ATTACHMENT 11
EBS Outline Template

APPENDIX C

ARNG IES-E EBS Outline[16]

COVER/SIGNATURE PAGE

EXECUTIVE SUMMARY
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- **ES-3. CONCLUSIONS**

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- 7.1 MILCON AR 200-1 Site Classification - Categories (I through III), MILCON AR 200-1 Site Classification Map

SECTION 8: CONCLUSIONS
- 8.1 Environmental Condition of Property (including ECOP Area Type and MILCON Site Classification)
- 8.2 Known or Suspected Areas with Transfer Restrictions
- 8.3 Signature of Environmental Professional

APPENDICES Database Search Results, Interview Logs (Q&As), Aerial Photographs, Photograph Log from Site Reconnaissance, Regulatory Documentation, Area Type Map, Qualified Parcel Map, Qualifications of Environmental Professional, and Other Data (as appropriate)

[16] Derived from DoD policy on the Implementation of CERFA and ASTM D 6008-96 (2014); *Per AR 200-1 and AR 420-1

ATTACHMENT 12
ECOP Handbook Excerpt

SECTION 5: Environmental Baseline Survey

5.1 Introduction

The EBS satisfies the due diligence and disclosure requirements of AR 200-1 and 42 USC 9620(h)[10] when the ARNG proposes to:

- Transfer Federal property (e.g., federally owned or leased land) out of ARNG control; or
- Accept new ARNG control of (and responsibility for) existing Federal property from another Federal agency.

The ARNG prepares the EBS in accordance with ASTM D 5746-98 (2010) and D 6008-96 (2005). The following appendices of this Handbook provide relevant EBS information:

- **Appendix C -** Recommended ARNG EBS Outline.
- **Appendix L** - ARNG EBS Process.

Current, excellent examples of ARNG EBS's are also available from ARNG-ILE-T; please contact ARNG-ILE-T for more information.

As defined by ASTM, an EBS is: "a survey of DoD [Federal] real property based on all existing environmental information related to the storage, release, treatment, or disposal of hazardous substances or petroleum products or derivatives on the property to determine or discover the obviousness of the presence or likely presence of a release or threatened release of any hazardous substance or petroleum product sufficient to support classification of the property into one of the seven standard ECOP Area Types." In certain cases, additional data, including sampling and analysis (i.e., EBS Phase II; see **Appendix L**), may be needed to support or further refine such classification of the property.

The **EBS** considers all sources of available information concerning environmentally significant current and past uses of the subject real property and shall, at a minimum, consist of the following:

- A detailed search and review of available information and records in the possession of the Federal agency (or DoD component) or records made available by regulatory or other Federal agencies.
- A review of all reasonably obtainable Federal, State, and local Government records for the subject property and each appropriate adjacent facility.
- An analysis of aerial photographs.
- Interviews with potentially knowledgeable current and former employees.
- Visual inspection of the subject property and its facilities, as well as immediately adjacent properties.
- Identification of sources of contamination on the subject property and on adjacent properties that could migrate to the subject property.

[10] 42 USC 9620(h) implements Section 120(h) of CERCLA.

- Ongoing response actions or actions that have been taken at or adjacent to the subject property.
- Physical inspection of the properties adjacent to the subject property, to the extent permitted by the owners of that property.

The **EBS report** shall provide a written record of the EBS investigative process that includes:

- An executive summary identifying the subject property and the conclusions of the EBS.
- The property identification (e.g., address).
- Relevant information obtained from the detailed search of records and maps pertaining to the subject property.
- Relevant information obtained from a review of the recorded chain of title documents for the subject property, *covering a period of at least 60 years prior to the current date*.
- A description of past and current activities and uses of the subject property and adjacent properties.
- A description of hazardous substances and petroleum products management practices at the subject property and adjacent properties (i.e., to include storage, release, treatment, and disposal).
- Any relevant information on the known or suspected presence of munitions and explosives of concern (MEC), including unexploded ordnance (UXO), discarded military munitions (DMM), or munitions constituents (MC).
- Any relevant information obtained from records reviews and visual/physical inspections of the subject property and adjacent properties.
- A description of ongoing response actions or actions that have been taken at or adjacent to the subject property.
- An evaluation of the suitability of the subject property for an intended lease or deed transaction, if known, and the basis for determining such suitability.
- References to key documents examined.
- An ECOP Area Type Map of the subject property, prepared on the basis of all environmental investigation information conducted to date, that shows the environmental condition of the property in terms of the seven standard ECOP Area Types.

The ARNG EBS should follow the outline provided in **Appendix C**. The EBS shall be prepared as described herein and within ASTM D 6008-96 (2005). The Final EBS shall be signed by an Environmental Professional (see **Section 1.8**).

5.2 Purpose of the Environmental Baseline Survey

The purpose of the EBS in an ARNG property ***disposal action*** involving Federal property is to document the condition of the land at time of transfer to ensure that:

- The gaining owner is fully aware of the environmental conditions associated with the subject property.
- The ARNG is not held liable for any contamination caused by activities that occur *after* the transfer takes place, and the property is no longer under ARNG control.

The purpose of the EBS in an ARNG ***property acquisition action*** involving Federal property is to document the condition of the land at time of transfer to ensure that:

- The ARNG is fully aware of the environmental conditions associated with the subject property prior to taking control of that property.
- The ARNG is not held liable for any contamination caused by activities that occurred *prior to* the transfer taking place.
- The ARNG does not accept liability or financial responsibility for contamination caused by another Federal agency.

This fulfills the Government's responsibility under CERCLA (42 USC 9620(h)) for "Property transferred by the Federal Government."

5.3 Relationship with NEPA

When NEPA documentation is being completed for the acquisition or disposal of Federal property, portions of the EBS can be attached to the REC/Check, inserted into the Affected Environment section of the EA or EIS, or summarized and referenced in the EA or EIS as appropriate. Please see **Section 4.3** of this Handbook for more information.

Please refer to **Appendix L** concerning the ARNG EBS Process.

ARNG EBS Process

The ARNG Environmental Baseline Survey (Phase I) Process

The following subsections identify the ARNG EBS process for specific types of actions involving a *transfer of Federal property*. The overall document review and approval process (i.e., of the Draft and Final EBS) at the state ARNG and ARNG Directorate levels are described in **Section 12** of this Handbook.

1. Disposal of Federally Owned or Leased Property

For ***disposal of federally owned or leased property out of ARNG control***, the state ARNG is required to prepare an EBS and a ROA (see **Section 7.1**). Once the Final EBS is approved by ARNG-ILE-T:

1. A Memorandum documenting the review/approval and signed by the Division Chief, ARNG-ILE, becomes part of the ARNG-ILI Real Estate Package to complete the disposal action.
2. The approved, Final EBS is used to support a FOST or a FOSL, as appropriate.
3. The approved, Final EBS is used to support the Proposed Action's (i.e., disposal of Federal property) NEPA documentation (i.e., REC/Check, EA/FNSI, or EIS/ROD). NEPA documentation must be completed by the state ARNG and reviewed and approved by ARNG-ILE per the ARNG's NEPA Handbook (2011).

2. ARNG Acquisition of Federal Property Through a Transfer

For ***transfer of DoD Property to the ARNG***, the Army technically would be receiving the property by having the USP&FO sign a DD 1354 *(Transfer and Acceptance of DoD Real Property*) from the US Army Corps of Engineers (USACE) for accountability; the state ARNG TAG would then sign a license executed by the USACE to use the property.

In such a case, the Final EBS should be completed by the transferring service, not the ARNG. In instances where the transferring service is unwilling to provide a Final EBS or their Final EBS does not provide sufficient information, the state ARNG must notify ARNG-ILE of the situation so that they may assist with coordination.

When the state ARNG receives the Final EBS from the transferring service:

1. The state ARNG should review the Final EBS carefully for the status of any existing Installation Restoration Program (IRP) sites or other environmental liabilities that could impact the state ARNG's planned mission or construction, and therefore need to be addressed with the transferring service prior to transfer.
2. The Final EBS and any state ARNG concerns are sent to ARNG-ILE-T for review and approval by ARNG-ILE.
3. Upon approval by ARNG-ILE, a Memorandum documenting the review and signed by the Division Chief, ARNG-ILE becomes part of the ARNG-ILI Real Estate Package that is briefed to DASA (Installations and Housing [I&H]) to complete the transfer action.
4. The Final EBS is used to support the Proposed Action's (i.e., transfer of Federal property) NEPA documentation (i.e., REC/Check, EA/FNSI, or EIS/ROD). It is also the responsibility of the transferring service (not the ARNG) to provide the required NEPA documentation (REC/Check, EA, or EIS) for the land transaction. This NEPA

documentation is forwarded to ARNG-ILE with the Final EBS.

3. License or Permit of Federal Land by the ARNG

In cases where the ***ARNG proposes to license or permit ARNG's use of Federal land***, and where the land is not being transferred from another Federal agency to the Army or from another component of the Army (i.e., Active or Reserve Components) to the ARNG, an EBS is not required per AR 200-1, unless extraordinary circumstances exist (e.g., such as an indefinite term license).

Although an EBS is not required, the state ARNG shall conduct the following:

1. Conduct a Site Reconnaissance.
2. Answer the Part III: Site Reconnaissance Questions (see following pages).
3. Take appropriate, dated digital photographs of the property.

This ensures the property is suitable for the intended mission and there are no questionable environmental issues for which the ARNG could be considered liable (e.g., illicit dump sites or spills). The documentation should be retained on-file with the state ARNG EPM. Should any suspect areas be identified, these issues should be resolved working with ARNG-ILE and the responsible Federal agency.

In addition, for license and permit situations, a Host Tenant Agreement or a Memorandum of Understanding (MOU) should be developed. These are good tools for clearly assigning pertinent environmental responsibilities. ***For federally supported land actions, MOUs need to be reviewed and approved by ARNG-ILE.***

4. Disposing of State-Owned/State-Operated ARNG Property

When a state ARNG proposes to dispose of a State-owned/State-operated (SOSO) property, such as a Readiness Center, ARNG-ILE-T highly recommends that it is in the best interest of the state ARNG to conduct an EBS on their SOSO property before transferring it. This helps protect the state ARNG from potential future claims of liability for contamination that may occur after the time of transfer. Further, if contamination is found after the transfer, Compliance Cleanup Program funds would not be available for any required remedial actions.

It is also noted that disposal of SOSO properties do not require a FOST or FOSL under CERCLA. In addition, an EBS done for the transfer of SOSO property does not require review or approval by ARNG-ILE.

The ARNG Environmental Baseline Survey (Phase II) Process

EBS (Phase I) research, as described above, may indicate a need for follow-on investigation(s), such as intrusive sampling and analysis. These follow-on investigations would be included in an EBS Phase II effort. Such would be required if parcels of the subject property were identified in the EBS as ECOP Area Types 5, 6, or 7 (see **Figure 1-1**).

Obviously, the conduct of an EBS Phase II is an unlikely event when the ARNG is *disposing* of property. In such cases, any contamination should have been remediated by the ARNG at the time it occurred or as soon as it was identified. Any cleanup would be funded, if eligible, through normal Status Tool for Environmental Programs (STEP) procedures. STEP is the primary tool for validating and tracking environmental projects in each of the 54 ARNG states and territories. The data maintained in this tool are used for reporting, managing, and budgeting functions.

If the ARNG is acquiring military property from another DoD service or component, the transferring agency should provide the EBS Phase II information (i.e., where review of the EBS Phase I indicates that additional information is needed to be able to make a decision on the property). As such, Operations and Maintenance, ARNG (OMARNG) funding for EBS Phase II work is funded only by exception.

Requirements of the Environmental Baseline Survey

The ARNG prepares the EBS in accordance with the requirements of AR 200-1 and ASTM D 6008-96 (2005). ASTM D 6008-96 (2005) requires certain information to be included in the EBS, including four specific parts:

- ✓ **Part I. Records Review:** This is an extensive review of regulatory agency databases and searches of physical setting and historical use information concerning the subject property and adjacent properties. As applicable, records maintained in the state ARNG's Environmental Office and Installation files also must be reviewed.
- ✓ **Part II. Interviews:** This is a comprehensive checklist of items that the state ARNG staff should provide on the subject property. Additionally, it may include consultation with local agencies, if applicable.
- ✓ **Part III. Site Reconnaissance:** The site visit focuses on specific items on the subject property and adjacent properties. It is advisable to take dated, digital photographs to document this inspection.
- ✓ **Part IV. Description of Environmental Liabilities to include a Map with ECOP Delineations:** This is a map of the subject site that clearly delineates any CERCLA and non-CERCLA contamination of concern. The delineations are based on the ECOP Area Types as identified in **Figure 1-1**.

These parts are established ASTM Standards that are considered standard or customary practice. These parts should be conducted in concert so that information is completely shared and effort is not duplicated (e.g., some of the information required in the records review is also part of the interview request).

Again, the purpose of the EBS is to identify and accurately record all known environmental liabilities, as well as to document the recognized environmental condition of the subject property at the time of the transfer. Therefore, the EBS shall demonstrate reasonable research and include full disclosure of information. This ensures that the gaining party is fully aware of the environmental condition of the property, and protects the ARNG against liability of contamination caused by activities occurring on the property after the transfer takes place.

1. Part I: Records Review

ASTM D 6008-96 (2005) requires the preparer to review available records for the subject property and vicinity as part of the EBS. Several commercial companies provide –ASTM packages" which strictly follow the ASTM Standards for the regulatory database search, the geographical setting information, and the historical document search. A package that provides all three of these products costs between $250 and $1,000. Turn-around time for some of these companies is within a few days. Once purchased, these documents can become part of the state ARNG's document library to be used as needed for other purposes. This service greatly reduces the in-house workload to accomplish due diligence.

1a. Federal and State Database Sources

Table L-1 provides the required list of Federal and State database sources that shall be consulted as part of the EBS investigation, and the approximate minimum search radius for each database.

Table L-1: ASTM-Required Minimum Search Radii for an EBS

Source*	Approximate Minimum Search Distance (miles)
Federal NPL site list	**1.0**
Federal CERCLIS list	**0.5**
Federal RCRA TSD facilities list	**1.0**
Federal RCRA generators list	**Property & adjoining properties**
Federal ERNS list	**Property only**
State Equivalent NPL	**1.0**
State Equivalent CERCLIS	**0.5**
State landfill and/or solid waste disposal sites	**0.5**
State leaking UST lists	**0.5**
State-registered UST lists	**Property & adjoining properties**

* Please see List of Acronyms and Abbreviations, as well as **Section 13** (Glossary) of this Handbook for more information on each of these acronyms.

1b. Physical Setting Sources

The EBS shall include a US Geological Survey (USGS) 1:24,000 scale (7.5 Minute) Topographic Map[21] that shows the boundaries of the subject property and the area at least one (1) mile from the subject property in all directions. If a 1:24,000 scale is not available, then the next nearest scale should be used, typically a 1:63,360.

Depending upon the past use and any particular concerns related to the subject property, the EBS should include, as appropriate:

1. Ground Water Maps.
2. Bedrock Geology Maps.
3. Surficial Geology Maps.
4. Soil Maps.

[21] These maps can usually be found on http://topomaps.usgs.gov/ordering_maps.html; through the USACE; or at the state ARNG CFMO or Environmental Office.

1c. Historical Use Research

The EBS shall review all of the listed sources that are available and that apply to the subject property, including:

- ✓ **Aerial Photographs -** available from Government agencies, usually the State Department of Transportation. Historic aerial photographs can be used to identify signs of prior excavation activities; dumping; storage (e.g., drums); tanks; pipelines; and/or areas of stained soil.
- ✓ **Interview Data -** All environmental liability information obtained from the Part II Interviews (see below). The EBS should identify the following types of historic information through the interview process, as well as through the Part III Site Reconnaissance, as available and possible:
    - Evidence that hazardous substances or petroleum products have been stored, used, discharged, dumped, injected, leaked, leached, spilled onto, or treated at the subject property.
    - Historic abandoned or discarded barrels or containers.
    - Historic receptacles, drums, or tanks containing hazardous materials.
    - Historic batteries of any sort.
    - Historic pesticides or paints in storage containers, or use thereof.
    - Historic fill dirt or fill pipes.
    - Historic PCBs in transformers or capacitors.
    - Historic heavy industrial equipment, including hydraulic equipment, onsite.
    - Historic ditches or trenches (subject to run-off).
    - Historic railroad loading/unloading areas.
    - Past ordnance use or disposal.
    - Past medical waste or radioactive materials onsite.
    - Other evidence of hazardous substances, petroleum products, or special contamination concerns that might be present at the subject property.

2. Part II: Interviews

The purpose of the interview is to obtain information that will assist in determining any potential environmental liabilities associated with the property, as well as the status of environmental liabilities.

The EBS preparer shall interview appropriate and knowledgeable state ARNG staff (and all relevant offices/departments), key site manager(s), and/or property user(s) (whichever is applicable) and request to review the following documents, if available. If conducting an EBS on ARNG property, the state ARNG Environmental Office should have access to these documents, if they apply:

- ✓ Previous EBSs.
- ✓ Environmental audit reports.
- ✓ Environmental permits.

- ✓ IRP Status Reports.
- ✓ Registrations for Underground Storage Tanks (UST) and Aboveground Storage Tanks (AST).
- ✓ Plans for or reports concerning septic systems or leach fields.
- ✓ Material safety data sheets (MSDS).
- ✓ Community right-to-know (Emergency Planning and Community Right-to-Know [EPCRA]) reports.
- ✓ Safety plans; preparedness and prevention plans; spill prevention, countermeasure, and control plans; etc.
- ✓ Reports regarding hydro-geologic conditions on the property or surrounding area.
- ✓ Federal, State, or local Government agency notices of violations (NOVs) or other enforcement actions concerning environmental matters.
- ✓ Federal or State hazardous waste handler annual or biennial reports.
- ✓ Geotechnical studies.
- ✓ Legal proceedings involving the subject property.

Although not required (but recommended), the following sources should also be interviewed to provide additional useful information on the subject property. The questions asked of these sources should be more general in nature and based on the preparer‘s judgment:

- ✓ Local fire department (i.e., usually the first responder to an incident that may have occurred on the subject property).
- ✓ Local health agency.
- ✓ Any other appropriate local agency.

For each interview conducted as part of the EBS, the preparer shall prepare a written *record of communication*. The record of communication shall include the following information:

1. Date of communication.
2. Method of communication (in-person, phone, or e-mail).
3. Name and position of person conducting the interview.
4. Name and position of person being interviewed.
5. Interviewed person's relationship to/knowledge of the subject property (responsibility, years, etc.).
6. Name of subject property.
7. Summary of conversation, including questions asked and answers provided.
8. Post-interview follow-on actions, if any.
9. Additional contact information.
10. Signature of individual conducting the interview.

3. Part III: Site Reconnaissance

A site reconnaissance by the EBS preparer is required as part of the EBS. Dated, digital photographs of the subject property, adjacent properties, and issues of potential concern should be taken during the site reconnaissance. The outline below identifies the suggested elements of the site reconnaissance. The preparer should use his/her professional judgment to address additional elements, as appropriate.

1. **Are there any roads, thoroughfares, or parking facilities on the subject property?**
    a. If so, is there any evidence of illicit dumping of wastes along the roads?
    b. If so, is there any evidence of spills from petroleum products or other hazardous substances?
2. **Are there any buildings/structures on the subject property?**
    a. If so, are the buildings in disrepair/disuse or poor condition?
    b. If so, is there evidence of PCBs, ACM, or LBP in the structure?
    c. Identify the source of heating if possible (gas, electric, oil).
    d. Any there any drains or sumps in the buildings?
    e. Are there any stains or evidence of corrosion within the building?
3. **Are there any visible septic tanks, leach fields, or sewage disposal activities on the subject property?**
    a. If so, is the system in disrepair, leaking, or in need of removal?
4. **Is there a source of potable water on the subject property?**
    a. If so, what is the water source (e.g. surface or ground water), location of water withdrawal, and method of water withdrawal (e.g. well, infiltration gallery, etc.)?
    b. If so, what water treatment and/or storage systems are used?
5. **Are there any miscellaneous portions of infrastructure on the subject property, such as:**
    a. Fill or vent pipes sticking up from the ground (possible UST)?
    b. Well heads that may be closed?
    c. Empty aboveground tanks?
    d. Electrical transformers?
    e. Catch basins, lagoons, or pits?
6. **Is there evidence of hazardous waste disposal or storage operations on the subject property, such as:**
    a. Strong odors?
    b. Pooled liquids?
    c. Abandoned drums or other containers?
    d. Stressed vegetation?
7. **Is there any evidence of wetlands on the subject property?**

8. **Is the preparer able to visibly discern the current use or evidence of past use of the adjacent property(ies)?**
9. **Can the preparer observe anything on the adjacent property(ies) that may be a concern to the subject property, such as:**
    a. Pits, ponds or lagoons?
    b. Abandoned trash, drums, or dumping?
    c. Strong odors?
    d. Stressed vegetation?
    e. Evidence of fire, explosion, or other items or activities that may be cause for concern?
    f. Are there any potential contamination migration pathways onto the subject property?
10. **Does the preparer have any concerns from the visual inspection of the subject property and adjacent property(ies)?**

4. Part IV: Mapping the Environmental Condition of Property

The guidelines below are derived from the recommended standardized format for reporting the seven ECOP Area Types as defined in ASTM D 5746-98 (2010) and as outlined in the DoD's BRAC Cleanup Plan Guidebook, Fall 1995 and the September 1996 Revision Addendum. These ECOP Area Types are more fully defined in **Figure 1-1** of this Handbook.

4a. ECOP Area Type Map

The ECOP Area Type Map should show the subject property at the largest scale possible and can be a clearly marked sketch or rendering. Boundaries shall be drawn along the best known extent of any identified, suspected, or potential contamination, identifying these polygons as "parcels". Small point sources of contamination, such as leaking transformers or USTs, may be delineated by a circular parcel centered on the source. The parcel size is at the preparer's discretion. Parcels shall be colored as follows on the ECOP Area Type Map:

Area Type 1: white
☐ **Area Type 2: blue**
☐ **Area Type 3: light green**
☐ **Area Type 4: dark green**
Area Type 5: yellow
☐ **Area Type 6: red**
☐ **Area Type 7: gray**

Boundaries for ECOP Area Type 1-7 parcels shall not overlap each other. Each parcel shall also be labeled with its parcel number and corresponding ECOP Area Type Number. For example, the second EBS-identified parcel, which is an area where hazardous substances release has occurred but at concentrations that do not require a removal or remedial action, would be labeled as: Parcel 2(3).

Areas containing special contamination concerns, or "Qualified" parcels (see **Appendix A**), shall be delineated separately and labeled by the appropriate letter code, as follows.

- ☐ **A** **Asbestos**
- ☐ **L** **Lead-Based Paint**
- ☐ **P** **PCB**
- ☐ **R** **Radon**
- ☐ **X** **MEC (UXO)**

These boundaries can overlap any ECOP Area Type 1-7 parcel. No unique coloring will be used to designate special contamination concerns (i.e., "Qualified") parcels (i.e., the background color of the applicable Area Type will be shown). These parcels will also be labeled with a unique parcel ID number.

If the special contamination concern is possible, but unverified by sampling and analysis, this shall be indicated by *(P).* For example, the fifth parcel, which contains only possible lead-based paint concerns, would be labeled: 5L*(P).*

4b. Remediation or Mitigation

For ECOP Area Types 4, 5, 6, and non-CERCLA Qualified parcels, the EBS shall briefly indicate the remedial activity which is completed, underway, or planned if applicable, and cite appropriate references. For example, "Tanks removed; 250 cubic yards of soil excavated (XYZ Removers, Inc. 2009)."

ATTACHMENT 13
Sample Interview Questionnaire

Sample Interview Questions

EBS QUESTIONNAIRE

QUESTIONS

Number	General Liability Concerns	YES	NO	N/A	UNK
A1	Have there been any federal or state enforcement actions against the facility?				
A2	Are there any pending enforcement actions against the facility, its owner, or operator?				
A3	Has the owner or operator entered into any consent decrees or administrative consent orders?				
A4	If so, have these decrees or orders provided a full release from liability?				
A5	Has the property or adjoining property been used for gas station, motor repair facility, commercial printing facility, dry cleaners, photo developing laboratory, junk yard or landfill, or a waste treatment storage, disposal, processing, or recycling facility?				
A6	Does seller's business involve the use, treatment, storage, or disposal of hazardous substances?				
A7	Have there been any citizen suits filed against the facility, owner, or operator?				
A8	Have there been any regulator warning letters or administrative orders against the facility, owner, or operator?				
A9	Have there been any notices of violation, consent orders, or consent decrees sent to the owner or operator under the citizen suit provisions of any statute?				
A10	Do any settlement agreements with the government or private parties leave the owner or operator open to subsequent suits on the same issues?				
A11	Can the facility incur future liability through non-compliance with the above orders or decrees?				
A12	Has the owner or operator received any Requests for Information, Notice and Demand letters or administrative inquires from any governmental entity with regard to its environmental practices?				
A13	Has an "imminent hazard" ever been alleged to exist at the site?				
A14	Has the owner or operator not maintained all records required by each environmental statute?				
A15	Is the facility out of compliance with any environmental permits?				
A16	Do past practices leave the owner or operator open to citizen suits or government enforcement actions?				
A17	Has the facility undergone any environmental audits/inspections?				
A18	Have audit/inspection deficiencies gone uncorrected?				
A19	Have any claims been made under the companies' insurance policies?				
A20	Is the company in violation of laws that require insurance policies to cover environmental contingencies?				
A21	Is the property adjacent to or on an abandoned mining site?				
A22	Is the property adjacent to railroad tracks or underground pipes?				
A23	Is the property part of or adjacent to an oil or gas producing property?				
A24	Are there any environmental liens or governmental notification relating to past or recurrent violations of environmental laws?				

Number	Clean Air Act	YES	NO	N/A	UKN
B1	Does the facility emit air pollutants into the environment?				
B2	Is the facility a type for which new standards of performance (NSPS) have been promulgated? See 40 C.F.R. Part 60 for a list of new source categories and applicable standards.				
B3	Is the facility in violation or has the facility been in violation of the NSPS or the permit?				
B4	Is the facility located in a nonattainment area?				
B5	Will the facility be subject to maximum attainable control technology (MACT)?				
B6	Is a capital expenditure required to meet the requirements of emissions reductions in the new Clean Air Act, i.e., is the facility required to reduce emissions because it is in a non-attainment area?				

B7	Does the facility incinerate any wastes of any kind?				

Number	Radon	YES	NO	N/A	UKN
C1	Were the results of an EPA short term radon test performed in the basement above 4pCi/l or 0.02 WL?				
C2	Is there evidence that nearby structures have elevated indoor levels of radon or radon progeny?				
C3	Have local water supplies been found to have elevated levels of radon or radium?				
C4	Is the property located on or near sites that currently are or formerly were used for uranium, thorium or radium extraction or for phosphate processing?				
C5	Were the structures constructed from salvaged material from oil wells or other structures characteristic of high radon levels?				
	Note: A property may be acceptable for radon if guidelines in AR 200-1, Chapter 11 are met.				

Number	Clean Water Act	YES	NO	N/A	UKN
D1	Does the facility discharge pollutants into the waters of the state or onto land from which pollutants could enter such waters?				
D2	Even if the discharge was permitted by the state, is there any basis upon which EPA might challenge the variance or exemption as abdicating the state's responsibilities?				
D3	Are there or has there been any flooring, drains, or walls that are stained by substances other than water or are emitting foul odors?				
D4	Do the discharge monitoring reports (DMRs) indicate violations of the permit? Have DMR's gone unsubmitted?				
D5	Are there any septic tanks, sumps from floor drains, or below-ground oil-water separators?				
D6	Have any toxic or hazardous pollutants ever been spilled or otherwise released at the site?				
D7	Is there cause to believe that any operation or equipment at the facility might be the cause of a future spill or release of a pollutant?				
D8	Has the facility neglected to apply for necessary facility NPDES storm water discharge permits?				
D9	Has there been any road oiling done on the facility?				
D10	Are there any equipment cleaning stations?				
D11	Are there sinkholes, abandoned manholes, abandoned sewer lines or other aquifer access points?				
D12	Are there any oily sheens on the surface water or unusual odors?				
D13	Can the facility's Clean Water Act permits be easily transferred?				
D14	Are permits required to discharge into the WWTF?				
D15	Will a new or modified permit be necessary for an expansion of operations?				
D16	Are there any visual evidence of wells?				
	Pressure tanks?				
	Pipes that extend vertically into the ground?				
	Above-ground pump heads?				
	Small sheds or shelters (sometimes resembling dog houses)?				
	Electrical transformers on poles for no other apparent use (especially in agricultural settings)?				
	Concrete pads surrounding a pipe or opening?				
	Depressions in the ground?				
	Small lined or unlined pits?				
	Simple holes in the ground?				
D17	Are there any non-permitted storm water discharges?				
D18	Does the adjacent property discharge waste water on to evaluated property?				
D19	Does the evaluated property discharge waste water on or adjacent to the property?				

Number	Comprehensive Environmental Response, Compensation and Liability Act	YES	NO	N/A	UKN

E1	Has the facility ever generated, transported, or disposed of a hazardous substance as defined by Section 9601(14) of CERCLA?				
E2	Are any of the facility wastes disposed of in a manner which would create a release or a threat of release prompting future enforcement or private cost recovery actions?				
E3	Has the operator/owner ever notified the National Response Center of a reportable quantity release of a hazardous substance into the environment?				
E4	Is the owner/operator currently subject to any administrative orders under section 106 of CERCLA, and has it properly complied with all orders issued in the past?				
E5	Has the owner/operator received any section 104(e) letters from EPA requesting information concerning material sent to sites listed on the National Priorities List?				
E6	Has the company failed to develop a complete history of its past disposal practices, including production of all waste manifests, shipping records, disposal contracts, etc., to determine potential liability under CERCLA?				
E7	Has the facility failed to comply with the Emergency Planning and Community Right to Know Act?				
E8	Has the company received any notice from adjoining landowners, other potentially responsible parties, or waste disposal facilities that it is responsible under section 107 for cleanup costs or contribution?				

Number	Resource Conservation and Recovery Act	YES	NO	N/A	UKN
F1	Does the facility generate, treat, store, transport, or dispose of hazardous waste?				
F2	Does the facility accumulate hazardous waste for periods in excess of 90 days?				
F3	Does the facility hold a RCRA permit or EPA Waste Generator Number?				
F4	Is the facility out of compliance with applicable RCRA regulations?				
F5	Has there been any hazardous substances or petroleum products, unidentified waste materials, tires, automotive or industrial batteries or any other waste materials been dumped above grade, buried and/or burned on the property?				
F6	Has fill material been brought onto the property that originated from a contaminated site?				
F7	Has there been any pesticides, paints or other chemicals in individual containers stored on or used at the property or facility?				
F8	Has an imminent and substantial endangerment ever been alleged to be present at the site?				
F9	Has an audit been conducted at this facility to determine RCRA compliance?				
F10	Has an inventory been taken to determine the amount and location of underground storage tanks at the facility?				
F11	Are there any vent pipes, fill pipes, or access ways indicating a fill pipe protruding from the ground?				
F12	Do existing tanks meet all requirements, i.e., financial assurance, leak detection, spill protection, overflow?				
F13	Are there any petroleum storage and/or delivery facilities (including gas stations) or chemical manufacturing plants located on adjacent properties?				
F14	Are there any active underground or above ground tank facilities on-site for such activities as motor fuel, waste oil or fuel oil storage, hazardous waste or chemical storage in any size?				
F15	Have any of the tanks that are more than 10 years old NOT been successfully tested for leaks.				
F16	Are there any deactivated USTs on the property?				
F17	Are there any hydraulic lift sumps for equipment?				
F18	Are there any lead screening tests that indicate evidence of lead-based paint?				
F19	Was the building constructed prior to 1979?				
F20	Is the paint peeling or chipping?				

Number	Toxic Substances Control Act	YES	NO	N/A	UKN
	Note: Common synonyms/names for PCBs include chlorodiphenyls, Aroclor, Askarel, Pyranol and Inerteen.				

G1	Did the facility manufacture, process or distribute in commerce any chemical substances regulated by TSCA?				
G2	Have adverse consequences been alleged to have been caused by exposure to chemical substances produced by the facility?				
G3	Does the company have PCBs on site?				
G4	Is there a need for a comprehensive PCB survey?				
G5	Has the facility failed to comply with all asbestos reporting requirements?				
G6	Are there any florescent light ballasts containing PCBs in the building?				
G7	Is there any visible or documented evidence of soil or groundwater contamination from PCBs on the property?				
G8	Is there evidence of soil discoloration around present or former equipment sites, utility poles, etc.?				
G9	Are any of the lights damaged or leaking?				
G10	Are any of the capacitors or transformers inside residential buildings?				
G11	Are any of the transformers or capacitors not clearly marked, well maintained, or secure?				
G12	Have PCB concentrations of 50 ppm or greater been found in contaminated soils or groundwater?				
G13	Is there any evidence of hydraulic fluid leaks on lifts installed prior to 1980?				
	Note: Additional PCB containing materials: carbonless copy paper, brake linings, printers ink, synthetic rubber, natural gas (as a contaminant), microscopy mounting media, fabric coatings, and cutting oils.				

Number	The Safe Drinking Water Act	YES	NO	N/A	UKN
H1	Has there been a discharge of any substance or material at the facility which might find its way into a public water system?				
H2	Is the property served by a private/non-public water system that has been found to have contaminants in quantities that exceed drinking water guidelines or has it been designated as contaminated?				
H3	Does the drinking water at the facility contain lead at levels above 10 ppb?				

Number	Asbestos Removal and Inspection	YES	NO	N/A	UKN
I1	Was the building constructed prior to 1980?				
I2	Has the building been inspected by a certified asbestos removal team since 1980 for the presence of ACM?				
I3	Has all friable asbestos been removed or contained so that it does not create the potential for human exposure?				
I4	Does the site survey reveal any visible evidence of possible ACM? (boiler insulation, floor tiles, building siding, shingles, roofing felt, wall and ceiling insulation, acoustical ceiling tiles, window putty, fuse boxes, heat reflectors, air duct lining)				
I5	Is there any documented evidence of asbestos? (tests, surveys, management plan, etc.)				

