

All Appropriate Inquiries (AAI) Training

May 3, 2023 | Patricia Overmeyer, OBLR, and Kevin Palaia, ICF



Module 1

- CERCLA Liability & AAI

Module 2

- AAI Regulatory Requirements

Module 3

- Phase I and AAI Activities

Module 4

- Phase I and AAI Reporting



Poll Question 1

How many years of experience do you have in Brownfields assessment, cleanup, and redevelopment?

- Less than 2 years
- 2 to 5 years
- 5 to 10 years
- 10 to 20 years



Poll Question 2

Describe your level of experience with Phase I ESA/AAI assessments?

- No experience
- Reviewed Phase I ESA/AAI reports
- Conducted Phase I ESA/AAI activities
- Overseen/managed Phase I ESA/AAI projects



All Appropriate Inquiries

- The process of evaluating a property's environmental conditions and assessing potential liability for any contamination.
- A Phase I Environmental Site Assessment
- A necessary step to obtain protection from potential liability for past contamination at a property, under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)



AAI in Perspective

- All Appropriate Inquiries (AAI) often is the first step in a continuum of property investigations
 - AAI / Phase I
 - Phase II / Sampling and Analysis
 - Additional Site Characterization
- Investigate environmental contamination at a property so that contamination can be properly addressed to protect public health and the environment



How Does AAI Affect Brownfields Grantees?

Threshold Criteria for Brownfields Grant Applicants

- Grantees are prohibited from on using brownfields grant monies to address contamination for which a grantee is the responsible party
- Potential grantee may need to demonstrate that it is not responsible for contamination and is protected from CERCLA liability to be eligible for a grant

Recipients of Brownfields Assessment Grants

- Must conduct Phase I assessments in compliance with AAI

Liability Determinations

- Parties seeking protection from CERCLA liability must conduct AAI prior to purchasing property

Targeted Brownfields Assessment (TBA)

- In most cases, TBAs should be performed in compliance with AAI or ASTM E1527-21 to ensure prospective property owner's liability protection and ensure eligibility for future cleanup grant

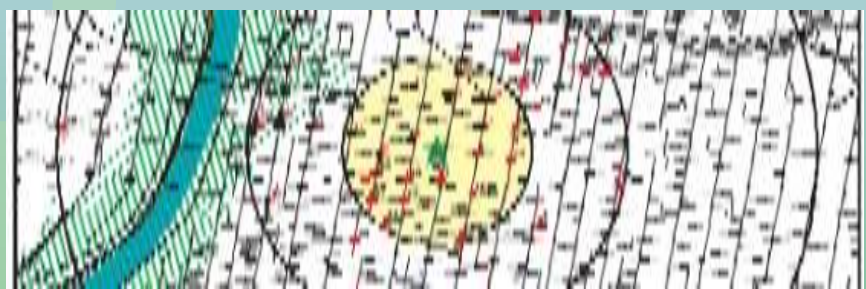


Objectives of Training

Familiarize you with AAI requirements

Provide overview of how AAI impacts Brownfields grant process





Module 1: CERCLA Liability and AAI

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CERCLA 1980 (Superfund)



Liability under CERCLA

- Prior to the 2002 amendments to CERCLA, property owners could be held strictly, and jointly and severally, liable for contamination at a property
 - **Strict liability:** without fault or culpability
 - **Joint and Several liability:** current and past owners can be held accountable individually or collectively
- Any owner within a property's chain of title could be held liable for contamination at a property, regardless of whether any particular owner caused the contamination.



1986 Amendments to CERCLA: Innocent Landowner

- Parties can claim defense to liability **if** they can demonstrate that they did not know *AND had no reason to know* of contamination at time of property acquisition
- Parties have to conduct “all appropriate inquiries” prior to property acquisition to determine past uses and ownership
- If reason to believe property could be contaminated is found, then no defense



2002 Brownfields Amendments to CERCLA

- *Small Business Liability Relief and Brownfields Revitalization Act* – Amended CERCLA
 - Provided liability protections for certain property owners:
 - Innocent landowners (amended 1986 provisions)
 - Contiguous property owners (codified EPA policy)
 - Bona fide prospective purchasers (can purchase with knowledge of contamination)
 - Amended the All Appropriate Inquiries provisions of CERCLA
- Eligible entities need to establish a defense from CERCLA liability to be eligible for site-specific assessment grants and direct cleanup grants under EPA's Brownfields Program
- Parties receiving Brownfields assessment grants must conduct assessments in compliance with AAI



Statutory Requirements for CERCLA Liability Protections



Continuing Obligations

Required following acquisition of property:

- Comply with land use restrictions
- Do not impede effectiveness or integrity of institutional controls
- Take “reasonable steps” to stop on-going releases
- Prevent or limit human and environmental exposure to any previous releases
- Provide cooperation, assistance, and access to property
- Comply with CERCLA information requests and subpoenas



