
Engineer Subdepot/ G05OH0128	Y	
Fostoria Plant/ G05OH0022	N	The file does not contain evidence that the Corps assessed potential HTRW or CON/HTRW hazards.
Naval Weapons Industrial Reserve Plant/ G05OH0289	N	The file does not contain evidence that potential hazards from prior uses were identified or assessed.

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Property name/ FUDS number	Sound basis (Y/N)	Reason for GAO's finding
Nike Battery #46/ G05OH0045	N	The file does not contain evidence that potential HTRW or CON/HTRW hazards were assessed. Corps decision seems to rely on the fact that the buildings were being beneficially used.
Ordnance Service Command Shop "A"/ G05OH0152	Y	
Sulphur Missile Tracking Annex/ G05OH0962	Y	
U.S. Army Reserve Center-Geneva/ G05OH0157	N	Potential CON/HTRW hazards.
U.S. Army Reserve Center-Mount Vernon/ G050H0158	Y	
Willy's Motor, Inc./ G05OH0968	Y	
Wright-Patterson Communication Facility, Annex 3/ G05OH0163	Y	
Lanark Prisoner of War (POW) Camp/ E05IL3335	Y	
Palestine Auxiliary Airfield/ E05IL1254	Y	
Air Force Plant #35/ E05IL0105	N	The file does not contain evidence that the Corps looked for hazards other than BD/DR.
Pressed Steel Car Company/ E05IL0043	Y	
Randolph Street Housing and Gunsite/ E05IL3337	N	Potential OEW contamination hazards.
Savanna Army Depot/ E05IL3276	Y	
Scott Ammo Storage Annex/ E05IL0242	N	Potential CON/HTRW and OEW hazards.
U.S. Army Reserve Center-Beardstown/ E05IL3261	Y	
U.S. Army Reserve Center-Carmi/ E05IL3281	Y	
U.S. Army Reserve Center-Charleston/ E05IL3262	Y	
U.S. Army Reserve Center-Oak Park/ E05IL3273	Y	
U.S. Air Force Reserve Center-Waukegan/ E05IL3279	Y	
Air Force Fuel Cell Test Facility/ G05IN0101	Y	
Casad Engineer Depot/ G05IN0118	N	The file does not contain evidence that potential hazards from prior uses were identified or assessed or that the Corps looked for hazards other than BD/DR.
Chicago Ordnance District Warehouse/ G05IN0094	N	The file does not contain evidence that the Corps assessed potential HTRW or CON/HTRW hazards.
U.S. Army Reserve Center-Crane / G05IN0089	Y	
E. Chicago Ordnance Steel Foundry/ G05IN0060	Y	
Belmont Harbor Housing & Gunsite, Position 11/ E05IL3324	Y	
Emison Auxiliary Field #1/ G05IN0061	Y	
Evansville Ordnance Plant/ G05IN0106	N	The file does not contain evidence that potential hazards from prior uses were identified or assessed or that the Corps looked for hazards other than BD/DR.

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Property name/ FUDS number	Sound basis (Y/N)	Reason for GAO's finding
U.S. Naval Storehouse-Rockdale/ E05IL0106	N	The file does not contain evidence that potential hazards from prior uses were identified or assessed.
Grissom Air Force Base Instrument Landing System Outer Marker Annex/ G05IN0095	N	The file does not contain evidence that an adequate site assessment was conducted.
Burgess-Norton Plant/ E05IL0040	N	The file does not contain evidence that potential hazards from prior uses were identified or assessed.
Newport Army Ammunition Plant/ G05IN0073	N	Potential OEW hazards.
North Vernon Municipal Airport/ G05IN0078	Y	
Odon Gap Filler Annex/ G05IN0074	Y	
Richland Center Gap Filler Annex Z-73J/ G05IN0075	N	Potential CON/HTRW and HTRW hazards. Although a comment was included in the file that underground storage tanks were typically present at these types of sites and should be investigated, there is no evidence in the file the potential hazards associated with the tank were assessed.
Busse Forest Rocket Storage Area/ E05IL3331	Y	
TBI Corp/Falls Creek Ordnance Plant/ G05IN0107	Y	
Waveland Professional Building/ G05IN0084	Y	
White Oak Park-U.S. Army Reserve LaPorte Home Station Training/ G05IN0091	N	There is no evidence of site visit to assess potential BD/DR and OEW hazards.
Zenas Auxiliary Field #5/ G05IN0087	Y	
Fort Zachary Taylor/ G05KY0021	Y	
Louisville Army Depot/ G05KY0031	N	The file does not contain evidence that potential hazards from prior uses were identified or assessed or that the Corps looked for hazards other than BD/DR.
Nichols Support Facility-General Hospital/ G04KY0037/38	N	The file does not contain evidence that the Corps assessed potential HTRW and BD/DR hazards despite information in the file indicating the existence of an incinerator and dirt mound.
Anti-Aircraft Artillery Battery 62/ E05MI0152	N	The file does not contain evidence that CON/HTRW hazards were assessed despite evidence in the file that storage tanks and industrial waste collection systems were on site.

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Property name/ FUDS number	Sound basis (Y/N)	Reason for GAO's finding
New York District		
Bethlehem Steel Co./ C02NJ0939	N	The file does not contain evidence that potential hazards from prior uses were identified or assessed. Despite the owner's concern about potential CON/HTRW hazards (PCBs and fuel contamination), it does not appear that the Corps assessed the potential hazards.
Galeville Auxiliary Airfield No. 2/ C02NY0736	N	The file contains two separate findings of fact (both undated and unsigned). One indicates the site included 272.6 acres of aviation easements that is missing in the other findings of fact.
Civil Air Patrol, Wing Headquarters/Morristown Municipal Airport/ C02NJ0774	Y	
Long Beach Sewerage/ C02NY0006	Y	
Manhattan Beach Air Force Station/ C02NY0637	N	Potential HTRW hazards. An HTRW project proposed by the district was denied because of lack of evidence. The project was designed to obtain evidence that would confirm or dismiss the presence of HTRW hazards.
Marine Corps Reserve/ C02NY1072	Y	
Millrock Repair and Storage Depot/ C02NY0643	N	Potential HTRW and OEW hazards. The file contained conflicting documents; one version of site visit summary indicated oil and gas spill hazard, another version said no hazard. Original NDAI determination was rejected and a project was proposed. The project was later rejected on the basis that there was no proof that the hazard was DOD-related, although the file contained no evidence that would support that finding. In addition, the file does not contain evidence that potential OEW hazards were assessed, despite the presence of a dynamite shed.
Navy & Marine Corps Training Center-New York City/ C02NY0745	Y	
Naval Industrial Reserve Plant (Farrad Optical)/ C02NY1068	Y	
Naval Reserve Training Center-Whitestone/ C02NY1121	N	The file does not contain evidence that the Corps assessed a potential HTRW hazard identified on a site map.
Naval Reserve Center, Clinton Avenue-Rochester/ C02NY1073	Y	
Navy and Marine Corps Reserve Training Center-Huntington/ C02NY1093	Y	
U.S. Navy Land Facility-Hart Island/ C02NY1117	Y	