Number	Waste Disposal Facilities	YES	NO	N/A	UKN
J1	Has there been or is there any pits, ponds, or lagoons associated with waste treatment or disposal?				
J2	Is there any evidence of acid pits located on or adjacent to the site?				
J3	Is it likely the property was used for illegal or uncontrolled dumping?				
J4	Are there any obvious high risk neighbors in adjacent properties engaged in producing storing or transporting hazardous wastes, chemicals, or substances?				
J5	Was the site ever used for research, industry, or military purposes?				
J5	Has any of the site space ever been leased to commercial tenants who are likely to have used, transported, or disposed of toxic chemicals? (e.g. dry cleaner, print shop, service stations, etc.).				

Number	Additional Hazards	YES	NO	N/A	UKN

K1	Do the tenant areas contain Urea Formaldehyde Foam Insulation (UFFI) that was installed less than a year ago?				
K2	Is there any identifiable UFFI behind exterior-wall switch and outlet cover plates?				
K3	Are there any elevated formaldehyde concentrations?				
K4	Did interviews indicate the presence of UFFI?				
K5	Are there any citizen complaints or local law enforcement responses to unexploded munitions (UXO)?				
K6	Has the property ever been suspected to contain or been used for military chemical/biological testing?				
K7	Has the Army Technical Escort Unit or Army Corps of Engineers responded to UXO or chemical test kits incidents?				
K8	Do any of the building structures have cannec (made from sugar cane waste) building materials?				
K9	Are there any small arms test ranges that have been used to perform function checks on serviced weapons?				
K10	Are there any ranges, impact areas, berms, maneuver areas, training areas, OB/OD areas present on the facility?				
K11	Is there evidence of any "red dust" (arsenic) from cannec materials?				
K12	Is there documented evidence that Electromagnetic Radiation (EMF) is present on the property?				

Number	Natural and Cultural Resources	YES	NO	N/A	UKN
L1	Does the site have any known or potential federal or state threatened & endangered species?				
L2	Has an Endangered Species Survey been completed for the area?				
L3	Have there been any Biological, Historical, Cultural, Soil, or Aquatic surveys of the site?				
L4	Does the site have any erosion problems, I.e. bare areas, gullies, runoff during major storm events?				
L5	Does the site have an Integrated Natural Resources Management Plan (IMRMP)?				
L6	Have planning level natural resources surveys been conducted on the site (including soils, flora, fauna, wetlands)?				
L7	Does the site currently have commercial natural resource activities (timber, agricultural, grazing outleases)?				
L8	Do NEPA documents exist that address/authorize natural resource management activities?				
L9	Has a noxious weed survey been completed for the area?				
L10	Are there any buildings or structures older than 50 years old on the property?				
L11	Are there any archeological sites on the property?				
L12	Is there a Cultural Resources Management Plan in place for the site?				
L13	Are there any known sites of importance to Native American tribes?				
L14	Is there a memorandum of agreement or programmatic agreement addressing cultural resources in place?				
L15	Have invasive, non-native plant species been identified on the property?				
L16	Has there been a wetland survey for the site?				
L17	Are there any planned projects to create wetlands on this site?				
L18	Are there any planned uses for this site that may impact existing wetlands?				
L19	Are there any completed or in progress Environmental Assessments and/or Environmental Impact Statements?				
L20	Was the proposed real estate transaction found to have "FNSI" or a "ROD"?				
L21	Has a Pest Management Plan been completed for the site?				
L22	Does the site have any major pest problems (insects, invasive plants, animals, pathogens, rodents, et cetera)?				

GENERAL ENVIRONMENTAL SEARCH	YES	NO	N/A	UKN
Do any of the following Federal government record systems list the property or any property within the the circumference of the area noted below:				
National Priorities List - within 1.0 mile (1.6Km)?				
CERCLIS List - within 0.5 mile (0.8 Km)?				
RCRA TSD Facilities - within 1.0 mile (1.6 Km)?				

Do any of the following state record systems list the property or any property within the circumference of of the area noted below:				
List maintained by state environmental agency of hazardous waste sites identified for investigation or remediation that is the equivalent to NPL - within 0.5 mile (1.6 Km)?				
List maintained by state environmental agency of sites identified for investigation or remediation that is the state equivalent to CERCLIS - within 0.5 mile (0.8 Km)?				
Leaking Underground Storage Tank (LUST) List – within 0.5 mile (0.8 Km)?				
Solid Waste/Landfill Facilities - within 0.5 mile (0.8 Km)?				
Based on fire insurance maps or consultation with the local fire department , are there any buildings or other improvements on the property or adjoining property identified as having been used for an industrial use or uses likely to lead to contamination of the property?				

The preparer of the transaction screen questionnaire must complete and sign the following statement.

This questionnaire was completed by:

Name: **Herbert "Gil" Guillory**

Title: Environmental Protection Specialist

Firm: ALASKA ARMY NATIONAL GUARD, ENVIRONMENTAL SECTION

Address: ATTN: AKNG-ARE, PO BOX 5-549, FT. RICHARDSON, AK 99505-0549

Phone number**: 907 428-6761**

Date: **7/31/2007**

If the preparer is different than the user, complete the following:

Name of user:

User's address:

User's phone number:

Preparer's relationship to site:

Preparer's relationship to user:

Copies of the completed questionnaire have been filed at:

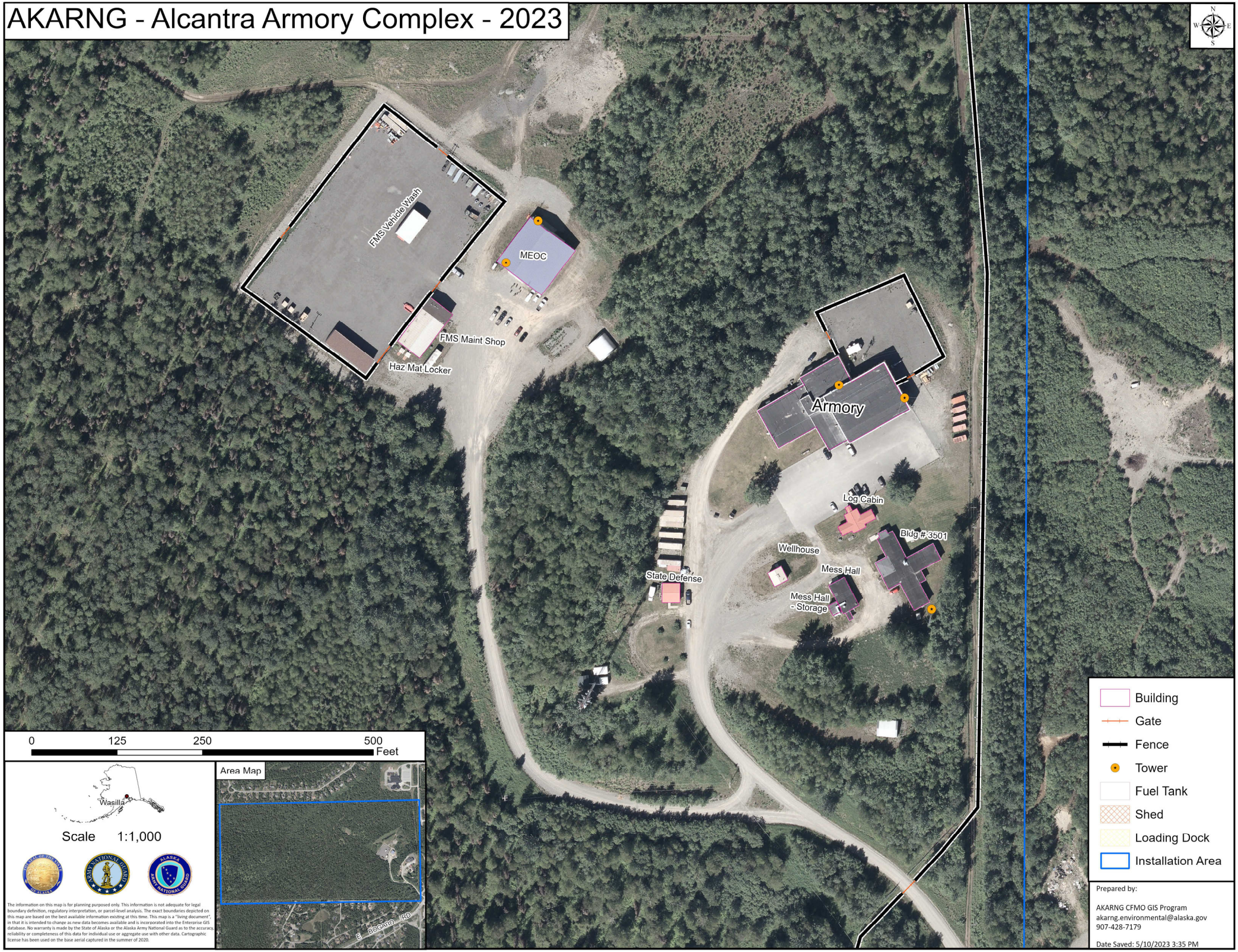
Copies of the completed questionnaire have been mailed or delivered to:

Preparer represents that to the best of the preparer's knowledge the above statements and facts are true and correct and to the best of the preparer's actual knowledge no material facts have been suppressed or misstated.

Signature: Date:

ATTACHMENT 14
Alcantra Site Map

AKARNG - Alcantra Armory Complex - 2023



The information on this map is for planning purposed only. This information is not adequate for legal boundary definition, regulatory interpretation, or parcel-level analysis. The exact boundaries depicted on this map are based on the best available information existing at this time. This map is a "living document", in that it is intended to change as new data becomes available and is incorporated into the Enterprise GIS database. No warranty is made by the State of Alaska or the Alaska Army National Guard as to the accuracy, reliability or completeness of this data for individual use or aggregate use with other data. Cartographic license has been used on the base aerial captured in the summer of 2020.

Prepared by:

AKARNG CFMO GIS Program
akarng.environmental@alaska.gov
907-428-7179

Date Saved: 5/10/2023 3:35 PM

ATTACHMENT 15
ASTM D6008-22

This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.

Designation: D6008 – 22

Standard Practice for Determining the Environmental Condition of Federal Property[1]

This standard is issued under the fixed designation D6008; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 *Purpose*—The purpose of this practice is to define good commercial and customary practice in the United States for assessing the *environmental condition of property (ECP)* of federal real *property*. This practice applies to *property* under consideration for lease, excess and surplus *property* at closing and realigning military installations, claims reverting to federal ownership such as abandoned mines, and other federally-owned *property*. The steps in this practice are conducted to fulfill certain requirements of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) section 120(h), as amended by the Community Environmental Response Facilitation Act of 1992 (CERFA) and the federal real *property disposal* regulations codified in 41 CFR Subpart C (41 CFR 102-75). As such, this practice is intended to help a *user* to gather and analyze data and information in order to classify *property* into the applicable *environmental condition of property area types* (in accordance with the ASTM D5746, Standard Classification of Environmental Condition of Property Area Types, (see Appendix X1). Once documented, the *ECP report* is used to support Findings of Suitability to Transfer (FOSTs), Findings of Suitability to Lease (FOSLs), or uncontaminated *property* determinations, or a combination thereof, pursuant to the requirements of CERFA and CERCLA § 120(h). *Users* of this practice should note that it does not address (except where explicitly noted) requirements for appropriate and timely regulatory consultation or concurrence, or both, during the conduct of the *ECP* or during the identification and use of the *standard environmental condition of property area types*.

1.1.1 *Environmental Condition of Property*—In accordance with the federal landholding agency policies and General Services Administration's (GSA) federal real *property* management regulations, an *ECP* will be prepared or evaluated for its usefulness (and updated if necessary) for any federally-owned *property* to be transferred by deed or leased. The *ECP* will be based on existing environmental information related to *storage*, *release*, treatment, or *disposal* of *hazardous substances*, munitions, or petroleum products on the *property* to determine or discover the *obviousness* of the presence or likely presence of a *release* or threatened *release* of any *hazardous substance* or petroleum product. In certain cases, additional data, including sampling, if appropriate under the circumstances, may be needed in the *ECP* to support the FOST or FOSL. A previously conducted *ECP* may be updated as necessary and used for making a FOST or FOSL. An *ECP* also may help to satisfy other environmental requirements (for example, to satisfy the requirements of CERFA or to facilitate the preparation of environmental condition reports). In addition, the *ECP* provides a useful reference document and assists in compliance with hazard abatement policies related to *asbestos* and lead-based paint. The *ECP* process consists of discrete steps. This practice principally addresses *ECP*-related information gathering and analysis.

1.1.1.1 *Discussion*—Prior versions of this practice referred to environmental baseline surveys (EBS). The 2018 Department of Defense 4165.66M Base Redevelopment and Realignment Manual changed the focus to *ECP*. Appendix 3 of DODM 4165.66M provides direction on the preparation of FOST and FOSL documentation. Section C2.4.2.3 of DODM 4165.66M provides direction for Department of Defense *property* proposed for *disposal* and redevelopment.

1.1.2 *CERCLA Section 120(h) Requirements*—This practice is intended to assist with the identification of federal real *property* and DoD installation areas subject to the notification and covenant requirements of CERCLA § 120(h) relating to the deed transfer of contaminated federal real *property* (42 USC 9601 et seq.), (see Appendix X2). Examples of other federal landholding agencies that must comply with CERCLA §120(h) requirements include the Bureau of Land Management, the Federal Aviation Administration, and U.S. Forest Service.

1.1.3 *CERFA Requirements*—This practice provides information to partially fulfill the identification requirements of CERFA [Pub. L. 102-426, 106 Stat. 2174], which amended CERCLA. *Property* classified as area Type 1, in accordance with Classification D5746 is eligible for reporting as "uncontaminated" under the provisions of CERFA and the Federal

[1] This practice is under the jurisdiction of ASTM Committee E50 on Environmental Assessment, Risk Management and Corrective Action and is the direct responsibility of Subcommittee E50.02 on Real Estate Assessment and Management.

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Management Regulations, Real Property Disposal rules codified in 41 CFR 102-75. Additionally, certain *property* classified as area Type 2, where evidence indicates that *storage* occurred for less than one year, may also be identified as uncontaminated. At installations and federal *property* listed on the *National Priorities List*, Environmental Protection Agency (EPA) concurrence must be obtained for the *property* to be considered "uncontaminated" and therefore transferable under CERCLA § 120(h)(4). The EPA has stated that there may be instances in which it would be appropriate to concur with the federal landholding agency that certain *property* can be identified as uncontaminated under CERCLA § 120(h)(4) although some limited quantity of *hazardous substances* or petroleum products have been stored, *released*, or *disposed* of on the *property* (see EPA Office of Enforcement and Compliance Assurance, May 2019). If the information available indicates that the *storage*, *release*, or *disposal* was associated with activities that would not be expected to pose a threat to human health or the environment (for example, housing areas, petroleum-stained pavement areas, and areas having undergone routine application of pesticides), such *property* should be eligible for expeditious reuse.

NOTE 1—Confirmed releases of *emerging chemicals of environmental concern* may require additional consideration (see Office of the Undersecretary of Defense. Policy Memorandum for Clarifications and Upcoming Changes to Department of Defense Instruction 4715.18 in Response to Department of Defense Office of Inspector General Findings, April 2022).

1.1.4 *Petroleum Products*—Petroleum products and their derivatives are included within the scope of this practice. Areas on which petroleum products or their derivatives were stored for one year or more, known to have been *released* or *disposed* of [CERCLA§ 120(h)(4)] are not eligible to be reported as "uncontaminated *property*" under CERFA.

1.1.5 *Other Federal, State, and Local Environmental Laws*—This practice does not address requirements of any federal, state, or local laws other than the applicable provisions of CERCLA identified in 1.1.2 and 1.1.3. These *applicable or relevant and appropriate requirements (ARARs)* may have a bearing upon the ultimate disposition of the federal *property*. *Users* are cautioned that federal, state, and local laws may impose additional *ECP* or other environmental assessment obligations that are beyond the scope of this practice. *Users* should also be aware that there are likely to be other legal obligations with regard to *hazardous substances* or petroleum products discovered on *property* that are not addressed in this practice and that may pose risks of civil or criminal sanctions, or both, for noncompliance.

1.1.6 *Other Federal, State, and Local Real Property and Natural and Cultural Resources Laws*—This practice does not address requirements of any federal, state or local real *property* or natural and cultural resources laws. *Users* are cautioned that numerous federal, state, and local laws may impose additional environmental and other legal requirements that must be satisfied prior to deed transfer of *property* that are beyond the scope of this practice.

NOTE 2—The General Services Administration's Excess Real Property Due Diligence Checklist for Federal Landholding Agency Customers, November 2017, provides additional detail on federal *ARARs*.

1.1.7 *Non-Federal Property*—This standard may also be used by state and local agencies to assess the environmental condition of non-federal *property*.

1.2 *Objectives*—Objectives guiding the development of this practice are *(1)* to synthesize and put in writing a *standard practice* for conducting a high quality *ECP*, *(2)* to facilitate the development of high quality, standardized *environmental condition of property maps* to be included in an *ECP* that can be used to support FOSTs, FOSLs, and other applicable environmental condition reports, *(3)* to facilitate the use of the *standard classification* of *environmental condition of property area types* (see Classification D5746), *(4)* to facilitate the development of a standard guide for preparing and updating *ECP reports*, and *(5)* comply with the Federal Real Property Disposal regulations codified in 41 CFR 102-75.

1.3 *Limitations—Users* of this practice should note that, while many of the elements of an *ECP* are performed in a manner consistent with other "*due diligence*" functions, an *ECP* is not prepared to satisfy a purchaser of real *property's* duty to conduct "all appropriate inquiries", as defined in 40 CFR 312, to establish an "*innocent landowner defense*" to CERCLA § 107 liability. Any such use of any *ECP* by any party is outside the control of the federal agencies and beyond the scope of any *ECP*. No warranties or representations are made by any federal agency, its employees, or contractors that any *ECP report* satisfies any such requirement for any party.

1.4 *Organization of This Practice*—This practice has 15 sections. Section 1 is the scope. Section 2 identifies referenced documents. Section 3, Terminology, includes definitions of terms not unique to this practice, descriptions of terms unique to this practice, and acronyms and abbreviations. Section 4 is the *significance* and use of this practice. Section 5 describes *user's* responsibilities. Sections 6 – 13 are the main body of the data gathering analysis steps of the *ECP* process. Section 14 briefly describes the *ECP* Step 3 classification of *environmental condition of property area types*. Section 15 contains a list of keywords. The seven appendices are non-binding and non-mandatory; they provide background, guidance, and examples.

1.5 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.6 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

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2. Referenced Documents

2.1 *ASTM Standards:*[2]

D5746 Classification of Environmental Condition of Property Area Types for Defense Base Closure and Realignment Facilities

E1527 Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process

E2107 Practice for Environmental Regulatory Compliance Audits

E2247 Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process for Forestland or Rural Property

E2365 Guide for Environmental Compliance Performance Assessment

2.2 *Federal Landholding Agency Documents:*[3]

Department of the Navy Base Realignment and Closure Implementation Guidance, March 2007

U.S. Army Regulation 200-1, Environmental Protection and Enhancement, December 2007

Department of Defense Manual 4715.20, Defense Environmental Restoration Program (DERP) Management, August 2018

Department of Defense 4165.66M, Base Redevelopment and Realignment Manual, August 2018

Department of Defense Instruction 4715.18, Emerging Chemicals (ECs) of Environmental Concern, September 4, 2019

Department of the Air Force Instruction 32-7020, Environmental Restoration Program, December 2020

Office of the Undersecretary of Defense, Policy Memorandum for Clarifications and Upcoming Changes to Department of Defense Instruction 4715.18 in Response to Department of Defense Office of Inspector General Findings, April 2022

2.3 *Federal Regulations:*[4]

Title 32, Code of Federal Regulations (CFR), Part 179, Munitions Response Site Prioritization Protocol (MRSPP)

Title 40, Code of Federal Regulations (CFR), Part 300, National Oil and Hazardous Substances Pollution Contingency Plan

Title 40, Code of Federal Regulations (CFR), Part 302, Designation Reportable Quantities and Notification

Title 40, Code of Federal Regulations (CFR) Part 312, Innocent Landowners, Standards for Conducting All Appropriate Inquiries

Title 40, Code of Federal Regulations (CFR), Part 355, Emergency Planning and Notification

Title 40, Code of Federal Regulations (CFR) Part 373, Reporting Hazardous Substance Activity When Selling or Transferring Federal Real Property

Title 41, Code of Federal Regulations (CFR) Part 102-75 Federal Management Regulations, Subchapter C, Real Property Disposal

2.4 *US EPA References and Databases:*[5]

RCRA 40 CFR Part 264, Subpart X Permit Writers Technical Resource Document. EPA, Office of Solid Waste, Washington, DC. June 1997

OLEM Directive 9200.2-187, Best Practice Process for Identifying and Determining State Applicable or Relevant and Appropriate Requirements Status Pilot, October 2017

EPA Office of Enforcement and Compliance Assurance, Transmittal of Revised Policy Towards Landowners and Transferees of Federal Facilities to Encourage Cleanup and Reuse at Federal Facilities on the National Priorities List (NPL), May 2019

Envirofacts A single point of access to select U.S. EPA environmental data. This website provides access to several EPA databases to provide the user with information about environmental activities that may affect air, water, and land anywhere in the United States (https://enviro.epa.gov/)

FEDFacts Information about the Federal Electronic Docket Facilities regarding contaminated federal facility sites in specific communities, technical fact sheets and tools and resources to help government agencies and their contractors fulfill cleanup obligations (https://www.epa.gov/fedfac)

Superfund Enterprise Management System (https://www.epa.gov/enviro/sems-search)

3. Terminology

3.1 This section provides definitions (of terms not unique to this practice), descriptions of terms specific to this practice, and a list of acronyms and abbreviations used herein. The terms are an integral part of this practice and are critical to its understanding and use.

3.2 *Definitions:*

3.2.1 *aqueous film forming foam (AFFF), n*—a fire suppressant used to extinguish flammable liquid fires such as fuel fires.

3.2.1.1 *Discussion—AFFF* is often used in facility fire suppression systems, fire fighting vehicles, and at fire training facilities.

3.2.2 *asbestos, n*—six naturally occurring fibrous minerals found in certain types of rock formations; of the six, the minerals chrysotile, amosite, and crocidolite have been most commonly used in building products.

3.2.2.1 *Discussion*—Because *asbestos* is strong, incombustible, and corrosion-resistant, *asbestos* was used in many commercial products beginning early in the 20th century and peaking in the period from World War II into the 1970s.

3.2.3 *asbestos-containing material (ACM), n*—any material or product that contains more than 1 % *asbestos*.

3.2.4 *contaminated public wells, n*—public wells used for drinking water that have been designated by a government

[2] For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

[3] Available from Department of Defense, Office of Environmental Security, 3400 Defense Pentagon, Washington, DC 20301-3400.

[4] Available from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

[5] Available from United States Environmental Protection Agency (EPA), William Jefferson Clinton Bldg., 1200 Pennsylvania Ave., NW, Washington, DC 20460, http://www.epa.gov.

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entity as contaminated by toxic substances (for example, chlorinated *solvents*), or as having water unsafe to drink without treatment.

3.2.5 *drum, n—as defined by the U.S. Department of Transportation*, a flat-ended or convex-ended cylindrical packaging made of metal, fiberboard, plastic, plywood, or other suitable materials; this definition does not include cylinders, jerricans, wooden barrels or bulk containers.

3.2.5.1 *Discussion*—A metal or plastic container (typically, but not necessarily, holding 55 gal [208 L] of liquid) that may have been used to store *hazardous substances* or petroleum products.

3.2.6 *dwelling, n*—structure or portion thereof used for residential habitation.

3.2.7 *environmental lien, n*—a charge, security, or encumbrance upon title to a *property* to secure the payment of a cost, damage, debt, obligation, or duty arising out of response actions, cleanup, or other remediation of *hazardous substances* or petroleum products upon a *property*, including (but not limited to) liens imposed pursuant to CERCLA 42 USC § 9607(1) and similar state or local laws.

3.2.8 *emerging chemicals of environmental concern, n—as defined in DoDI 4715.18*, chemicals relevant to the DoD that are characterized by a perceived or real threat to human health or the environment and that have new or changing toxicity values or new or changing human health or environmental regulatory standards.

3.2.8.1 *Discussion*—These chemicals are defined as emerging contaminants in Practice E1527. *Per- and polyfluoroalkyl substances (PFAS)* are examples of *emerging chemicals of environmental concern* at federally-owned *property*. Although *PFAS* are not currently regulated as *hazardous substances* under CERCLA, some states have begun regulating the *disposal* or remediation of *PFAS*-impacted soil, sediment, surface water, and groundwater. For federal *property* where firefighting activities, including training, were conducted with *aqueous film-forming foam (AFFF)* and *properties* where electroplating operations were conducted, the *user* may refer to Appendix X4 for guidance addressing *emerging chemicals of environmental concern*. See also the Policy Memorandum for Clarifications and Upcoming Changes to Department of Defense Instruction 4715.18 in Response to Department of Defense Office of Inspector General Findings, April 2022.

3.2.9 *ERNS list, n*—the Emergency Response Notification System (ERNS) is a database used to store information on notifications of oil discharges and *hazardous substances* releases.

3.2.9.1 *Discussion*—EPA's Emergency Response Notification System is a list of reported CERCLA *hazardous substance* releases or spills in quantities equal to or greater than the reportable quantity, as maintained by the National Response Center. Notification requirements for such releases or spills are codified in 40 CFR Parts 302 and 355.

3.2.10 *hazardous substance, n*—means that group of substances defined as hazardous under CERCLA §101(14), and that appear at 40 CFR §302.4.

3.2.11 *hazardous waste, n*—any *hazardous waste* having the characteristics identified under or listed pursuant to section 3001 of the Solid Waste Disposal Act (42 USC § 6901 *et seq.*) (but not including any waste the regulation of which under the Solid Waste Disposal Act has been suspended by Act of Congress).

3.2.11.1 *Discussion*—Some state waste management programs regulate additional solid wastes as *hazardous waste*.

3.2.12 *landfill, n*—a place, location, tract of land, area, or premises used for the *disposal* of solid wastes as defined by state solid waste regulations. The term is synonymous with the term *solid waste disposal site* and is also known as a garbage dump, trash dump, or similar term.

3.2.12.1 *Discussion*—The *user* is cautioned that not all garbage dumps and trash dumps have permits issued by either the state or local regulatory agency.

3.2.13 *local street directories, n*—directories published by private (or sometimes government) sources that list the occupant(s) of a specific address at the time the occupant data was collected, typically within in a year of the publication date of the directory.

3.2.13.1 *Discussion—Local street directories* may not be available for federally-owned *property*.

3.2.14 *munitions and explosives of concern, n*—distinguishes specific categories of military munitions that may pose unique explosives safety risks, such as unexploded ordnance, as defined in 10 U.S.C. §101(e)(5); discarded military munitions, as defined in 10 U.S.C. §2710(e)(2); or munitions constituents (for example, TNT, RDX), as defined in 10 U.S.C. §2710(e)(3), present in high enough concentrations to pose an explosive hazard.

3.2.15 *National Contingency Plan (NCP), n*—the National Oil and Hazardous Substances Pollution Contingency Plan found at 40 CFR § 300, which is the EPA's regulations for how releases of *hazardous substances* are to be cleaned up pursuant to CERCLA.

3.2.16 *National Priorities List, n*—list compiled by EPA pursuant to CERCLA 42 USC § 9605(a)(8)(B) of *properties* with the highest priority for cleanup pursuant to EPA's Hazard Ranking System. See 40 CFR Part 300.

3.2.17 *occupants, n*—those tenants, subtenants, or other persons or entities using the *property* or a portion of the *property*.

3.2.18 *per- and polyfluoroalkyl substances (PFAS), n*—a group of manufactured chemicals consisting of polymeric chains of carbon bonded to fluorine atoms, usually with a polar functional group at the head.

3.2.18.1 *Discussion—PFAS* are fluorinated substances with a carbon chain structure. In perfluoroalkyl substances (PFAAs), each carbon atom in the chain is fully saturated with fluorine (carbon-fluorine bonds only), whereas the carbon chain in polyfluoroalkyl substances is mostly saturated with fluorine (carbon-fluorine bonds), but also contains carbon-hydrogen bonds.

3.2.19 *Phase I Environmental Site Assessment, n*—the process described in Practice E1527 and Practice E2247.

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3.2.20 *pits, ponds, or lagoons, n*—man-made or natural depressions in a ground surface that are likely to hold liquids or sludge containing *hazardous substances* or petroleum products.

3.2.20.1 *Discussion*—The likelihood of such liquids or sludge being present is determined by evidence of factors associated with the pit, pond, or lagoon, including, but not limited to, discolored water, distressed vegetation, or the presence of an obvious *wastewater* discharge.

3.2.21 *property, n*—real *property*, including buildings, fixtures, and other improvements located on and affixed to the land.

3.2.22 *property tax files, n*—the files kept for property tax purposes by the local jurisdiction where the *property* is located and includes records of past ownership, appraisals, maps, sketches, photos, or other information that is *reasonably ascertainable* and pertaining to the *property*.

3.2.23 *RCRA generators, n*—those persons or entities that generate *hazardous wastes*, as defined and regulated by RCRA and have submitted EPA form 8700-12 to the EPA.

3.2.24 *RCRA generators list, n*—list kept by EPA of those persons or entities that have notified EPA that they generate *hazardous wastes*, as defined and regulated by RCRA.

3.2.25 *RCRA TSD facilities, n*—those facilities on which treatment, *storage*, or *disposal*, or a combination thereof, of *hazardous wastes* takes place, subject to regulation and permitting under RCRA or a delegated state's *hazardous waste* management program; these facilities have submitted EPA Form 8700-23 to the EPA.

3.2.26 *RCRA TSD facilities list, n*—list kept by EPA of those facilities that have submitted EPA Form 8700-23 to the agency.

3.2.27 *recorded land title records, n*—records of fee ownership, leases, land contracts, easements, liens, and other encumbrances on or of the *property* recorded in the place where land title records are, by law or custom, recorded for the local jurisdiction in which the *property* is located (see 3.2.32 and 7.2.4, and 40 CFR §312.24(a)).

3.2.28 *records of emergency release notifications* (SARA§ 304), *n*—Section 304 of EPCRA or Title III of SARA requires operators of facilities to notify their local emergency planning committee (as defined in EPCRA) and state emergency response commission (as defined in EPCRA) of any *release* beyond the facility's boundary of any reportable quantity of any extremely *hazardous substance*.

3.2.28.1 *Discussion*—Records of such notifications are "*records of emergency release notifications*" (SARA § 304) and may be found in the ERNS database.

3.2.29 *safety data sheet (SDS), n*—written or printed material concerning a *hazardous substance* which is prepared by chemical manufacturers, importers, and employers for hazardous chemicals pursuant to OSHA's Hazard Communication Standard, 29 CFR 1910.1200.

3.2.30 *solid waste disposal site, n*—a place, location, tract of land, area, or premises used for the *disposal* of solid wastes as defined by state solid waste regulations.

3.2.30.1 *Discussion*—The term is synonymous with the term *landfill* and is also known as a garbage dump, trash dump, or similar term. Historic *solid waste disposal sites* at federally-owned *properties* may not have operated under a permit.

3.2.31 *solvent, n*—a chemical compound that is capable of dissolving another substance and a *hazardous substance*, used in a number of manufacturing/industrial processes including but not limited to dry cleaning, the manufacture of paints and coatings for industrial and household purposes, equipment clean-up, and surface degreasing in industrial settings.

3.2.31.1 *Discussion—Solvents* are routinely use for parts washing and the preparation of metal surfaces for plating.

3.2.32 *State registered USTs, n*—State lists of underground *storage* tanks required to be registered under Subtitle I, Section 9002 of RCRA.

3.2.33 *sump, n*—a pit, cesspool, or similar receptacle where liquids drain, collect, or are stored.

3.2.34 *Superfund Enterprise Management System (SEMS), n*—the official repository for site and non site-specific Superfund data in support of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). It contains information on *hazardous waste* site assessment and remediation.

3.2.34.1 *Discussion—SEMS* contains information on *hazardous waste* site assessment and remediation including PAs, remedial investigations and feasibility studies, chemicals of concern, and 5-year review reports.

3.2.35 *underground storage tank (UST), n*—any one or combination of tanks (including underground pipes connected thereto) that is used to contain an accumulation of regulated substances, and the volume of which (including the volume of underground pipes connected thereto) is 10 percent or more beneath the surface of the ground.

3.2.35.1 *Discussion—for the purposes of this practice*, regulated substances include *hazardous substances*, and petroleum and materials subject to regulation under 40 CFR Part 280.

3.2.36 *USGS 7.5 Minute Topographic Map, n*—the phrase "USGS topographic map" refers to maps that cover a quadrangle that measures 7.5 minutes of longitude and latitude on all sides, so these are also referred to as 7.5-minute maps, quadrangle maps, or "quad" maps with a wide range of scales, but the scale used for all modern USGS topographic maps is 1:24,000.

3.2.37 *wastewater, n*—water that (*1*) means any water which, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product or (*2*) conveys or has conveyed sewage.

3.2.37.1 *Discussion—Wastewater* does not include water originating on or passing through or adjacent to a site, such as stormwater flows, that has not been used in industrial or manufacturing processes, has not been combined with sewage, or is not directly related to manufacturing, processing, or raw materials *storage* areas at an industrial plant. *Wastewater* includes washdown water that flows to a floor drain, *sump*, or drywell.

3.3 *Definitions of Terms Specific to This Standard:*

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3.3.1 *adjoining properties, n*—any real *property* or *properties* the border of which is (are) shared in part or in whole with that of the federally-owned *property*, or that would be shared in part or in whole with that of the federally-owned *property* but for a street, road, or other public thoroughfare separating the *properties*.