Brownfields Grants – Applicants, generally

Brownfields grantees are prohibited from using grant money to pay for a response cost for which the recipient of the grant is potentially liable under CERCLA section 107



Brownfields Assessment Grants

Parties who receive grants under EPA's Brownfields program to perform site characterization and assessment of brownfields must conduct such activities in compliance with the standards and practices established by EPA for the conduct of all appropriate inquiries. (CERCLA section 104(k)(2)(B)(ii))



Brownfields Cleanup Grants

Applicant must own property that is to be cleaned up with grant monies and may not be liable for contamination at the property

Applicants, including federally recognized tribes, must have completed a Phase I site assessment (AAI) and a Phase II assessment on the property to be eligible for a cleanup grant



Program Development and Enhancement Grants to States and Tribes

Grants provided to States and Tribes under the authority of CERCLA 128(a) are not subject to the provisions of CERCLA 104(k)

Therefore, brownfields assessments conducted by states or tribes using 128(a) funding **DO NOT** have to be conducted in compliance with AAI

It may be prudent to conduct such assessments in compliance with AAI to ensure the property owner's ability to assert protection from CERCLA liability and ensure property owner's eligibility for future brownfields cleanup grants



Referenced ASTM Standards

ASTM E1527-21 Phase I ESA Standard
and ASTM E2247-16 Forestland Standard

- Compliant with the regulatory standards

Parties cannot use ASTM Transaction
Screen standard or ASTM Phase II ESA
standard to comply with AAI



Quiz Question 1

True or False: Phase I ESA's conducted using EPA Brownfields assessment grant funds must be completed in compliance with the Final AAI Rule or appropriate ASTM Phase I standards?

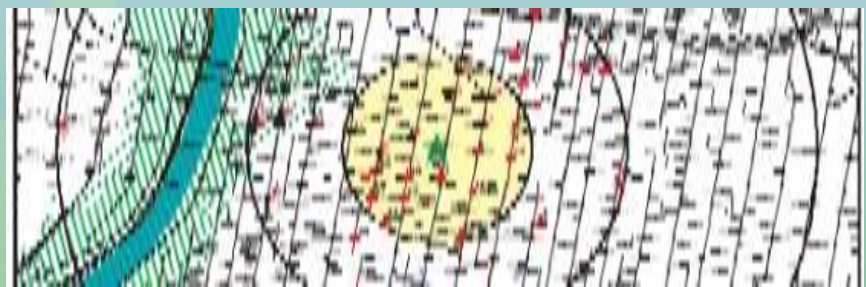
- True
- False



Quiz Question 2

True or False: Applicants must have completed a Phase I ESA/AAI and a Phase II assessment on the property to be eligible for a cleanup grant?

- True
- False



Module 2: AAI Regulatory Requirements

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When Must AAI be Performed?

- Any party seeking liability protection must perform AAI before acquiring the property (before date of title transfer)
- AAI standards are codified at 40 CFR Part 312
- AAI must be conducted or updated within *one year **prior*** to date of acquisition
- Interviews, records review, site inspection, and the environmental cleanup lien search must be conducted or updated within 180 days prior to the date of acquisition



Who Can Perform AAI?

- Person who supervises or oversees the conduct of AAI must meet the definition of Environmental Professional (EP) in the AAI regulation
- Person who does not qualify as an EP may assist in the conduct of AAI if he or she is under the supervision or responsible charge of an EP
- **EP required to sign AAI-compliant reports and attest that investigation was done in compliance with the regulation**



Definition of Environmental Professional

An EP is a person who has:

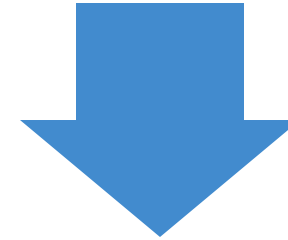


(1) sufficient specific education, training, and experience to exercise professional judgment to develop opinions and conclusions regarding the presence of releases or threatened releases of hazardous substances; **AND**



(2a) Holds a professional engineer or professional geologist license, or other state, federal, or tribal certification or environmental professional license and has 3 years of relevant full-time experience; **OR**
(2b) Has a degree in science or engineering and 5 years of relevant full-time experience; **OR**
(2c) Has 10 years of relevant full-time experience.