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Property name/ FUDS number	Sound basis (Y/N)	Reason for GAO's finding
Navy Receiving Station-Pier 92/ C02NY1087	N	The file does not contain evidence that potential hazards from prior uses were identified or assessed or that the Corps looked for hazards other than BD/DR.
Navy Salvage Training School-Pier 88/ C02NY1106	Y	
New Hackensack Auxiliary Field #3/ C02NY0651	Y	
New York Naval Shipyard/ C02NY0756	N	The file does not contain evidence that potential hazards from prior uses were identified or assessed.
Nike NY 23/ C02NY0089	N	Potential HTRW and CON/HTRW hazards. The district originally proposed an HTRW project based on slow growth of vegetation at a suspected acid mixing area. Headquarters replied that site visit observation was "no evidence of contamination." The district withdrew the project without further assessing suspected HTRW hazard. In addition, a generator building was present and the file contains no evidence of any effort to locate potential CON/HTRW hazards associated with aboveground and underground storage tanks.
Cape May Housing/ C02NJ0980	Y	
Naval Industrial Reserve Aircraft Plan-Mineola/ C02NY0978	N	The file does not contain evidence that potential HTRW hazards (solvents and chemicals) resulting from DOD use were assessed.
Bison Casting Co./ C02NY0958	Y	
Naval Reserve Center-Troy/ C02NY1126	Y	
Charles Wood Area/ C02NJ0986	Y	
Naval Reserve Center-Oswego/ C02NY0986	Y	
Pelham Camp/ C02NY1065	Y	
Camp Coles/ C02NJ0009	N	The file does not contain evidence that potential CON/HTRW hazards were assessed.
Navy Receiving Station-Pier 45/ C02NY1099	N	The file does not contain evidence that potential hazards from prior uses were identified or assessed.
Poughkeepsie Naval Industrial Reserve Plant/ C02NY0748	Y	
Ransonville Test Annex/ C02NY0012	Y	

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Property name/ FUDS number	Sound basis (Y/N)	Reason for GAO's finding
Rhoades General Hospital/ C02NY0686	N	Potential HTRW hazards. The district proposed a HTRW project based on a site visit. Headquarters asked the district to provide more evidence of possible DOD contamination. The district withdrew the project without further assessing suspected HTRW hazards.
Air Force Plant #33/ C02NJ0767	N	The file does not contain evidence that the Corps looked for hazards other than BD/DR.
Rome Very High Frequency Omnidirectional Range Annex/ C02NY0691	N	There is no evidence that the Corps assessed the potential for CON/HTRW hazards at this site.
Sea Gate Fire Control Station/ C02NY0697	Y	
Special Hospital-Coney Island/ C02NY1101	Y	
Suffolk County Missile Annex/ C02NY0714	N	The file does not contain evidence that potential hazards from prior uses were identified or assessed.
U.S. Army Reserve Center-Buffalo/ C02NY0730	Y	
U.S. Army Reserve Center-Lane Bryant Building/ C02NY0732	Y	
Watertown Communication Facility Annex/ C02NY0907	Y	
Hoboken Terminal/ C02NJ0983	Y	
Island Beach Test Site/ C02NJ0993	Y	
Monmouth Beach Fire Control Station/ C02NJ0794	Y	
Naval Industrial Reserve Plant (Denville Technical Park)/ C02NJ0838	Y	
Naval Medical and Dental Supply Facility/ C02NJ0831	N	The file does not contain evidence that potential hazards from prior uses were identified or assessed.
Naval Reserve Facility-Stirling/ C02NJ0558	Y	
Naval Bombing and Strafing Target-Deadman's Shoals/ C02NJ1001	Y	
Naval Radio Station-Mystic Island/ C02NJ1017	N	The file does not contain evidence that potential hazards from prior uses were identified or assessed.
Naval Reserve Center-Camden/ C02NJ1010	Y	
Naval Reserve Center-Clifton/ C02NJ0561	Y	
Navy Reserve Training Center-Atlantic City/ C02NJ1012	Y	
Newark Radio Tube Plant/ C02NJ0797	Y	
Nike Battery #53/ C02NJ0798	Y	
Stevens Institute of Technology-Hoboken/ C02NJ0965	Y	
Twins Lights AC&W/ C02NJ0822	Y	