3.3.2 *aerial photographs, n*—photographs, taken from an aerial platform, having sufficient resolution to allow identification of development and activities of areas encompassing the *property*.

3.3.2.1 *Discussion—Aerial photographs* are commonly available from government agencies or private collections unique to a local area.

3.3.3 *all required remedial action, n—for the purposes of this practice*, *all remedial action*, as described in CERCLA§ 120(h)(3)(B)(i), has been taken if "the construction and installation of an approved remedial design has been completed, and the remedy has been demonstrated to the administrator [of EPA] to be operating properly and successfully; the carrying out of long-term pumping and treating, or operation and maintenance, after the remedy has been demonstrated to the administrator to be operating properly and successfully does not preclude the transfer of the *property*." [42 USC § 9620(h)(3)].

3.3.3.1 *Discussion*—Alternatively, in circumstances where a remedy has been constructed, but no ongoing treatment or operation and maintenance is required, for example, "clean closure" or excavation of soil with off-site treatment, *all remedial action* means that all action required to meet applicable state or federal regulatory standards, including, as required, state or federal regulatory approval, has been taken (see section 12.2). Land use restrictions may be components of *required remedial action*.

3.3.4 *applicable or relevant and appropriate requirements (ARARs), n*—those cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under federal environmental or State environmental or facility siting laws that, while not "applicable" to a *hazardous substance*, pollutant, contaminant, *remedial action*, location, or other circumstance at a CERCLA site, address problems or situations sufficiently similar to those encountered at the CERCLA site that their use is well suited to the particular site (see EPA OLEM 9200.1-187).

3.3.4.1 *Discussion*—Only those state standards that are identified in a timely manner and are more stringent than federal requirements may be relevant and appropriate.

3.3.5 *approximate minimum search distance, n*—the area for which agency records must be obtained and reviewed pursuant to Section 7 subject to the limitations provided in that section.

3.3.5.1 *Discussion*—This may include areas outside the federally-owned *property* and shall be measured from the nearest *property* boundary. This term is used instead of radius to include irregularly shaped *properties*.

3.3.6 *area in question, n*—that portion of federal real *property* that is the subject of the *ECP*.

3.3.6.1 *Discussion*—The *area in question* may be a subset of a larger piece of federal *property* or may be *property* that has been transferred to federal control through Congressional action. The FOSL or FOST may be limited to an *area in question* as opposed to a larger federally-owned *property*.

3.3.7 *BRAC statutes, n*—Title II of the Defense Authorization Amendments and Base Closure and Realignment Act of 1988 (Pub. L. 100-526, 10 USC 2687, note.) and the Defense Base Closure and Realignment Act of 1990 (Part A of Title XXIX of Pub. L. 101-510, 10 USC 2687, note.), collectively.

3.3.7.1 *Discussion*—The 2005 Round (P.L. 107-107); amended the Defense Base Closure and Realignment Act of 1990 (P.L. 101- 510). No new *BRAC* activities have been authorized by Congress since 2016.

3.3.8 *DoD component, n*—collectively, the Office of the Secretary of Defense, the Military Departments, the Chairman of the Joint Chiefs of Staff, the Inspector General of the Department of Defense, the Defense Agencies and the DoD Field Activities.

3.3.9 *disposal, v*—the discharge, deposit, injection, dumping, spilling, leaking, or placing of any *hazardous substances*, or petroleum products or their derivatives into or on any land or water so that such *hazardous substances*, or petroleum products or their derivatives or any constituent thereof may enter the environment or be emitted into the air or discharged into any waters including ground water.

3.3.10 *due diligence, n*—the process, in accordance with 41 CFR §102.75-115 through §102-75.130, of inquiring into the environmental characteristics of a federal *property* scheduled for transfer, sale, or *disposal*.

3.3.11 *environmental compliance audit, n*—the investigative process to determine if the operations of an existing facility are in compliance with applicable environmental laws and regulations (see E2107 and E2365).

3.3.12 *environmental condition of property (ECP), n*—a survey of federal real *property* based on all existing environmental information related to *storage*, *release*, treatment, or *disposal* of *hazardous substances* or petroleum products or derivatives on the *property* to determine or discover the *obviousness* of the presence or likely presence of a *release* or threatened *release* of any *hazardous substance* or petroleum product.

3.3.12.1 *Discussion*—In certain cases, additional data, including sampling and analysis, may be needed in the *ECP* to support the classification of the *property* into one of the *standard environmental condition of property area types*. Additionally, an *ECP* may also satisfy the uncontaminated *property* identification requirements of CERFA. An *ECP* will consider all sources of available information concerning environmentally *significant* current and past uses of the real *property* and shall, at a minimum, consist of the steps identified in Section 6.

3.3.13 *environmental condition of property (ECP) report, n*—the written record of an *ECP*; see Appendix X5 for a recommended report format.

3.3.13.1 *Discussion*—The *ECP report* is the documentation for the *Standard Classification* in accordance with D5746.

3.3.14 *environmental condition of property area type, n*—any of the seven *standard environmental condition of*

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property area types defined in D5746, Standard Classification of Environmental Condition of Property Area Types (see Appendix X1).

3.3.15 *environmental condition of property map, n*—a map, prepared on the basis of all *environmental investigation* information conducted to date, that shows the environmental condition of a DoD installation's or federal agency's real *property* in terms of the seven *standard environmental condition of property area types* as defined in the *standard classification* D5746.

3.3.16 *environmental investigation, n*—any investigation intended to determine the nature and extent of environmental contamination or to determine the environmental condition of *property* at a DoD installation or other federally-owned *property*.

3.3.16.1 *Discussion—Environmental investigations* may include, but are not limited to, environmental site assessments, *preliminary assessments (PAs)*, site inspections, remedial investigations, *ECPs*, RCRA facility assessments, and RCRA facility investigations. The results of some *environmental investigations* can be found in *SEMS*.

3.3.17 *environmental professional, n*—a person possessing sufficient training and experience necessary to conduct an *ECP* including all activities related to this practice, and from the information and data gathered by such activities, having the ability to develop conclusions regarding environmental condition of *property* and *recognized environmental conditions* in connection with the *property* being evaluated.

3.3.17.1 *Discussion*—This individual may be an employee or independent contractor of the *user*. An individual's status as an *environmental professional* may be limited to the type of *ECP* to be performed or to specific steps of the *ECP* for which the professional is responsible. The person may be an independent contractor or an employee of the federal government. This definition is different than the definition of an *environmental professional* in the EPA's All Appropriate Inquiries Rule (40 CFR §312.10).

3.3.18 *fill dirt, n*—dirt, soil, sand, or other earth taken from a different location, that is used to fill holes or depressions, create mounds, or otherwise artificially change the grade or elevation of real *property*. It does not include material that is used in limited quantities for normal landscaping activities.

3.3.18.1 *Discussion*—The potential for *fill dirt* to be contaminated with *hazardous substances* should be considered, and if appropriate, the material should be tested and analyzed for chemicals of concern.

3.3.19 *hazardous substance activity, v*—defined as *(1)* the known *release* of *hazardous substances* in quantities equal to or greater than the reportable quantity found in 40 CFR § 302.4; *(2)* the *disposal* of a *hazardous substance* at the subject facility; or *(3)* the *storage* for one year or more of a *hazardous substance* in quantities of 1000 kilograms or more, or the reportable quantity found in 40 CFR § 302.4, whichever is greater.

3.3.19.1 *Discussion—Hazardous substance activity* includes *storage* in quantities greater than or equal to one kilogram if the substances are listed under 40 CFR § 261.30 as acutely *hazardous substances*.

3.3.20 *innocent landowner defense, n*—that defense to CERCLA liability provided in 42 USC § 9601(35) and 42 USC § 9607(b)(3) (see also 40 CFR Part 312).

3.3.20.1 *Discussion*—One of the requirements to qualify for this defense is that the party make "all appropriate inquiry into the previous ownership and uses of the *property* consistent with good commercial or customary practice." (see 40 CFR §312).

3.3.21 *installation restoration program (IRP), n*—the DoD program, mandated by 10 USC § 2701-2710 to assess and respond to releases of *hazardous substances* on military *property* under the control of the military services.

3.3.21.1 *Discussion*—Tthe *IRP* is one of two programs established under the Defense Environmental Restoration Program (DERP) to identify, investigate and clean up *hazardous substances*, pollutants, and contaminants that pose environmental health and safety risks at active military installations and formerly used defense sites (FUDS). In 2001, DoD established the Military Munitions Response Program (MMRP) to address sites, referred to munitions response sites or (MRSs) known or suspected to contain unexploded ordnance, discarded military munitions, or munitions constituents. Through the *IRP* and MMRP, DoD complies with environmental cleanup laws, such as CERCLA (see 32 CFR 179, Munitions Response Site Prioritization Protocol). The *IRP* serves as an umbrella program for environmental response in all media, including RCRA corrective action, LUST corrective action, as well as CERCLA removals and *remedial actions*. Generally, where field sampling or intrusive environmental testing is required, the *IRP* will serve as a vehicle for such testing (see DoDM 4715.20).

3.3.22 *interviews, n*—sessions with current or former employees involved in operations on the real *property*, conducted to ascertain if *storage*, *release*, treatment, or *disposal* of *hazardous substances*, petroleum products or their derivatives occurred or is occurring on the real *property*.

3.3.23 *local government agencies, n*—those agencies of municipal or county government having jurisdiction over the *property*.

3.3.23.1 *Discussion*—Municipal and county government agencies include, but are not limited to, cities, parishes, townships, and similar entities. *Local government agencies* may also include, where appropriate, state agencies with local jurisdiction which perform functions commonly performed in other locations by *local government agencies*.

3.3.24 *migration, v*—the movement of contaminant(s) away from a source through permeable subsurface media (such as the movement of a ground water plume of contamination), or movement of contaminant(s) by a combination of surficial and subsurface processes; vapor intrusion is an example of *migration*.

3.3.25 *obviousness, n*—the condition of being plain or evident. A condition or fact which could not be ignored or overlooked by a reasonable observer while conducting a

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records search or while physically or visually observing the *property* in conjunction with an *ECP*.

3.3.26 *open burning/open detonation, n*—open detonation and open burn operations are used to destroy excess, obsolete, or unserviceable munitions, explosives, propellants, and pyrotechnics.

3.3.26.1 *Discussion*—In open burning, materials such as rocket fuel are destroyed by self-sustained combustion after being ignited. In general, electric initiation systems are preferable because they provide better control. In open detonation, explosives and munitions are destroyed by a detonation of added explosive charges. Historically, these operations occurred at land surface or in pits, (see EPA 1997).

3.3.27 *physical setting sources, n*—sources that provide information about the geologic, hydrogeologic, hydrologic, or topographic characteristics of a *property*.

3.3.28 *practically reviewable, adj*—information that is *practically reviewable* is information provided by the source in a manner and in a form that, upon examination, yields information relevant to the *property* without the need for extraordinary analysis of irrelevant data.

3.3.28.1 *Discussion*—The form of the information shall be such that the *user* can review the records for a limited geographic area. Records that cannot be feasibly retrieved by reference to the location of the *property* or a geographic area in which the *property* is located are not generally *practically reviewable*. Most data bases of public records are *practically reviewable* if they can be obtained from the source agency by the county, city, zip code, or other geographic area of the facilities listed in the record system. Records that are sorted, filed, organized, or maintained by the source agency only chronologically are not generally *practically reviewable*. This term has the same meaning as provided in Practice E1527.

3.3.29 *preliminary assessment (PA), n*—review of existing information and an off-site reconnaissance, if appropriate to determine if a *release* or potential *release* may require additional investigation or action. A *PA* may include an on-site reconnaissance, if appropriate.

3.3.30 *publicly available, adj*—information that is *publicly available* means that the source of the information allows access to the information by anyone upon request.

3.3.31 *reasonably ascertainable, n*—information that is *(1) publicly available (2)* obtainable from a source within reasonable time and cost constraints, and *(3) practically reviewable*.

3.3.32 *recognized environmental conditions, n—(1)* the presence of *hazardous substances* or petroleum products in, on, or at the federally-owned *property* due to a *release* to the environment; *(2)* the likely presence of *hazardous substances* or petroleum products in, on or at the federally-owned *property* due to a *release* or likely *release* to the environment; or *(3)* the presence of *hazardous substances* or petroleum products in, on or at the federally-owned *property* under conditions that pose a material threat of a future *release* to the environment. *De minimis conditions* are not *recognized environmental conditions*.

3.3.32.1 *Discussion*—The term includes *hazardous substances* or petroleum products even under conditions in compliance with laws. The term is not intended to include de minimis conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if these conditions were brought to the attention of appropriate governmental agencies. This term is introduced in Practice E1527, and is used herein only in conjunction with *ECP* Steps 1 and 2 (see 6.2), as an intermediate outcome prior to the Step 3 classification of *environmental condition of property area types*. A *Phase I Environmental Site Assessment* results in *recognized environmental conditions*, but not *environmental condition of property area types*.

3.3.33 *recorded chain of title documents, n*—this term has the same meaning as *recorded land title records*.

3.3.34 *records search and/or review, v*—detailed search and review of available information and records in the possession of the *DoD components*, the federal landholding agency and records made available by the regulatory agencies or other involved federal agencies, including, but not limited to *IRP* studies and analyses, surveys for radioactive materials, *asbestos*, *asbestos-containing materials*, radon, lead-based paint, electrical devices (that is, transformers) containing PCB, RCRA Facility Assessments and Investigations to determine what, if any, *hazardous substances* or petroleum products may be present on the *property*.

3.3.34.1 *Discussion*—For the purposes of *adjoining properties*, a records search includes the review of reasonably obtainable federal, state, and local government records for each adjacent facility where there has been a *release* or likely *release* of any *hazardous substance* or any petroleum product, and which is likely to cause or contribute to a *release* or threatened *release* of any *hazardous substance* or any petroleum product on the federal real *property*.

3.3.35 *release, v—as defined in CERCLA §101(22)*, any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment (including the abandonment or discarding of barrels, containers, and other closed receptacles) of any hazardous chemical, extremely *hazardous substance*, or CERCLA *hazardous substance*.

3.3.36 *remedial actions, n—as defined in CERCLA §101(22)*, those actions consistent with a permanent remedy taken instead of, or in addition to, *removal* action in the event of a *release* or threatened *release* of a *hazardous substance* into the environment, to prevent or minimize the *release* of *hazardous substances* so that they do not migrate to cause substantial danger to present or future public health or welfare or the environment.

3.3.37 *removal, v*—remove or *removal* means the cleanup or *removal* of *released hazardous substances* from the environment; such actions as may be necessary taken in the event of the threat of *release* of *hazardous substances* into the environment; such actions as may be necessary to monitor, assess, and evaluate the *release* or threat of *release* of *hazardous substances*; the *disposal* of removed material; or the taking of such other actions as may be necessary to prevent, minimize, or mitigate damage to the public health or welfare of the United

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States or to the environment, which may otherwise result from a *release* or threat of *release*.

3.3.37.1 *Discussion*—The term includes, in addition, without being limited to, security fencing or other measures to limit access, provision of alternative water supplies, temporary evacuation and housing of threatened individuals not otherwise provided for, action taken under section 104(b) of CERCLA, post-*removal* site control, where appropriate, and any emergency assistance which may be provided under the Disaster Relief Act of 1974.

3.3.38 *required remedial actions, n—remedial actions* determined necessary to comply with the requirements of CERCLA § 120(h)(3)(B)(i).

3.3.38.1 *Discussion*—"Remedial" means actions consistent with permanent remedy taken instead of, or in addition to, *removal* actions.

3.3.39 *required response actions, n*—removal and/or *remedial actions* determined necessary to comply with the requirements of CERCLA § 120(h)(3)(B)(i).

3.3.39.1 *Discussion*—For federal landholding agencies, these actions may include the imposition and maintenance of land use controls as an enforceable clause in the FOSL or FOST.

3.3.40 *significant and significance, adj—in this practice*, *significant and significance* connote the opposite of trivial or *de minimis*.

3.3.40.1 *Discussion*—An event or condition is considered *significant* if it has the potential to present a nontrivial risk to human health and the environment, using the risk range established by the *NCP*. A probability is considered *significant* when an *environmental professional* estimates the probability as nontrivial. For example, in the hypothetical case of an underground tank that was installed and removed prior to the existence of regulatory requirements for tank closure, the *environmental professional* must evaluate the possibility of *release* from the tank in the absence of soil testing results. If such an evaluation, based upon observed site conditions and documented soil corrosivity characteristics were to conclude that the probability of *release* is trivial or very close to zero, then no soil testing would be undertaken in the absence of a specific regulatory requirement for such testing.

3.3.41 *site inspection (SI), n*—a systematic examination of the subject *property* to determine whether there is a *release* or potential *release* and the nature of the associated threats.

3.3.41.1 *Discussion*—The objective of the *visual inspection* is to perform those parts of Steps 1 and 2 of the *ECP* process pertaining to visually obtaining information indicating the likelihood of *recognized environmental conditions* in connection with the *property*, so that *environmental condition of property area type* determinations can be made.

3.3.42 *standard classification, n*—the Standard Classification of Environmental Condition of Property Area Types (see D5746).

3.3.43 *standard environmental condition of property area type, n*—one of the seven *environmental condition of property area types* defined in the Standard Classification D5746.

3.3.44 *standard practice, n*—an accepted procedure for the performance of one or more operations or functions.

3.3.45 *storage, v*—the holding of *hazardous substances* for a temporary period, at the end of which the *hazardous substance* is either used, neutralized, *disposed* of, or stored elsewhere.

3.3.45.1 *Discussion—Storage* of RCRA-regulated waste for a period that exceeds 90-days may require a permit issued by the US EPA or a state with delegated authority to enforce RCRA regulations.

3.3.46 *user, n*—the party seeking to use this practice to perform an *ECP* of the *property*. A *user* may include, without limitation, a *DoD component* (acting as owner of the *property*) or any federal landholding agency.

3.3.47 *visual and/or physical inspection, v*—actions taken during an *ECP* to include observations made by vision while walking through or otherwise traversing a *property* and structures located on it and observations made by the sense of smell, particularly observations of noxious or foul odors.

3.3.47.1 *Discussion*—Due to the remoteness of some of the *properties* covered by this practice, the term visually and/or physically observed also includes aerial photography, aerial imagery, and/or aerial flyovers. These techniques may be used in conjunction with, or in lieu of, walking through areas (such as clearings/disturbed soil, mounds, trenches, structures, and so forth) to identify the *storage*, use, or *release* of *hazardous substances* or petroleum.

3.4 *Acronyms and Abbreviations:*

3.4.1 *AFFF*—aqueous film-forming foam

3.4.2 *ARARs*—applicable or relevant and appropriate requirements

3.4.3 *BETX*—benzene, ethylbenzene, toluene, xylene

3.4.4 *BRAC*—base realignment and closure

3.4.5 *CERCLA*—Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended (42 USC 9620 *et seq*.)

3.4.6 *CERFA*—Community Environmental Response Facilitation Act of 1992 (102 Pub. L. 426, 106 Stat. 2174)

3.4.7 *CFR*—Code of Federal Regulations

3.4.8 *DEA*—diethylamine

3.4.9 *DIPA*—diisopropanolamine

3.4.10 *DMM*—discarded military munitions

3.4.11 *DoD*—Department of Defense

3.4.12 *ECP*—environmental condition of *property*

3.4.13 *EPA*—United States Environmental Protection Agency

3.4.14 *EPCRA*—Emergency Planning and Community Right to Know Act, 42 USC

3.4.15 *ERNS*—Emergency Response Notification System

3.4.16 *ESA*—environmental site assessment

3.4.17 *FOSL*—Finding of Suitability to Lease as described in applicable DoD Policy

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3.4.18 *FOST*—Finding of Suitability to Transfer as described in applicable DoD Policy

3.4.19 *GSA*—U.S. General Services Administration

3.4.20 *IRP*—Installation Restoration Program

3.4.21 *LUST*—leaking underground *storage* tank

3.4.22 *MEA*—monoethanolamine

3.4.23 *MEC*—munitions and explosives of concern

3.4.24 *NCP—National Contingency Plan* (40 CFR Part 300)

3.4.25 *NORM*—naturally occurring radioactive material

3.4.26 *PA—preliminary assessment*

3.4.27 *PAHs*—polycyclic aromatic hydrocarbons

3.4.28 *PCBs*—polychlorinated biphenyls

3.4.29 *RCRA*—The Resource Conservation and Recovery Act, as amended, 42 USC 6901 *et seq*.

3.4.30 *SARA*—Superfund Amendments and Reauthorization Act of 1986

3.4.31 *SDS*—safety data sheet

3.4.32 *SEMS*—Superfund Enterprise Management Systems

3.4.33 *SI*—site inspection

3.4.34 *TSD*—treatment, *storage*, and *disposal*

3.4.35 *TPH*—total petroleum hydrocarbons

3.4.36 *USC*—United States Code

3.4.37 *USGS*—United States Geological Survey

3.4.38 *UST*—underground *storage* tank

3.4.39 *UXO*—unexploded ordnance

3.4.40 *WWTP—wastewater* treatment plant

4. Significance and Use

4.1 *Uses*—This practice is intended for use by federal agencies, and *environmental professionals* in order to facilitate *ECP* efforts. It is also intended for use by preparers and reviewers of *environmental condition of property maps* and *ECP reports* used to support CERFA uncontaminated *property* identifications and *property* suitable for transfer by lease or by deed. GSA regulations addressing the *disposal* of federal *property* (41 CFR §105-72), require the landholding agency to assert either that *(a)* there is no evidence of *hazardous substance activity*, or *(b)* there is evidence of *hazardous substance activity* that occurred on the *property*. If there is evidence that *hazardous substance activity* occurred on the *property*, the landholding agency has a "*due diligence*" obligation to provide detailed, accurate information on all "reportable quantities" of *hazardous substances* stored, *released*, or *disposed* of on *property* that it reports to GSA for *disposal*. The specific substances that must be reported under CERCLA and their reporting limits are described in 40 CFR §302.4 and 40 CFR §373. If the landholding agency discloses that *hazardous substance activity* took place on the *property*, then the landholding agency must assert whether or not *all required remedial action* necessary to protect human health and the environment has been taken with respect to those *hazardous substances*.

4.1.1 The *ECP reports* prepared in accordance with this practice may be used to achieve compliance with the federal Management Regulations, Real Property Disposal rules codified in 41 CFR §102-75.

4.2 *Clarifications on Use:*

4.2.1 *Use Not Limited to CERCLA*—This practice is designed to assist the *user* in developing information about the environmental condition of a *property* and as such has utility for a wide range of persons, including those who may have no actual or potential CERCLA liability (see 40 CFR §373, 41 CFR §102-75 and Section 208 of the Federal Land Policy and Management Act, Public Law 94-579).

4.2.2 *Residential Tenants/Purchasers and Others*—No implication is intended that it is currently customary practice for residential tenants of multifamily residential buildings, tenants of single-family homes or other residential real estate, or purchasers of *dwellings* for one's own residential use, to conduct an *ECP* in connection with these transactions. Thus, these transactions are not included in the term commercial real estate transactions. Thus, although such *property* may be included within the scope of an *ECP*, their *occupants* shall not be treated as key site personnel with regard to the housing occupied for the purpose of conducting an *ECP*.

4.2.3 *Site-Specific*—This practice is site-specific in that it relates to assessment of environmental conditions of federal real *property*. Consequently, this practice does not address many additional issues raised in transactions such as purchases of business entities; or interests therein, or of their assets, that may well involve environmental liabilities pertaining to *properties* previously owned or operated or other off-site environmental liabilities.

4.3 *Related Practices*—See Practices E1527 and E2247.

4.4 *Principles*—The following principles are an integral part of this practice and all related practices and are intended to be referred to in resolving any ambiguity or exercising such discretion as is accorded the *user* or *environmental professional* in performing an *ECP* or in judging whether a *user* or *environmental professional* has conducted appropriate inquiry or has otherwise conducted an adequate *ECP*.

4.4.1 *Uncertainty Not Eliminated*—No *ECP* can wholly eliminate uncertainty regarding the potential for *recognized environmental conditions* in connection with a *property*. Performance of this practice is intended to reduce uncertainty regarding the potential for *recognized environmental conditions* in connection with a *property* to the minimum practicable level, but not eliminate such uncertainty altogether, as well as to recognize reasonable limits of time and cost for *property* information.

4.4.2 *Level of Inquiry is Variable*—Not every federal *property* will warrant the same level of *ECP* effort. Consistent with good practice, the appropriate level of *ECP* will be guided by the type of *property* subject to *ECP* and the information developed in its conduct.

4.4.3 *Comparison with Subsequent Inquiry*—It should not be concluded or assumed that an inquiry was not an appropriate inquiry merely because the inquiry did not identify *recognized environmental conditions* in connection with a *property*. The

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ECPs must be evaluated based on the reasonableness of judgments made at the time and under the circumstances in which they were made. Subsequent *ECPs* should not be considered valid standards to judge the appropriateness of any prior *ECP* based on hindsight, new information, use of developing technology or analytical techniques, or other factors.

4.5 *Continued Viability of Environmental Baseline Survey*—An *ECP* meeting or exceeding this practice and completed less than 180 days prior to the date of a subsequent use is presumed to be valid for that use. An *ECP* not meeting or exceeding this practice or completed more than 180 days previously may be used to the extent allowed by 4.6 – 4.6.5.

4.6 *Prior ECP Usage*—This practice recognizes that *ECPs* performed in accordance with this practice or otherwise containing information which was reasonably accurate at the time prepared will include information that subsequent *users* may want to use to avoid undertaking duplicative *ECP* procedures. Therefore, this practice describes procedures to be followed to assist *users* in determining the appropriateness of using information in ECPs performed previously. The system of prior *ECP* usage is based on the following principles that should be adhered to in addition to the specific procedures set forth elsewhere in this practice:

4.6.1 *Use of Prior Information*—Subject to 4.6.4, *users* and *environmental professionals* may use information in prior *ECPs* provided such information was generated as a result of procedures that meet or exceed the requirements of this practice or accurately state the limitations of the information presented. When using information from an *ECP* which, as a whole, fails to meet or exceed the requirements of this practice, the use shall be limited to those portions of the *ECP* which, based upon the limitations and methodology of the *ECP report*, the *environmental professional* finds to be reasonably accurate.

NOTE 3—Earlier versions of this practice required the review and analysis of a significantly smaller set of records.

4.6.2 *Prior ECP Meets or Exceeds*—Subject to 4.6.4, a prior *ECP* may be used in its entirety, without regard to the specific procedures set forth in these practices if, in the reasonable judgment of the *user*, the prior *ECP* meets or exceeds the requirements of this practice and the conditions at the *property* likely to affect *environmental condition of property area types* in connection with the *property* are not likely to have changed materially since the prior *ECP* was conducted. In making this judgment, the *user* should consider the type of *property* subject to the *ECP* and the conditions in the area surrounding the *property*.

4.6.3 *Current Investigation*—Except as specifically provided in 4.6.2, prior *ECPs* should not be used without current investigation of conditions likely to affect the environmental condition of *property* in connection with the *property* that may have changed materially since the prior *ECP* was conducted. For an *ECP* to be consistent with this practice, a new *visual inspection*, *interviews*, an update of the *records review*, and other appropriate activities may have to be performed.

4.6.4 *Actual Knowledge Exception*—If the *user* or *environmental professional(s)* conducting an *ECP* has actual knowledge that the information being used from a prior *ECP* is not accurate or if it is obvious, based on other information obtained by means of the *ECP* or known to the person conducting the *ECP*, that the information being used is not accurate, such information from a prior *ECP* may not be used.

4.6.5 *Contractual Issues Regarding Prior ECP Usage*—The contractual and legal obligations between prior and subsequent *users* of *ECPs* or between *environmental professionals* who conducted prior *ECPs* and those who would like to use such prior *ECPs* are beyond the scope of this practice.

5. User's Responsibilities

5.1 *Scope*—This section is limited to the responsibilities of *users* of this practice. *Users* may be either employees of federal landholding agencies or *environmental professionals* contractually engaged to perform *ECPs*. *Users* of this practice should be familiar with its entire contents before conducting or documenting an *ECP*, and to use best professional judgment regarding its applicability to a particular situation.

5.1.1 *DoD Component Staff—DoD component* staff who have both the requisite specialized knowledge and experience and appropriate training can use this practice as a starting point for conducting or updating *ECPs*. Although this practice has been designed to help *DoD components* meet certain legal and policy requirements, it should not be used as a substitute for meeting environmental, *BRAC statute*, or health and safety legal requirements that exist under various laws, regulations, and DoD and *DoD component* policies and guidance. Other federal landholding agencies may have agency-specific policies and procedures that the *user* should consult during the *ECP* process.

5.1.1.1 *Discussion*—Department of Defense 4165.66M Base Redevelopment and Realignment Manual and Department of Defense Manual 4715.20, Defense Environmental Restoration Program (DERP) Management, establish consistent procedures to be used by all *DoD components*. The *user* should determine if *DoD component*-specific guidance or procedures are applicable to the *ECP*.

(1) U.S. Army installations should determine if U.S. Army Regulation 200-1, Environmental Quality – Environmental Protection and Enhancement, applies to the *ECP*.

(2) U.S. Air Force installations should determine if Department of the Air Force Instruction 32-7020, applies to the ECP.

(3) U.S. Navy and Marine installations should determine is Department of the Navy Base Realignment and Closure Implementation Guidance applies to the *ECP*.

5.1.2 *Environmental Professionals—Environmental professionals* who have both the requisite specialized knowledge and experience, and appropriate training can use this practice as a starting point for conducting or updating *ECPs*. This practice has been designed to help staff *environmental professionals*, as well as *environmental professionals* contractually engaged by federal agencies, including *DoD components*, to conduct *ECPs*, in accordance with applicable legal and policy requirements. This practice should not be used as a substitute for meeting environmental, *BRAC statute*, or health and safety legal requirements that exist under various laws, regulations,

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and DoD and *DoD component* policies and guidance. Contractually engaged *environmental professionals* should not use this practice to perform tasks that are inherently governmental functions.

5.2 *Specialized Knowledge or Experience of the User*—*Users* of this practice are expected to have the requisite environmental and health and safety training necessary to conduct the tasks identified in this practice. The federal agencies, including *DoD components* are responsible for identifying appropriate staff for conducting these functions, and are also responsible for contractually ensuring that *environmental professionals* engaged to perform *ECPs* have appropriate qualifications. These qualifications should be identified in the contract or scope of work.

6. Environmental Condition of Property Determination Process

6.1 *Objective*—In accordance with the policies of federal landholding agencies and federal real *propertydisposal* regulations, the purpose of the *ECP* is to identify *property* on which any *hazardous substance* or petroleum product was stored for one year or more (at quantities above the reportable quantity listed in 40 CFR 302.4); to document the *obviousness* of the presence or likely presence of a *release* or threatened *release* of any *hazardous substance* or petroleum product on the federal *property*; and use this information to classify the *property* in accordance with D5746.

6.1.1 Department of Defense Form 2993, in Appendix X3 may be used to record some of the information required under this Practice, if federal landholding agency or *DoD component*-specific forms do not exist.

6.2 *Five Steps*—Within the limitations described in 6.1, it is anticipated that the *ECP* process will commonly consist of at least four and possibly five discrete steps (see Fig. 1). These are summarized as follows:

6.2.1 *ECP Step 1*—Gathering of data and information in accordance with the process described in the applicable DoD policy referenced in 2.2 the federal real *property disposal* regulations, and as further elaborated in Sections 7 – 13 of this practice.

6.2.2 *ECP Step 2*—Analysis of data and information in accordance with the process described in Sections 7 – 13 of this practice.

6.2.3 *ECP Step 3*—Determination of the *environmental condition of property area type* for the real *property* being evaluated by the *ECP*, in accordance with the process described in this practice, Classification D5746, and federal real *property disposal* regulations.

6.2.4 *ECP Step 4*—Preparation of an *ECP report* in accordance with the format described in the applicable DoD policy or the federal real *property disposal* regulations.

6.2.5 *ECP Step 5*—Updating and enhancing, as necessary, an *ECP report* to support *property* transfer transactions (for example, FOSLs, FOSTs, or environmental condition reports). This process may require repeating Steps 1 through 3 to incorporate additional information or data, or both, generated between the time an initial *ECP report* is issued and the time an updated version is used to support a *property* transfer transaction. Guidance on FOSLs and FOST can be found in Appendix 3 of DODM 4165.66M.

6.3 *Additional Explanation of ECP Steps 1 and 2*—Steps 1 and 2 of the *ECP* process will consider all sources of available information concerning environmentally *significant* current and past uses of the real *property*, and shall, at a minimum, consist of the following eight components, as described in overview as follows (more detailed descriptions of each component are found in Sections 7 – 13):

6.3.1 *Records Search and Review Scope*—Detailed search and review of available information and records in the possession of the *DoD components* or the federal agency responsible for the *property*, or records made available by the regulatory agencies or other involved federal agencies. Department of Defense (DoD) components are responsible for requesting and making reasonable inquiry into the existence and availability of relevant information and records to include any additional study information (for example, surveys for radioactive materials, *asbestos*, *asbestos-containing materials*, radon, lead-based paint, drinking water quality, indoor air quality, transformers containing PCBs, *emerging chemicals of environmental concern*, RCRA Facility Assessments and Investigations, PAs, *SDS*, and Underground Storage Tank Cleanup Program,) to help support the determination of the *environmental condition of property area types*.

NOTE 4—Records related to *State registered USTs* should be reviewed.