Relevant experience:



Participation in the performance of all appropriate inquiry investigations, environmental site assessments, or other site investigations that may include environmental analyses, investigations, and remediation which involve the understanding of surface and subsurface environmental conditions and the processes used to evaluate these conditions



Objectives and Performance Factors

Identify conditions indicative of releases or threatened releases of hazardous substances

Objectives and Performance Factors



Contaminants of Concern

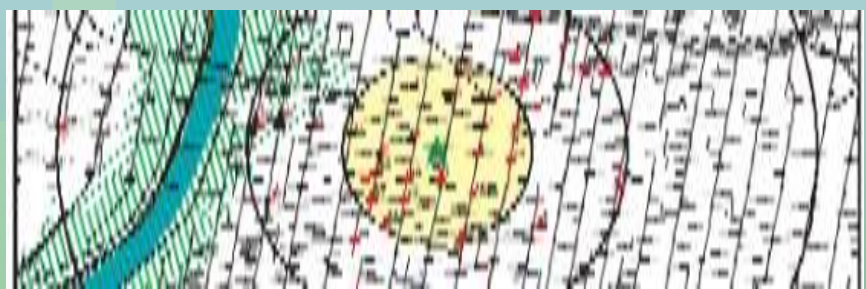
Parties seeking CERCLA defense

- Releases and threatened releases of CERCLA hazardous substances

EPA Brownfields Grant recipients (potentially, if included in scope of cooperative agreement)

- Releases and threatened releases of:
 - CERCLA hazardous substances, pollutants or contaminants,
 - Petroleum and petroleum products,
 - Controlled substances (e.g., meth lab wastes), and
 - Mine-scarred land wastes





Module 3: Phase I and AAI Activities

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Phase I ESA or AAI

Initial assessment of a site to identify potential presence of environmental contamination or Recognized Environmental Conditions (RECs) or conditions indicative of releases or threatened releases of hazardous substances.

Conducted for real estate transactions, site discovery, CERCLA liability protection, Brownfields grants, assess business environmental risk concerns

ASTM Standard Practice for Environmental Site Assessment: Phase I Environmental Site Assessment Process (E1527-21)

Does not delineate contamination or quantify risk



Purpose of AAI

- Identify previous owners and operators
- Identify previous land uses
- Identify types and quantities of hazards substances used
- Identify previous waste management practices
- Look at the property / observe current conditions
- Understand uses and conditions of surrounding properties
- Identify conditions that are indicative of releases or threatened releases of hazardous substances – Identify “recognize environmental conditions”

AAI Key Requirements

Interviews with present and past owners, operators, and occupants

Reviews of historical sources of information

Reviews of federal, state, tribal, and local government records

Reviews of activity and use limitations

Visual inspections of the facility and of adjoining properties



AAI Key Regulatory Requirements



Interviews – Subject Property



Interviews – Abandoned Properties



Interview Methods and Sources



How?

Common Interview Questions

Have investigations/remedial actions occurred?

What permits do you have and have there been violations?

Have any known spills/releases occurred?

Has site been subject to any EH&S regulatory action?

Has site been subject to any EH&S complaints or lawsuits?

Are there any active/abandoned septic systems?

Are there any wells at the site? Use?

Does the property have any ASTs or USTs? How many? Ages?

Where does stormwater discharge to?

Does facility discharge air pollutants? Have air pollution controls?



Interviews – State/Local/Tribal Government

Gather information of environmental conditions on the site and surrounding property