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Property name/ FUDS number	Sound basis (Y/N)	Reason for GAO's finding
U.S. Naval Industrial Reserve Shipyard-Kearny/ C02NJ0848	Y	
Asbury Park Watson Lab/ C02NJ0829	N	The file does not contain evidence that potential hazards from prior uses were identified or assessed.
U.S. Army Reserve Center-Montclair/ C02NJ0825	N	The file does not contain evidence that potential HTRW and CON/HTRW hazards associated with facilities (underground storage tanks, grease rack, and auto repair facility) located on the property were assessed.
Watson Laboratories Field Station/ C02NJ0828	Y	
Woodbine Municipal Airport/ C02NJ0975	N	The file does not contain evidence that the Corps assessed CON/HTRW hazard associated with facilities found at the property.
Atlantic Overseas Material District/ C02NJ0769	Y	
Air Force Plant #12/ C02NY0571	Y	
Amag Fire Control Station/ C02NY0580	Y	
Bausch and Lomb Optical Company-2/ C02NY0996	Y	
Buffalo Modification Center No. 5/ C02NY0593	Y	
Clark Hill Test Annex #1 & 32/ C02NY0601	N	The file does not contain evidence that potential hazards from prior uses were identified or assessed.
Columbian Bronze Corporation/ C02NY0959	Y	
Camp Shanks/ C02NY0596	N	The file does not contain evidence that an adequate site assessment was conducted.
Camp Upton/ C02NY0597	Y	
Ditch Plains Fire Control Station/ C02NY0603	Y	
Omaha District		
Box Elder Communications Facility/ B08SD0366	Y	
Ellsworth Air Force Base Light Annex #1, South/ B08SD0350	Y	
Ellsworth Air Force Base Survival Training Annex #2/ B08SD0347	Y	
Fort Meade/ B08SD0853	N	The file does not contain evidence that potential hazards from prior uses were identified or assessed.
Fort Meade Maneuver Area/ B08SD0854	Y	
Fort Meade Prisoner of War Camp/ B08SD0855	Y	
Joe Foss Field Air National Guard Radio Range/ B08SD0362	Y	
Pierre Rifle Range/ B08SD0863	Y	
Sioux Falls Army Air Field/ B08SD0369	N	Potential OEW hazard. The file does not contain evidence that the Corps fully assessed the potential hazard.

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Property name/ FUDS number	Sound basis (Y/N)	Reason for GAO's finding
Las Animas Auxiliary Field #2/ B08CO0702	Y	
Fort McCoy Training Area/ E05WI0089	N	The file does not contain evidence that an adequate site assessment was conducted.
Oconto County National Guard Target Range/ E05WI0094	N	The file contains evidence that studies were being conducted to determine if expended rifle rounds might threaten soil or groundwater quality (HTRW hazard). No evidence of any follow-up.
Lowry Communication Facility Annex/ B08CO0498	Y	
Upson Gap Filler Annex/ E05WI0047	Y	
U.S. Army Reserve Center-Milwaukee (South Side)/ E05WI0907	Y	
U.S. Army Reserve Center Outdoor Training Area-Appleton/ E05WI0904	Y	
Rocky Ford Auxiliary Field #1/ B08CO0716	Y	
Wehr Steel Site/ E05WI0910	Y	
Whitnall Park Camp/ E05WI0912	N	The file does not contain evidence about the steps taken by the Corps to assess potential hazards at this site.
Williams Bay Gap Filler Annex/ E05WI0043	N	The file does not contain evidence that the Corps identified the facilities constructed and potential hazards associated with them.
Cheyenne Municipal Airport/ B08WY0431	N	The file does not contain evidence that potential hazards from prior uses were identified or assessed.
F.E. Warren Air Force Base Rock Quarry Site/ B08WY0653	Y	
Fort Phil Kearney Monument Site/ B08WY0439	Y	
Deep River Bomb Scoring Site/ B07IA0117	Y	
Offutt Instrument Landing System Outer Marker Annex/ B07IA0628	Y	
Offutt Terminal Very High Frequency Omni Range Annex/ B07IA0627	N	The file does not contain evidence that potential hazards from prior uses were identified or assessed.
Quad Cities Tank Arsenal/ B07IA0114	N	The file does not contain evidence about the steps taken by the Corps to assess potential hazards at this site.
Schick General Hospital/ B07IA0115	N	The file contains evidence that district staff indicated that HTRW and CON/HTRW hazards might be present at the site and recommended additional actions, including sampling. Division staff did not agree and stated additional information was needed before proceeding. The file does not indicate that any additional investigation was done to resolve the issue.

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Property name/ FUDS number	Sound basis (Y/N)	Reason for GAO's finding
U.S. Army Reserve Center-Carroll/ B07IA0629	Y	
Air Force Plant No. 79/ B08CO0488	N	The file contains evidence that a potential HTRW hazard was not assessed.
Big Falls Gap Filler Annex/ E05MN0041	N	Potential HTRW and CON/HTRW hazards. The file contains no evidence that these potential hazards were adequately assessed.
Bird Island Prisoner of War Camp/ E05MN1057	Y	
Brown & Bigilow Fuse/ E05MN0088	Y	
Duluth Family Housing/ E05MN0215	N	The file does not contain evidence that potential OEW hazards were assessed despite the presence of a picture and notes showing a munitions storage bunker.
Arlington Air Force Auxiliary Field/ B08CO0672	Y	
Duluth Radio Beacon Annex 2/ E05MN0217	Y	
Faribault Prisoner of War Camp/ E05MN1047	Y	
Hastings Air Force Petroleum, Oil, and Lubricant Distribution Station/ E05MN0086	Y	
Hollandale Prisoner of War Camp/ E05MN1055	Y	
Minneapolis-Honeywell Facility/ E05MN0223	N	Potential HTRW and CON/HTRW hazards. The file does not contain evidence that potential hazards from prior uses were identified or assessed.
Denver Municipal Airport/B08CO0107	Y	
Remer Prisoner of War Camp/ E05MN0037	N	The file does not contain evidence that the Corps looked for hazards other than BD/DR.
Rochester Army Air Force Aircraft Ferrying Station AKA/ E05MN0230	N	The file does not contain evidence that the Corps identified or assessed the site for the presence of potential CON/HTRW hazards despite the site's use as a rest and refueling area.
U.S. Army Reserve Center-Willmar/ E05MN0239	Y	
Wadena Family Housing/ E05MN0020	Y	
Wells Prisoner of War Camp/ E05MN1054	Y	
Willmar Air Force Station/ E05MN0028	Y	
Dickinson Family Housing Annex/ B08ND0406	N	Potential HTRW and CON/HTRW hazards. The file contains conflicting information about the facilities that remain and their use. The file does not contain evidence that an adequate site assessment was conducted.
Fargo Army Airfield B08ND0401	Y	