6.3.2 *Adjoining Facility Records Search and Review Scope*—Review of all reasonably obtainable federal, state, and

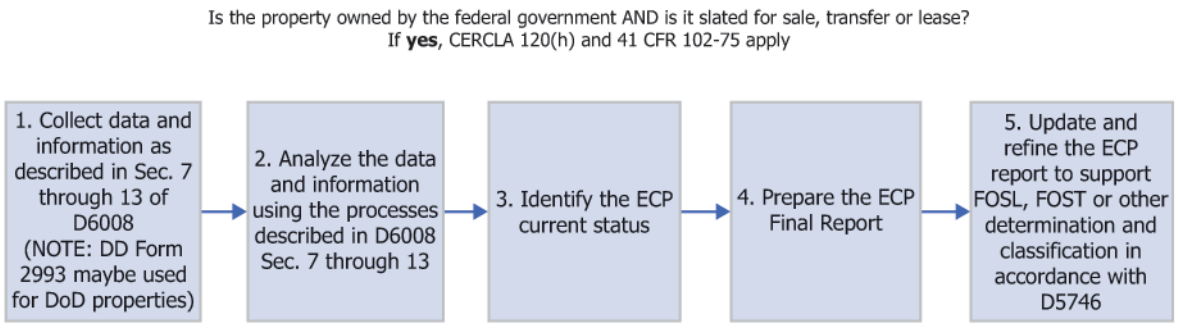

FIG. 1 The Process to Determine the Environmental Condition of Property

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local government records for each adjoining facility or *property* where there has been a *release* or likely *release* of any *hazardous substance* or any petroleum product, and which is likely to cause or contribute to a *release* or threatened *release* of any *hazardous substance* or any petroleum product on the real *property*.

NOTE 5—*Property* tax records may be useful in determining past uses of adjoining *property*.

6.3.3 *Aerial Photography Analysis*—Analysis of *aerial photographs* that are in the possession of the federal government or are reasonably obtainable through state or *local government agencies* that may reflect prior uses of the *property*.

6.3.4 *Interviews—Interviews* with key current or former employees, or both, involved in operations on the real *property*.

6.3.5 *Visual Inspections*—Nonintrusive *visual inspections* of the real *property*; any buildings, structures, equipment, pipe, pipeline, or other improvements on the real *property*; and of *properties* adjoining the federally-owned *property*, noting sewer lines, runoff patterns, evidence of environmental impacts (for example, stained soil, stressed vegetation, dead or ill wildlife), and other observations which indicate actual or potential *release* of *hazardous substances* or petroleum products.

6.3.6 *Contamination Source Identification*—Identification of sources of contamination on the federally-owned *property* and on *adjoining properties* which could migrate to the real *property*.

6.3.7 *Ongoing Response Actions*—Ongoing response actions or actions that have been taken at or adjacent to the federally-owned *property* will be identified and documented.

6.3.8 *Physical and Visual Inspection of Adjoining Property*—A *physical inspection* of *property* adjacent to the federally-owned *property*, to the extent permitted by owners or operators of such *property*. A *visual inspection* will be accomplished from areas of public access if a *physical inspection* is not authorized by the owners or operators of such adjoining *property*.

7. Records Search and Review

7.1 *Introduction*—Reasonable prudence, CERFA requirements (in the case of an *ECP* performed to support the identification of uncontaminated *property*), DoD guidance, and regulations concerning federal real *propertydisposal* mandate that the federal real *property* be evaluated in order to support real *property* transactions. One component of this evaluation is the review of all *reasonably ascertainable* federal, state, and local government records to determine where, on the federal *property*, there has been *storage* for one year or more, *release* or likely *release* of any *hazardous substance* or any petroleum product, and which is likely to cause or contribute to a *release* or threatened *release* of any *hazardous substance* or any petroleum product on the real *property*.

7.1.1 *Objective*—The objective of the *records review* is to perform those parts of Steps 1 and 2 of the *ECP* process pertaining to obtaining and reviewing adequate and complete records that will help the *user* or *environmental professional* make an *environmental condition of property area type* determination regarding the federal real *property*.

7.1.2 *Accuracy and Completeness*—Accuracy and completeness of record information varies among information sources, including governmental sources. Record information is often inaccurate or incomplete. The *user* or *environmental professional* is not obligated to identify mistakes or insufficiencies in information provided. However, the *environmental professional* reviewing the records shall make a reasonable effort to compensate for mistakes or insufficiencies in the information reviewed that are obvious in light of other information of which the *environmental professional* has actual knowledge.

7.1.3 *Alternatives to Standard Sources*—Alternative sources may be used instead of standard sources if they are of similar or better reliability and detail, or if a standard source is not *reasonably ascertainable*.

7.1.4 *Coordination*—If records are not *reasonably ascertainable* from standard sources or alternative sources, the *environmental professional* shall attempt to obtain the requested information by other means specified in this practice such as questions posed to the current owner or occupant(s) of the *property* or appropriate persons available at the source at the time of the request.

7.1.5 *Sources of Standard Source Information*—Standard source information or other record information from government agencies may be obtained directly from appropriate government agencies (see Envirofacts) or from commercial services. Government information obtained from nongovernmental sources may be considered current if the source updates the information at least every 90 days or, for information that is updated less frequently than quarterly by the government agency, within 90 days of the date the government agency makes the information available to the public.

7.1.6 *Documentation of Sources Checked*—The *ECP* report shall document each source that was used, even if a source revealed no findings. Sources shall be sufficiently described, including name, date request for information was filled, date information provided was last updated by source, date information was last updated by original source (if provided other than by original source; see 7.1.3) so as to facilitate reconstruction of the research at a later date.

7.1.7 *Significance*—If a standard environmental record source (or other sources in the course of conducting the *ECP*) identifies the *property* or another site within the *approximate minimum search distance*, the *ECP report* shall include the *environmental professional's* judgment about the *significance* of the listing to the analysis of *recognized environmental conditions* in connection with the *property* (based on the data retrieved pursuant to this section, additional information from the government source, or other sources of information). In doing so, the *environmental professional* may make statements applicable to multiple sites (for example, a statement to the effect that none of the sites listed is likely to have a negative impact on the *property* except ...).

7.2 *ECP Step 1: Records Gathering*—In accordance with 6.2.1, this section specifies the general level of effort required to complete *ECP* Step 1 tasks associated with records gathering. At a minimum, records to be gathered and reviewed when an *ECP* is initially conducted include the following:

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7.2.1 *Background and Physical Setting Records.*

7.2.1.1 *Physical Setting Sources*—A current *USGS 7.5 Minute Topographic Map* showing the area on which the federally-owned *property* is located shall be reviewed, provided it is reasonably obtainable. If a current *USGS 7.5 Minute Topographic Map* is not readily obtainable, a current 15 Minute Topographic Map showing the area on which the federally-owned *property* is located shall be reviewed, provided it is reasonably obtainable. It is the only standard physical setting source and the only physical setting source that is required to be obtained (and only if it is reasonably obtainable). One or more additional *physical setting sources* may be obtained in the discretion of the *environmental professional*. Because such sources provide information about the geologic, hydrogeologic, hydrologic, or topographic characteristics of a site, discretionary *physical setting sources* shall be sought when: *(1)* conditions have been identified in which *hazardous substances* or petroleum products are likely to migrate to the federally-owned *property* or from or within the federally-owned *property* into the ground water or soil and *(2)* more information than is provided in the current *USGS 7.5 Minute Topographic Map* is generally obtained.

Standard Physical Setting Source:

Current *USGS 7.5 Minute Topographic Map*

If this map is unavailable, obtain the USGS 15 Minute Map, if available. If neither the *USGS 7.5 Minute Topographic Map* nor the 15 Minute Map are available, a larger scale (for example, 1:250 000) USGS topographic map should be considered. Where appropriate, a comparable topographic map, prepared by the Defense Mapping Agency, may be used instead of the *USGS 7.5 Minute Topographic Map*.

Other *Physical Setting Sources*:

The following sources may also be utilized if requested:

- USGS and/or State Geological Survey—Groundwater Maps
- USGS and/or State Geological Survey—Bedrock Geology Maps
- USGS and/or State Geological Survey—Surficial Geology Maps
- Soil Conservation Service—Soil Maps
- Other physical setting sources that are reasonably credible (as well as reasonably ascertainable)

7.2.2 Department of Defense (DoD) Component or the federal agency currently responsible for the *property* records maintained on the *property* or elsewhere, but reasonably obtainable, which are relevant to classification of *environmental condition of property area types*, including, but not limited to records of:

7.2.2.1 Ongoing and completed site remediation and environmental response activities, including *IRP* activities, corrective action programs, LUST responses, and similar activities. This includes all relevant records in the Administrative Record maintained under CERCLA, such as PAs, remedial investigations/feasibility studies, 5-year reviews.

NOTE 6—Records related to corrective actions under RCRA and 40 CFR 761.61 should be reviewed.

7.2.2.2 Records of reported spills of *hazardous substances* and responses (see 40 CFR 355).

7.2.2.3 Records of *hazardous waste* accumulation, *storage*, treatment, or *disposal*, including satellite accumulation records, manifests, and records maintained in connection with permitted *hazardous waste* activities.

7.2.2.4 Records of *hazardous substance* and petroleum usage and/or *storage* and SDS for *hazardous substances*.

7.2.2.5 Records of potential hazard surveys, including, but not limited to *asbestos* surveys, *asbestos-containing materials* surveys, lead-based paint surveys, radioactive materials surveys, mercury surveys, PCB surveys, *emerging chemicals of environmental concern*, and radon surveys.

7.2.2.6 Environmental compliance records not specifically included in other required records. This includes, but is not limited to Safe Drinking Water Act reports, Clean Water Act permits and discharge reports, Clean Air Act permits and discharge and emission reports, EPCRA reports, *hazardous waste* minimization plans and reports, and pollution prevention plans and reports.

7.2.2.7 Additional records to include planning maps, base historian records, the base comprehensive plan or base master plan, military construction records, real *property* records, fire department records, historical photographs, records associated with oil and natural gas exploration and production activities, and facility and utility records.

7.2.3 Federal, state, and local agency records.

7.2.4 *Recorded chain of title documents*.

7.3 *ECP Step 2: Records Analysis*—Upon review of the required records gathered to complete *ECP* Step 1, the *user* or *environmental professional* shall indicate in the *ECP report* whether or not the search revealed any of the following on the *property*:

7.3.1 Spills of *hazardous substances* or petroleum products, or both,

7.3.2 Leaks of *hazardous substances* or petroleum products, or both,

7.3.3 Discharges of *hazardous substances* or petroleum products, or both,

7.3.4 Leaching of *hazardous substances* or petroleum products, or both,

7.3.5 Injection of *hazardous substances* or petroleum products, or both,

7.3.6 Dumping of *hazardous substances* or petroleum products, or both,

7.3.7 Abandoned or discarded barrels, containers, or other,

7.3.8 Receptacles containing *hazardous substances* or petroleum products,

7.3.9 Automotive batteries,

7.3.10 Industrial batteries,

7.3.11 Pesticides in containers, cartons, sacks, *storage* bins, canisters,

7.3.12 Paints in containers, cartons, sacks, *storage* bins, canisters,

7.3.13 *Drums* containing *hazardous substances* or petroleum products, or both,

7.3.14 Tanks containing *hazardous substances* or petroleum products, or both,

7.3.15 *Fill dirt* from a contaminated site,

7.3.16 Fill pipes for underground *storage* tanks,

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7.3.17 PCBs in transformers or capacitors,
7.3.18 Heavy industrial equipment, including hydraulic equipment in *storage* or use,
7.3.19 Ditches subject to contaminated runoff or discharges,
7.3.20 Railroad loading/unloading areas,
7.3.21 Medical/biohazardous waste,
7.3.22 Radioactive materials and mixed wastes,
7.3.23 Mercury, for example, seals,
7.3.24 Surface or underground mining operations (sand, gravel, hard rock),
7.3.25 Missile silos and missile launch facilities,
7.3.26 Firefighting training facilities and firefighting training activities,
7.3.27 *Munitions and Explosives of Concern*,
7.3.28 Small arms firing ranges (potential heavy metal contamination),
7.3.29 *Wastewater* treatment plants,
7.3.30 *Open burning/open detonation* of MEC, propellants, explosives, or pyrotechnics,
7.3.31 Oil or natural gas exploration or production wells and associated infrastructure (see Appendix X6 and Appendix X7), or
7.3.32 Chemical warfare agents.

7.4 The findings and results of the *records review* shall be documented in the *ECP report*.

8. Adjoining Facility Records Search and Review

8.1 *Introduction*—Reasonable prudence, CERFA requirements (in the case of an *ECP* performed to support the identification of uncontaminated *property*), DoD guidance, and federal real *property disposal* regulations mandate that the federal real *property* be evaluated in order to categorize real *property* into applicable *environmental condition of property area types*. One component of this evaluation is the review of all reasonably obtainable federal, state, and local government records for each adjoining facility where there has been a *release* or likely *release* of any *hazardous substance* or any petroleum product, and which is likely to cause or contribute to a *release* or threatened *release* of any *hazardous substance* or any petroleum product on the real *property* or which might migrate to the federal real *property*. In this connection, adjoining has the meaning provided in 3.3.1 and includes those *properties* near enough to the federal real *property* to present a reasonable probability of affecting the environmental condition of *property* on the federally-owned *property*.

8.1.1 *Objective*—The objective of the adjoining facility *records search and review* is to perform those parts of Steps 1 and 2 of the *ECP* process pertaining to identifying, obtaining, and reviewing those reasonably available Federal, State, and local agency records that might disclose information which would affect the *environmental condition of property area type* determination regarding the federal real *property*.

8.1.2 *Approximate Minimum Search Distance*—Adjoining facility records pertain not only to facilities adjoining to the federal real *property*, but also pertain to *properties* within an additional *approximate minimum search distance* in order to help assess the likelihood of problems from migrating *hazardous substances* or petroleum products. When the term *approximate minimum search distance* includes areas outside the *property*, it shall be measured from the nearest *property* boundary. The term *approximate minimum search distance* is used instead of radius in order to include irregularly shaped *properties*.

8.1.2.1 *Reduction of Approximate Minimum Search Distance*—When allowed by 8.2.1.1, the *approximate minimum search distance* for a particular record may be reduced at the discretion of the *environmental professional*.

8.1.3 *Accuracy and Completeness*—See 7.1.2.
8.1.4 *Reasonably Obtainable/Standard Sources:*
8.1.4.1 *Publicly Available*.
8.1.4.2 *Reasonable Time and Cost*.
8.1.4.3 *Practically Reviewable*.
8.1.5 *Alternatives to Standard Sources*—See 7.1.3.
8.1.6 *Coordination*— See 7.1.4.
8.1.7 *Sources of Standard Source Information*—See 7.1.5.
8.1.8 *Documentation of Sources Checked*—See 7.1.6.
8.1.9 *Significance*—See 7.1.7.

8.2 *ECP Step 1: Adjoining Property Records Gathering*—In accordance with 6.2.1, this section specifies the level of effort required to complete *ECP* Step 1 tasks associated with adjacent adjoining *property* facility records gathering. At a minimum, the following records are to be searched:

8.2.1 *Standard Environmental Sources*—The following standard environmental record sources shall be reviewed, subject to the conditions of 7.1.1 – 7.1.7:

8.2.1.1 *Standard Environmental Record Sources: Federal and State*—The *approximate minimum search distance* should be established for each federally-owned *property* or portion of a federally-owned *property*, based on the physical setting and surrounding land use. Table 1 includes recommended *approximate minimum search distances*. An *approximate minimum search distance* for a particular record may be reduced at the discretion of the *environmental professional*. Factors to consider in reducing the *approximate minimum search distance* include: *(1)* the density (for example, urban, rural, or suburban) of the setting in which the *property* is located; *(2)* the distance that the *hazardous substances* or petroleum products are likely to migrate based on local geologic or hydrogeologic conditions; and *(3)* other reasonable factors. The justification for each reduction and the *approximate minimum search distance* actually used for any particular record should be explained in the *ECP report*.

8.2.2 *Additional Environmental Record Sources: State or Local*—One or more additional state sources or local sources of environmental records may be checked, at the discretion of the *environmental professional*, to enhance and supplement federal and state sources identified in Table 1. Factors to consider in determining which local or additional state records, if any, should be checked include: *(1)* whether they are *reasonably ascertainable*, *(2)* whether they are sufficiently useful, accurate, and complete in light of the objective of the *records review* (see 7.1.1), and (*3*) whether they are generally obtained, pursuant to local good commercial or customary practice, in initial environmental site assessments. To the extent additional state sources or local sources are used to supplement the same record types listed in Table 1, approximate minimum search

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TABLE 1 Recommended Approximate Minimum Search Distances

Standard Environmental Record Sources (where available)	Common Sources for Government Records	Approximate Minimum Search Distance miles (kilometers)
Lists of Federal NPL (Superfund) sites	U.S. EPA Website and available EPA databases listing currently listed sites	1.0 (1.6)
Lists of Federal Delisted NPL sites	U.S. EPA Website and available EPA databases listing delisted NPL sites	0.5 (0.8)
Lists of Federal sites subject to CERCLA removals and CERCLA orders[A]	U.S. EPA Websites (HQs and Regions)	0.5 (0.8)
Lists of Federal CERCLA sites with NFRAP[B]	U.S. EPA Websites (HQs and Regions)	0.5 (0.8)
Lists of Federal RCRA facilities undergoing Corrective Action	U.S. EPA Website and EPA databases listing RCRA permitted or interim status facilities undergoing corrective action	1.0 (1.6)
Lists of Federal *RCRA TSD facilities*[A]	U.S. EPA Website and available EPA databases listing RCRA permitted and interim status facilities	0.5 (0.8)
Lists of Federal *RCRA generators*	U.S. EPA Website and available EPA databases listing *RCRA Generators* of *hazardous waste*	subject *property* and *adjoining properties*
Lists of Federal institutional control/engineering control sites	U.S. EPA Website and available EPA data bases listing response actions at CERCLA sites; RCRA sites with ICs/ECs, etc.	subject *property* only
Federal *ERNS list*	EPA and US Coast Guard websites and data bases;	subject *property* only
Lists of state and tribal "Superfund" equivalent sites[A]	Varies by state / tribe	1.0 (1.6)
Lists of state and tribal *hazardous waste* facilities	Varies by state / tribe	0.5 (0.8)
Lists of state and tribal *landfills* and solid waste *disposal* facilities	Varies by state / tribe	0.5 (0.8)
Lists of state and tribal leaking *storage* tanks[A]	Varies by state / tribe	0.5 (0.8)
Lists of state and tribal registered *storage* tanks	Varies by state / tribe	subject *property* and *adjoining properties*
Lists of state and tribal institutional control/ engineering control sites	Varies by state / tribe	subject *property* only
Lists of state and tribal voluntary cleanup sites[A]	Varies by state / tribe	0.5 (0.8)
Lists of state and tribal brownfield sites	Varies by state / tribe	0.5 (0.8)

[A] Records should be researched for both currently active and formerly active sites.
[B] Sites where, following an initial investigation, no contamination was found, contamination was removed quickly without the need for the site to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund action. This should not be interpreted as there being no contamination at the site or that other regulatory agencies, such as at the State level, have not required further action. Such sites may be found on other environmental record sources.

distances should not be less than those specified (adjusted as provided in 8.1.2.1 and 8.2.1.1). Some types of records and sources that may be useful include:

8.2.2.1 Types of Local Records

(1) Lists of *Landfill/Solid Waste Disposal Sites*

(2) Lists of *Hazardous Waste*/Contaminated Sites

(3) Lists of Registered Underground Storage Tanks

(4) Records of Emergency Release Reports (SARA Part 304)

(5) Records of *Contaminated Public Wells*

8.2.2.2 Local Sources

(1) Department of Health/Environmental Division

(2) Fire Department

(a) Discussion—The local fire department may have information regarding the use of *AFFF* at the federal *property*.

(3) Planning Department

(4) Building Permit/Inspection Department

(5) Local/Regional Pollution Control Agency

(6) Local/Regional Water Quality Agency

(7) Local Electric Utility Companies, Districts, Cooperatives, Departments (for records relating to PCBs in the dielectric fluid in transformers and chlorinated *solvents* in liquid-filled, high-voltage insulators)

8.3 *ECP Step 2: Adjoining Property Records Analysis*—Upon review of adjoining *property* records listed in 8.2, the *environmental professional* shall indicate in the *ECP report* whether or not the search revealed any of the following on the *property*:

8.3.1 Potential or actual *migration* of *hazardous substances* or petroleum products, or both, from the *area in question* sources of these substances on the adjoining *property* to the federally-owned *property*.

8.3.2 The presence of actual sources of *hazardous substances* or petroleum products, or both, on adjoining *property* and facilities with suspected *migration* that has not been evaluated or characterized.

8.3.3 Uncontrolled *migration* of *hazardous substances* or petroleum products, or both, in the immediate vicinity of a boundary of the *area in question*.

8.4 The findings and results of the *records review* shall be documented in the report.

9. Aerial Photography Analysis

9.1 *Introduction*—Analysis of aerial photography can provide an extremely useful source of supplemental information regarding both land use and the *environmental condition of property area type*. This analysis may encompass both the federal real *property* and the *adjoining properties*. Analysis of aerial photography should be focused on patterns of land use and human activities as well as direct and indirect evidence of the potential existence of a recognized environmental condition.

9.1.1 *Objective*—The objective of the aerial photography analysis is to perform those parts of Steps 1 and 2 of the *ECP* process pertaining to assembling, if reasonably available, an adequately complete set of imagery. The imagery should

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include *adjoining properties* encompassing both the federal real *property* and the adjoining facilities. The *environmental professional* interprets those photographs for patterns of land use and human activities as well as direct and indirect evidence of the potential existence of a recognized environmental condition, and thereafter, incorporating that information into the overall *environmental condition of property area type*. *Aerial photographs* will be sought for the period encompassing the 1940's or the earliest record of federal ownership of the *property*.

NOTE 7—If the *property* was developed prior to 1940's and prior to federal ownership, imagery, including oblique and panoramic photographs, going back to the earliest point of development should be interpreted. Federal *property* on which mining activities have been conducted may have been developed anytime after the passage of the Mining Act of 1872. For these, and other *properties* developed prior to the 1940's, oblique and panoramic photographs may be used to identify prior uses of *hazardous substances* and petroleum products.

9.2 *ECP Step 1: Aerial Photography Gathering*—In accordance with 6.2.1, this section specifies the level of effort required to complete *ECP* Step 1 tasks associated with identifying and gathering *adjoining properties*. At a minimum, the following sources are to be searched:

9.2.1 *Standard Sources: Aerial Photographs—Aerial photographs* are commonly available from government agencies or private collections unique to a local area, and may also be obtained from universities, colleges, and history museums.

9.2.2 *Optional Sources*—Other sources of similar information, including, but not limited to satellite reconnaissance may be sought where the *environmental professional* feels that these records would be reasonably available and would materially enhance the analysis required in this section. Where permitted, photographic or video imagery captured by drones may be available and useful.

9.3 *ECP Step 2: Aerial Photography Analysis*—The *environmental professional* shall perform the analysis of photographs using an accepted photo interpretation land use and land cover classification system. Analyzed photographs should preferably be at a 1:24 000 scale or smaller scale (that is, more magnified) to reveal adequate surface detail and necessary spatial coverage. (Imagery from the U.S. Department of Agriculture's Soil Surveys may be of significantly higher resolution.) Upon review of *adjoining properties* in accordance with the previously stated guidelines, the *environmental professional* shall specify the analysis method used in the *ECP report* and also indicate whether any of the following were identified on the *property*:

9.3.1 Evidence of excavation activities of unknown type, or of industrial operations.

9.3.2 Evidence of dumping or disposing of waste materials.

9.3.3 Evidence of *significantstorage* activities involving *drums*, other containers, tanks, or pipelines containing *hazardous substances* or petroleum products.

9.3.4 Evidence of staining associated with industrial activities or activities of unknown origin or type.

9.3.5 Evidence of surface impoundments, surface mining, *landfills*, oil or gas wells.

9.4 The findings and results of the aerial photography analysis shall be documented in the *ECP report*.

10. Interviews

10.1 *Introduction*—Reasonable prudence, CERFA requirements (in the case of an *ECP* performed to support the identification of uncontaminated *property*), DoD guidance, and federal real *property disposal* regulations mandate that the federal real *property* be evaluated in order to categorize real *property* into applicable *environmental condition of property area types*. One component of this evaluation are *interviews* of current or former *occupants*, or both, involved in operations on the *property* that are conducted to aid in identifying a recognized environmental condition on the federal real *property* and other information necessary to determine *standard environmental condition of property area types*. *Interviews* of current or former personnel, or both, on the federal real *property* and *interviews* of appropriate local government officials supplement documented information and may also provide keys to effective interpretation of such information. Where available information indicates the presence of *recognized environmental conditions*, it may be necessary to conduct *interviews* relating to those portions of the DoD installation or federally-owned *property* that have been, or are currently being, actively investigated under the *IRP* or similar investigation effort.

10.1.1 *Objective*—The objective of conducting *interviews* is to perform those parts of Steps 1 and 2 of the *ECP* process pertaining to obtaining information indicating *recognized environmental conditions* in connection with the federally-owned *property*, so that *environmental condition of property area type* determinations can be made.

10.2 *ECP Step 1: Interviews with Site Personnel*—In accordance with 6.2.1, this section specifies the level of effort required to complete *ECP* Step 1 tasks associated with interviewing current or former personnel, or both, and appropriate local governmental officials. At a minimum, the following should be incorporated into this process:

10.2.1 *Content—Interviews* with site personnel consist of questions to be asked in the manner and of persons as described in this section. The content of questions to be asked shall attempt to obtain information about uses and conditions as described in Section 9, as well as the information described in Sections 11 – 13.

10.2.2 *Medium*—Questions to be asked pursuant to this section may be asked in person, by telephone, or in writing, at the discretion of the *environmental professional*.

10.2.3 *Timing*—Except as specified in 10.2.8 and 10.2.9, it is at the discretion of the *environmental professional* whether to ask questions before, during, or after the site visit described in Section 11, or in some combination thereof.

10.2.4 *Who Should be Interviewed:*

10.2.4.1 *Key Site Manager*—Prior to the site visit, the federal *property* manager can be asked to identify a person with good knowledge of the uses and physical characteristics of the *property* (the key site manager). For DoD installations the key site manager will be the installation or base commander, base civil engineer, public works commander or other *property* manager, chief physical plant supervisor or head maintenance person. For other federal agencies, the key site manager may be working at another site or facility. (If the *user* is the current federal *property* manager, the *user* has an

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obligation to identify a key site manager, even if it is the *user* himself or herself.) If a key site manager is identified, the person conducting the site visit shall make at least one reasonable attempt (in writing or by telephone) to arrange a mutually convenient appointment for the site visit when the key site manager agrees to be there. If the attempt is successful, the key site manager shall be interviewed in conjunction with the site visit. If such an attempt is unsuccessful, when conducting the site visit, the *environmental professional* shall inquire whether an identified key site manager (if any) or if a person with good knowledge of the uses and physical characteristics of the *property* is available to be interviewed at that time; if so, that person shall be interviewed. In any case, it is within the discretion of the *environmental professional* to decide which questions to ask before, during, or after the site visit or in some combination thereof.

10.2.4.2 *Occupants, Including Current and Former Employees*—A reasonable attempt shall be made to interview a reasonable number of *occupants* of, if any, and current employees involved in operations on the *property*.

(1) Residential Properties—For residential *properties*, residential *occupants* do not need to be interviewed, but if the *property* has nonresidential uses, *interviews* can be held with the nonresidential *occupants* based on criteria specified in 10.2.4.2.

(2) Major Occupants—Except as specified in *residential properties*, if the *property* has five or fewer current *occupants*, a reasonable attempt shall be made to interview a representative of each one of them. If there are more than five current *occupants*, a reasonable attempt shall be made to interview the major *occupant(s)* and those other *occupants* whose operations are likely to indicate *recognized environmental conditions* in connection with the *property*.

(3) Reasonable Attempts to Interview—Examples of reasonable attempts to interview those *occupants* specified in *major occupants* include (but are not limited to) an attempt to interview such *occupants* when making the site visit or calling such *occupants* by telephone. In any case, when there are several *occupants* to interview, it is not expected that the site visit must be scheduled at a time when they will all be available to be interviewed.

(4) Occupant Identification—The *ECP report* shall identify the *occupants* interviewed and the duration of their occupancy.

10.2.4.3 *Local Agency Officials*—A reasonable attempt shall be made to interview at least one staff member of any one of the following types of *local government agencies*:

(1) Local fire department that serves the *property*,

(2) Local health agency or local/regional office of state health agency serving the area in which the *property* is located, or

(3) Local agency or local/regional office of state agency having jurisdiction over *hazardous wastedisposal* or other environmental matters in the area in which the *property* is located.

10.2.5 *Prior Assessment Usage*—Persons interviewed as part of a prior *ECP* consistent with this practice do not need to be questioned again about the content of answers they provided at that time. However, they can be questioned about any new information learned since that time, or others can be questioned about conditions since the prior *ECP* consistent with this practice.

10.2.6 *Quality Of Answers*—The person(s) interviewed should be asked to be as specific as reasonably feasible in answering questions. The person(s) interviewed should be asked to answer in good faith and to the extent of their knowledge.

10.2.7 *Incomplete Answers*—In accordance with 10.2.7.1 and 10.2.7.2, the person conducting the interview(s) has an obligation to ask questions, in certain instances the persons to whom the questions are addressed may not have an obligation to answer them (for example, due to national security concerns).

NOTE 8—If the person to whom questions are addressed claims or asserts that the answer(s) involve confidential business information, the person conducting the interview shall duly note that response in the *ECP report*.

10.2.7.1 *User/DoD Component Personnel*—If the person to be interviewed is the *user* (an employee of a *DoD component* or federal agency on whose behalf the *ECP* is being conducted), the *user* has an obligation to answer all questions posed by the person conducting the interview, in good faith, to the extent of his or her actual knowledge, or to designate a key site manager to do so. If answers to questions are unknown or partially unknown to the *user* or such key site manager, this interview section of the *ECP* shall not thereby be deemed incomplete.

10.2.7.2 *Non-User*—If the person conducting the interview(s) asks questions of a person other than a *user* but does not receive answers or receives partial answers, this section of the *ECP* shall not thereby be deemed incomplete, provided that *(1)* the questions have been asked (or attempted to be asked) in person or by telephone and written records have been kept of the person to whom the questions were addressed and the responses, or *(2)* the questions have been asked in writing sent by first class mail or by private, commercial carrier and no answer or incomplete answers have been obtained and at least one reasonable follow-up (telephone call or written request) was made again asking for responses.

10.2.8 *Questions About Helpful Documents*—Prior to the site visit, the *property* owner, key site manager (if any is identified), and *user* (if different from the *property* owner) shall be asked if they know whether any of the documents listed in 10.2.8.1 exist and, if so, whether copies can and will be provided to the *environmental professional* within reasonable time and cost constraints. Even partial information provided may be useful. If so, the *environmental professional* conducting the site visit shall review the available documents prior to or at the beginning of the site visit.

10.2.8.1 *Helpful Documents:*

(1) Environment site assessment reports, including *PA*, *SI*, or other similar reports.

(2) Environment audit reports.

(3) Environmental permits (for example, solid waste *disposal* permits, *hazardous wastedisposal* permits, *wastewater* permits, air discharge permits, NPDES permits).

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(4) Registrations for underground and above-ground *storage* tanks.

(5) Material safety data sheets.

(6) Community right-to-know plan.

(7) Safety plans; preparedness and prevention plans; spill prevention, countermeasure, control plans, and so forth.

(8) Reports regarding hydrogeologic conditions of the *property* or surrounding area.

(9) Notices or other correspondence from any government agency relating to past or current violations of environmental laws with respect to the *property* or relating to *environmental liens* encumbering the *property*.

(10) Hazardous waste—generator notices or reports.

(11) Geotechnical studies.

(12) Permits or leases for gas or oil exploration and production wells (see Appendix X7).

10.2.9 *Proceedings Involving the Property*—Prior to the site visit, the *property* owner, key site manager (if any is identified), and *user* (if different from the *property* owner) shall be asked whether they know of: *(1)* any pending, threatened, or past litigation relevant to *hazardous substances* or petroleum products in, on, or from the *property*, *(2)* any pending, threatened, or past administrative proceedings relevant to *hazardous substances* or petroleum products in, on, or from the *property*, and *(3)* any notices from any governmental entity regarding any possible violation of environmental laws or possible liability relating to *hazardous substances* or petroleum products.

10.2.10 *Interview Questions*—The person conducting each interview shall, at a minimum, ask and document responses to the following questions:

10.2.10.1 Was or is the *area in question* used as a gasoline station, motor repair facility, dry cleaners, photo developing laboratory, plating shop, medical or dental facility, junkyard or *landfill*, training area (including firefighting and munitions *disposal*), MEC, other industrial operations, or as a waste treatment, *storage*, *disposal*, processing, or recycling facility?

10.2.10.2 Has there been any damaged or discarded automotive or industrial batteries, or pesticides, paints, or other chemical or individual containers stored or used in the *area in question*?

10.2.10.3 Are there *drums*, sacks, cartons, or other containers of chemicals located on the *property* in question?

10.2.10.4 Was or is the *area in question* used for any waste generation or *disposal* activities?

10.2.10.5 Was or is the *area in question* used as a firing or bombing range, or both?

10.2.10.6 Have there been or are there *storage* tanks containing *hazardous substances* or petroleum products located on the *property* in question?

10.2.10.7 Have spills, leaks, or other *releases* of *hazardous substances* or petroleum products occurred to the best of your knowledge?

10.2.10.8 Have unidentified waste materials, tires, automotive or industrial batteries, ordnance or any other waste materials been dumped, buried, or burned, or a combination thereof, in the *area in question*?

10.3 *ECP Step 2: Interview Analysis*—Upon completion of Step 1 of the *ECP* process related to *interviews*, the *environmental professional* shall refer to 7.3 and indicate in the *ECP report* whether or not the responses revealed any of the items in 7.3 on the *property*. If the responses revealed any of these items, the *ECP report* shall document it/them.