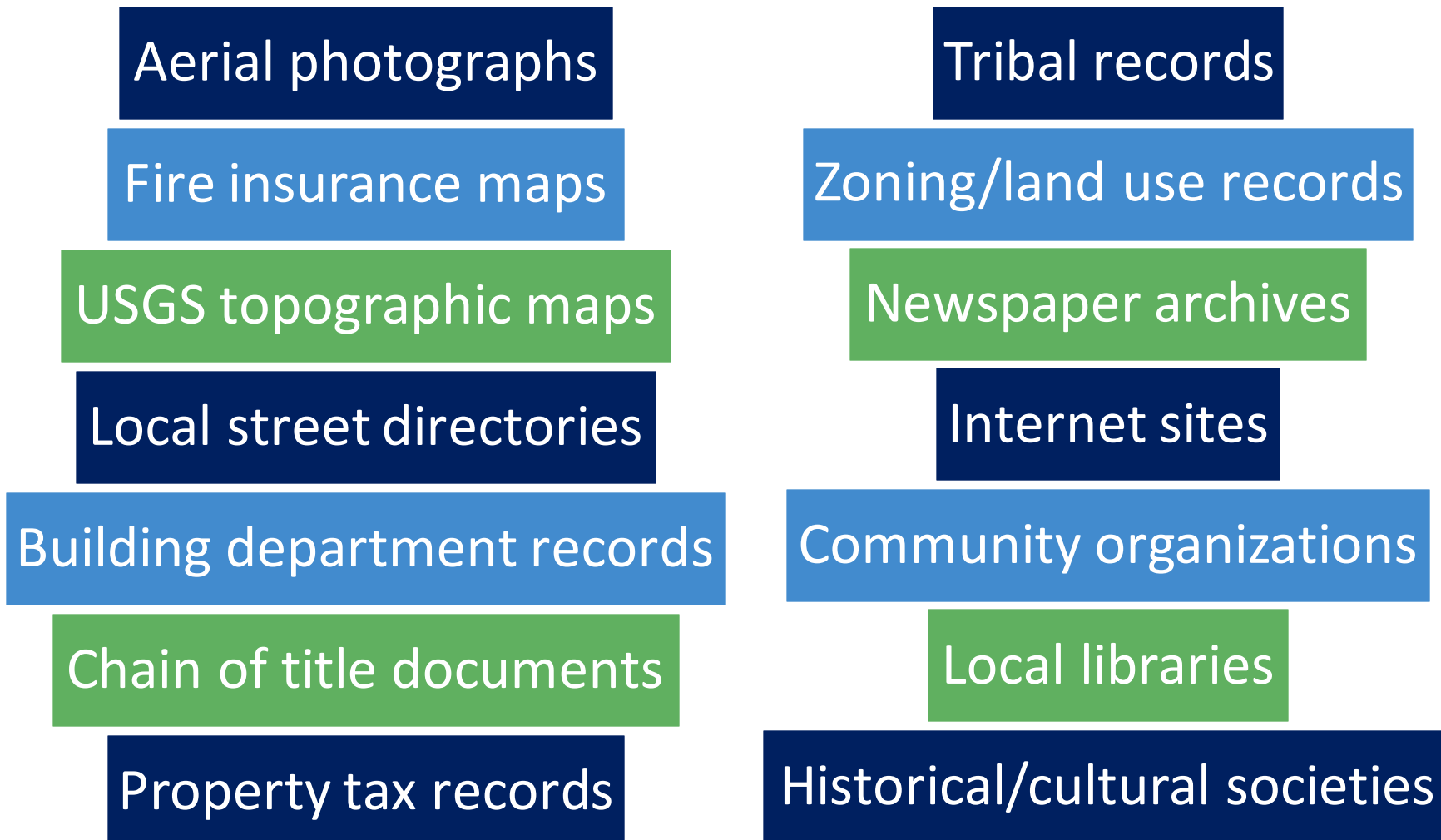
Records Review



Review of Historical Sources of Information



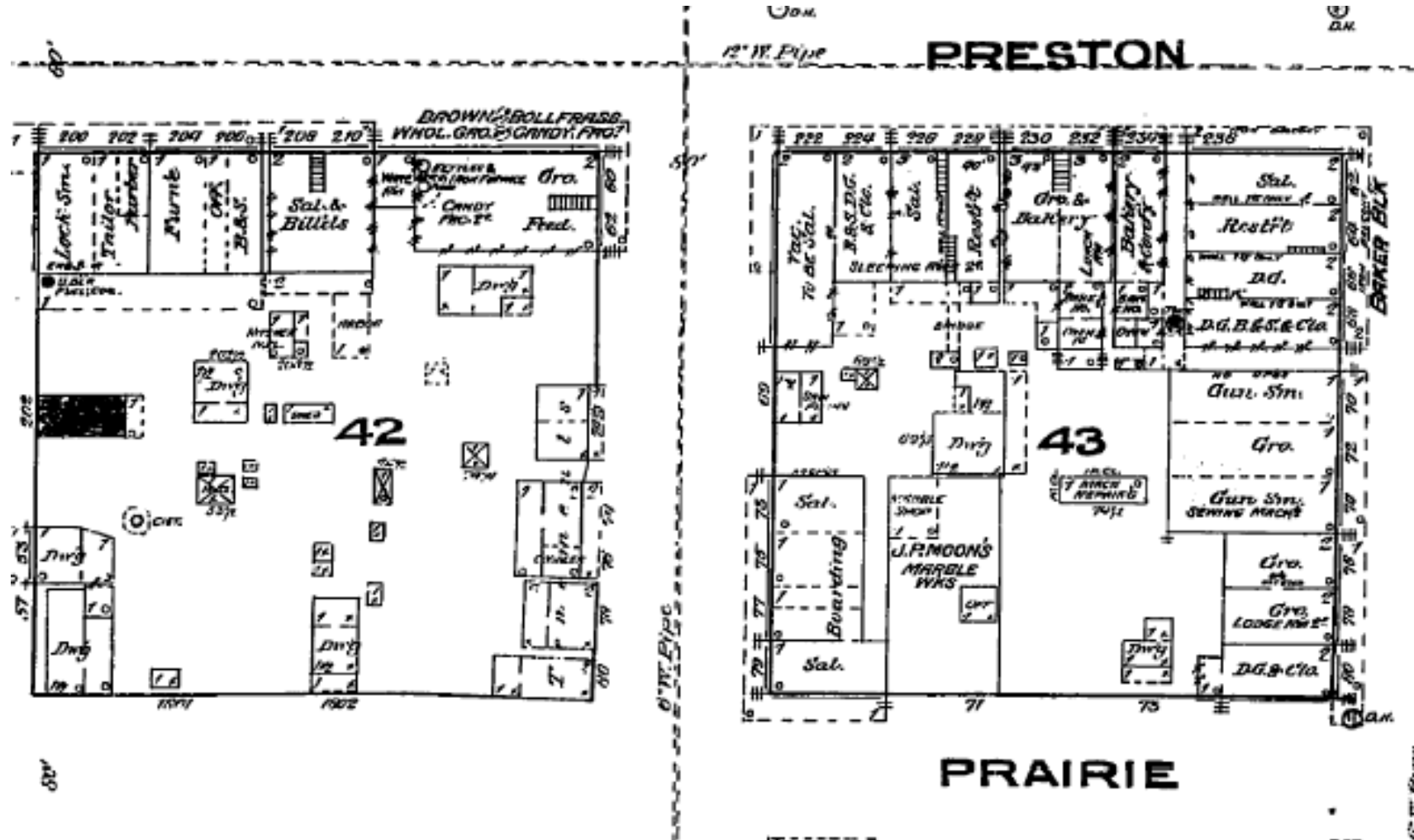
Common Historical Sources



Aerial Photographs



Fire Insurance Maps



Government Records Review

- AAI requires review of federal, state, and local government records (or databases containing government records) for
 - Subject property (312.26(b))
 - Nearby and adjoining properties (312.26(c)(1,2))
- Review tribal records, if property is located on or near tribal-owned lands
- **ASTM E1527-21:** Agency file reviews ***IF*** property or adjoining property identified on environmental record (database) searches



Government Records Review – Federal/State/Tribal

TABLE 2 Types of Government Records to be Reviewed

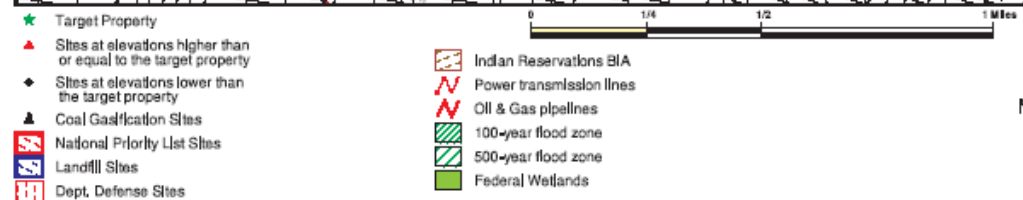
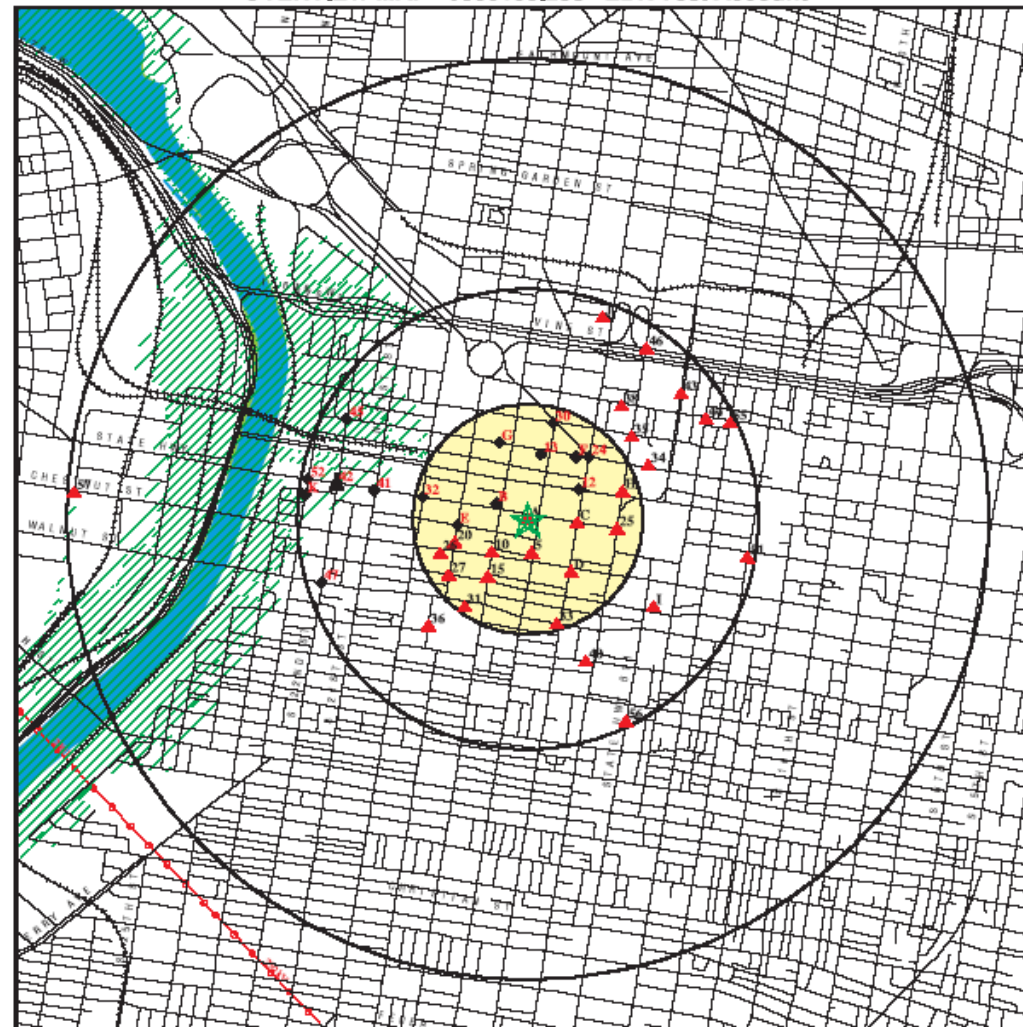
<i>Standard Environmental Record Resources (where available)</i>	<i>Common Sources for Government Records</i>	<i>Approximate Minimum Search Distance miles (kilometers)</i>
Lists of Federal <i>NPL</i> (Superfund) sites	U.S. EPA Website and available EPA databases listing currently listed sites	1.0 (1.6)
Lists of Federal Delisted <i>NPL</i> sites	U.S. EPA Website and available EPA databases listing delisted <i>NPL</i> 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 available 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 <i>generators</i>	U.S. EPA Website and available EPA databases listing RCRA Generators of hazardous waste	<i>subject property and adjoining properties</i>
Federal <i>institutional control/engineering control registries</i>	U.S. EPA Website and available EPA data bases listing response actions at CERCLA sites; RCRA sites with <i>ICs/ECs</i> , etc.	<i>subject property only</i>
Federal <i>ERNS</i> list	EPA and US Coast Guard websites and data bases;	<i>subject property only</i>
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 <i>landfills</i> and <i>solid waste disposal facilities</i>	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	<i>subject property and adjoining properties</i>
State and tribal <i>institutional control/ engineering control registries</i>	Varies by state / tribe	<i>subject property only</i>
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 listed in other environmental record resources.