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Property name/ FUDS number	Sound basis (Y/N)	Reason for GAO's finding
Grafton Gap Filler Annex/ B08ND0764	Y	
Minot Terminal Very High Frequency Omni Range Annex/ B08ND0816	N	Potential HTRW and CON/HTRW hazards. Corps District proposed a HTRW (sampling) project that was rejected. The file does not contain evidence that a statement by the owner that a potential CON/HTRW hazard (underground storage tank) might be present was assessed.
Sheyenne Gap Filler Annex/ B08ND0410	Y	
Valley City Gap Filler Annex/ B08ND0402	Y	
Ainsworth Rifle Range/ B07NE0035	N	The file contains evidence that the ordnance and technical programs division disagreed with NDAI. They suggested an additional search. The file contains no evidence that an additional search was conducted.
Fairmont Moving Target Range/ B07NE0050	Y	
Grand Junction Engineer Project/ B08CO0699	N	The file does not contain evidence that an adequate site assessment was conducted.
Indianola Prisoner of War Camp/ B07NE0056	N	The file does not contain evidence that potential CON/HTRW hazard (fuel tank) was assessed.
Lincoln Air Force Facility, Site 11/ B07NE0099	N	The file does not contain evidence about the steps taken by the Corps to assess potential hazards at this site.
Lincoln Air Force Defense Site-Nike Battery LI-50/ B07NE0076	Y	
Lincoln Search Radar Annex/ B07NE0755	N	Potential CON/HTRW hazards. The file does not contain evidence that an adequate site assessment was conducted.
Sacramento District		
Point Lobos Sea Position/ J09CA0906	Y	
Point Reyes Lighthouse/ J09CA0908	Y	
Richmond Tank Depot/ J09CA0919	Y	
Russian Gulch Camp Site/ J09CA0921	Y	
Sacramento Engineering Depot/ J09CA0922	N	The file does not contain evidence that the Corps looked for hazards other than BD/DR.
Salinas Garrison/ J09CA0926	Y	
SF Anti-Aircraft Artillery Battery 61-N/ J09CA0935	N	The file does not contain evidence that the Corps looked for hazards other than BD/DR.
Bulk Fuel Storage Facility/ J09CA0761	Y	
Malagra Ridge Military Reservation/ J09CA7077	Y	

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Property name/ FUDS number	Sound basis (Y/N)	Reason for GAO's finding
SF Site 61-R/ J09CA0945	Y	
Soledad Prisoner of War Camp/ J09CA0953	N	Potential OEW and CON/HTRW (underground storage tanks). The file contains no evidence that these hazards were assessed.
Byron Hot Springs Interrogation Center/ J09CA0762	Y	
State Fairgrounds/ J09CA0956	Y	
Survival Training Auxiliary Site/ J09CA0964	Y	
Thornton Beach/ J09CA0966	Y	
Travis Radio Beacon Annex/ J09CA0978	N	The file does not contain evidence that the Corps looked for hazards other than BD/DR.
Travis Training Annex/ J09CA0096	N	The file does not contain evidence that potential OEW hazards were assessed.
Calistoga Radio Beacon Annex/ J09CA0763	Y	
Navy Camp-Upper Lake/ J09CA0033	Y	
U.S. Army Reserve Center-Lighthouse Point/ J0CA0986	Y	
U.S. Coast Guard Reservation/ J09CA7060	Y	
Vernalis Prisoner of War Camp/ J09CA0990	Y	
Reno Organized Reserve Corps Training Site/ J09NV0917	Y	
Smiths Ranch Dry Lake Annex/ J09NV0952	Y	
Tonopah Air Force Base Beacon Sites #1-7/ J09NV0967	Y	
Air Force Plant #81/ J08UT0750	N	Potential HTRW and OEW hazards. The file does not contain evidence that the Corps assessed these potential hazards.
Brigham City Airport/ J08UT0759	Y	
Camp Kearns/ J08UT1109	N	Potential HTRW, OEW, and CON/HTRW hazards. The file does not contain evidence that the Corps assessed these potential hazards.
Hill Military Airfield/ J08UT0020	N	The file does not contain evidence that an adequate site assessment was conducted.
Knolls Radar Annex/ J08UT0841	Y	
Marquardt Air Force Jet Laboratory/ J08UT0860	Y	
Operation Mine Shaft/ J08UT0888	N	Given the prior use(s) of this site, it is possible that other HTRW hazards exist at the site (e.g., chemicals from OEW).
Pershing Project, Bears Ears Site/ J08UT0897	N	Potential HTRW and CON/HTRW hazards. The file does not contain evidence that the Corps assessed these hazards.
Salt Lake City Airway Radio Station/ J08UT0929	N	The file does not contain evidence that an adequate site assessment was conducted.

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Property name/ FUDS number	Sound basis (Y/N)	Reason for GAO's finding
Camp Roberts/ J09CA0030	N	The file does not contain evidence that potential hazards from prior uses were identified or assessed.
Tony Grove Convalescent Camp/ J08UT0971	N	The file does not contain evidence that potential CON/HTRW hazards were assessed.
Campbell Auxiliary Field #4/ J09CA0775	Y	
Castle Instrument Landing System Outer Marker Annex/ J09CA0778	N	Potential CON/HTRW (PCBs and underground storage tanks) hazards. The file does not contain evidence that the Corps assessed these hazards.
Castle Radio Beacon Annex/ J09CA0779	Y	
China Beach Bivouac Area/ J09CA0784	Y	
Alcatraz/ J09CA3108	Y	
Devil's Slide/ J09CA0789	Y	
Dibble General Hospital/ J09CA0791	Y	
Durant Park Maneuver Area/ J09CA0793	Y	
Edwards Creek Dry Lake Test Annex/ J09CA0795	Y	
Great Highway Military Reservation/ J09CA0815	Y	
Alcatraz Island/ J09CA7301	Y	
Grizzly Peak Very High Frequency Station / J09CA0816	Y	
Hamilton Training Annex/ J09CA0822	Y	
Helm Auxiliary Field #6/ J09CA0828	Y	
Kinsbury Auxiliary Field #1/ J09CA0838	Y	
Antioch Bombing Target/ J09CA7299	Y	
Lemoore Emergency Landing Field/ J09CA0851	Y	
Mayberry Slough Mooring Area/ J09CA0865	Y	
McClellan Air Force Base Outer Marker and Homing Beacon/ J09CA0010	Y	
Merced Auxiliary Field/ J09CA0871	N	The file does not contain evidence that the Corps assessed potential HTRW and CON/HTRW hazards that were identified.
Merced Japanese Reception Center/ J09CA0873	Y	
Monterey Bay (Fort Ord)/ J09CA7076	Y	
Naval Dispensary/ J09CA0134	Y	
Naval Industrial Reserve Plant-San Francisco/ J09CA1064	Y	
Beale Air Force Base Terminal Very High Frequency Omni Range Annex/ J09CA0767	Y	
Oroville Gap Filler Annex P-588/ J09CA0891	Y	
Pacific Ordnance Steel Foundry/ J09CA0894	Y	