11. Visual and Physical Inspections

11.1 *Introduction*—Reasonable prudence, CERFA requirements (in the case of an *ECP* performed to support the identification of uncontaminated *property*), and federal landholding agency guidance mandate that the federal real *property* be evaluated in order to categorize real *property* into applicable *environmental condition of property area types*. One element of this evaluation is the requirement that *visual inspections* be conducted of the federally-owned *property* and adjoining *property*. The *visual inspection* supplements the documentary record, including *interviews*, records developed during records search, aerial photography analysis, and the other components of the *ECP*. The terms "*visual inspection*" and "visual *site inspection*" as used in this practice are synonymous. For the purpose of this practice, *visual inspection* includes two similar, but distinct inspections, the *visual inspection* of the federal real *property* and the *visual inspection* of the adjoining *property*. The *visual inspection* of the federal real *property* will be conducted as described in 11.3. The *visual and physical inspection* of the adjoining *property* will be conducted as described in 11.4. The *environmental professional* and the *user* should exercise reasonable prudence in scoping and executing the tasks described in this section, recognizing that it is not the purpose of the *ECPvisual inspection* to take the place of other regulatory program requirements, for example, surveys of *asbestos-containing materials*.

11.2 *Objective*—The objective of the *visual inspection* is to perform those parts of Steps 1 and 2 of the *ECP* process pertaining to visually obtaining information indicating the likelihood of *recognized environmental conditions* in connection with the *property*, so that *environmental condition of property area type* determinations can be made.

11.3 *ECP Step 1: Visual Inspection*—In accordance with 6.2.1, this section specifies scope of work required to complete *ECP* Step 1 tasks associated with making a *visual inspection* of the installation or federally-owned *property*. At a minimum, the following should be incorporated into this process:

11.3.1 *Observation*—On a visit to the *property* (the site visit), the *environmental professional* shall visually and physically observe the *property* and any structure(s) located on the *property* to the extent not obstructed by bodies of water, adjoining buildings, or other obstacles. The *environmental professional* shall also prepare a *visual inspection* record of the visit. The *visual inspection* record, which can be field notes and the like, will be used to prepare the *ECP report* preserved to supplement the *ECP report*.

11.3.1.1 *Exterior*—The periphery of the *property* shall be visually and physically observed, as well as the periphery of all structures on the *property*, and the *property* should be viewed from all adjacent public thoroughfares. If roads or paths with no apparent outlet are observed on the *property*, the use of the road or path should be identified to determine whether it was likely to have been used as an avenue for *disposal* of *hazardous*

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substances or petroleum products. For each road without an apparent outlet, the *environmental professional* shall travel or overfly the length of the road and observe whether areas adjacent to the road appear to have been used for waste *disposal*.

11.3.1.2 *Interior*—On the interior of structures on the *property*, accessible common areas expected to be used by *occupants* or the public (such as lobbies, hallways, utility rooms, recreation areas, and so forth), maintenance and repair areas, including boiler rooms, and a representative sample of occupant spaces, should be visually and physically observed. It is generally not necessary to look under floors, above ceilings, or behind walls. The *environmental professional* shall exercise best professional judgment and appropriately coordinate with the *DoD component* or federal landholding agency when observing the interior of structures on the *property*.

11.3.1.3 *Methodology*—The *environmental professional* shall document, in the *ECP report*, the method used (for example, grid patterns or other systematic approaches used for large *properties*, which spaces for owner or *occupants* were observed) to observe the *property*. For example, representative inspections may be appropriate for structures: *(1)* that were built using like construction methods, during a fixed time period, *(2)* are geographically co-located, *(3)* were subjected to similar categorical use throughout their history, and *(4)* have no *significant* differences in their other investigations criteria (for example, records search, *interviews*, and aerial photos). Common examples would include: military housing units, barracks, officer and enlisted quarters. In consultation with the *user*, the *environmental professional* may determine the percentage of structures/*properties* to be inspected and establish an inspection pattern that provides sufficient representation of the *area in question*.

11.3.1.4 *Limitations*—The *environmental professional* shall document, in the *ECP report*, general limitations and bases of review, including limitations imposed by physical obstructions such as adjacent buildings, bodies of water, asphalt, or other paved areas, and limiting conditions (for example, snow and rain).

11.3.1.5 *Frequency*—It is not expected that more than one visit to the *property* shall be made by the *environmental professional* in connection with an *ECP*. The one visit constituting part of the *ECP* may be referred to as the site visit.

11.3.2 *Prior ECP Usage*—The information supplied in connection with the *visual inspection* portion of a prior *ECP* may be used for guidance but shall not be relied upon without determining through a new *visual inspection* whether any conditions that are material to *recognized environmental conditions* in connection with the *property* have changed since the prior *ECP*.

11.3.3 *Uses and Conditions*—The *environmental professional(s)* conducting the *visual inspection* should note the uses and conditions specified in 11.3.3.1 – 11.3.3.4 to the extent visually or physically observed during the site visit. The uses and conditions specified in 11.3.3.1 – 11.3.3.4 should also be the subject of questions asked as part of *interviews* of owners and *occupants* (see Section 10). Uses and conditions to be noted shall be recorded in field notes of the *environmental professional(s)* conducting the *visual inspection* but are only required to be described in the *ECP report* to the extent specified in 11.3.3.1 – 11.3.3.4. The *environmental professional(s)* performing the *ECP* are obligated to identify uses and conditions only to the extent that they may be visually and physically observed on a site visit, as described in this practice, or to the extent that they are identified by the *interviews* (see Sections 9 and 10) or records search (see Section 7) processes described in this practice.

11.3.3.1 *General Site Setting:*

(1) Current Use(s) of the Property—The current use(s) of the *property* shall be identified in the *ECP report*. Any current uses likely to involve the use, treatment, *storage*, *disposal*, or generation of *hazardous substances* or petroleum products shall be identified in the *ECP report*. Unoccupied occupant spaces should be noted. In identifying current uses of the *property*, more specific information is more helpful than less specific information. (For example, it is more useful to identify uses such as a commissary or base exchange rather than simply retail use.)

(2) Past Use(s) of the Property—To the extent that indications of past uses of the *property* are visually or physically observed on the site visit, or are identified in the *interviews* or record review, they shall be identified in the *ECP report*, and past uses so identified shall be described in the *ECP* report if they are likely to have involved the use, treatment, *storage*, *disposal*, or generation of *hazardous substances* or petroleum products. (For example, there may be signs indicating a past use or a structure indicating a past use.)

(3) Geologic, Hydrogeologic, Hydrologic, and Topographic Conditions—The topographic conditions of the *property* shall be noted to the extent visually or physically observed or determined from *interviews*, as well as the general topography of the area surrounding the *property* that is visually or physically observed from the periphery of the *property*. If any information obtained shows there are likely to be *hazardous substances* or petroleum products on the *property* or on nearby *properties* and those *hazardous substances* or petroleum products are of a type that may migrate, topographic observations shall be analyzed in connection with geologic, hydrogeologic, hydrologic, and topographic information obtained pursuant to *records review* (see 7.2.3) and *interviews* to evaluate whether *hazardous substances* or petroleum products are likely to migrate to the *property*, or within or from the *property*, into ground water or soil.

(4) General Description of Structures—Generally, the *ECP report* shall describe the structures or other improvements on the *property* for example: number of buildings, number of stories each, approximate age of buildings, ancillary structures (if any), and so forth.

(5) Thoroughfares—Public thoroughfares adjoining the *property* shall be identified in the *ECP report*, and any roads, streets, railroads, and parking facilities on the *property* shall be described in the *ECP report*.

(6) Potable Water Supply—The source of potable water for the *property* shall be identified in the *ECP report*.

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(7) Sewage Disposal System—The sewage *disposal* system for the *property* shall be identified in the *ECP report*. Inquiry shall be made as to the age of the system as part of the process under Sections 7, 9, or 10.

(8) Storm Drains—The storm drains for the *property* shall be identified in the *ECP report*.

(9) Access Vaults—Access vaults occurring on the *property* shall be identified in the *ECP report*.

11.3.3.2 *Interior and Exterior Observations:*

(1) Current Use(s) of the Property—The current use(s) of the *property* shall be identified in the *ECP report*. Any current uses likely to involve the use, treatment, *storage*, *disposal*, or generation of *hazardous substances* or petroleum products shall be identified in the *ECP report*. Unoccupied occupant spaces should be noted. In identifying current uses of the *property*, information with a higher degree of specificity is more helpful than less specific information. (For example, it is more useful to identify uses such as a commissary or base exchange rather than simply retail use.)

(2) Past Use(s) of the Property—To the extent that indications of past uses of the *property* are visually or physically observed on the site visit, or are identified in the *interviews* or *records review*, they shall be identified in the *ECP report*, and past uses so identified shall be described in the *ECP report* if they are likely to have involved the use, treatment, *storage*, *disposal*, or generation of *hazardous substances* or petroleum products. (For example, there may be signs indicating a past use or a structure indicating a past use.)

(3) Hazardous Substances and Petroleum Products in Connection with Identified Uses—To the extent that present uses are identified that use, treat, store, dispose of, or generate *hazardous substances* and petroleum products on the *property*. The *hazardous substances* and petroleum products shall be identified or indicated as unidentified in the *ECP report*, and the approximate quantities involved, types of containers (if any) and *storage* conditions shall be described in the *ECP report*. To the extent that past uses are identified that used, treated, stored, *disposed* of, or generated *hazardous substances* and petroleum products on the *property*, the information shall be identified to the extent it is visually or physically observed during the site visit or identified from the *interviews* or the *records review*.

NOTE 9—The use, *storage*, *release*, or *disposal* of *emerging chemicals of environmental concern* at the federal *property* should be documented (see Undersecretary of Defense Memorandum April 2022 and Appendix X4).

(4) Storage Tanks—This includes aboveground *storage* tanks or underground *storage* tanks, or *solvents* or vent pipes, fill pipes or access ways indicating *solvents* at the *area in question* on the federally-owned *property* shall be identified (for example, content, capacity, and age). The *environmental professional* shall document in the *ECP report*, any and all *storage* tanks that were not visually or physically observed during the site visit, but for which the *records review* and *interviews* indicate are present or should be present on the *property*.

(5) Odors—Strong, pungent, or noxious odors shall be described in the *ECP report* and their sources shall be identified in the *ECP report* to the extent visually or physically observed or identified from the *interviews* or *records review*.

(6) Pools of Liquid—Standing surface water (other than common rain puddles) shall be noted. Pools or *sumps* containing liquids likely to be *hazardous substances* or petroleum products shall be described in the *ECP report* to the extent visually or physically observed or identified from the *interviews* or *records review*.

(7) Drums—To the extent visually or physically observed or identified from the *interviews* or *records review*, *drums* shall be described in the *ECP report*, whether or not they are leaking, unless it is known that their contents are not *hazardous substances* or petroleum products (in that case, the contents should be described in the *ECP report*). *Drums* commonly hold 55 g (208 L) of liquid, but containers as small as 5 g (19 L) should also be described. The *environmental professional* shall document in the *ECP report*, any and all *drum* staging and *storage* areas that were not visually or physically observed during the site visit, but for which the *records review* and *interviews* indicate are present or should be present on the *property*.

(8) Hazardous Substance and Petroleum Products Containers (Not Necessarily in Connection With Identified Uses)—When containers identified as containing *hazardous substances* or petroleum products are visually or physically observed on the *property* and are or might be a recognized environmental condition: the *hazardous substances* or petroleum products shall be identified or indicated as "unidentified" in the *ECP report*, and the approximate quantities involved, types of containers (for example, cartons, tanks, cans), and *storage* conditions shall be described in the *ECP report*.

(9) Unidentified Substance Containers—When open or damaged containers containing unidentified substances suspected of being *hazardous substances* or petroleum products are visually or physically observed on the *property*, the approximate quantities involved, types of containers, and *storage* conditions shall be described in the *ECP report*.

(10) PCBs—Electrical or hydraulic equipment known to contain PCBs or likely to contain PCBs shall be described in the *ECP report* to the extent visually or physically observed or identified from the *interviews* or *records review*.

NOTE 10—Records indicating the use of paints resistant to high temperatures may require additional review due to PCBs as a probable component of the paint or coating. Fluorescent light ballast likely to contain PCBs does not need to be noted. Caulks or other building materials that may contain PCBS may be subject to TSCA regulations codified in 40 CFR Part 761.

11.3.3.3 *Interior Observations:*

(1) Heating/Cooling—The means of heating and cooling the buildings on the *property*, including the fuel source for heating and cooling, shall be identified in the *ECP report* (for example, heating oil, gas, electric, radiators from steam boiler fueled by gas).

NOTE 11—For cooling systems, the type and quantity of refrigerant gas in each HVAC unit should be documented, to the extent possible.

(2) Stains or Corrosion—To the extent visually or physically observed or identified from the *interviews*, stains or

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corrosion on floors, walls, or ceilings shall be described in the *ECP report*, except for staining from water.

(3) Drains and Sumps—To the extent visually or physically observed or identified from the *interviews*, floor drains and *sumps* shall be identified in the *ECP report*. Floor drains and *sumps* where a *release* or suspected *release* occurred should be further described in the *ECP report*.

11.3.3.4 *Exterior Observations:*

(1) Pits, Ponds, or Lagoons—To the extent visually or physically observed or identified from the *interviews* or *records review*, *pits, ponds, or lagoons* on the *property* shall be identified in the *ECP report*, and further described if they have been used in connection with waste *disposal* or waste treatment. *Pits, ponds, or lagoons* on *properties* adjoining the *property* shall be described in the *ECP report* to the extent they are visually or physically observed from the *property* or identified in the *interviews* or *records review*.

(2) Stained Soil or Pavement—To the extent visually or physically observed or identified from the *interviews*, areas of stained soil or pavement shall be described in the *ECP report*.

(3) Stressed Vegetation—To the extent visually or physically observed or identified from the *interviews*, areas of stressed vegetation (from something other than insufficient water) shall be described in the *ECP report*.

(4) Solid Waste—To the extent visually or physically observed or identified from the *interviews* or *records review*, areas that are apparently filled or graded by nonnatural causes (or filled by fill of unknown origin) suggesting trash or other solid waste *disposal*, or mounds or depressions suggesting trash or other solid waste *disposal*, shall be described in the *ECP report*.

(5) Waste Water—To the extent visually or physically observed or identified from the *interviews* or *records review*, *wastewater* or other liquid (including storm water) or any discharge into a drain, ditch, or stream on or adjacent to the *property* shall be described in the *ECP report*. This includes permitted discharges from WWTPs.

(6) Wells—To the extent visually or physically observed or identified from the *interviews* or *records review*, all wells (including dry wells, irrigation wells, injection wells, abandoned wells, or other wells) shall be described in the *ECP report* (see Appendix X6 and Appendix X7).

(7) Septic Systems—To the extent visually or physically observed or identified from the *interviews* or *records review*, indications of on-site septic systems or cesspools should be described in the *ECP report*.

(8) Oil/Water Separators—To the extent visually or physically observed or identified from the *interviews* or *records review*, indications of on-site oil/water separators should be described in the *ECP report*.

11.4 *Visual Inspection of Adjoining Property*—The *visual inspection* of adjoining *property* will be accomplished when consent has been obtained to enter the adjoining facility. The *user* or *environmental professional* shall visually and physically observe the adjacent *property* to evaluate and identify, if possible, conditions which could give rise to *recognized environmental conditions* on the *property*, through *migration* or other transport of petroleum products or *hazardous substances*.

11.4.1 *Consent of Owner/Operator of Adjoining Property*—Access to the adjoining *property* is required to undertake a *visual and physical inspection* of the adjoining *property*. Written consent will be sought by either the *DoD component*, federal landholding agency, or the *environmental professional*. Where voluntary consent is obtained, a *visual and physical inspection* will be conducted, as described in this section. If consent is not given, a *visual inspection* will be conducted from outside the facility boundaries, for example, from public rights of way, or adjacent facilities where consent has been given and from other suitable sites. If voluntary consent is not obtained, no direct access to the adjoining *property* will be sought through involuntary means, for example, condemnation of an easement or right of entry or obtaining an administrative warrant.

11.4.2 *General Site Setting:*

11.4.2.1 *Current Uses of Adjoining Properties*—To the extent that current uses of *adjoining properties* are visually or physically observed on the site visit, or are identified in the *interviews* or *records review*, they shall be identified in the *ECP report*, and current uses so identified shall be described in the *ECP report* if they are likely to indicate *recognized environmental conditions* in connection with the *adjoining properties* or the federally-owned *property*.

11.4.2.2 *Past Uses of Adjoining Properties*—To the extent that indications of past uses of *adjoining properties* are visually or physically observed on the site visit, or are identified in the *interviews* or record review, they shall be noted by the *environmental professional*, and past uses so identified shall be described in the *ECP report* if they are likely to indicate *recognized environmental conditions* in connection with the adjacent *properties* or the federally-owned *property*.

11.4.3 *Current or Past Uses in the Surrounding Area*—To the extent that the general type of current or past uses (for example, residential, commercial, industrial) of *properties* surrounding the *property* are visually or physically observed on the site visit or going to or from the *property* for the site visit, or are identified in the *interviews* or record review, they shall be noted by the *environmental professional*, and uses so identified shall be described in the *ECP report* if they are likely to indicate *recognized environmental conditions* in connection with the *property*.

11.5 *ECP Step 2: Visual Inspection Analysis*—If the *visual inspection* revealed any conditions indicating the *storage*, *release*, or *disposal* of *hazardous substances* or petroleum products, the *ECP report* shall document them.

12. Contamination Source Identification

12.1 *Introduction*—The identification of sources of actual or potential contamination is required by published DoD policy statements and the Federal Management Regulations, Real Property Disposal rules codified in 41 CFR §102-75 relating to each of the actions that require an *ECP*, particularly the DoD FOST guidance (see Section C8.5.5 of the Department of Defense 4165.66M Base Redevelopment and Realignment

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Manual). It is anticipated that, in the ordinary course of events, all relevant records to accomplish this task will be obtained through the *records search and review* tasks, interview tasks, site visit tasks, and other data collection efforts prescribed in this practice. The principal additional goal of this section is to fulfill Step 1 and Step 2 *ECP* requirements, by analyzing information and data, where necessary to specifically identify sources of actual or potential contamination (*recognized environmental conditions*), leading to the identification of an *environmental condition of property area type*.

12.2 *Objective*—Identify sources of actual or potential contamination so as to evaluate whether they affect or may affect the categorization of the environmental condition of the *property*, including whether *all required remedial action* has been taken.

12.3 *ECP Step 1: Contamination Source Identification*—In accordance with 6.2.1, this section specifies the level of effort the scope of work required to complete *ECP* Step 1 tasks associated with contamination source identification. At a minimum, this step should be completed by following the procedures described in Sections 7 – 11. If current records are incomplete regarding the nature and extent of contaminant sources, the *user* or *environmental professional* will note the status of records search efforts and which records remain incomplete.

12.4 *ECP Step 2: Contamination Source Identification Analysis*—If records are complete for a contaminant source, its nature and extent will be used to determine the environmental condition of the real *property*. If current records are incomplete regarding the nature and extent of contaminant sources, the *user* or *environmental professional* will note the strategy for completing relevant records so that a determination other than *environmental condition of property area Type* 7 can be made (for example, "contaminant source currently being characterized through remedial investigation; anticipated completion in month/year").

NOTE 12—The presence or suspected presence of MEC shall be clearly and unambiguously stated in the *ECP report*.

13. Ongoing Response Actions

13.1 *Introduction*—The identification of ongoing response actions is required by published DoD policy statements relating to each of the actions that require an *ECP*, particularly the DoD FOST guidance. It is anticipated that, in the ordinary course of events, all relevant records to accomplish this task will be obtained through the *records search and review* tasks, interview tasks, site visit tasks, and other data collection efforts prescribed in this practice. The principal additional goal of this section is to fulfill Step 1 and Step 2 *ECP* requirements, by analyzing information and data, where necessary to specifically identify ongoing response actions and determine relevant information regarding effectiveness and completeness of any ongoing response actions, so that an accurate *environmental condition of property area type* determination can be made.

13.2 *Objective*—Identify ongoing response actions and determine what portion of the *property* is affected and whether the environmental condition of the *property* satisfies the requirements of CERCLA § 120(h)(3), including whether *all required remedial action* has been taken.

NOTE 13—Land use controls may be components of *required response actions* (see DODM 4715.20 and Section C8.5.1.4 and C8.5.5 of DoDM 4165.66.

13.3 *ECP Step 1: Ongoing Response Actions*—In accordance with 6.2.1, this section specifies the scope of work required to complete *ECP* Step 1 tasks associated with identification of ongoing response actions at the installation or on the federally-owned *property* that would affect *environmental condition of property area type* determinations for all or parts of the federally-owned *property*. At a minimum, this step should be completed by following the procedures described in Sections 7 – 11. If current records are incomplete regarding ongoing response actions, the *user* or *environmental professional* will note the status of *records search* efforts and which records remain incomplete.

13.4 *ECP Step 2: IRP and Other Ongoing Response Action Analysis*—The purpose of the Step 2 analysis is to support the objective of 13.2. This analysis can be critical to the differentiation between or among certain *environmental condition of property area types* (for example, between area Type 5 areas, which are not transferrable by deed, and area Type 4 areas, which are), as performed as *ECP* Step 3 (see Appendix X1 and Appendix X2).

14. Determining Environmental Condition of Property Area Type

14.1 *Introduction*—The *user* or *environmental professional* will generally take information obtained from the activities described in Sections 7 – 13 and classify federal real *property* into the seven *standard environmental condition of property area types* identified in the *Standard Classification*. Steps 1 and 2 of the *ECP* process are intended to collect and analyze information that will provide the basis for assigning, in *ECP* Step 3, an *environmental condition of property (ECP) area type* for each portion, or *area in question* of the federal *property*. The actual classification of any portion of federal *property* is based on both the information and analyses at hand and on a variety of site-specific conditions (for example, geologic conditions, hydrologic conditions, nature, and extent of contamination, and so forth) and, with the exception of the general guidelines presented in this section, is beyond the scope of this practice. Ideally, the classification of any *property* into an *ECP* area type should reflect a consensus among the federal landholding agency and the federal and state regulators. In general, Steps 1 and 2 of the *ECP* process will have accomplished their purpose if they provide all information and analyses required to make accurate Step 3 *ECP* area type determinations.

14.2 *Objective*—The objective of this section is to identify a general process to guide the *ECP* Step 3 classification of areas of federal real *property* into one of seven standard *ECP* area types. The *ECP* area type classification is a tool that is intended to provide an *ECPuser* with a complete and accurate "snapshot" of relevant aspects of the environmental condition of federally-owned *property* in support of *property* transfer and reuse decisions (see also Section 1).

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14.2.1 *Discussion*—If the analysis of records, *interviews*, or site visit, indicates the presence of discarded military munitions (DMM) or unexploded ordnance (UXO) federal landholding agencies other than the Department of Defense (DOD) and all Tribal, state, and local government landholding agencies should formally transmit (that is, via letter) the information collected about that site, to the organization within the Office of the Secretary of Defense that oversees the Defense Environmental Restoration Program (DERP).

14.2.1.1 That letter should include the evidence that led to the conclusion that DMM and UXO are present.

14.2.2 Organizations within DOD that discover DMM or UXO should formally transmit that information and a request for assistance to the installation's Environmental Program Office.

14.2.3 Information concerning the *storage* and use of military munitions, munitions types, and the presence of MEC on the subject *property*, or *area in question*, must be documented in the ECOP report.

14.2.4 If the DMM or UXO pose an explosives or munitions emergency, call 911 or the installation-specific emergency response telephone number to report an explosives or munitions emergency.

14.3 *General Process for ECP Step 3—Determining ECP Area Types:*

14.3.1 *Process for Determining ECP Area Type 1 Property*—Complete Steps 1 and 2 of the *ECP* process (see 6.2.1 and 6.2.2). Identify *ECP* area Type 1 *property* in accordance with CERFA criteria (see 1.1.3). The *ECP* area Type 1 *property* may be identified as either part of the CERFA process or subsequent to the CERFA statutory deadline.

14.3.2 *Process for Determining ECP Area Type 2 Property*—Complete Steps 1 and 2 of the *ECP* process (see 6.2.1 and 6.2.2). Identify *ECP* area Type 2 *property* in accordance with CERFA criteria (see 1.1.3). Using the information gathered during the *records review* of the *property* and adjoining *property* (Sections 7 and 8), and *interviews* (Section 10), identify real *property* where only *storage* for less than one year occurred (CERFA uncontaminated) and where only *storage* occurred for more than one year. Real *property* may be proposed as *ECP* area Type 2 through the CERFA process or subsequent to the CERFA statutory deadline or the Federal Management Regulations, Real Property Disposal rules codified in 41 CFR 102-75.

14.3.3 *Process for Determining ECP Area Type 3 Property*—Complete Steps 1 and 2 of the *ECP* process (see 6.2.1 and 6.2.2). If a determination can be made that concentrations of *hazardous substances* or petroleum products are below action levels, in accordance with the criteria contained in the *Standard Classification*, the real *property* may be classified as *ECP* area Type 3. The *ECP* area Type 3 real *property* may be identified at any time after completion of Steps 1 and 2 of the *ECP* process.

14.3.4 *Process for Determining ECP Area Type 4 Property*—Complete Steps 1 and 2 of the *ECP* process (see 6.2.1 and 6.2.2). If the determination can be made that *all required remedial actions* have been taken, in accordance with CERCLA and the criteria contained in the *Standard Classification*, the real *property* may be classified as *ECP* area Type 4. The *ECP* area Type 4 real *property* may be identified at any time after completion of Steps 1 and 2 of the *ECP* process.

14.3.5 *Process for Determining ECP Area Type 5 Property*—Complete Steps 1 and 2 of the *ECP* process (see 6.2.1 and 6.2.2). If the determination can be made that a remedy has been selected but that *all required remedial actions* have not yet been taken, in accordance with CERCLA and the criteria contained in the *Standard Classification*, the real *property* may be classified as *ECP* area Type 5. The *ECP* area Type 5 real *property* may be identified at any time after completion of Steps 1 and 2 of the *ECP* process.

14.3.6 *Process for Determining ECP Area Type 6 Property*—Complete Steps 1 and 2 of the *ECP* process (see 6.2.1 and 6.2.2). If the determination can be made that concentrations of *hazardous substances* or petroleum products are above action levels, in accordance with the criteria contained in federal, state, and local statutes and the *Standard Classification*, the real *property* should be designated as *ECP* area Type 6. The *ECP* area Type 6 real *property* may be identified at any time after completion of Steps 1 and 2 of the *ECP* process.

14.3.7 *Process for Determining ECP Area Type 7 Property*—Complete Steps 1 and 2 of the *ECP* process (see 6.2.1 and 6.2.2). If the real *property* cannot be conclusively categorized into area Types 1 through 6, as defined in the *Standard Classification*, the real *property* should be designated as *ECP* area Type 7. The *ECP* area Type 7 real *property* may be identified at any time after completion of Steps 1 and 2 of the *ECP* process.

15. Keywords

15.1 *disposal* of federal *property*; *emerging chemicals of environmental concern*; environment; environmental assessment; environmental baseline; environmental condition; environmental condition of *property*; munitions; orphaned wells; restoration; site assessment; site characterization; site remediation

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APPENDIXES

(Nonmandatory Information)

X1. STANDARD FEDERAL PROPERTY CLASSIFICATIONS

X1.1 See Table X1.1.

TABLE X1.1 Standard Classification of the Environmental Condition of Real Property

Standard Environmental Condition of Property Area Type 1—An area or parcel of real *property* where no *release*, or *disposal* of *hazardous substances* or petroleum products or their derivatives has occurred (including no *migration* of these substances from adjacent *properties*).
Standard Environmental Condition of Property Area Type 2—An area or parcel of real *property* where only the *release* or *disposal* of petroleum products or their derivatives has occurred.
Standard Environmental Condition of Property Area Type 3—An area or parcel of real *property* where *release*, *disposal*, or *migration*, or some combination thereof, of *hazardous substances* has occurred, but at concentrations that do not require a *removal* or *remedial action*.
Standard Environmental Condition of Property Area Type 4—An area or parcel of real *property* where *release*, *disposal*, or *migration*, or some combination thereof, of *hazardous substances* has occurred, and all *remedial actions* necessary to protect human health and the environment have been taken.
Standard Environmental Condition of Property Area Type 5—An area or parcel of real *property* where *release*, *disposal*, or *migration*, or some combination thereof, of *hazardous substances* has occurred and *removal* or *remedial actions*, or both, are under way, but all required actions have not yet been taken.
Standard Environmental Condition of Property Area Type 6—An area or parcel of real *property* where *release*, *disposal*, or *migration*, or some combination thereof, of *hazardous substances* has occurred, but *required response actions* have not yet been initiated.
Standard Environmental Condition of Property Area Type 7—An area or parcel of real *property* that is unevaluated or requires additional evaluation.

X2. COMPARISON OF THE CERCLA § 120(h) REQUIREMENTS

X2.1 See Table X2.1 and Table X2.2.

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TABLE X2.1 Comparison of the CERCLA § 120(h)(1), (3), (4) and (5) Requirements

Requirement	CERCLA §120(h)(1)	CERCLA §120(h)(3)	CERCLA §120(h)(4)	CERCLA §120(h)(5)
Brief Description	Include in the contract for sale or transfer a notice of the types and quantities of *hazardous substances* stored ≥1 year, *disposed* of, or *released* on the *property* and the time at which these activities took place.	Report on the deed the types and quantities of *hazardous substances* stored for ≥1 year, *disposed* of, or *released* on the *property* and the time at which these activities took place.	Identify "uncontaminated" parcels of land (land on which no contaminants were *released* or *disposed*).	Notify state of sites that are being closed and that are encumbered by a lease beyond the closure date and are contaminated (that is, land on which contaminants were stored for ≥1 year, *disposed* of, or *released*)
Covered Contaminants	*Hazardous substances* as found at 40 CFR 302.4 only.	*Hazardous substances* as found at 40 CFR 302.4 only.	*Hazardous substances* or any petroleum product or its derivatives.	*Hazardous substances* or any petroleum product or its derivatives.
Threshold Quantities	As specified by 40 CFR Part 373: the greater of 1,000 kg or the reportable quantity (RQ) for *storage* of ≥1 year; the RQ for *release* or *disposal*; and 1 kg for acutely *hazardous waste*.	As specified by 40 CFR Part 373: the greater of 1,000 kg or the RQ for *storage* of ≥1 year; the RQ for *release* or *disposal*; and 1 kg for acutely *hazardous waste*.	Not specified; the same thresholds specified by §120(h)(1) & (3) are suggested.	Not specified; the same thresholds specified by §120(h)(1) & (3) are suggested.
Information Source	Land holding agency files only; however, it is a best management practice to follow the most stringent data-gathering requirements [found at §120(h)(4)].	Land holding agency files only; however, it is a best management practice to follow the most stringent data gathering requirements [found at §120(h)(4)].	Reasonably obtainable federal, state, and local government records; other sources (*interviews*, *physical inspection*, sampling, and *aerial photographs*).	Not specified; however, it is a best management practice to follow the most stringent data gathering requirements §120(h)(4)].
Types of Real *Property* Transfers Covered	All real *property* transfers regardless of whether ownership changes, including transfers between federal agencies.	All real *property* transfers regardless of whether ownership changes, including transfers between federal agencies.	*BRACproperty* only.	Leases of real *property* after operations cease.

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TABLE X2.2 Comparison of CERCLA and Other Requirements

Type of Requirement	CERCLA Language/Citation	Other Guidance
Obtain information on *hazardous substances* to place in deeds	For each *property* on which any *hazardous substance* was stored for one year or more, known to have been *released*, or *disposed* of, each deed shall contain (to the extent that such information is available on the basis of a complete search of agency files): notice of the type and quantity of such hazardous substances; notice of the time at which such *storage*, *release*, or *disposal* took place; and a description of the *remedial action* taken, if any. CERCLA 120(h)(1)	Identify all *hazardous substances*/petroleum products stored for one year or more, *released*, or *disposed* of on subject *property*. List actual or approximate types and quantities and the time or times when *storage*, *release* into the environment or structures, or *disposal* of *hazardous substances*/petroleum products occurred on the *property*, to such extent that information is available. Consider existing data on contaminants in air, soil, ground and surface water, soil gas and vapor, leachate, sludge, and sediment. The requirements of the notice are specified in 40 CFR 373.
Identification of uncontaminated *property*	For each *property* on which NO *hazardous substances* and NO petroleum products or their derivatives were known to have been *released*, or *disposed* of. CERCLA 120(h)(4)(A)	Identification of "uncontaminated' *property* is based on the *records search* requirements, *interviews*, a site reconnaissance, and sampling if necessary listed in all the boxes below.
Search government records for information on contamination	Perform a detailed search of federal government records pertaining to the *property*. CERCLA 120(h)(4)(A)(i)	Review surveys regarding *asbestos*, PCBs, lead, radon, USTs and piping systems, SWMUs, air pollution inventories, *environmental compliance audits*, and environmental engineering and industrial hygiene surveys as well as environmental engineering workplace surveys. Review remediation/restoration studies, or other documentation produced in accordance with procedures being carried out at the *property* under CERCLA or the Solid Waste Disposal Act. Review any applicable federal, state, or local agency reports; notices of violation or noncompliance; corrective action agreements; compliance orders; RCRA Facility Assessments; or other similar records. Review reasonably obtainable state and local governmental records that reflect the prior uses of the base. Review permits pertaining to an environmentally regulated activity (for example, air quality permits, NPDES permits, RCRA Part B permits). Consider existing data on contaminants in air, soil, ground and surface water, soil gas and vapor, leachate, sludge, and sediment.
Search chain of title documents for information on contamination	Review *recorded chain of title documents* regarding the real *property*. CERCLA 120(h)(4)(A)(ii)	Review recorded chain of title, deed, other real *property* records, utility systems, or other available documents to ascertain prior uses of the real *property*, which may have involved *hazardous substances* or otherwise contaminated the *property* or created environmental or safety risks. This review should cover a minimum of 40 years and the initial acquisition of the *property* by the federal government.
Review *aerial photographs* for information on prior uses of the *property*	Review *aerial photographs* that may reflect prior uses of the real *property* and that are reasonably obtainable. CERCLA 120(h)(4)(A)(iii)	Perform a review of reasonably obtainable photographs of the *property*. A minimum review includes each decade for which photographs are available.
Perform a *visual inspection* of the *property* to obtain information on possible contamination	Perform a *visual inspection* of the real *property* and any buildings, structures, equipment, pipe, pipeline, or other improvements on the real *property*, and a *visual inspection* of property immediately adjacent to the real *property*. CERCLA 120(h)(4)(A)(iv)	Perform visual and physical walk-through inspections of the real *property* and of immediately adjacent *properties* to include any buildings, structures, equipment, pipe, pipelines, or other improvements to determine or confirm the presence of environmentally hazardous conditions or concerns (unusual odors, stained soils, stressed vegetation, leachate seeps, or other indications of potential contamination or risky conditions from a safety standpoint). Any such indications of concern discovered should be followed up and resolved within the scope of the effort involved. Complete walk-through inspections shall be done on every part of the facility during a site-wide effort.
Perform a *physical inspection* of adjacent *property* to obtain information on possible contamination *migration*	Perform a *physical inspection* of *property* adjacent to the real property, to the extent permitted by owners or operators of such *property*. CERCLA 120(h)(4)(A)(v)	Perform a *physical inspection* of the *property* adjacent to the real *property*, to the extent permitted by owners and operators of such *property*. Adjacent *properties* are considered to be, but are not limited to, those that are contiguous to the subject *property* and normally within a quarter mile radius. The survey should be addressed to those portions of the *properties* relatively near the installation that could pose *significant* environmental concern and/or have *significant* impact on the results of the review.