Environmental Database Search Results



TARGET PROPERTY:	Pennsylvania Sample	CUSTOMER:	EDR Test Account
ADDRESS:	1735 Market Street	CONTACT:	Paul Schiffer
CITY/STATE/ZIP:	Philadelphia PA 19103	INQUIRY #:	0955185,295
LAT/LONG:	39.9529 / 75.1689	DATE:	May 25, 2004 4:43 pm



Records Review – Others

Facility/property plot plan or map

Description of operations

Assessment, remediation, and monitoring reports

Compliance audit reports

Permits/permit applications

UST and AST inventory

Chemical inventory/MSDS

Spill/release inventory

Air emission/ wastewater discharge monitoring data

Transformer inventory

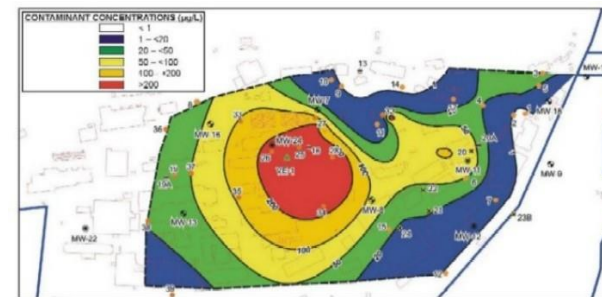
Inspection/enforcement correspondence

Community right-to-know plans

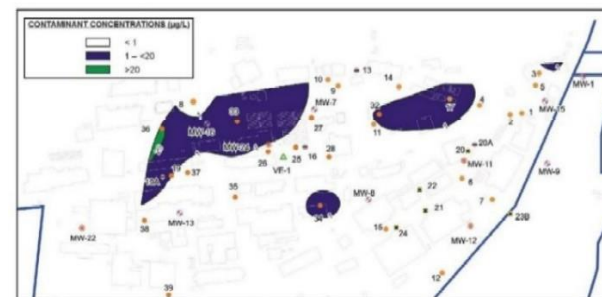
Preparedness and prevention plans

Spill prevention, countermeasure, and control plans

Legal correspondence/litigation



CCl₄ – Prior to SVE



CCl₄ July 2001



Figure 2-1
Sampling Locations, Building 14 and
Former Building 13 Site Investigation