(Continued From Previous Page)

Property name/ FUDS number	Sound basis (Y/N)	Reason for GAO's finding
Potter Auxiliary Field #5/ J09CA0903	Y	
Savannah District		
Air Force Plant #67/ I04GA0102	N	The file does not contain evidence that an adequate site assessment was conducted.
Waco Military Reservation/ I04GA0444	N	The file does not contain any evidence that OEW or HTRW hazards associated with facilities located at the site were assessed.
Berlin Auxiliary Field #1/ I04GA0059	Y	
Bibb County Communications Annex/ I04GA0384	Y	
Blythe Island Military Reservation/ I04GA0436	Y	
Brunswick Gap Filler Annex/ I04GA0428	N	The file does not contain evidence that potential hazards from prior uses were identified or assessed.
Claxton Searchlight Training Site/ I04GA0422	Y	
Columbus Air Force Reserve Center/ I04GA0417	Y	
Cordele Municipal Airport/ I04GA0400	Y	
Alma Gap Filler Annex/ I04GA0425	Y	
Dobbins Disposal #9/ I04GA1049	N	The file does not contain evidence that potential hazards from prior uses were identified or assessed.
Dobbins Outer Marker/ I04GA0439	Y	
Fort Gordon Disposal #11/ I04GA1104	Y	
Fort Gordon Disposal #8/ I04GA1101	N	The file does not contain evidence that an adequate site assessment was conducted.
Fort Gordon Disposal #9/ I04GA1102	N	The file does not contain evidence that potential HTRW and CON/HTRW hazards were assessed.
Fort Hancock, GA/ I04GA0022	N	The file does not contain evidence that an adequate site assessment was conducted.
Fort Gordon Disposal #1/ I04GA1094	Y	
846th Army Air Forces Specialized Depot-Atlanta / I04GA0020	N	Potential HTRW hazard.
Fort Gordon Disposal #2/ I04GA1095	Y	
Glennville Search Light Training Site/ I04GA0423	N	The file does not contain evidence that the Corps assessed the potential HTRW, OEW, and CON/HTRW hazards at this property.
Gunn Auxiliary Field #1/ I04GA1020	Y	
Homerville Bombing and Gunnery Range/ I04GA0044	N	Potential OEW hazard. The size of FUDS and the investigative techniques for locating OEW at the time property was transferred suggest potential OEW hazards.

(Continued From Previous Page)

Property name/ FUDS number	Sound basis (Y/N)	Reason for GAO's finding
Atlanta Municipal Airport/ I04GA0582	N	The file does not contain evidence that potential HTRW, BD/DR, or CON/HTRW hazards associated with facilities at the site were assessed. For example, fuel areas associated with past DOD use or electrical generation equipment for the barracks may have associated HTRW and CON/HTRW hazards.
Lawson General Hospital/ I04GA0420	N	It does not appear that HTRW and CON/HTRW were adequately investigated, based on prior use(s).
Marietta Air Force Station (Z-111)/ I04GA0586	N	The file does not contain evidence of the types of hazards that were investigated during the site visit. No mention that potential HTRW and CON/HTRW (PCB and contents of an underground storage tank) were assessed.
Marine Corps Logistics Base Disposal/ I04GA1059	N	The file does not contain evidence that an adequate site assessment was conducted.
McKinnon Airport Communication Annex/ I04GA0036	Y	
Moody Radio Range Annex/ I04GA0997	N	Potential HTRW hazard. The file does not contain evidence that this hazard was assessed.
Atlanta Radar Bomb Scoring Site/ I04GA0434	N	The file does not contain evidence that an adequate site assessment was conducted.
North Smithville Auxiliary Field #6/ I04GA0382	N	The file does not contain evidence that OEW, CON/HTRW, or BD/DR hazards were assessed.
Navy Pub Supply Office/ I04GA0815	N	The file does not contain evidence that identified HTRW or CON/HTRW hazards were assessed.
Albany Outer Marker Annex/ I04GA0878	N	The file does not contain evidence that an adequate site assessment was conducted.
Radio Range Marker Annex/ I04GA0877	Y	
Reynoldsville Auxiliary Field #2/ I04GA0402	N	The file does not contain evidence that an adequate site assessment was conducted.
Robins Air Force Base Disposal #1/ I04GA1080	Y	
Robins Air Force Base Disposal #3/ I04GA1082	N	The file does not contain evidence that potential hazards from prior uses were identified or assessed.

(Continued From Previous Page)

Property name/ FUDS number	Sound basis (Y/N)	Reason for GAO's finding
Robins Radio Beacon Annex/ I04GA0441	N	Potential HTRW and BD/DR hazards. The file does not contain evidence that these potential hazards were assessed. Potential HTRW contamination is based on prior use(s). Although the file indicates that potential asbestos contamination from building debris may be present at the site, the file contains no evidence that the landowner was informed of this potential hazard or that local, state, or federal environmental entities were contacted.
Robins Disposal #14/ I04GA1093	N	The file does not contain evidence that potential hazards from prior uses were identified or assessed.
Robins Disposal #7/ I04GA1086	Y	
Savannah Tech/ I04GA0987	Y	
Souther Field/ I04GA1071	N	The file does not contain evidence that the Corps assessed the presence of potential HTRW or OEW hazards.
Spence Army Airfield/ I04GA0579	Y	
Statesboro Radar Bombing Scoring Site/ I04GA0575	N	Potential BD/DR and CON/HTRW hazards. The file contains conflicting information about potential hazards at this site. The file indicates that two underground gas tanks (totaling 5,000 gallons) that may still contain gasoline were found during a site visit and that no one has used the tanks since DOD left. Remedial action costing $8,460 was proposed. The file also indicates that abandoned and unsafe debris is present at the site. The final inventory report states the condition of the site is only partially the result of DOD use, but the file contains no evidence to support this statement.
Thomasville Army Airfield / I04GA0590	Y	
Tifton Municipal Airport/ I04GA0584	N	Potential HTRW, OEW, and CON/HTRW hazards. The file contains evidence that a septic tank that was used and installed by the Army was found to be full of liquids at the time of inspection. An oily substance was present that had been discharged from the tank. The file indicates "It is not known if the substances in the tank are hazardous and/or toxic materials nor if contamination to the area's groundwater had occurred due to leaks from the tank." The source(s) of the hazardous material, if any, is also unknown.