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TABLE X2.2 *Continued*

Type of Requirement	CERCLA Language/Citation	Other Guidance
Review records on adjacent *property* to obtain information on contamination	Review reasonably obtainable federal, state, and local government records of each adjacent facility where there has been a *release* of any *hazardous substance* or any petroleum product or its derivatives, including aviation fuel and motor oil, on the real *property*. CERCLA 120(h)(4)(A)(vi)	Review all reasonably obtainable federal, state, and local government records of each adjacent *property* where there has been a *release* of any *hazardous substance* or petroleum product or its derivatives, including aviation fuel and motor oil, and which is likely to cause or contribute to a *release* or threatened *release* of any *hazardous substance* or any petroleum product or its derivatives, including aviation fuel or motor oil, on subject real *property*. Review reasonably obtainable state and local governmental records that reflect the prior uses of adjacent real *property*.
Interview employees to obtain information on *property* uses, *hazardous substances*, etc.	Interview current or former employees involved in operations on the real *property*. CERCLA 120(h)(4)(A)(vii)	Interview current and/or former employees involved in operations on the real *property*. Interview federal, state, and local regulators where appropriate.
Identify uncontaminated *property* based on sampling	Identification of uncontaminated *property* shall also be based on sampling, if appropriate. CERCLA 120(h)(4)(A)(viii)	The performance of new sampling is based on the professional judgment of the land holding agency staff and the individuals performing the study.

X3. DEPARTMENT OF DEFENSE FORM DD2993

X3.1 See Fig. X3.1.

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ENVIRONMENTAL BASELINE SURVEY (ECP) CHECKLIST

For use of this form, see ATP 3-34.5/MCRP 4-11B; the proponent agency is TRADOC.

Note: Do not leave any blanks empty. If they do not apply to the current site, enter not applicable (NA) or nothing significant to report (NSTR) to show the section has been investigated. The section numbers in the checklist correspond to the section numbers in the report format.
**Items that are completed in the Environmental Baseline Study Report. These items are shown in the ECP Checklist to ensure that item numbers are matched between the checklist and the report.*

Click this button to add a continuation page if more space is needed for any item.

1. ADMINISTRATIVE DATA

a. LOCATION NAME	*(Official name and legal address of the location being assessed. Name of country, city, township, or area of operation for the site location.)*		
b. LOCATION ALIASES	*(Other names the base is currently or was previously known as.)*		
c. START DATE AND TIME		d. END DATE	
e. ORGANIZATION CONDUCTING SURVEY	*(Name of the unit or activity conducting the assessment.)*		
f. SURVEYOR'S NAME, RANK, GRADE, AND TITLE			
g. SURVEYOR'S TELEPHONE			
h. SURVEYOR'S E-MAIL			

i. GEOGRAPHIC LOCATION

Note: If this information is classified, enter it in Section 14 of this checklist. The 8-digit military grid coordinates are mandatory for the site using the center of the camp for reference. Coordinates may also be taken from the outside corners of the site to provide site boundaries. A global positioning system may be used in addition to the grid coordinates. The 8-digit military grid coordinates will always include the 3-character zone designator and the 2-character grid square identifier.

Coordinate 1		Coordinate 2	
Coordinate 3		Coordinate 4	
NOTES	*(Enter notes associated with the geographic location; for example, the datum associated with the location, map type, map number, global positioning system used, and so forth.)*		

2. EXECUTIVE SUMMARY *

(Completed after information gathered is analyzed and recommendations developed. This is a synopsis of significant findings, conclusions, and recommendations based on the data analysis with the ultimate recommendation being to use or not use the site.)

3. INTRODUCTION

a. LIMITATIONS OF ASSESSMENT

(Enter the physical obstructions, limiting conditions (such as weather), mission restrictions, and the lack of equipment and supplies encountered during the assessment.)

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FIG. X3.1 Department of Defense Form DD2993

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b. GENERAL DATA GAPS
(Enter data that was either not obtainable at the time of the survey or that will be received in the future; for example, awaiting analytical data, personnel not available to be interviewed, and locations of key facilities may be unknown or may move before occupation.)

4. SITE CHARACTERISTICS
(Attach site maps and photographs to the survey. Take at least one photograph per section or area of concern. Photographs can be used to document conditions before and after occupation. Create a photograph log that documents the date, time, location and a brief description of each photograph.)

a. UNITS AND DETACHMENTS, TEAMS, AND ELEMENTS PRESENT **Note:** If this information is classified, enter it in Section 14 of this checklist. Include as much detail as possible and include all Services.		

b. CAMP FIXED POPULATION **Note:** If this information is classified, enter it in Section 14 of this checklist. Enter the population of the location, if known. Separate by military and civilian categories.	
c. ROTATION SCHEDULE **Note:** If this information is classified, enter it in Section 14 of this checklist.	*(What is the unit rotation schedule [months, years, and so forth]).*
d. NUMBER OF UNITED STATES TROOPS IF NOT A UNITED STATES CAMP **Note:** If this information is classified, enter it in Section 14 of this checklist.	

e. PHYSICAL SETTING
(Provide a description of the general geography, topography, geology, hydrology, vegetation, raw materials, natural resources, and urban and rural settings. Make note of any obvious damage caused by natural and manmade events such as earthquakes, flooding, tornadoes, hurricanes, tsunami, or mining.)

f. CLIMATE AND WEATHER
(Provide information regarding the climate and weather in the area; for example, temperature range, predominate wind direction, or normal rainfall. Identify if the area is prone to seasonal or periodic events such as hurricanes, tornadoes, tsunamis, or monsoons. Attach five recent previous years of meteorological (if data possible, in an electronic format), the source of the data, and a point of contact for the source.)

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FIG. X3.1 Department of Defense Form DD2993 *(continued)*

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g. SOIL

(Note the types, permeability, drainage ditches, low lying areas [standing water], unusual or out-of-place mounds, disturbed areas, discolored soil, areas unusually devoid of vegetation, and so forth. Is the area prone to sink holes? Provide 8-digit military grid coordinates of the areas identified. A global positioning system may be used in addition to the grid coordinates.)

h. GROUNDWATER

(Groundwater is any water source present beneath the surface of the ground. What is the depth of the groundwater and in what general direction does it flow?)

i. SURFACE WATER

(What surface water is present on the site; lakes, ponds, rivers, or streams? What is the direction of flow for surface water and drainage? Indicate the direction of surface drainage on graphics or a site map. Note any standing [nonflowing or sluggish] water.)

j. WETLANDS, FLOOD ZONES, COASTAL ZONES

(Is the site located in or near a wetland, flood zone, or coastal zone; for example, swamp, marsh, bog, or areas prone to flooding? Include the location of the wetlands and flood zones on graphics or site maps as appropriate. Note any areas that are flooded, show evidence of past flooding or flash flooding, and any potential wadis, washes, or dry creek beds.)

5. DETAILED SITE AND ADJACENT PROPERTY DESCRIPTION

(Make a detailed sketch or map overlay of the site, noting the areas of significance including the date, the surveyor's name and unit, a north arrow, scale, and legend. Take photographs and include grid coordinates and a description of both the area and reason for taking the photograph.)

Note: Everything examined in this section for the site must also be examined for all adjacent property and documented in Section 7 below.

a. DESCRIPTION OF STRUCTURES

(Describe the structures and their use: housing, maintenance, or office space. Include heating and ventilation systems and potential for Radon. Note the condition of the materials that may contain asbestos, such as roof shingles, floor tiles, or pipe insulation. These may release hazardous fibers if damaged. Look for signs of chipping or peeling lead-based paint. Look for electrical hazards and structural damage. Determine current and prior usage of structures. Document water and sewer capability. Look for evidence of previous spills, hazardous materials, or waste storage. Note any chemical-type or strange odors. Look for evidence of pest infestation.)

☐ Tents (*soft-sided structure*) ☐ Semipermanent *(hard buildings without permanent below surface foundations)*

☐ Permanent *(hard buildings with permanent below surface foundations)*

NOTES	

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FIG. X3.1 Department of Defense Form DD2993 *(continued)*

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b. DESCRIPTION OF ROADS AND HARDSTAND

(Describe the road conditions: paved, gravel, or dirt. Are there problems with dust generated from vehicle traffic? Is there a defined parking area? What kind of parking area is it: paved, gravel, or dirt? Attach a map, sketch, or photographs.)

c. DESCRIPTION OF POWER GENERATION

(Describe how power is supplied to the camp: individual and/or bulk generators or grid power. Include potential electrical hazards and sources of polychlorinated biphenyls). Note transformers, substations, and power lines present. Document leaking transformers, 8-digit military grid coordinates, and take photographs.)

☐ Tactical Generators ☐ Commercial Generators ☐ Municipal and Local Grid

NOTES

d. CONTRACTOR SERVICES

(What services are contractors performing at the site? Include contractors, subcontractors, or host nation contracts with the point of contact, company information, and the initiating agency.)

☐ Food ☐ Vector Control ☐ Laundry ☐ Hazardous Waste ☐ Power ☐ Medical Waste ☐ Solid Waste
☐ Hazardous Materials Spill Response and Remediation ☐ Waste ☐ Water Waste ☐ Ranges ☐ Firefighting and Suppression

NOTES

e. HAZARDOUS MATERIALS

(1) STORAGE CONTAINERS

(Describe the type, number, contents, volume, and coordinates of all storage containers. Is there secondary containment? What is done with water that accumulates in the secondary containment? Note the condition of the containers. Determine if they are currently leaking or have leaked in the past. Look for soil discoloration, stains, rust, and any containment of spill residue. Are materials stored inside or outside? Take photographs.)

INDIVIDUAL STORAGE CONTAINERS

(a) Location Description *(Where is it? Inside or under cover?)*	(b) Container Type *(Plastic, metal, single or double walled.)*	(c) Size *(Labeled volume or dimensions.)*	(d) Age	(e) Above or Below Ground?	(f) Contents *(What has been stored, what is currently being stored, and what will be stored in the future?)*

NOTES *(Condition of container? Labeled with contents?)*

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NOTES

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FIG. X3.1 Department of Defense Form DD2993 *(continued)*

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(g) General Notes
(Are shelf-life requirements being met? List any occurrences of spills. Are safety data sheets available? Are containers properly labeled?)

(2) PETROLEUM DISTRIBUTION POINTS (PETROLEUMS, OILS, AND LUBRICANTS)
(Are there any existing or former fuel points? Take photographs.)

INDIVIDUAL DISTRIBUTION POINTS

(a) Location Description *(Where is it?)*	(b) Container *(Type, single- or double-walled, size in volume or dimension, age or installer, above or below ground, and number of containers. If more than one, describe all.)*	(c) Fuel Type	(d) Contractor Operated
		☐ Gas ☐ Diesel ☐ Jet Propulsion	YES ☐ NO
NOTES	*(Include information related to the specific distribution point. For example, availability of spill response and prevention equipment, personal protective equipment, posted spill plan and procedures, use of drip pans, alarm systems, and protective measures. Annotate signs of obvious ground contamination.)*		
		☐ Gas ☐ Diesel ☐ Jet Propulsion	YES ☐ NO
NOTES			

(e) General Notes
(Add notes related to petroleum, oils, and lubricants distribution in general.)

(3) PAST RELEASES
(Annotate any information concerning past releases of petroleum, oils, and lubricants products. Describe the details of those past spills if known: location (8-digit military grid coordinates, date, type of spill, amount spilled or size of the resulting stain, and any remedial actions taken. If unknown, state "unknown." Take photographs.)

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FIG. X3.1 Department of Defense Form DD2993 *(continued)*

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(4) POTENTIAL RELEASES

(Discuss areas where the potential for releases to occur is likely. This may include refueling, storage facilities, pipelines, fuel transfer points, or other fuel handling operations.)

(5) HAZARDOUS AND UNIDENTIFIED SUBSTANCES

(Hazardous and unidentified substances are anything other than petroleum, oils, and lubricants. This may also include past use industries that have contaminated the area prior to United States occupation. Identify the hazardous substance and location.)

(6) HAZARDOUS MATERIAL STORAGE

(Describe storage sites and controls. For example, engineering, administrative, and personal protective equipment. Take photographs.)

INDIVIDUAL HAZARDOUS MATERIAL STORAGE SITES

(a) Location Description *(Where is it? Inside or under cover?)*	(b) Material Type *(What is stored, for example corrosives, batteries, ammunition, asbestos?)*	(c) Material Amount *(How much is currently stored? What is the most that will be stored?)*	(d) Date Noted

NOTES	*(Add notes related to the specific hazardous material storage site.)*

NOTES	

(e) General Notes

(Add notes related to hazardous material storage in general.)

(7) SPILLS

(a) What	(b) Where	(c) When	(d) Quantity

NOTES	*(What caused the spill? Who responded to it? Was a spill plan on site? Was it followed? Is spill response equipment on site? Are there established evacuation routes? How was it cleaned up? How was the waste material handled? Who was notified?)*

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FIG. X3.1 Department of Defense Form DD2993 *(continued)*

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(a) What	(b) Where	(c) When	(d) Quantity

NOTES	

(e) General Notes

(1) SOLID AND HAZARDOUS WASTE

(General description of solid and hazardous waste disposal practices. Describe whether burn pits, composting, landfills, or incinerators are used. Note any signs of dumping and determine what might have been dumped. Take photographs.)

INDIVIDUAL SOLID AND HAZARDOUS WASTE DESCRIPTIONS

(a) Type of Waste *(What is the waste? For example, is it residential, industrial, agricultural, or explosive ordnance?)*	(b) Source of Waste *(For example, is it dining facility, housing, office, or construction debris?)*	(c) Dispose Method *(For example, open dumping, incineration, open burning, landfill, or composting?)*	(d) Contractor Operated
			☐ Defense Reutilization and Marketing Office ☐ United States ☐ Local

NOTES	*(Add notes related to specific types of waste. Include contractor information, host nation and local company point of contact and telephone number, the name of the individual who picks it up, the method of pickup, the frequency of pickups, where it goes, the location with grid coordinates, and how long it remains on site. How is it stored? Take photographs.)*

			☐ Defense Reutilization and Marketing Office ☐ United States ☐ Local

NOTES	

			☐ Defense Reutilization and Marketing Office ☐ United States ☐ Local

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			☐ Defense Reutilization and Marketing Office ☐ United States ☐ Local

NOTES	

(e) General Notes

(Include contractor and subcontractor information, point of contact, telephone number, storage locations, quantities, and frequency of removal. Who is responsible for removing waste? Methods used to remove, such as dumpsters or trucks. If disposal is by burn pit, are wastes segregated? What is the frequency of burning in the pit? How far away is the nearest occupied area? Who lives and works in the area and is there any record of complaints or concerns associated with the burn pits? Take photographs.)

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FIG. X3.1 Department of Defense Form DD2993 *(continued)*

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(2) NONHAZARDOUS WASTE	
(i) REUSE, RECYCLING, AND COMPACTION FACILITIES	
(a) Location	*(Where is it located and the distance from living areas. Provide grid coordinates.)*
(b) Materials and Volume Managed	*(Types and quantity of materials reused and recycled. Document procedures for collection, management, and disposition.)*
(c) Equipment Utilized	*(List all equipment and containers used.)*
(d) Operator	*(Name and contact information.)*
(e) General Notes	*(Make note of any problems or issues that exist with the current process or procedures.)*
(ii) LANDFILLS	
(a) Location	*(Where in the camp is it located? Note the distance from living areas and nearest airfield. Provide 8-digit military grid coordinates.)*
(b) Material Disposed	*(Types of material disposed.)*
(c) Disposal Volume/Day	*(In weight or volume, obtain from the landfill coordinator.)*
(d) Operator	*(Name and contact information.)*
(e) Daily Cover	*(Is daily cover applied?)*
(f) Description	*(General size, how long in use, materials excluded, such as medical waste, batteries, tires, or petroleum, oils, and lubricants. Are there monitoring wells for gas or leachate? Describe the landfill construction.)*
(iii) INCINERATORS AND BURN PITS	
(a) Location	*(Where in the camp is it located and the distance from living areas. Provide grid coordinates and prevailing wind direction of the area.)* ☐ Incinerator ☐ Burn pit
(b) Material Disposed	*(Types of material disposed.)*
(c) Disposal Rate Per Day	*(Obtain from the incinerator and burn pit operator the weight or volume. For incinerators, note the unit's capacity from the specification plate on the unit.)*
(d) Operator	*(Name and contact information.)*
(e) Manufacturer	*(Obtain from the specification plate on the unit. Describe the unit.)*
(f) Hours of Operation Per Day	*(Obtain from the operator.)*
(g) Frequency of Burning	*(Days per week, hours per day, time of day.)*
(h) Supplemental Fuel	*(For example, diesel, propane, or waste oil.)*
(i) General Notes	*(Document the type of incinerator. For example, hazardous or nonhazardous waste. Are there scrubbers in place? What are the procedures for ash disposal ? Are the incinerators dual chambered?)*

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FIG. X3.1 Department of Defense Form DD2993 *(continued)*

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(iv) COMPOSTING AND LAND FARMING	
(a) Location	*(Where is it located and the distance from living areas. Provide grid coordinates.)*
(b) Materials Disposed	*(Types of material disposed.)*
(c) Disposal Rate/Day	*(Obtain the weight or volume from the composting operator.)*
(d) Operator	*(Name and contact information.)*
(e) General Notes	*(Note the date the operation began. Document the turning schedule. Is the turn conducted by hand or by mechanical means? How is the composted material used? If land farming, what microbes are being used?)*

g. MEDICAL WASTE

(1) INDIVIDUAL MEDICAL WASTE DESCRIPTION

(a) Type of Waste *(What is the waste? Red bag [gloves, dressings, tubing, cultures, and so forth], pathological [body parts], or Sharps?)*	(b) Source of Waste *(Clinic, humanitarian assistance, and so forth?)*	(c) Disposal Method *(Incineration, open burning, landfill, autoclave, and so forth?)*	(d) Contractor Operated
			☐ Defense Reutilization and Marketing Office ☐ United States ☐ Local

NOTES	*(Add notes related to the specific types of waste. Include contractor and subcontractor information, point of contact, telephone number, and how the medical waste is managed, collected, stored, and disposed. Is there a medical waste incinerator? Has the waste been buried and marked for future removal? Provide the location of disposal facilities and grid coordinates. Refer to the information collected above for landfills and ensure that information is collected here.)*

			☐ Defense Reutilization and Marketing Office ☐ United States ☐ Local

NOTES	

(e) General Notes

(Add notes related to medical waste in general.)

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FIG. X3.1 Department of Defense Form DD2993 *(continued)*

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(2) MEDICAL WASTE INCINERATORS	
(a) Identification	
(b) Location	*(Where in the camp is it located and the distance from living areas. Provide grid coordinates.)*
(c) Material Disposed	*(Types of material disposed.)*
(d) Disposal Rate Per Day	*(In weight or volume, obtain from the incinerator or burn pit operator. For incinerators, note unit's capacity from specification plate on unit.)*
(e) Operator	*(Name and contact information.)*
(f) Manufacturer	*(Obtain from the specification plate on the unit.)*
(g) Hours of Operation Per Day	*(Obtain from the operator.)*
(h) Supplemental Fuel	*(Diesel, propane, waste oil, and so forth.)*
(i) General Notes	*(Add notes related to medical waste incineration in general. Document the type of incinerator such as hazardous or nonhazardous waste. Are scrubbers in place? How is ash disposed of? Are there dual chambers?)*
h. WASTEWATER *(What are the sources and types? How is it collected, treated, discharged, or disposed?)*	
INDIVIDUAL WASTEWATER DESCRIPTIONS	
(1) Source and Type of Wastewater	*(Black water such as latrines, urinals, kitchen, or other and explain; grey water: hand washing, laundry, brine from reverse osmosis concentration, or other and explain; industrial wastewater such as wash racks, oil water separators, or other and explain. The volume of wastewater.)*
(2) Collection Method	*(Black water such as burn-out latrines and portable or chemical toilets; tank trailers and holding tanks or ponds (capacity); and pipes and pump stations. Grey water such as water not collected, tank trailers, and holding ponds (capacity); pipes; and pump stations. Include collection system design or sketch.)*
(3) Disposal Method	*(How is it being disposed of? Discharge methods: subsurface such as septic drain field, dry wells, seepage pits; land applied such as ground discharge, infiltration, evaporation ponds, beds, fields, spray irrigation; stream discharge, trucked off-site to known or unknown location and explain; piped off-site to known or unknown location and explain.)*
(4) Contractor Operated	☐ Defense Reutilization and Marketing office ☐ United States ☐ Local
(5) General Notes	*(Enter general notes regarding wastewater activities.)*

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FIG. X3.1 Department of Defense Form DD2993 *(continued)*

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(6) WASTEWATER TREATMENT METHODS

(Is wastewater treated or untreated, on-site or off-site, upwind or downwind-of troop areas? Methods: burn-out latrines; septic systems such as solids settling tank or drain field; package such as portable or modular; wastewater treatment facility; constructed wastewater treatment facility. If lagoon or pond, list the number of ponds, number of cells per pond, surface area, depth, freeboard [above water level], aerated, discharge, provide sketch, inlet, and outlets. If a package wastewater treatment facility, list the type such as activated sludge, or other and explain. If other constructed treatment plant, list the type such as trickling filter, activated sludge, or other. If a constructed wastewater treatment facility describe the unit process, flow equalization [none, storage tank, pond], preliminary treatment [none, screening, grit removal, other], tertiary [for example, after secondary] treatment [none, filtration, membrane, other], disinfection [such as none, liquid chlorine, sodium hypochlorite – liquid bleach, calcium hypochlorite – dry or liquid, ultraviolet or other]. Describe the treatment design to include gallons per day, obtain the designs, plans, and reports, and add a sketch. If more than one exists, use separate blocks to identify treatment methods.)

General Notes

(Gather available wastewater treatment monitoring data, such as flow and physical or chemical data. Include contractor or subcontractor, point of contact, telephone number, and method of collection. Is it dumped on-site or removed from the property? Include the location of the dump site. Is it characterized as grey water and removed by sanitation personnel in honey buckets or grey water pumpers? Is it taken out the gate, dumped, and found running back on the property? If collecting on-site, is it treated and used as a dust abatement source or other? Military operation or contractor? List influent and effluent data - biochemical oxygen demand, chemical oxygen demand, total suspended solids, fecal coliform, total residual chlorine, pH, or other. Include the unit of measure; for example, milligrams per liter and obtain data and monitoring frequency, if available. Also note if data is not being collected or not available.)

(7) HOW IS STORM WATER MANAGED?

(Is the site grading adequate or inadequate? Describe any open ditches, storm ditches and underground piping, storm water collection in detention or retention ponds or tanks. Is the storm water collection system collocated with sanitary water and/or the main water lines? Obtain storm water system designs if available, Is it treated or untreated? If untreated, is it characterized as black or grey water? Is it reused? If it is reused, describe how and for what purpose such as dust control, vehicle washing, crop irrigation, construction, toilet flushing, laundry, showers, or other.)

☐ Managed ☐ Not managed

(8) IS WASTEWATER OR STORM WATER REUSED FOR BENEFICIAL PURPOSES? *(If Yes, explain.)*

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FIG. X3.1 Department of Defense Form DD2993 *(continued)*

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i. HISTORICAL AND CULTURAL RESOURCES

(Take photographs and note the location using grid coordinates or global positioning system. Note the areas of significance on the site sketch or map overlay. Describe the general surface appearance and disturbances such as irregular holes and trenches from vandalism and looting or regular emplacements from recent military or other use.)

Note: If it is determined that the historical or cultural resource must be protected to prevent damage or looting by pot-hunters or black market antiquities dealers, it is likely that documentation of the site should be annotated in Section 14 as classified information.

(1) HISTORICAL RESOURCES

(Document historical buildings, monuments and artifacts on display in buildings or museums. Look for clues in the landscape regarding undocumented artifacts, ancient features, ruins, rock art, and ancient writing or pictographs. Note the presence of artifacts in the ground or undisturbed as part of an archeological site, such as ancient pottery, stone tools or jewelry, decorative art or beads, carved bone, or wood. Note earthen mounds that are not part of the natural topography, caves, or rock shelters often containing archeological remains. Note ancient storage and trash pits. Note remnants of walls, floors, and collapsed ceilings which will typically be constructed of mud-brick or stone as wood disintegrates in a few years in most environments. Note rock surfaces that are decorated with paint, pecked renderings, or inscriptions.)

(2) CULTURAL RESOURCES

(Anything that is significant to the local population is a cultural resource. Document individual burials, burial grounds, and cemeteries which may be marked or unmarked. Document areas of religious significance. List and describe all known parks, forests and/or animal preserves, and recreational areas in or around the site. Interviews with the local nationals are imperative to this documentation.)

(3) ASSESS IMPACT LEVEL

Level 1: No impact. There are no resources present or the proposed mission would avoid them if present.
Level 2: Less than significant impact. Resources are present but proposed mission would only have minor effects without the need for mitigating actions.
Level 3: Less than significant impact with mitigation incorporation. Resources are present but with the implementation of mitigating actions effects can be minimized to an acceptable level, such as power lines to be installed can be routed around sensitive resource concentrations.
Level 4: Potentially significant impact. The proposed action would likely cause a substantial adverse change in the significance of a historical or archeological resource, disturb a known religious, traditional, or cultural resource or disturb any human remains, including those interred outside of formal cemeteries.

(a) Cultural Resource *(Describe resource.)*	(b) Assess Impact Level *(Enter level and explain.)*

(4) General Notes

(Enter general notes regarding historical and cultural resources. List any host nation or local subject matter expert and point of contact information for cultural properties or resources from academia, museums, government agencies, local citizens, and so forth.)

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FIG. X3.1 Department of Defense Form DD2993 *(continued)*

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j. ENDANGERED AND THREATENED SPECIES AND HABITATS

(Identify all endangered and threatened species or sensitive habitats that could be in or around the site. This may be done through an internet search. Make note of any significant habits or species sensitivities that could be directly affected by the mission. During the site reconnaissance make note of and document the presence of habitation and species sightings. Document the presence of endangered species in the area that could be affected by the mission or occupation. Identify habitat areas using grid coordinates or global positioning system. Note the areas of significance on the site sketch or map overlay. Document the existence of any environmental controls or restrictions already in place. Make note of manmade damage or disturbance of the area and any signs of previous occupation by military or civilian entities.)

(1) ASSESS IMPACT LEVEL

Level 1: No impact. There are no endangered and threatened species present or the proposed mission would avoid them if present.
Level 2: Less than significant impact. Resources are present but proposed mission would only have minor effects without the need for mitigating actions.
Level 3: Less than significant impact with mitigation incorporation. Resources are present but with the implementation of mitigating actions effects can be minimized to an acceptable level.
Level 4: Potentially significant impact. The proposed action would likely cause a substantial adverse impact to an endangered and threatened species or their habitat.

(a) Endangered and Threatened Species *(Describe resource.)*	(b) Assess Impact Level *(Enter level and explain.)*

(Enter general notes regarding endangered species or habitat. List any host nation or local subject matter expert and point of contact information for natural resource management, from academia, government agencies, local citizens, and so forth.)

k. LOCAL DISEASES AND HEALTH FACTORS

(1) DISEASE THREATS	*(List diseases prevalent.)*
(2) CAUSES AND VECTORS OF DISEASE	*(Enter known causes and/or vectors such as insects, animals, or organisms that carry the diseases known to be present in the area of operation.)*
(3) VECTORS PRESENT	*(Is surveillance for the vectors of these diseases being conducted? If yes, describe what is being done and what has been found. Are conditions favorable for vectors or pests? If yes, describe. Are Soldiers being bitten by vectors or pests? If yes, list and describe what is being done about it. Do Soldiers report seeing other pests? If yes, list. Are disease vectors present? If yes, complete specifics below if possible. Are conditions favorable for breeding vectors and pests? Is standing water present? Describe location and condition. Are habitats of disease vectors and carriers present? Specify and explain. Are potential vectors and pests such as filth flies, rodents, stray dogs or cats, snakes, or scorpions present? Specify and explain. Are seasonality or weather conditions favorable for breeding pests? Are there locations where wastes have been disposed of incorrectly and which may attract pests? Is the deployment site drainage adequate? Have personnel seen other pests, such as rodents, spiders, or snakes?)*
(4) ENVIRONMENTAL HEALTH ASSESSMENT	*(Are living and work facilities pest proof? If no, describe. Is waste being handled in environmentally sound manner that protects human health and does not provide breeding for pests? If no, describe. Are uniforms properly worn? Are individuals practicing good personal and unit area sanitation? Is education on avoidance of pests and pest habitats provided? Is personal information distributed to Soldiers, such as tick and rodent cards and staying healthy guides?)*

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FIG. X3.1 Department of Defense Form DD2993 *(continued)*

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(5) FIELD SANITATION ASSESSMENT	*(Is human waste disposed of in an environmentally sound manner and in a manner that protects human health? Are laundry services provided or planned? Are adequate food storage facilities provided? Is liquid kitchen waste disposed of in an environmentally sound manner that protects human health?)*
(6) COUNTERMEASURES AND PEST MANAGEMENT CONTROL	*(Are personal protective countermeasures appropriate to the threats? Describe. Have action thresholds been established to guide initiation of pest control measures? Is there a control program for disease vectors? Are integrated pest management procedures being used? Does the integrated pest management include reduction to food sources and breeding habitats? Are pest management operations being conducted? If yes, describe. Include who [contractor, medical personnel] and what [vector, pest]. Are mechanical or chemical controls being used? If so, list. Are they properly handled and stored? How are pests [such as carcasses] being disposed?)*
(7) PESTICIDE USE	*(Attach copies of DD Form 1532-1 (or equivalent). What chemical is being used, how much is in inventory, and how much is being applied at what intervals? Are records being kept? When is application conducted? Are safety data sheets and appropriate personal protective equipment available to personnel applying chemicals?)*

l. RADIOLOGICAL HAZARDS

(Radiological sources will only be identified for the environmental baseline survey if the source is a waste material or there is a significant impact to the environment. If radiological sources are suspected, contact chemical, biological, radiological, and nuclear resources for assistance.)

m. NOISE

(1) NOISE SOURCES PRESENT *(Are noise sources present? If so, describe sources. Take photographs.)*

☐ PRESENT ☐ ABSENT

(2) INDIVIDUAL NOISE SOURCES

(a) Location Description *(Where is it?)*	(b) Source *(Generator, industrial operations, air field, and so forth.)*	(c) Noise Level *(Ambient noise level obtained from a noise meter measured in decibels.)*

NOTES	*(Add notes related to the specific noise source.)*

NOTES	

NOTES	

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FIG. X3.1 Department of Defense Form DD2993 *(continued)*

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(3) NOISE SENSITIVE AREAS OR ACTIVITIES AND NOISE CONTROLS *(Are there noise sensitive activities present that may be negatively impacted by military operational noise?)*		
(a) Location Description *(Where is it?)*	(b) Noise Sensitive Area or Activity *(Describe the noise-sensitive areas or activities such as hospitals, nursing homes, tourism areas or sites, animal habitat, agricultural, or animal husbandry operations.)*	(c) Noise Control *(Are noise controls present? If noise controls are present, describe the type such as avoidance, engineering controls such as barriers or keeping a specified distance from the noise sensitive area or activity. If noise controls are not present, describe recommended or potential noise solutions.)*
		☐ Present ☐ Absent
NOTES		
		☐ Present ☐ Absent
NOTES		

(4) GENERAL NOTES
(Add notes related to noises in general.)

n. AIR QUALITY

(1) AMBIENT (OUTSIDE) AIR QUALITY *(Describe sources that impact ambient air and/or introduce potential hazards. Provide locations. Survey landscape and note presence of storage tanks. Identify contents. Note all combustion sources that create exhaust, fumes, or smoke; for example, flares, incinerators, generators, burn pits or boxes, welding operations, idling vehicles, or aircraft. Note sources of dust, such as concrete plants, mining operations, tank or convoy trails, roads or highways, helipads or runways, and agricultural fields or operations. Describe sources that produce odors such as a landfill, military painting and/or solvent use, or refueling points. Note any terrain and elevation differences between the camp and air sources. Is the source affected by the season or weather? Is it weather dependent?)*

(2) INDOOR AIR QUALITY (*Do occupants complain about dust, odors, stale air, or have symptoms of eye, throat, and nose irritation? Are generators placed near building openings? Is the presence of visible mold noted? Take photographs. Do personnel occupy newly built structures? Does the ventilation system allow fresh, filtered, and conditioned air into the building or shelter? Take photographs.)*
Note: Carbon monoxide and other combustion by-products should be controlled to as low as reasonably achievable.