Records Review - Principal Contaminants

Common Sources	Contaminants
Petroleum/Fuels	Benzene; Ethylbenzene; Toluene; Xylene; MTBE; PAHs
Dry Cleaning	Trichloroethane, PCE, TCE
Commercial Solvents	Benzene; Ethylbenzene; Toluene; Xylene
	Acetone; Carbon Tetrachloride; Chloroform; Bromoethane; Ethylene Dibromide; Methylene Chloride; Tetrachloroethane; Tetrachloroethene; Trichloroethene; Vinyl Chloride
Combustion	PAHs; PCDDs/PCDFs; Particulates, Metals
Pesticides	Chlorinated Ethanes; DDT; Lindane
	Cyclodienes (Aldrin; Chlordane; Dieldrin; Endrin); Chlorocyclohexanes
	Organophosphate: Diazanon; Dichlorovos; Malathion; Parathion; Carbamate: Aldicarb
Electrical Transformers	Polychlorinated Biphenyls (PCBs)
Herbicides	Chlorophenoxy Compounds; 2,4- Dichlorophenoxyacetic Acid
Paint and Building Materials	Lead, Asbestos, PCBs

Records Review - Units of Measure

Part per million (ppm)	= 1 ug/g	microgram per gram
	= 1 mg/kg	milligram per kilogram
	= 1 mg/L	milligram per liter
	= 1 ug/ml	microgram per milliliter
Part per billion (ppb)	= 1 ug/kg	microgram per kilogram
	= 1 ng/g	nanogram per gram
	= 1 ug/L	microgram per liter
	= 1 ng/ml	nanogram per milliliter
Part per trillion (ppt)	= 1 pg/g	picogram per gram
	= 1 ng/kg	nanogram per kilogram
	= 1 pg/ml	picogram per milliliter
	= 1 ng/L	nanogram per liter

Records Review - Units of Measure

*Few drops of
water in a
bathtub =*
1 ppm

*1 pinch of salt
in 10 tons of
potato chips =*
1 ppb

*1 grain of sand
in an Olympic
size pool =*
1 ppt

*1 postage
stamp in the
area of Texas =*
1 ppq

Search for Environmental Cleanup Liens



Visual Inspections

Subject property inspection:

- On-site

Visual Inspections – General Site Setting

- Current/past uses of subject property
- Current/past uses of adjoining properties
- Description of structures
- Topography - condition of ground surface/pavement
- Soil staining, stressed vegetation, discolored water
- New gravel or paved areas, evidence of remediation
- Nearby water bodies
- Discharge of storm water runoff
- Proximity to sensitive receptors (wetlands, wildlife refuge)
- Proximity to residential/heavily populated areas, schools, etc.
- Roads, railroad, rights-of-way



Visual Inspections – Interior and Exterior

- Hazardous substances and petroleum products
- Storage tanks, drums, containers
- Odors
- Pools of liquid
- PCBs
- Heating/cooling – fuel sources
- Stains and corrosion
- Drains and sumps
- Solid waste & waste water treatment
- Septic systems, pits, ponds, and lagoons
- Wells (dry, injection, public supply, monitoring, abandoned)



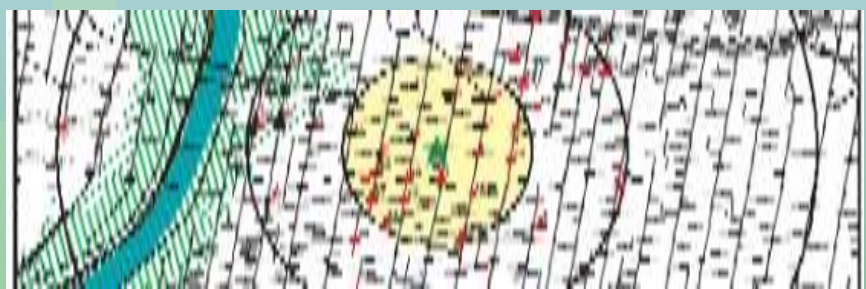
Visual Inspections



Quiz Question 3

Which of the following is not a required activity of a Phase I ESA/AAI ?