(Continued From Previous Page)

Property name/ FUDS number	Sound basis (Y/N)	Reason for GAO's finding
Turner Air Force Base Nike Battery #28/ I04GA0398	N	The file does not contain evidence that identified CON/HTRW and BD/DR hazards were assessed. The file also indicates that sampling an area where a potential HTRW site was suspected was suggested, but does not contain any evidence that the sampling was done.
Valdosta Military Airfield / I04GA0013	Y	
Valdosta Army Reserve Center/ I04GA0415	Y	
West Leesburg Auxiliary Field #3/ I04GA0583	Y	
Seattle District		
Agawan Radar Bomb Scoring Site/ B08MT0294	Y	
Air Force Plant No. 17/ F10WA0236	Y	
Air Force Plant No. 75/ F10WA0239	Y	
Alaska Communications System/ F10WA0240	Y	
Bahokus Peak Very High Frequency Site 2MI/ F10WA0585	Y	
Blyn Mountain Radio Station 2M2/ F10WA0250	Y	
Chehalis Gap Filler Annex/ F10WA0265	N	The file does not contain evidence that potential HTRW hazards were assessed.
Chewalah Mountain Radio Relay Annex/ F10WA0266	Y	
Cohasset Cantonment Site/ F10WA0267	Y	
College Street Open Storage Site/ F10WA0268	Y	
Coos Bay Military Reservation/ F10OR0175	Y	
Dungeness Very High Frequency Control Site/ F10WA0582	Y	
Ebeys Landing Battery Site/ F10WA0574	Y	
Edgecomb Aircraft Warning Service Station F-50/ F10WA0276	Y	
Ephrata High Altitude Bombing Range/ F10WA0580	Y	
Fairchild Anti-Aircraft Artillery (AAA) Battery 21/ F10WA0595	N	The file does not contain evidence that potential HTRW, OEW, and CON/HTRW hazards were assessed despite evidence in the file of ammunition stored on-site, a handwritten note that "ground contamination may exist," and the presence of generators at the site.
Fairchild Anti-Aircraft Artillery (AAA) Battery 30/ F10WA0596	N	The file does not contain evidence that the Corps assessed for the presence of potential HTRW or OEW hazards.
Fairchild Anti-Aircraft Artillery (AAA) Battery 71/ F10WA0598	Y	
Fairchild Anti-Aircraft Artillery (AAA) Battery 91/ F10WA0602	N	The file does not contain evidence that the Corps assessed for the presence of potential HTRW or OEW hazards.

(Continued From Previous Page)

Property name/ FUDS number	Sound basis (Y/N)	Reason for GAO's finding
Fairchild Atlas Air Force Base Missile Facility E S-1/ F10WA0288	N	The file does not contain evidence that the Corps assessed potential HTRW, CON/HTRW, and BD/DR hazards.
Farragut Naval Training Center/ F10ID0702	N	The file does not contain evidence that potential CON/HTRW, HTRW, or BD/DR hazards were assessed. Information in file indicates that pools were used as disposal sites, as were open pits (that were covered), and that the site is over an aquifer supplying 350,000 people. The file does not indicate that the Corps considered this information.
Finley Auxiliary Airfield/ F10WA0605	Y	
Fort Casey/ F10WA0313	N	The file does not contain evidence that potential HTRW, OEW, or CON/HTRW hazards associated with facilities at the site were assessed.
Fort Keough Livestock and Range Research Center/ B08MT0006	N	The file contains evidence that the Corps district initially proposed an OEW project. However, there was no evidence in the file of the project's approval or denial. The file does not contain an explanation of why project was not conducted.
Fort Lawton-Discovery Park/ F10WA0030	Y	
Fort Lewis (Jefferson Homes)/ F10WA0320	Y	
Fort Lewis American Lake Gardens Housing Site/ F10WA0319	Y	
Geiger Field Precision Bombing Range #1/ F10WA0578	Y	
Glade Auxiliary Airfield/ F10WA0607	Y	
Glenhaven Engineers Cantonment/ F10OR0182	N	The file does not contain evidence that potential HTRW, OEW, and CON/HTRW hazards associated with solvents, fuels, or tanks present at the site were assessed.
Gowen Field Precision Bombing Range No. 5 Military Reservation/ F10OR0184	Y	
High Frequency Radio Station/ F10WA0337	N	The file does not contain evidence that the Corps assessed potential CON/HTRW hazards.
Hogeland Gap Filler Annex (P-25B)/ B08MT0321	N	Potential HTRW, BD/DR, and CON/HTRW hazards.