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FIG. X3.1 Department of Defense Form DD2993 *(continued)*

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o. WATER

(1) WATER TREATMENT

(Describe the water treatment systems currently in place and their effectiveness. Contractor or military operated? Is it a host nation water source, taps, faucets in buildings? Is the source water being tested for surface infiltration of pollutants?)

(2) MUNICIPAL WATER

(a) Identification *(Usually obtained from engineers.)*	(b) Municipality *(Name of municipality supplying water.)*	(c) Treatment Methods *(Method used to treat water.)*	(d) Distribution Point Description *(Describe the distribution points; for example, water trailer, water blivet, and preexisting plumbing.)*

NOTES *(How is the water from this source used?)*

NOTES

(3) SUBSURFACE WATER

(a) Identification	(b) Access to Subsurface Water *(Describe access to subsurface water such as wells. Note any evidence of ancient infrastructure used to access groundwater [for example, karez, foggaras, or qanat]).*	(c) Pump Specifications *(From specification plate on pump or from the engineers.)*	(d) Potential Sources of Contamination *(Evaluation of potential source of contamination, such as storm water runoff or vector access. Provide examples.)*

NOTES *(How is water from this source treated and used?)*

NOTES

(4) SURFACE WATER

(a) Identification	(b) River or Lake Name	(c) Treatment Method *(Is the surface water treated, such as filtration or chlorination?)*	(d) Potential Sources of Contamination *(Evaluation of potential source of contamination, such as agricultural wastewater discharge, dead animals, or industrial operations.)*

NOTES *(How is water from this source used?)*

NOTES

(5) REVERSE OSMOSIS WATER PURIFICATION UNIT, ULTRAVIOLET TACTICAL WATER PURIFICATION SYSTEM, AND LIGHTWEIGHT WATER PURIFIER

(a) Identification *(From the engineers, quartermaster, or operator.)*	(b) Water Source Name	(c) Size *(Daily or hourly production capacity.)*	(d) Operating Unit or Contractor *(Name and contact information of unit or contractor operating the system.)*

NOTES

NOTES

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FIG. X3.1 Department of Defense Form DD2993 *(continued)*

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(6) WATER DISTRIBUTION SYSTEM

(Describe the water distribution system. How is water transported around the camp: tactical water distribution system, water trucks, trailers, existing distribution system, or constructed distribution system? Are the sanitary system pipes together with the water distribution pipes? Is there possible cross contamination? Is

(7) WATER STORAGE TANKS

(Describe the water storage areas on the property, materials of tanks and containers, amount of storage tanks, and general condition of these tanks.)

(a) Identification	(b) Tank Type *(Metal, fiberglass, fabric, and so forth.)*	(c) Size	(d) Type of Water Stored *(Potable, nonpotable, raw water, disinfected, fresh or brine, grey water, and so forth.)*

(8) BOTTLED WATER *(Describe the sources of bottled water and whether it is used as the primary source for drinking water and are the brands Veterinary Command approved? Note if bottles are recycled.)*

(a) Identification	(b) Brand *(Dasani®, Ice Mountain®, and so forth.)*	(c) Bottle Size	(d) Notes

(9) NONPOTABLE WATER

(Complete this section if nonpotable water is used for dust abatement, construction, or other operations.)

p. GENERAL SANITATION

(1) GENERAL FACILITIES *(Describe the type, location, status of facility, and so forth. Take photographs.)*

(a) Type *(Gymnasium, barber shops, laundry, detainee facility, and so forth.)*	(b) Building Number	(c) Notes *(Describe contractor or military operated; point of contact, how long they have been at this location.)*

(d) General Notes

(Add notes related to sanitation in general.)

(2) DINING FACILITIES *(Describe the location and general condition of the facility, status of facility, and so forth. Take photographs.)*

(a) Building Number	(b) Contractor Operated?	(c) Notes *(Add notes specific to the dining facility; for example, contractor, population served, meals served.)*

(d) General Notes

(Add notes related to sanitation in general. Who inspects the dining facility? What is the inspection interval and frequency? Are there any current food vulnerability concerns? Does review of the dining facility inspections reports reveal any continuing concerns or food vulnerabilities?

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FIG. X3.1 Department of Defense Form DD2993 *(continued)*

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q. OTHER ENVIRONMENTAL CONCERNS

(Anything that does not fit in above sections.)

6. SITE USE

a. PROPOSED SITE USAGE

(What is the proposed usage of the site, especially if assessment is being conducted before usage determination or occupation?)

b. CURRENT AND PAST USES OF PROPERTY

(What was the past usage of the site such agricultural, industrial, or military. For what duration were these uses active?)

c. ONSITE INDUSTRIAL AREAS

(Are there any existing onsite industrial operations? Give information on scope of activities, size of facilities, who performs the operations, hazards present.)

☐ Vehicle Maintenance ☐ Aircraft Maintenance ☐ Power Generation ☐ Petroleum Distribution ☐ Waste Incineration

☐ Other and Explain

NOTES	

7. ADJACENT PROPERTY USE

a. CURRENT AND PAST USES OF ADJACENT PROPERTY

(Describe the current and historical use of adjoining properties. Document agricultural activities such as the types of crops grown, pesticide application - insecticides/herbicides - water usage and animal ranching or herding activities. Everything that was investigated for the proposed base camp location must also be investigated and documented for the adjacent properties.)

North of Site	
South of Site	
East of Site	
West of Site	

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FIG. X3.1 Department of Defense Form DD2993 *(continued)*

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b. INDUSTRIAL OPERATIONS IN SURROUNDING AREA

(Describe nearby industrial operations [for example, power plant or factories]. What is approximate distance from camp boundary? What can be observed from camp: smoke, odors, and so forth? Include 8-digit grid coordinates of each facility, name of industry, type of industry, and active or inactive. Provide a description of the facility - if processes are present, material used and stored, operating schedule, and environmental impacts. Take photographs.)

North of Site	
South of Site	
East of Site	
West of Site	

c. SPECIFIC NEARBY INDUSTRIAL FACILITIES

(1) Location *(8-digit grid coordinates.)*	(2) Name	(3) *Type of Industry (For example, power production, petrochemical or agricultural.)*	(4) Active?	(5) Description *(Describe facility, processes present, material used and stored there, operating schedule, environmental impacts, and so forth.)*

8. INFORMATION SOURCES AND SUPPORTING DOCUMENTS

(Document sources of Information gathered. Provide summaries of environmental sampling and studies, aerial photographs, topographic maps, previous environmental baseline survey or Occupational and Environmental Health Site Assessment referenced, base camp master plans, and other documents reviewed. Document personnel interviewed by providing their name and contact information for verification, if necessary, as well as the name of the interpreter if one was used.)

a. SOURCES OF INFORMATION *(Who did you talk to or interview? How can they be contacted again? Attach interview notes.)*

PERSONNEL CONTACTED

(1) Name	(2) Contact Information *(Address, telephone number, e-mail, and so forth.)*	(3) Title	(4) Location

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FIG. X3.1 Department of Defense Form DD2993 *(continued)*

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b. OTHER SOURCES OF INFORMATION

(Document all source of information received. Provide enough information that the sources may be used by other to verify the information if necessary.)

9. SITE RECONNAISSANCE INFORMATION*
(Completed as part of the analysis of the information gathered during the site reconnaissance.)

10. ENVIRONMENTAL AND HEALTH SAMPLING DATA

(Identify sampling requirements; why, where, and what needs to be sampled. Provide 8-digit grid coordinates, a description and a photograph, if possible, for all areas to be sampled.)

11 . FINDINGS AND CONCLUSIONS*
(Completed after information gathered is analyzed.)

12. JUSTIFICATION AND DISCUSSION*
(Completed after findings and conclusions have been developed.)

13. RECOMMENDATIONS*
(Completed after findings and conclusions have been developed.)

14. CLASSIFIED DATA

(Enter all classified information that is significant to the report. The classification must be added as a header and footer for each page. All classified information will be added in this section as a separate addendum to the report with a reference to its appropriate section number. Classified data must be sent via SECRET Internet Protocol Router Network.)

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FIG. X3.1 Department of Defense Form DD2993 *(continued)*

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X4. EMERGING CHEMICALS OF ENVIRONMENTAL CONCERN – PFAS AS AN EXAMPLE

NOTE X4.1—Even though CERCLA does not identify *emerging chemicals of environmental concern*, as *hazardous substances*, the statute does require actions to protect public health and the environment from pollutants and contaminants. *PFAS* are examples of *emerging chemicals of environmental concern*. The steps described in this Appendix are examples, intended to provide a framework for *users* of this Practice. *Remedial actions* for *PFAS* may be required under state regulatory programs and should be evaluated as *ARARs*.

X4.1 Introduction

X4.1.1 *PFAS* have been used in a variety of applications at government/military facilities, including as a component in *AFFF*, which was routinely used at fire-fighting training areas and equipment test areas, and is still used at crash sites and some fire suppression systems in hangars. In addition, current and historical *AFFFstorage* and transfer areas are of potential concern for *release* to the environment. Historical reports of uncontrolled spills and the repeated use of *AFFF* during fire training and firefighting have been correlated with higher concentrations of *PFAS* in surface water and groundwater. As such, a key element for identifying *significantPFAS* sources at government/military facilities is the *storage* and use of *AFFF*. *PFAS* from *AFFF* used in firefighting and fire suppression systems are considered to have the greatest potential for *release* of *PFAS* to the environment in terms of mass concentration at government/military installations. Other potential sources of *PFAS* to the environment include historical on-site land *disposal* areas/*landfills* containing operations wastes (for example, from electroplating), *wastewater* treatment sludges and effluents, or *PFAS* materials themselves. *Landfill* leachate could carry *PFAS* to groundwater.

X4.1.2 *AFFF in Fire-fighting Exercises and Fire Suppression—AFFFs* are water-based (60-90 percent) and frequently contain hydrocarbon-based surfactants such as sodium alkyl sulfate, and fluorosurfactants, such as fluorotelomers, PFOA, and/or PFOS. *AFFF* containing *PFAS* were developed in the early to mid-1960s for use on Class B fires and were put into routine use by the early 1970s and are still in use today. *AFFFs* have the ability to spread over the surface of hydrocarbon-based liquids (that is, create a film), thus limiting oxygen from contacting the surface of the ignited fuel while simultaneously cooling the surface temperature with the high-water content and preventing volatile fuels from escaping as ignitable vapor. These qualities make *AFFF* very effective for extinguishing burning aviation fuels. Companies including 3M, DuPont, Ansul, and Chemguard were the primary fire-fighting foam producers that used fluoro-chemical surfactants in the production of *AFFF*. Typically, *AFFF* concentrate was proportionally mixed into water lines using in-line eductors or other proportioning devices to create the necessary foam solution ranging from 3% to 6% of the concentrate. As noted, *AFFF* was primarily used with Class B fuel fires because the chemical *properties* of *PFAS* in *AFFF* created a thick foam blanket. Class A fire-fighting foams were used to extinguish wood and grass fires, and do not contain *PFAS*. Areas of interest for the *ECP* include those where *AFFF* may have been applied or stored. These include current and former fire training areas, equipment test and cleanout areas, fire-fighting infrastructure (fire stations, *AFFFstorage*/handling areas, etc.), aircraft crash sites, and equipment cleaning discharge locations.

X4.1.3 *Electroplating*—Electroplating, specifically hard chromium plating, is an industrial activity where *PFAS*-containing mist suppressants may have been used. Electroplating consists of creating an electrolytic cell that enables a thin layer of metal to be deposited onto an electrically conductive metal surface. *PFAS* were sometimes used during the chromium electroplating process as a surfactant in chromic acid baths. As a surfactant, *PFAS* lowered the surface tension (adhesion of materials) by creating a thin, foamy layer on the surface of the chrome bath for mist-suppression. This mist-suppressant reduced the formation of airborne chromium aerosols during the plating process, which are known to be carcinogenic and allergenic. Areas where nonchromium electroplating operations were carried out would not be expected to have used *PFAS*-containing mist suppressants.

X4.1.4 *Landfill Operations, Waste Disposal Areas, and Wastewater Treatment Plants*—Historically, *landfills* received wastes generated from government/military installations, including waste streams from operational areas (machine shops, electroplating operations, etc.), housing areas, and waste from *wastewater* treatment plants (WWTPs). These waste streams may contain industrial and/or consumer products that were either manufactured with *PFAS* or contain compounds that when they degrade, *release* PFAS which may leach out of the *landfill*. Additionally, waste material biosolids and sludge from WWTPs can contain *PFAS*.

X4.2 Records Review

X4.2.1 *Firefighting Training*—Review site records including architectural drawings, engineering drawings, construction records, training records to determine if firefighting training was performed at the federally-owned *property*.

X4.2.2 *Electroplating*—Review site records including architectural drawings, engineering drawings, training records, construction drawings, spill response reports, and permit applications to determine if electroplating was conducted at the federally-owned *property*.

X4.2.2.1 Other potential indicators of electroplating activities include waste management forms and records.

(1) Notification of *hazardous waste* activities (EPA form 8700-12)

(2) Hazardous waste manifests with waste codes F006 and D007

(3) RCRA Part A Permit with waste codes F006 and D007

X4.2.3 *Biosolids Management*—Review records relating to the *disposal* of biosolids from each and every on-site *wastewater* treatment plant (WWTP) to determine the disposition of these materials. Specifically, during what period of time were biosolids *disposed* of on-site. During what period of time were biosolids *disposed* of at an off-site location.

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X4.2.4 *Risk Assessments*—Review records prepared in accordance with Policy Memorandum for Clarifications and Upcoming Changes to Department of Defense Instruction 4715.18 in Response to Department of Defense Office of Inspector General Findings (April 2022).

X4.3 Records Analysis

X4.3.1 Upon review of the required records gathered to complete *ECP* Step 1, the *user* or *environmental professional* shall indicate in the *ECP report* whether the search revealed any of the following on the *property*.

X4.3.2 Firefighting training area where *AFFF* was used.

X4.3.3 Firefighting response(s) where *AFFF* was used to suppress the fire.

X4.3.4 Hangars where *AFFF* fire suppression systems were installed.

X4.3.5 Hangars where *AFFF* fire suppression systems were discharged or activated.

X4.3.6 Discharges of *AFFF* to paved and unpaved surfaces.

X4.3.7 Discharges of fire-suppression waters containing *AFFF* or *AFFF* to on-site WWTPs.

X4.3.8 The current or past presence of electroplating vaults and tanks with mist suppression systems.

X4.3.9 Biosolids from an on-site WWTP *disposed* of in an on-site *landfill* or a *landfill* adjacent to the installation or federally-owned *property*.

X4.4 Aerial Photograph and Other Imagery Analysis

X4.4.1 The *user* should follow the steps described in Section 9 to analyze aerial photography and other remotely sensed data (for example, drone videos) for evidence of firefighting training facilities or areas currently or in the past.

X4.5 Interviews

X4.5.1 Where available information indicates the current or past use of *PFAS* (either in fire suppression systems, *AFFF*, or mist suppression systems for electroplating operations), it may be necessary to conduct *interviews* relating to those portions of the installation or federally-owned *property* that have been used for firefighting training, hangars, electroplating operations. The *user* should follow the procedures described in Section 10. However, the questions to be asked are focused upon the past and present use of materials that may contain *PFAS*.

X4.5.1.1 *Interview Questions*—The person conducting each interview shall, at a minimum, ask and document responses to the following questions:

X4.5.1.2 Was or is the *area in question* used as a plating shop, *landfill*, training area, commercial or industrial laundry, or as a waste treatment, *storage*, *disposal*, processing, or recycling facility?

(1) If the *area in question* was used for hard chrome electroplating, how were sludges managed?

X4.5.1.3 Have spills, leaks, or other releases of *PFAS* or *AFFF* occurred to the best of your knowledge?

X4.5.1.4 Were biosolids from the WWTP *disposed* of in an on-site *landfill*?

X4.5.2 *Interview Analysis*—Upon completion of the *interviews*, the *environmental professional* shall indicate in the *ECP report* whether or not the responses revealed the use of *PFAS* on the *property*. If the responses revealed the use of *PFAS*, the *ECP report* shall document it/them.

X4.6 Visual and Physical Inspections

X4.6.1 The *user* should follow the *visual and physical inspection* procedures described in Section 11 with particular emphasis on the current or past use of *PFAS*.

X4.6.1.1 *Exterior:*

(1) The presence of fire risers, fire turrets, fire monitors that may indicate *AFFF* fire suppression systems.

(2) Stacks or vents that may indicate direct emissions of *PFAS* from process areas.

(3) Signage indicating electroplating is conducted inside the building.

X4.6.1.2 *Interior*—On the interior of structures on the *property*, accessible common areas expected to be used by *occupants* or the public (such as lobbies, hallways, utility rooms, recreation areas, and so forth), maintenance and repair areas, including fire alarm panels, shop areas, material *storage* areas.

X4.6.2 *Visual Inspection Analysis*—If the *visual inspection* revealed any conditions indicating the *storage*, *release*, or *disposal* of *PFAS*, the *ECP report* shall document them.

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X5. RECOMMENDED ECP REPORT FORMAT

X5.1 This section describes the recommended format for the *ECP report* that is prepared in accordance with this practice.

X5.1.1 An executive summary briefly stating the areas of real *property* (or parcels) evaluated and the conclusions of the *ECP*;

X5.1.2 The *property* identification (for example, address, assessor parcel number, legal description);

NOTE X5.1—DoD Form 2993 contains specific instructions for the *property* identifier;

X5.1.3 Any relevant information obtained from a detailed search of federal government records pertaining to the *property*, including available maps;

X5.1.4 Any relevant information obtained from a review of the *recorded chain of title documents* regarding the real *property*. The review should address those prior ownerships/uses that could reasonably have contributed to an environmental concern, and, at a minimum, cover the preceding 60 years;

X5.1.5 A description of past and current activities, including all past federal uses to the extent such information is reasonably available, on the *property* and on adjacent *properties*;

X5.1.6 A description of *hazardous substances* or petroleum products management practices (to include *storage*, *release*, treatment, or *disposal*) at the *property* and at adjacent *properties*;

X5.1.7 Any relevant information obtained from *records reviews* and *visual and physical inspections* of adjacent *properties*;

X5.1.8 Description of ongoing response actions or actions that have been taken at or adjacent to the *property*;

X5.1.9 An evaluation of the environmental suitability of the *property* for an intended lease or deed transaction, if known, including the basis for the determination of such suitability;

X5.1.10 References to key documents examined (for example, *aerial photographs* or other imagery, spill incident reports, investigation results); and

X5.1.11 DoD Form 2993, if used.

X6. ORPHAN WELL SITES

X6.1 Introduction

X6.1.1 Orphan well sites on federal land represent unique challenges to federal landholding agencies. CERCLA §120(h) requires federal agencies to address releases of *hazardous substances* and petroleum prior to the transfer of real *property*. According to the January 2022 Memorandum of Understanding on Orphaned Well Site Plugging, Remediation, and Restoration[6] orphaned wells, either unplugged or improperly plugged, can leak methane and other harmful air pollutants into the atmosphere, leach contaminants into surrounding lands and waters, create safety hazards on the ground, and prevent lands from being used for recreation or other productive purposes. The Orphaned Well Site Plugging, Remediation, and Restoration program (Orphaned Well Program) was established by Section 40601 of the Infrastructure Investment and Jobs Act (IIJA). To help achieve these goals, the IIJA established the Orphaned Well Program, which includes a federal program for addressing orphaned wells on Federal Land and a grant program for states and Tribes to establish or grow and manage their own orphaned well plugging, remediation, and restoration programs.

X6.1.2 Orphaned well, with respect to Federal land or Tribal land, means a well that is not used for an authorized purpose, such as production, injection, or monitoring; and, for which no operator can be located; the operator of which is unable to plug the well and to remediate and reclaim the well site; or that is within the National Petroleum Reserve–Alaska.

X6.2 Features of Orphan Well Sites and Possible Chemicals of Concern

X6.2.1 The range of *hazardous substances* and petroleum at well sites is large and varied. Table X6.1 provides examples of the types of *hazardous substances* that may be associated with specific equipment and features at well sites.

[6] Memorandum of Understanding Between the Department of the Interior; and the Department of Agriculture; and the Department of Energy; and the Environmental Protection Agency; and the Interstate Oil and Gas Compact Commission on Orphaned Well Site Plugging, Remediation, and Restoration. January 13, 2022.

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TABLE X6.1 Oil and Natural Gas Well Features and Associated Hazardous Substances[A]

Feature	Possible Products	Associated Hazardous Substances
Wellhead/Injection	Produced water	Soluble metals/inorganic from formation
Wells/Headers	Workover fluids	Methanol, glycol, biocides
	Sterilants	Atrazine, bromacil, diuron, linuron, simazine, tebuthiuron
	Crude oil	Extractable hydrocarbons (C_{11} – C_{60}), PAHs, BETX compounds, purgeable hydrocarbons, RCRA and non-RCRA (California list) metals
Drilling Waste *Sumps*	Produced water	Soluble metals/inorganic from formation, NORM
	Crude oil	Extractable hydrocarbons (C_{11} – C_{60}), PAHs, BETX compounds, purgeable hydrocarbons, RCRA and non-RCRA (California list) metals, inorganics
	metals	Copper, cadmium, chromium, nickel, lead, vanadium, zinc (RCRA and Non-RCRA)
	Chemical additives	pH
	Solvents	Methanol and halogenated *solvents*, including, but not limited to: dichloromethane, chloroform, 1,2 dichloromethane, 1,1,2 trichloroethane
Pig Launcher/Receiver	Pigging wax	Extractable hydrocarbons (C_{20+})
	Solvents used to clear and de-ice the lines	Methanol and halogenated *solvents*, including, but not limited to: dichloromethane, chloroform, 1,2 dichloromethane, 1,1,2 trichloroethane
	Produced water	Soluble metals/inorganics from formation, NORM
	Condensate	Extractable hydrocarbons (C_{11} – C_{60}), PAHs, BETX compounds, purgeable hydrocarbons
	Crude oil	Extractable hydrocarbons (C_{11} – C_{60}), PAHs, BETX compounds, purgeable hydrocarbons, metals/inorganics
Separator	Produced water	Soluble metals/inorganics from formation, NORM
	Crude Oil	Extractable hydrocarbons (C_{11} – C_{60}), PAHs, BETX compounds, purgeable hydrocarbons, metals/inorganics
Compressor	Lubricating oil	Extractable hydrocarbons (mineral oil and grease) PAHs, metal residues from used lubricating oil (chromium, lead, zinc, copper)
	Metal residues	RCRA and Non-RCRA (California list) metals
	Mercury from old metering equipment	Mercury
Dehydration Units/Line Heaters	Glycol	Glycol, BETX compounds, chlorides, sulfates, extractable hydrocarbons
	Produced water	Soluble metals/inorganics from formation, NORM
Tankage	Crude oil	Extractable hydrocarbons (C_{11} – C_{60}), PAHs, BETX compounds, purgeable hydrocarbons, RCRA and non-RCRA (California list) metals, inorganics
	Solventsreleased during tank cleaning	Methanol and halogenated *solvents*, including, but not limited to: dichloromethane, chloroform, 1,2 dichloromethane, 1,1,2 trichloroethane
	Tank bottom sludge	Extractable hydrocarbons (mineral oil and grease), PAHs, BETX compounds, RCRA and non-RCRA (California list) metals, inorganics, NORM
	Chemicals (sweetening agents, caustic, glycol, etc.)	Amines, sulfolane, salinity, glycols, acidity (pH), nitrogenous compounds
Drums	Chemicals: corrosion inhibitors, methanol, degreasers, *solvents*	Methanol, halogenated *solvents*, including, but not limited to: dichloromethane, chloroform, 1,2 dichloromethane, 1,1,2 trichloroethane, mercaptan
Flare Pit	Produced water	Soluble metals/inorganics from formation, NORM
	Crude oil	Extractable hydrocarbons (C_{11} – C_{60}), PAHs, BETX compounds, purgeable hydrocarbons, RCRA and non-RCRA (California list) metals, inorganics
	Glycols, amines, pigging wax	Ethylene, diethylene glycol, amines, extractable hydrocarbons (C_{30+})
	Condensate	Extractable hydrocarbons (C_{11} – C_{60}), PAHs, BETX compounds, purgeable hydrocarbons
	General waste/domestic waste including tires, glass, concrete, filters, metal cable	RCRA and non-RCRA (California list) metals, inorganics
	Used anodes/cathodes/frac sand	RCRA and non-RCRA (California list) metals, inorganics, radioactive materials
	Floor drain liquids including *solvents*, lubricating oils	Extractable hydrocarbons (C_{11} – C_{60}), PAHs, BETX compounds, purgeable hydrocarbons, RCRA and non-RCRA (California list) metals, inorganics, methanol, halogenated *solvents*, including, but not limited to: dichloromethane, chloroform, 1,2 dichloromethane, 1,1,2 trichloroethane

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TABLE X6.1 *Continued*

Feature	Possible Products	Associated Hazardous Substances
Buildings	Floor drain liquids including *solvents*, lubricating oils, detergents	Extractable hydrocarbons (C_{11} – C_{60}), PAHs, BETX compounds, purgeable hydrocarbons, RCRA and non-RCRA (California list) metals, inorganics, methanol, halogenated *solvents*, including, but not limited to: dichloromethane, chloroform, 1,2 dichloromethane, 1,1,2 trichloroethane
	Damaged metering equipment	Mercury, barium, zinc, lead, chromium, copper, cadmium
Amine *Sumps*	Amines	DEA, MEA, DIPA, nitrogenous residues
	Caustic, elemental sulfur, sulfate	RCRA and non-RCRA (California list) metals
	Floor drain liquids, including *solvents*, lubricating oils, detergents	Extractable hydrocarbons (C_{11} – C_{60}), PAHs, BETX compounds, purgeable hydrocarbons, RCRA and non-RCRA (California list) metals, inorganics, methanol, halogenated *solvents*, including, but not limited to: dichloromethane, chloroform, 1,2 dichloromethane, 1,1,2 trichloroethane
Sulfur *Storage* Areas	Elemental sulfur	Sulfur, Sulfates, soil acidity (pH), solubilized metals, RCRA and non-RCRA (California list) metals
Flare Stack Underground Knockout Tank	Condensate	Extractable hydrocarbons (C_{11} – C_{60}), BETX compounds, purgeable hydrocarbons
	Produced water	Soluble metals/inorganics from formation, RCRA and non-RCRA (California list) metals, NORM
Boneyard / Laydown Area	Hydrocarbons	Extractable hydrocarbons (C_{11} – C_{60}), PAHs
	Chemicals	RCRA and non-RCRA (California list) metals, *solvents*, NORM, extractable organic halogen phenols
Ponds	Evaporation pond	RCRA and non-RCRA (California list) metals, BETX and TPH, NORM, extractable hydrocarbons
	Sulfur block runoff pond	RCRA and non-RCRA (California list) metals
	Sewage treatment pond	Salinity, nitrogenous compounds, coliform bacteria
	Amine runoff pond	Amines, nitrogenous compound
Fire Training Area	Hydrocarbons, *PFAS* associated with *AFFF*	BETX, purgeable and extractable hydrocarbons, PAHs, *PFAS*, RCRA and non-RCRA (California list) metals
Landfills	Catalyst	RCRA and non-RCRA (California list) metals, leachate metals
	Construction debris (concrete, wood, cables, etc.)	RCRA and non-RCRA (California list) metals
	Lubricating oils, sludges	BETX, purgeable and extractable hydrocarbons, PAHs, *PFAS*, RCRA and non-RCRA (California list) metals
	Sulfur	pH, salinity, elemental sulfur, sulfates
	Chemicals	Extractable organic halogen phenols, *solvents*, RCRA and non-RCRA (California list) metals
	Plant waste (filters, herbicides, etc.)	BETX, purgeable and extractable hydrocarbons, glycols amines, herbicides, sterilants
Underground *Storage* Tanks	Fuel	BETX, purgeable and extractable hydrocarbons
	Floor drain liquids	Extractable hydrocarbons (C_{11} – C_{60}), PAHs, BETX compounds, purgeable hydrocarbons, RCRA and non-RCRA (California list) metals
	Flare knockout	BETX, purgeable and extractable hydrocarbons, salinity, chlorides

[A] Alberta Environment. 2001. Phase 1 Environmental Site Assessment Guideline for Upstream Oil and Gas Sites. Alberta Environment, Edmonton, Alberta. Report # ESD/LM/01-1. ISBN: 0-7785-1421-8.

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X7. EXAMPLE ORPHAN WELL SITE INFORMATION FORM

This form is an example of the type of information that should be collected regarding the operations that were conducted at an orphan well site and the types of information that would allow the environmental professional to determine if hazardous substances and petroleum were used and stored at the site for more than one year and if these hazardous substances were released to the environment.

X7.1 GENERAL SITE INFORMATION

Facility Name: _____ License/Permit No: _____

Surface Location (Section, Township, Range): _____

GPS Coordinates: _____ N _____ E

Federal Landholding Agency _____

Type of Orphan Site

☐ Pipeline ☐ Battery ☐ Oil Production Site ☐ Wellsite

Pipeline Information (answer if ☐ Pipeline is checked)

Pipeline type? ☐ Oil ☐ Gas ☐ Saltwater ☐ Other _____

From: _____ To: _____

Diameter: _____ Depth: _____ Abandoned: ☐ In-Place ☐ Removed

Well or Oil Production Site Information (answer if ☐ Oil Production Site, or ☐ Wellsite is checked)

Well type? ☐ D&A ☐ Oil ☐ Gas ☐ Disposal ☐ Other _____

Producer well: ☐ Fluid was piped from the site ☐ Fluid was trucked from the site

Disposal well: ☐ Fluid was piped to the site ☐ Fluid was trucked to the site

Sour (>1%) ☐ Yes ☐ No

Battery Information (answer if ☐ Battery is checked)

☐ Single well battery ☐ Multi-well battery

☐ Fluid was piped to the site ☐ Fluid was trucked to the site

X7.2 RECORDS REVIEW

X7.2.1 FILE REVIEW

X7.2.1.1 Drilling Information (wells and oil production sites)

Were drilling records reviewed? ☐ Yes ☐ No If NO, why not: _____

_____

Drilling Date(s): _____

Sump Location (attach diagram if present): _____

Mud Type: _____

Mud/Fluid Disposal Method(s): _____

Mud/Fluid Disposal Locations(s): _____

Other (includes waste storage/handling, etc.): _____

X7.2.1.2 Production/Storage Information (wells, oil production sites, batteries)

Was production/storage information obtained? ☐ Yes ☐ No If NO, why not: _____

_____

Historical or current associated infrastructure (includes tankage, pipeline infrastructure, process skids, and access roads):

_____

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Flare Pits (wells, oil production sites): ☐ Yes ☐ No ☐ Unknown

Details/Location: _____

Underground Storage Tanks? ☐ Yes ☐ No If YES, number of tanks: _____

Capacity: _____

Location: _____

Aboveground Storage Tanks? ☐ Yes ☐ No ☐ Unknown If YES, number of tanks: _____

Capacity: _____

Location: _____

Herbicide Used? ☐ Yes ☐ No ☐ Unknown

Details: _____

Other (includes waste storage/handling/chemical storage, buried pits and *landfills*, etc.):

_____

X7.2.1.3 Environmental Information (all facilities)

Facility Checklist and Release Confirmation

		Record(s) of Releases		Interview Confirmation of Release(s)		Evidence During Visit		Remediation Completed	
		Yes	No	Yes	No	Yes	No	Yes	No
Well Sites	Well Head								
	Storage Tank								
	Tank Secondary Containment								
	Flare Pit								
	Emergency Earthen Pit (Brine)								
	Pits of Unknown Origin								
Batteries, Compressors, Treatment and Processing Facilities	Flowline								
	Gas Flowline								
	Blow Down and Tank Area								
	Metering Equipment								
	Pig Launcher and Trap								
	Treater and Separator								
	Dehydrator								
	Salt Water Storage Tank								
	Crude Oil Storage Tank								
	Condensate Storage Tank								
	Other Storage Tank								
	Tank farm Area								
	Loading/Unloading Rack								
	Refined Product Storage								
	De-sand Tank								
	Flare Knockout Tank								
	Flare Line								
	Flare Pit								
	Emergency Earthen Pit (Brine)								
	Other Pits								
	Saltwater								
	Access Road								
	Equipment Storage Area								

Spills/Releases? ☐ Yes ☐ No ☐ Unknown If YES, attach a brief description including spill material, volume, and date)

Location/Extent: _____

Type: _____ Volume Recovered: _____

Remediation Action (when initiated, target completion date; attach assessment and remediation details if available):

_____

Reported to Regulatory Agency? ☐ Yes ☐ No ☐ Unknown

If YES, Identify Regulatory Agency and Date: _____

X7.2.1.4 Land Information (all facilities)

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Landowner/Occupant Complaints from Company/Agency File Review? ☐ Yes ☐ No

Identify Issues(s) of Concern: ______________________________

X7.2.2 HISTORICAL AERIAL PHOTOGRAPHY / IMAGERY REVIEW

For all dry, orphan, and abandoned wells and batteries the following aerial photographs or other imagery (satellite, drone, video) are required, if available: one pre-disturbance, one post-disturbance, one photography for every 2- to 3-year interval while the site was active. For pipeline aboveground facilities and spills, aerial photos of the site before, during (if available), and after the spill cleanup or facility removal are required.

For all aerial photographs, please use a scale of 1:5000 or 1:7500 to show detail. This scale will likely require an enlargement of the original aerial photograph.

Review Date: ______________ Reviewed By: ______________

Photo ID:______________ Year: ______________ Scale: ______________

Evidence of Former Infrastructure or Areas of Potential Contamination: ______________

____

Photo ID:______________ Year: ______________ Scale: ______________

Evidence of Former Infrastructure or Areas of Potential Contamination: ______________

____

Photo ID:______________ Year: ______________ Scale: ______________

Evidence of Former Infrastructure or Areas of Potential Contamination: ______________

____

Photo ID:______________ Year: ______________ Scale: ______________

Evidence of Former Infrastructure or Areas of Potential Contamination: ______________

____

Photo ID:______________ Year: ______________ Scale: ______________

Evidence of Former Infrastructure or Areas of Potential Contamination: ______________

____

Photo ID:______________ Year: ______________ Scale: ______________

Evidence of Former Infrastructure or Areas of Potential Contamination: ______________

____

X7.3 INTERVIEWS (for example, Present and Past Operators and Landowners)

Interview Held With: ☐ Landowner(s) ☐ Operator(s)

Is the Interview Information: ☐ Specifically for this Site? ☐ Generally for the Area or Type of Operation?

Interview Date: ______________ Interviewed By: ______________

Name of Person Interviewed and Position: ______________

Details of the Interviewee's Comments: (request information on previous complaints, former facilities presence and details of spills, pits, waste storage/handling, vegetation control, etc.)

____

X7.4 SITE VISIT

Date (mm/dd/yyyy): ______________ Assessor: ______________

Surrounding Land Use:

N ______________ E ______________

W ______________ S ______________

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Topography: _____

Vegetation: _____

Proximity to (fill in distance to all that apply):

Residence: _____ Water well: _____ Surface waterbody (for example, lake, stream, river): _____

Equipment or Tankage Present (or visual signs of former facilities)? ☐ Yes ☐ No

What was observed? _____

Visual Signs of Open or Potentially Buried Earthen Pits? ☐ Yes ☐ No

What was observed? _____

Evidence of Past Spills (includes cumulative releases and well center impacts)? ☐ Yes ☐ No

What was observed? _____

Adjacent land affected by operations on the site? ☐ Yes ☐ No

Vegetation Stress Apparent? ☐ Yes ☐ No

Details (location, evidence): _____

Does Site Visit Information Conflict with Specific File or Air Photo Review Information?

☐ Yes ☐ No If YES, explain: _____

Photographs of the Site (not aerial photographs):

Photo 1 (photo description): _____

Photo 2 (photo description): _____

Photo 3 (photo description): _____

(*Add additional photographs if necessary*)

X7.5 CONCLUSIONS AND RECOMMENDATIONS

Is the information from the records review, interviews, and site visit sufficient to form a conclusion about contamination? ☐ Yes ☐ No

If NO, indicate below what was done to gain sufficient information.

Date _____ Type of Investigation _____

Date _____ Type of Investigation _____

Date _____ Type of Investigation _____

Date _____ Type of Investigation _____

Is the information from the records review, interviews, and site visit sufficient to indicate contamination is likely present? ☐ Yes ☐ No

If YES, indicate below what follow-up work was done on the site (for example, site investigation, remediation work).

Date _____ Type of Investigation/Remediation _____

Date _____ Type of Investigation/Remediation _____

Date _____ Type of Investigation/Remediation _____

Date _____ Type of Investigation/Remediation _____

X7.6 ATTACHMENTS

i. Location Map (U.S. Geological Survey 7.5-minute topographic map)

ii. Original aerial photographs (from section X7.2.2)

iii. List of available aerial photographs/satellite imagery/other imagery

iv. Photographs of the site from the site visit

v. Lease/Permit Survey Plan (with field notations)

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ATTACHMENT 16
ASTM D5746-98 (2016)

This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.

Designation: D5746 – 98 (Reapproved 2016)

Standard Classification of Environmental Condition of Property Area Types for Defense Base Closure and Realignment Facilities[1]

This standard is issued under the fixed designation D5746; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 *Purpose*—The purpose of this classification is to define seven standard environmental condition of property area types for Department of Defense (DoD) real property at a closing military installation with respect to the requirements of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980 Section 120(h), as amended by the Community Environmental Response Facilitation Act (CERFA) of 1992, and Section 331 of the National Defense Authorization Act for Fiscal Year 1997. As such, this classification is intended to permit a DoD component to classify property into seven area types, in order to facilitate and support findings of suitability to transfer (FOSTs), findings of suitability to lease (FOSLs), and uncontaminated parcel determinations pursuant to the requirements of CERFA. *Users of this classification should note that it does not address (except where noted explicitly) requirements for appropriate and timely regulatory consultation or concurrence, or both, during the identification and use of these environmental condition of property area types.*

1.1.1 *Seven Recognized Standard Environmental Condition of Property Area Types*—The goal of this classification is to permit DoD components to classify properties on closing DoD installations in order to support determinations of which properties are suitable and unsuitable for transfer by lease or by deed. The term "standard environmental condition of property area type" refers to one of the seven area types defined in this classification. An identification of an area type on an environmental condition of property map means that a DoD component has conducted sufficient studies to make a determination of the recognized environmental conditions of installation real property or has complied with the identification requirements of uncontaminated property under CERFA, or both, and has categorized the property into one of the following seven area types:

1.1.1.1 *Standard Environmental Condition of Property Area Type 1*—An area or parcel of real property where no release, or disposal of hazardous substances or petroleum products or their derivatives has occurred (including no migration of these substances from adjacent properties).

1.1.1.2 *Standard Environmental Condition of Property Area Type 2*—An area or parcel of real property where only the release or disposal of petroleum products or their derivatives has occurred.

1.1.1.3 *Standard Environmental Condition of Property Area Type 3*—An area or parcel of real property where release, disposal, or migration, or some combination thereof, of hazardous substances has occurred, but at concentrations that do not require a removal or remedial action.

1.1.1.4 *Standard Environmental Condition of Property Area Type 4*—An area or parcel of real property where release, disposal, or migration, or some combination thereof, of hazardous substances has occurred, and all remedial actions necessary to protect human health and the environment have been taken.

1.1.1.5 *Standard Environmental Condition of Property Area Type 5*—An area or parcel of real property where release, disposal, or migration, or some combination thereof, of hazardous substances has occurred and removal or remedial actions, or both, are under way, but all required actions have not yet been taken.

1.1.1.6 *Standard Environmental Condition of Property Area Type 6*—An area or parcel of real property where release, disposal, or migration, or some combination thereof, of hazardous substances has occurred, but required response actions have not yet been initiated.

1.1.1.7 *Standard Environmental Condition of Property Area Type 7*—An area or parcel of real property that is unevaluated or requires additional evaluation.

1.1.2 *CERCLA Section 120(h) Requirements*—This classification of environmental condition of property area types is consistent with CERCLA § 120(h) requirements relating to the transfer of contaminated federal real property (42 USC 9601 and following). Areas classified as Area Types 1 through 4, as defined in this classification, are suitable, with respect to CERCLA § 120(h) requirements, for deed transfer to a non-federal recipient.

[1] This classification is under the jurisdiction of ASTM Committee E50 on Environmental Assessment, Risk Management and Corrective Action and is the direct responsibility of Subcommittee E50.02 on Real Estate Assessment and Management.

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1.1.3 *CERFA Requirements*—This classification of environmental condition of property area types can be used in conjunction with the reporting requirements of CERFA, which amended CERCLA (Public Law 102-426, 106 Statute 2174). As defined in this classification, areas classified as Type 1 areas are eligible for reporting as "uncontaminated property" under the provisions of CERFA. At installations listed on the national priorities list, Environmental Protection Agency (EPA) concurrence must be obtained for a parcel to be considered uncontaminated and therefore transferable under CERCLA § 120(h)(4). EPA has stated as a matter of policy that there may be instances in which it would be appropriate to concur with the military service that certain parcels can be identified as uncontaminated under CERCLA § 120(h)(4), although some limited quantity of hazardous substances or petroleum products have been stored, released, or disposed of on the parcel. If the information available indicates that the storage, release, or disposal was associated with activities that would not be expected to pose a threat to human health or the environment (for example, housing areas, petroleum-stained pavement areas, and areas having undergone routine application of pesticides), such parcels should be eligible for expeditious reuse.

1.1.4 *Petroleum Products*—Petroleum products and their derivatives are included within the scope of this classification. Under DoD policy, areas on which petroleum products and their derivatives have been released or disposed of may not be suitable for deed transfer until a response action has been completed.

1.2 *Objectives*—The objectives guiding the development of this classification are as follows: (*1*) to synthesize and put in writing a standard classification of environmental condition of property area types; (*2*) to facilitate the development of high-quality, standardized environmental condition of property maps that can be used to support FOSTs and FOSLs; (*3*) to facilitate the development of a standard practice for conducting environmental baseline surveys; and (*4*) to facilitate the development of a standard guide for preparing environmental baseline survey reports.

2. Referenced Documents

2.1 *ASTM Standards:*[2]

E1527 Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process

E1528 Practice for Limited Environmental Due Diligence: Transaction Screen Process

2.2 *Department of Defense Policies:*[3]

DoD Policy on the Environmental Review Process to Reach a Finding of Suitability to Lease (FOSL), September 1993

DoD Policy on the Environmental Review Process to Reach a Finding of Suitability to Transfer (FOST) for Property Where No Release or Disposal Has Occurred, June 1994

DoD Policy on the Environmental Review Process to Reach a Finding of Suitability to Transfer (FOST) for Property Where Release or Disposal Has Occurred, June 1994

DoD Policy on the Implementation of the Community Environmental Response Facilitation Act (CERFA), September 1993

DoD Clarification of "Uncontaminated" Environmental Condition of Property at Base Realignment and Closure (BRAC) Installations, October 1996

3. Terminology

3.1 This section provides definitions, descriptions of terms, and a list of acronyms for many of the words used in this classification. The terms are an integral part of this classification and are critical to an understanding of this classification and its use.

3.2 *Definitions:*

3.2.1 *environmental baseline survey (EBS)*—a survey of DoD real property based on all existing environmental information related to the storage, release, treatment, or disposal of hazardous substances or petroleum products or derivatives on the property to determine or discover the obviousness of the presence or likely presence of a release or threatened release of any hazardous substance or petroleum product. In certain cases, additional data, including sampling and analysis, may be needed in the EBS to support classification of the property into one of the standard environmental condition of property area types. Additionally, an EBS may also satisfy the uncontaminated property identification requirements of CERFA. An EBS will consider all sources of available information concerning environmentally significant current and past uses of the real property and shall, at a minimum, consist of the following: (*1*) a detailed search and review of available information and records in the possession of the DoD components or records made available by the regulatory agencies or other involved Federal agencies. DoD components are responsible for requesting and making reasonable inquiry into the existence and availability of relevant information and records to include any additional study information (for example, surveys for radioactive materials, asbestos, radon, lead-based paint, transformers containing PCB, Resource Conservation and Recovery Act Facility Assessments and Investigations (RFA and RFI), and underground storage tank cleanup program) to determine the environmental condition of the property; (*2*) a review of all reasonably obtainable Federal, state, and local government records for each adjacent facility where there has been a release or likely release of any hazardous substance or any petroleum product, and that is likely to cause or contribute to a release or threatened release of any hazardous substance or any petroleum product on the DoD real property; (*3*) an analysis of aerial photographs that may reflect prior uses of the property, which are in the possession of the Federal government or are reasonably obtainable through state or local government agencies; (*4*) interviews with current or former employees, or both, involved in operations on the real property; (*5*) visual inspections of the real property; any buildings, structures, equipment, pipe, pipeline, or other improvements on the real property; and of properties immediately adjacent to the real property, noting

[2] For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

[3] Available from National Technical Information Service (NTIS), 5301 Shawnee Rd., Alexandria, VA 22312, http://www.ntis.gov.

sewer lines, runoff patterns, evidence of environmental impacts (for example, stained soil, stressed vegetation, and dead or ill wildlife), and other observations that indicate the actual or potential release of hazardous substances or petroleum products; (*6*) the identification of sources of contamination on the installation and on adjacent properties that could migrate to the parcel during Federal government ownership; (*7*) ongoing response actions or actions that have been taken at or adjacent to the parcel; and (*8*) physical inspection of the property adjacent to the real property, to the extent permitted by owners or operators of such property.

3.2.2 *environmental baseline survey (EBS) report*—the written record of an EBS that includes the following: (*1*) an executive summary briefly stating the areas of real property (or parcels) evaluated and the conclusions of the EBS; (*2*) the property identification (for example, the address, assessor parcel number, or legal description); (*3*) any relevant information obtained from a detailed search of Federal government records pertaining to the property, including available maps; (*4*) any relevant information obtained from a review of the recorded chain of title documents regarding the real property. The review should address those prior ownerships and uses that could reasonably have contributed to an environmental concern, and, at a minimum, cover the preceding 60 years; (*5*) a description of past and current activities, including all past DoD uses to the extent such information is reasonably available, on the property and on adjacent properties; (*6*) a description of hazardous substances or petroleum products management practices (to include storage, release, treatment, or disposal) at the property and adjacent properties; (*7*) any relevant information obtained from records reviews and visual and physical inspections of adjacent properties; (*8*) a description of ongoing response actions or actions that have been taken at or adjacent to the property; (*9*) an evaluation of the environmental suitability of the property for an intended lease or deed transaction, if known, including the basis for determination of such suitability; and (*10*) references to key documents examined (for example, aerial photographs, spill incident reports, and investigation results).

3.2.3 *environmental condition of property map*—a map, prepared on the basis of all environmental investigation information conducted to date, that shows the environmental condition of a DoD installation's real property in terms of the seven standard environmental condition of property area types defined in this classification.

3.2.4 *hazardous substance*—a substance defined as a hazardous substance pursuant to CERCLA 42 USC § 9601(14), as interpreted by EPA regulations and the courts: "(*A*) any substance designated pursuant to section 1321(b)(2)(A) of Title 33, (*B*) any element, compound, mixture, solution, or substance designated pursuant to section 9602 of this title, (*C*) any hazardous waste having the characteristics identified under or listed pursuant to section 3001 of the Solid Waste Disposal Act (42 USC § 6921) (but not including any waste the regulation of which under the Solid Waste Disposal Act (42 USC § 6921 *et seq.*) has been suspended by Act of Congress), (*D*) any toxic pollutant listed under section 1317(a) of Title 33, (*E*) any hazardous air pollutant listed under section 112 of the Clean Air Act (42 USC § 7412), and (*F*) any imminently hazardous chemical substance or mixture with respect to which the Administrator (of EPA) has taken action pursuant to section 2606 of Title 15. The term does not include petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated as a hazardous substance under subparagraphs (*A*) through (*F*) of this paragraph, and the term does not include natural gas, natural gas liquids, liquefied natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas)."

3.2.5 *petroleum products*—those substances included within the meaning of the petroleum exclusion to CERCLA 42 USC § 9601(14) as interpreted by the courts and EPA, that is: "petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated as a hazardous substance under subparagraphs (*A*) through (*F*) of this paragraph, and the term does not include natural gas, natural gas liquids, liquefied natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas)."

3.2.6 *property*—the real DoD property subject to classification under the classification of environmental condition of property area types.

3.2.7 *recorded land title records*—records to be searched during a chain of title search, including records of fee ownership, leases, land contracts, easements, liens, and other encumbrances on or of the property recorded in the place where land title records are recorded, by law or custom, for the local jurisdiction in which the property is located. (Such records are commonly kept by a municipal or county recorder or clerk.) Such records may be obtained from title companies or from the local government agency directly.

3.2.8 *release*—any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment (including the abandonment or discarding of barrels, containers, and other closed receptacles) of any hazardous chemical, extremely hazardous substance, or CERCLA hazardous substance.

3.2.9 *relevant and appropriate requirements*—those cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under federal environmental or state environmental or facility siting laws that, while not "applicable" to a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance at a CERCLA site, address problems or situations sufficiently similar to those encountered at the CERCLA site that their use is well suited to the particular site. Only those state standards that are identified in a timely manner and are more stringent than federal requirements may be relevant and appropriate.

3.2.10 *remedial actions*—those actions consistent with a permanent remedy taken instead of, or in addition to, removal action in the event of a release or threatened release of a hazardous substance into the environment, to prevent or minimize the release of hazardous substances so that they do not migrate to cause substantial danger to the present or future public health or welfare or the environment.

3.2.11 *removal*—the cleanup or removal of released hazardous substances from the environment; such actions as may be necessary to take in the event of the threat of release of hazardous substances into the environment; such actions as may be necessary to monitor, assess, and evaluate the release or threat of release of hazardous substances; the disposal of removed material; or the taking of such other actions as may be necessary to prevent, minimize, or mitigate damage to the public health or welfare or to the environment, which may otherwise result from a release or threat of release.

3.2.12 *required remedial actions*—remedial actions determined necessary to comply with the requirements of CERCLA § 120(h)(3)(B)(i).

3.2.13 *required response actions*—removal or remedial actions, or both, determined necessary to comply with the requirements of CERCLA § 120(h)(3)(B)(i).

3.2.14 *risk-based criteria*—cleanup levels intended to meet a predetermined level of acceptable risk to human health or the environment.

3.2.15 *site inspection (SI)*—an on-site investigation to determine whether a release or potential release exists and the nature of the associated threats. The purpose is to augment the data collected in the preliminary assessment and to generate, if necessary, sampling and other field data to determine whether further action or investigation is appropriate.

3.3 *Definitions of Terms Specific to This Standard:*

3.3.1 *adjacent properties*—those properties contiguous or partially contiguous to the boundaries of the property being surveyed during an EBS or other activity intended to classify the property into a standard environmental condition of property area type, or other properties relatively near the installation that could pose significant environmental concern or have a significant impact on the results of an EBS or on the classification of installation property into standard environmental condition of property area types, or both.

3.3.2 *aerial photographs*—photographs taken from an airplane or helicopter (from a low enough altitude to allow the identification of development and activities) of areas encompassing the property. Aerial photographs are commonly available from government agencies or private collections unique to a local area.

3.3.3 *all remedial action taken*—for the purposes of this classification, all remedial action, as described in CERCLA § 120(h)(3)(B)(i), has been taken if "the construction and installation of an approved remedial design has been completed, and the remedy has been demonstrated to the Administrator [of EPA] to be operating properly and successfully. The carrying out of long-term pumping and treating, or operation and maintenance, after the remedy has been demonstrated to the Administrator to be operating properly and successfully does not preclude the transfer of the property" (42 USC§ 9620(h)(3)).

3.3.4 *applicable requirements*—those cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under federal environmental or state environmental or facility siting laws that specifically address a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstances found at a CERCLA site. Only those state standards that are identified by a state in a timely manner and that are more stringent than federal requirements may be applicable.

3.3.5 *biased field sampling*—by any technique, field sampling of environmental media, which aids in the delineation of standard environmental condition of property area types.

3.3.6 *BRAC statutes*—Title II of the Defense Authorization Amendments and Base Closure and Realignment Act of 1988 (Public Law 100-526, 10 USC 2687) and the Defense Base Closure and Realignment Act of 1990 (Part A of Title XXIX of Public Law 101-510, 10 USC 2687), collectively.

3.3.7 *carcinogenic*—a cancer-causing substance.

3.3.8 *chain of title review*—a review of recorded land title records, conducted as part of an EBS.

3.3.9 *chemical-specific*—associated with the definition of applicable, or relevant and appropriate, requirements (ARARs), chemical-specific ARARs are those that may define acceptable exposure levels and can therefore be used in establishing primary remediation goals.

3.3.10 *closing military installation*—installations identified for closure pursuant to BRAC statutes.

3.3.11 *disposal*—the discharge, deposit, injection, dumping, spilling, leaking, or placing of any hazardous substances, or petroleum products or their derivatives, into or on any land or water so that such hazardous substances, or petroleum products or their derivatives or any constituent thereof, may enter the environment or be emitted into the air or discharged into any waters including groundwater.

3.3.12 *environmental investigation*—any investigation intended to determine the nature and extent of environmental contamination or to determine the environmental condition of property at a BRAC installation. Environmental investigations may include, but are not limited to, environmental site assessments, preliminary assessments, site inspections, remedial investigations, EBSs, Resource Conservation and Recovery Act (RCRA) facility assessments, and RCRA facility investigations.

3.3.13 *environmental site assessment*—the process by which a person or entity seeks to determine whether a particular parcel of real property (including improvements) is subject to recognized environmental conditions. This is the same meaning as provided in Practice E1527.

3.3.14 *exposure pathway*—the route from a contaminant source to a human or any other environmental receptor.

3.3.15 *interviews*—sessions with current or former employees involved in operations on the real property, conducted to ascertain if release, treatment, or disposal of hazardous substances, petroleum products, or their derivatives has occurred or is occurring on the real property.

3.3.16 *migration*—the movement of contaminant(s) away from a source through permeable subsurface media (such as the movement of a groundwater plume of contamination), or the movement of contaminant(s) by a combination of surficial and subsurface processes.

3.3.17 *obviousness*—the condition of being plain or evident. A condition or fact that could not be ignored or overlooked by a reasonable observer while conducting a records search or while physically or visually observing the property in conjunction with an EBS.

3.3.18 *practically reviewable*—information that is practically reviewable, that is, provided by the source in a manner and form that, upon examination, yields information relevant to the property without the need for extraordinary analysis of irrelevant data. The form of the information shall be such that the user can review the records for a limited geographic area. Records that cannot be retrieved feasibly by reference to the location of the property or a geographic area in which the property is located are not generally practically reviewable. Most data bases of public records are practically reviewable if they can be obtained from the source agency by the county, city, zip code, or other geographic area of the facilities listed in the record system. Records that are sorted, filed, organized, or maintained by the source agency only chronologically are not generally practically reviewable. This term has the same meaning as provided in Practice E1527.

3.3.19 *preliminary assessment (PA)*—the review of existing information and an off-site reconnaissance, if appropriate, to determine whether a release or potential release may require additional investigation or action. A preliminary assessment may include an on-site reconnaissance, if appropriate.

3.3.20 *reasonably obtainable*—information that is (*1*) publicly available, (*2*) obtainable from its source within reasonable time and cost constraints, and (*3*) practically reviewable. This term has the same meaning as the term "reasonably ascertainable," as provided in Practice E1527.

3.3.21 *recognized environmental conditions*—the presence or likely presence of any hazardous substances or petroleum products on any DoD real property under conditions that indicate an existing release, a past release, or the material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include de minimus conditions that generally do not present a material risk of harm to the public health or environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.

3.3.22 *records search*—a detailed search and review of available information and records in the possession of the DoD components and records made available by the regulatory agencies or other involved Federal agencies, including, but not limited to, installation restoration program studies and analyses, surveys for radioactive materials, asbestos, radon, lead-based paint, electrical devices (that is, transformers) containing polychlorinated biphenyl (PCB), RCRA facility assessments and investigations to determine which, if any, hazardous substances or petroleum products may be present on the property. For the purposes of adjacent facilities, a records search includes the review of all reasonably obtainable Federal, state, and local government records for each adjacent facility where there has been a release or likely release of any hazardous substance or any petroleum product, and which is likely to cause or contribute to a release or threatened release of any hazardous substance or any petroleum product on the DoD real property.

3.3.23 *site property*—property within the boundaries of the DoD installation.

3.3.24 *standard environmental condition of property area type*—one of the seven environmental condition of property area types defined in this classification.

3.3.25 *standards-based criteria*—cleanup criteria intended to meet the performance standards for the selected remedial technology.

3.3.26 *storage*—the containment of hazardous substances, petroleum products, or their derivatives, either on a temporary basis or for a period of years, in such a manner as not to constitute the disposal of such hazardous substances, petroleum products, or their derivatives.

3.3.27 *unevaluated*—not previously evaluated during any type of environmental investigation. This may also be used to designate areas that are unevaluated regarding CERFA reporting requirements.

3.3.28 *visual or physical inspection, or both*—actions taken during an EBS to include observations made by vision while walking through or otherwise traversing a property and structures located on it and observations made by the sense of smell, particularly observations of noxious or foul odors.

3.4 *Acronyms:*

3.4.1 *ARARs*—applicable, or relevant and appropriate, requirements.

3.4.2 *ASTM*—American Society for Testing and Materials.

3.4.3 *CERCLA*—Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended (42 USC 9620 and following).

3.4.4 *CERFA*—Community Environmental Response Facilitation Act of 1992 (102 Public Law 426, 106 Statute 2174).

3.4.5 *DoD*—Department of Defense.

3.4.6 *EPA*—United States Environmental Protection Agency.

3.4.7 *FOSL*—finding of suitability to lease, as described in the applicable DoD policy.

3.4.8 *FOST*—finding of suitability to transfer, as described in the applicable DoD policy.

3.4.9 *PCBs*—polychlorinated biphenyls.

3.4.10 *RCRA*—Resource Conservation and Recovery Act, as amended, 42 USC 6901 and following.

3.4.11 *USC*—United States Code.

4. Significance and Use

4.1 *Uses*—This classification is intended for use by DoD components in order to direct EBS efforts. It is also intended for use by preparers and reviewers of environmental condition of property maps and EBS reports used to support CERFA uncontaminated parcel identifications and parcels suitable for

transfer by lease or by deed. This classification should be used to facilitate standardized determinations of the environmental condition of a DoD installation's real property. Such environmental condition of property determinations are necessary to assess the progress of ongoing environmental restoration, identify areas where further response may be required, identify areas where further evaluation is necessary, and to support FOSTs and FOSLs. An environmental condition of property map, which should be prepared using this classification, provides a consolidated view of a DoD installation's environmental investigation data, including sampling information.

5. Basis of Classification

5.1 *Classification*—Classification of the seven standard environmental condition of property area types is according to statutory requirements for (*1*) the identification of uncontaminated property within the provisions of CERFA and (*2*) for designating parcels of DoD installations as being suitable or unsuitable for transfer by deed within the provisions of CERCLA § 120(h)(3)(B)(i). Standard environmental condition of property area types are ranked in order of their suitability for transfer, with Area Types 1 through 4 being suitable for transfer by deed and Area Types 5 through 6 being unsuitable for transfer by deed until all remedial actions have been taken. Areas classified as Area Type 7 are either unevaluated or require further evaluation in order to classify them as one of the other environmental condition of property area types.

6. Standard Classification of Environmental Condition of Property Area Types

6.1 *Standard Environmental Condition of Property Area Type 1*—Areas where no release, or disposal of hazardous substances or petroleum products or their derivatives has occurred, including no migration of these substances from adjacent areas. This is a geographically contiguous area or parcel of real property where the results of investigations reveal that no hazardous substances or petroleum products or their derivatives were released, or disposed of on site property. A determination of this area type cannot be made, however, unless a minimum level of information gathering and assessment has been completed. In accordance with CERCLA § 120(h)(4) , "the identification [of Type 1 areas] shall consist, at a minimum, of a review of each of the following sources of information concerning the current and previous uses of the real property: (i) A detailed search of Federal Government records pertaining to the property. (ii) Recorded chain of title documents regarding the real property. (iii) Aerial photographs that may reflect prior uses of the real property and that are reasonably obtainable through State or local government agencies. (iv) A visual inspection of the real property and any buildings, structures, equipment, pipe, pipeline, or other improvements on the real property, and a visual inspection of properties immediately adjacent to the real property. (v) A physical inspection of property adjacent to the real property, to the extent permitted by owners or operators of such property. (vi) Reasonably obtainable Federal, state, and local government records of each adjacent facility where there has been a release of any hazardous substance or any petroleum product or its derivatives, including aviation fuel and motor oil, and which is likely to cause or contribute to a release or threatened release of any hazardous substance or any petroleum product or its derivatives, including aviation fuel and motor oil, on the real property. (vii) Interviews with current or former employees involved in operations on the real property. Such identification shall also be based on sampling, if appropriate under the circumstances." These efforts (i through vii) can be functionally accomplished during the conduct of an EBS or a properly scoped preliminary assessment of the property being classified. However, if information gathered from these efforts indicates that hazardous substances, petroleum products, or their derivatives have been released, or disposed of, the property should be classified as an Area Type 2, 3, 4, 5, 6, or 7.

6.2 *Standard Environmental Condition of Property Area Type 2*—Areas where only release or disposal of petroleum products has occurred. This is a geographically contiguous area or parcel of real property where the results of investigations reveal that only the release or disposal of petroleum products, or their derivatives has occurred. In accordance with CERCLA § 120(h)(4), "the identification [of Type 2 areas] shall consist, at a minimum, of a review of each of the following sources of information concerning the current and previous uses of the real property: (i) A detailed search of Federal Government records pertaining to the property. (ii) Recorded chain of title documents regarding the real property. (iii) Aerial photographs that may reflect prior uses of the real property and that are reasonably obtainable through State or local government agencies. (iv) A visual inspection of the real property and any buildings, structures, equipment, pipe, pipeline, or other improvements on the real property, and a visual inspection of properties immediately adjacent to the real property. (v) A physical inspection of property adjacent to the real property, to the extent permitted by owners or operators of such property. (vi) Reasonably obtainable Federal, State, and local government records of each adjacent facility where there has been a release of any hazardous substance or any petroleum product or its derivatives, including aviation fuel and motor oil, and which is likely to cause or contribute to a release or threatened release of any hazardous substance or any petroleum product or its derivatives, including aviation fuel and motor oil, on the real property. (vii) Interviews with current or former employees involved in operations on the real property. Such identification shall also be based on sampling, if appropriate under the circumstances." These efforts (i through vii) can be functionally accomplished during the conduct of an EBS or a properly scoped preliminary assessment of the property being classified. However, if information gathered from these efforts indicates that hazardous substances have been released to the property, the property should be classified as an Area Type 3, 4, 5, or 6.

6.3 *Standard Environmental Condition of Property Area Type 3*—Areas where the release, disposal, or migration, or some combination thereof, of hazardous substances has occurred, but at concentrations that do not require a removal or remedial action. This is a geographically contiguous area or parcel of real property where environmental evidence demonstrates that hazardous substances have been released, or disposed of, but are present in quantities that require no response action to protect human health and the environment. Such

quantities of hazardous substances or petroleum products can be below defensible detection limits or can be above detection limits but below action levels. In the absence of installation-specific risk-based or standards-based criteria that have received regulatory concurrence, below action levels means that the concentration of any hazardous substance or petroleum constituent in any medium does not exceed chemical-specific ARARs. A designation of this area type also means that risk estimates completed for contamination do not do the following: (*1*) exceed 10^{-6} for any carcinogenic hazardous substance or petroleum constituent detected in any medium; (*2*) result in a hazard index above 1 for any noncarcinogenic hazardous substance or petroleum constituent detected in any medium; (*3*) exceed 10^{-6} for all carcinogenic hazardous substances and petroleum constituents, taken together, in any exposure pathway; (*4*) result in a hazard index above 1 for all noncarcinogenic hazardous substances and petroleum constituents, taken together, in any exposure pathway; (*5*) exceed 10^{-4} for all carcinogenic hazardous substances and petroleum constituents accumulated across all pathways; or (*6*) result in a hazard index above 1 for all noncarcinogenic hazardous substances and petroleum constituents cumulated across all pathways. An Area Type 3 classification cannot be made with confidence unless a minimum level of information gathering and assessment has been completed. As such, all such determinations should be made on the basis of a site inspection or equivalent level of effort, which includes biased field sampling and laboratory analysis to support a conceptual understanding of the area. However, if information gathered from these efforts indicates that hazardous substances are on the property above action levels, the property should be classified as an Area Type 5 or 6.

6.4 *Standard Environmental Condition of Property Area Type 4*—Areas where release, disposal, or migration, or some combination thereof, of hazardous substances has occurred, and all remedial actions necessary to protect human health and the environment have been taken. This is a geographically contiguous area or parcel of real property where all remedial actions necessary to protect human health and the environment have been taken. Type 4 areas include those areas in which an EBS report or other environmental investigation documents evidence that hazardous substances are known to have been released or disposed of on the property, but all remedial actions necessary to protect human health and the environment regarding any hazardous substances remaining on the property have already been taken to meet the covenant requirements of CERCLA § 120(h)(3)(A)(ii).

6.5 *Standard Environmental Condition of Property Area Type 5*—Areas where release, disposal, or migration, or some combination thereof, of hazardous substances has occurred and removal or remedial actions, or both, are under way, but all required remedial actions have not yet been taken. This is a geographically contiguous area or parcel of real property where the presence of sources or releases of hazardous substances has been confirmed by the results of sampling and analysis efforts. The results of such sampling and analysis efforts may be contained in electronic data bases or other environmental investigation or environmental compliance reports, or both. This area type contains contaminant concentrations above action levels. Such concentrations do not meet the criteria of a Type 3 area classification. Removal actions are under way but are not yet demonstrated to have met the criteria of an Area Type 4. Remedial systems for Type 5 areas may be partially or entirely in place, but they have not been demonstrated to EPA to be "operating properly and successfully" within the meaning of CERCLA § 120(h)(3)(A)(ii).

6.6 *Standard Environmental Condition of Property Area Type 6*—Areas where release, disposal, or migration, or some combination thereof, of hazardous substances has occurred, but required response actions have not yet been initiated. This is a geographically contiguous area or parcel of real property where the presence of sources or releases of hazardous substances has been confirmed by the results of sampling and analysis efforts. The results of such sampling and analysis efforts may be contained in electronic data bases or environmental investigation or environmental compliance reports, or both. This area type contains concentrations of contaminants above action levels. Such concentrations do not meet the criteria of a Type 3 area classification. Required remedial systems or other response actions have not been initiated.

6.7 *Standard Environmental Condition of Property Area Type 7*—Areas that are unevaluated or that require additional evaluation. This is a geographically contiguous area or parcel of real property that is unevaluated, or a geographically contiguous area or parcel of real property where the presence of sources or releases of hazardous substances or petroleum products or their derivatives is suspected, but not well characterized, based on the results of a properly scoped records search, chain of title review, aerial photography review, visual inspection, set of employee interviews, and possibly sampling and analysis. They do not fit any of the previous area types with certainty because evaluation efforts have not occurred, are ongoing, or are inconclusive.

7. Keywords

7.1 Community Environmental Response Facilitation Act (CERFA); Comprehensive Environmental Response, Compensation and Liability Act; environmental baseline survey (EBS); environmental condition of property; FOSL; FOST; hazardous substance; property area type; real estate; recognized environmental conditions; remediation

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