(Continued From Previous Page)

Property name/ FUDS number	Sound basis (Y/N)	Reason for GAO's finding
Houghton Anti-Aircraft Artillery/ F10WA0113	N	The file does not contain evidence that the Corps assessed the presence of potential HTRW, OEW, or CON/HTRW hazards despite the presence of a motor pool, grease rack, grease trap, magazines, 5,000-gallon storage tank, oil storage facility, paint shop, and communications hut.
Jackass Auxiliary Airfield/ F10WA0609	Y	
Jefferson Park Vehicle Storage Site/ F10WA0340	Y	
Joe Butte Radio Relay Annex/ F10WA0341	Y	
Juanita Anti-Aircraft Artillery Site/ F10WA0434	N	The file does not contain evidence that the Corps assessed potential HTRW hazards.
Junction Gap Filler Annex/ F10OR0164	Y	
Kalaloch Aircraft Warning Station/ F10WA0343	Y	
Lagoon Point/ F10WA0589	Y	
Lake Washington Ship Canal Open Storage/ F10WA0346	Y	
Larson Terminal Variable Omnirange (TVOR) Annex/ F10WA0352	N	The file contains inconsistent language about the removal of BD/DR hazard; photos in the file show an intact building.
Madras Air to Ground Gunnery Range/ F10OR0194	Y	
Majestic Base End Station Site/ F10WA0357	Y	
Malmstrom Safeguard, Waterline Facilities/ B08MT0535	Y	
Marine Recuperation Barracks/ F10OR0570	N	The file does not contain evidence that potential BD/DR, OEW, and CON/HTRW hazards were assessed. Site had a laboratory, and a gasoline station (and underground storage tank) was likely on the premises per an excess property report.
Marysville Instrument Landing System (ILS) Outer Marker Annex/ F10WA0360	Y	
Mead Terminal Variable Omnirange (TVOR) Annex/ F10WA0367	N	The file does not contain evidence that a potential CON/HTRW hazard (underground storage tanks) was assessed.
Medford Ordnance Service Command Shop/ F10OR0201	N	The file does not contain evidence that potential CON/HTRW hazards (underground storage tanks) were adequately assessed.
Mountain Home Radio Beacon/ F10ID0152	Y	
Mountain Home Terminal Variable Omnirange (TVOR) Annex/ F10ID0155	Y	
Mt. Emily Radio Relay Annex/ F10OR0203	Y	

(Continued From Previous Page)

Property name/ FUDS number	Sound basis (Y/N)	Reason for GAO's finding
Mt. Hebo Air Force Station 2100/ F10OR0522	N	The file does not contain evidence that potential CON/HTRW (i.e., transformers and underground storage tanks), BD/DR, and HTRW hazards were assessed. The file also mentions the presence of a "hazardous storage building" and that mercury and lead contamination (HTRW hazards) was suspected, but there is no evidence that the Corps followed up on these issues.
Mt. Hood Radio Relay Annex/ F10OR0205	Y	
Mt. Vernon Municipal Airport/ F10WA0591	N	The file does not contain evidence that the Corps assessed potential OEW hazards despite evidence on a map showing bomb and fuse storage areas at the site.
Nodule Point Military Reservation/ F10WA0383	Y	
Northwest Relay and Radio Receiving Station/ F10WA0388	N	The file does not contain evidence that potential HTRW and CON/HTRW hazards were assessed.
Old Mill Site/ B08MT0031	N	The file does not contain evidence that the Corps obtained information on former activities or facilities other than that the site was used as a fort. No site visit was indicated in the file.
Othello Air Force Station (Z-40)/ F10WA0393	N	The file indicates that possible HTRW (e.g., oil, paint, and landfill), OEW (ammunition), and CON/HTRW (underground storage tank) hazards may be present at the site, but does not contain evidence these potential hazards were assessed.
Pendleton Bombing Range/ F10OR0210	N	The file contains no evidence that potential OEW hazards were assessed.
Phantom Lake Anti-Aircraft Artillery (AAA)/ F10WA0423	N	The file does not contain evidence that the Corps assessed potential HTRW, OEW, or CON/HTRW hazards from magazines, paint shop, gas station, generators, oil shed, and other facilities identified at the site.
Pisgah Home Terminal Variable Omnirange (TVOR) Annex/ F10OR0212	Y	
Poplar Radar Bomb Scoring Site/ B08MT0370	Y	
Port Orford Gap Filler Annex/ F10OR0214	Y	
Portland Sub-Port of Embarkation Military Reservation/ F10OR0216	Y	
Port Angeles Army Airfield/ F10WA0401	N	The file does not contain evidence that the Corps looked for hazards other than BD/DR.

(Continued From Previous Page)

Property name/ FUDS number	Sound basis (Y/N)	Reason for GAO's finding
Port Angeles Western Railroad/ F10WA0403	Y	
Reardan Radio Relay Annex/ F10WA0408	N	The file does not contain evidence that potential HTRW and CON/HTRW hazards were assessed.
Salmon Air National Guard Rifle Range/ F10ID0129	Y	
Seattle Army Chemical Plant/ F10WA0416	N	The file does not contain evidence that potential HTRW and CON/HTRW hazards were assessed.
Seattle Beacon Transmitter Site/ F10WA0419	Y	
Tatoosh Island/ F10WA0128	Y	
U.S. Engineer Warehouse (Fremont)/ F10WA0129	Y	
Vashon Anti-Aircraft Artillery (AAA) Site/ F10WA0421	N	The file does not contain evidence that potential HTRW and OEW hazards were assessed.
Weiser Radar Bomb Scoring Site/ F10ID0502	Y	
Whitewater Gap Filler Annex (Z-26A)/ B08MT0380	N	The file contains evidence that CON/HTRW hazards may exist (underground storage tank and transformers).

Comments from the Department of Defense

OFFICE OF THE UNDER SECRETARY OF DEFENSE

3000 DEFENSE PENTAGON
WASHINGTON, DC 20301-3000

ACQUISITION,
TECHNOLOGY
AND LOGISTICS

JUL 23 2002

Ms. Gary L. Jones
Director, Natural Resources and Environment
General Accounting Office
441 G. Street NW
Washington, DC 20548

Dear Ms. Jones:

This is the Department of Defense (DoD) response to the GAO draft report, GAO-02-658, "ENVIRONMENTAL CONTAMINATION: Corps Needs to Reassess Its Determinations That Many Former Defense Sites Do Not Need Cleanup", dated June 27, 2002 (GAO Code 360090). In the report, GAO asserted that many of the Corps' No DoD Action Indicated (NDAI) determinations did not have a sound basis and that the Corps did not consistently notify stakeholders of their findings.

The Department disagrees with GAO's conclusion that the Corps did not consistently obtain information necessary to identify potential hazards at Formerly Used Defense Sites (FUDS). Many of the files surveyed had eligibility determinations prepared in the 1980s and early 1990s. While we agree that, especially in the early days of the program, the Corps may not have had consistent procedures for evaluating FUDS, we do not agree that inconsistencies in approach necessarily led to inferior results. In fact, some of the earlier eligibility determinations were very detailed. As the program has matured, however, the use of tools, such as checklists for specific types of sites, have contributed to a more consistent approach in defining hazards.

The Department also disagrees with GAO's conclusion that the Corps did not take sufficient steps to assess the presence of potential hazards at FUDS. The FUDS eligibility determination is used primarily to support authorization and appropriation, and is guided solely by DoD's contribution, if any, to contamination at a site. The eligibility determination was never intended as a means to characterize all hazards present at the site, and therefore, cannot be compared to the CERCLA preliminary assessment/site inspection (PA/SI). If the Corps determines that a property is eligible for the program, an investigation process is undertaken to characterize the extent of DoD hazards at the site, which is consistent with the CERCLA PA/SI process. We have confidence in the Corps' ability to assess hazards and do not believe there have been deliberate failures or efforts to dismiss relevant information in any of these cases.

Regarding the issue of other factors contributing to inadequate preliminary assessments of eligibility, the Corps has always maintained that NDAIs would be reopened on discovery of additional information. Even in the absence of new information, the Army, through the FUDS Improvement Work Group, has agreed to reevaluate two to five NDAIs per year at each state's request.

Regarding GAO's concern that the Corps did not consistently notify owners and regulatory agencies about NDAI determinations, eligibility determination reports are now routinely provided to states, and where appropriate, to EPA regional offices. In addition, recent efforts by the Army through the FUDS Improvement Initiative, have increased coordination and communication between the Corps, regulatory agencies and property owners. For example, development of state-wide management actions plans assure that state priorities are given top consideration in the Corps' program execution planning.

Finally, regarding coordination with landowners, the Corps must obtain right of entry from the landowner to conduct an eligibility determination. Hence, there is always some level of communication with the landowner through rights of entry.

While the Department partially agrees with each of GAO's recommendations, especially since they closely mirror efforts currently underway by the Army to improve the program, the Department is concerned with the broad nature of the conclusions contained within the report. Our response to GAO's recommendations and specific comments, are attached.

We welcome the opportunity to revisit this issue at your convenience. My point of contact is Mr. Kurt Kratz at (703) 697-5372.

Sincerely,

Philip W. Crone
for Raymond F. DuBois, Jr.
Deputy Under Secretary of Defense
(Installations and Environment)

Enclosure

GAO DRAFT REPORT DATED JUNE 27, 2002
(GAO CODE 360090)

"ENVIRONMENTAL CONTAMINATION: CORPS NEEDS TO REASSESS ITS DETERMINATIONS THAT MANY FORMER DEFENSE SITES DO NOT NEED CLEANUP"

DEPARTMENT OF DEFENSE COMMENTS TO THE GAO RECOMMENDATIONS

RECOMMENDATION 1: Recommend the Secretary of Defense direct the Corps to develop and consistently implement more specific guidelines and procedures for assessing FUDS properties…

DoD RESPONSE: Partially Agree. The Corps of Engineers has had for a number of years specific guidelines and procedures for the evaluation and documentation of NDAIs. The Army, through the FUDS Improvement Initiative, is currently evaluating the need for any additional guidance or requirements. The Corps of Engineers is also in the process of revising its FUDS regulations, and plans to standardize existing procedures, as well as incorporate new guidance recommended by stakeholders, through the FUDS Improvement Initiative Workgroup. The Department of Defense will monitor the Army's progress in carrying out these initiatives.

RECOMMENDATION 2: Recommend the Secretary of Defense direct the Corps to use the newly developed guidance and procedures to review the files of FUDS properties that it has determined do not need further study or clean up action to determine if the files contain adequate evidence to support the NDAI determinations. If there is not a sufficient basis for the determination, those properties should be reassessed.

DoD RESPONSE: Partially Agree. The Corps has always maintained that NDAIs would be reopened on discovery of additional information. In addition, even in the absence of new information, the Army, through the FUDS Improvement Work Group, has agreed to reevaluate two to five NDAIs per year at each state's request. The particular properties to be reviewed and their sequencing will be coordinated with stakeholders, as appropriate, through development of FUDS state-wide Management Action Plans.
The Army is also currently considering a formalized process for closing out the 6,000 NDAIs currently in the FUDS inventory, which would include re-notification of property owners and regulatory agencies, and archiving all site information. The Office of the Secretary of Defense will monitor Army progress in implementing these initiatives.

RECOMMENDATION 3: Recommend the Secretary of Defense direct the Corps to develop and consistently implement procedures to ensure that owners and appropriate federal, state, and local environmental agencies are notified of the results of the Corps' preliminary assessments of eligibility in a timely manner. The Corps should also ensure that owners are aware that the Corps will reconsider an NDAI determination if new evidence of DoD hazards is found. In addition, when preliminary assessments of eligibility identify potential hazards that did not result

from DoD activities, the procedures should direct the Corps to notify the appropriate regulatory agencies in a timely manner.

DoD RESPONSE: Partially Agree. The Corps has procedures and practices in place to notify stakeholders of the results of eligibility determinations. All of the Corps' files have been made available to the states and EPA regions that have asked for copies. The Corps has never denied access to these files. Outreach and public participation in the FUDS program have been a primary focus of the Army's FUDS Improvement Initiative, and the Corps is currently implementing recommendations that would ensure availability of the eligibility determinations and other information, through enhanced notification procedures. The Army plans to include, as part of the FUDS Manual revision, guidance that specifically requires notification of landowners and regulatory agencies of all NDAI determinations. The Department will continue to monitor Army progress in its on-going effort to improve the FUDS program.

GAO Contacts and Staff Acknowledgments

GAO Contacts

Ms. Gary L. Jones, (202) 512-3841
Edward Zadjura, (202) 512-9914

Acknowledgments

In addition to those named above, Ian Ferguson, Ken Lightner, Sherry McDonald, and Aaron Shiffrin made key contributions to this report. Also contributing to this report were Doreen S. Feldman, Susan W. Irwin, Cynthia Norris, and Sidney Schwartz.

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