- Visual inspection of property
- Interviews with owners/occupants
- Asbestos and lead-based paint sampling
- Review of historical sources of information



Module 4: Phase I and AAI Reporting

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AAI Reporting Requirements

AAI regulation requires results of the inquiry to be documented in a written report (312.21(c))



Report – EP Opinion

EP must include *opinion* as to whether the inquiry identified conditions indicative of releases or threatened releases of hazardous substances on, at, in, or to the subject property

EP must include an *opinion regarding additional appropriate investigation*, if the EP has such an opinion



Report – EP Opinion



Identification of Data Gaps

- **Significant data gaps** must be identified and discussed *if* they affect the ability of the environmental professional to identify conditions indicative of releases (312.21(c)(3))
- The significance of the data gaps must be discussed
- Common data gaps
 - Unknown site usage during certain time periods
 - Inability to conduct visual inspection
 - Inability to interview the key site manager, regulatory officials, etc.
 - Data from previous site investigation not available for review



Report – EP Qualifications and Signature



Report – Format

AAI regulation does not recommend format, structure, or length



Continued...

Report – Format



Phase I ESA Non-Scope Considerations

Asbestos

Radon

Lead-based paints

Wetlands

Regulatory compliance

Cultural/historic resources

Air emissions

Industrial hygiene

Health and safety

Ecological resources

Endangered species

Indoor air quality/VI

Mold

Noise

Phase I – Possible Outcomes

No Recognized Environmental Conditions (RECs)
identified and data are complete and timely

- No further assessment or study needed



Phase I Reports – Review



Phase I Reports – Checklist



Phase I Reports – Common Problems

Missing Environmental Professional signature or declaration of qualifications

Deviation from required language in required statements

Missing declaration of conformance with AAI/ASTM

Opinion is vague or no discussion of appropriateness of additional investigations

Expired shelf life (> 1 year old)

No or limited owner/occupant interviews

Minimal discussion of site visit or site characteristics

No aerial photos, fire insurance (Sanborn) maps, site photos

No search for cleanup liens or institutional controls

Incomplete references

Difficult to read – overly technical

Updates and Revisions to ASTM E1527 Standard

How E1527-21 Differs from E1527- 13

New instructions and clarifications

- Key terms and definitions
- Required site research and reconnaissance
- Address emerging contaminants of potential future concern



Updates and Revisions to ASTM E1527 Standard



Updates and Revisions to ASTM E1527 Standard

Section 8.3, *Historical Research*, significantly revised

- EP should consider that properties may be different in use, size, configuration, or address than in the past
- Now includes interviews, as well as other sources
- If use is retail, industrial, or manufacturing, then standard historical resources shall be reviewed if they are likely to identify a more specific use and are reasonably ascertainable
- Aerial photographs, fire insurance maps, local street directories, and historical topographic maps must be reviewed if they are reasonably ascertainable, likely to be useful, and applicable to the subject property
- If these four historical sources were researched for the subject property, provide coverage of one or more adjoining properties, and are likely to be useful in satisfying the historical research section object, then these sources should also be reviewed for the adjoining properties.

Updates and Revisions to ASTM E1527 Standard

Section 9, *Site Reconnaissance* generally revised

- Clarified that the Phase I report should describe which of the specific features, activities, uses, and conditions both were and were not present at the subject property



Updates and Revisions to ASTM E1527 Standard

Notable additions to Phase I report

- A site plan and photographs, as defined in Section 12.3, *Contents of the Report*
- Identification of significant data gaps in the Findings of the report per Section 12.5.1, *Significant Data Gaps*
- All recognized environmental conditions, controlled recognized environmental conditions, and significant data gaps listed in the Conclusions of the report per Section 12.7, *Conclusions*



Updates and Revisions to ASTM E1527 Standard

Section 12.8, *Additional Investigation*, and Note 6

- Clarifies that an opinion should be provided in the report that additional investigations may be appropriate
- This requirement is different than a recommendation that provides a specific course of action, which is not required and falls outside the scope of the Phase I Environmental Site Assessment standard



Updates and Revisions to ASTM E1527 Standard

New discussion around emerging contaminants

- Sections 13.1.5.15 and X6.10 note that substances not defined as hazardous substance under CERCLA, including some substances generally referred to as emerging contaminants because human understanding is evolving (e.g., per- and polyfluoroalkyl substances, or PFAS), are not included in the scope of a Phase I report.
- However, emerging contaminants may want to be assessed in connection with commercial real estate, because once defined as a hazardous substance under CERCLA, then these substances must be evaluated within the scope of E1527-21.

Updates and Revisions to ASTM E1527 Standard

Appendices significantly revised

- Updated legal background on CERCLA and the application of AAI (X1)
- An additional examination of the recognized environmental condition definition and logic (X4)
- Expanded suggestions for the Phase I Environmental Site Assessment report format (X5)
- Discussions of emerging contaminant and petroleum product non-scope issues (X6)



Useful Resources/Links

EPA Brownfields and
Land Revitalization

epa.gov/brownfields

Brownfields All
Appropriate Inquiries

epa.gov/brownfields/brownfields-all-appropriate-inquiries

EPA Clu-In

clu-in.org

Interstate Technology
and Regulatory
Council

itrcweb.org/home

Cleanups in My
Community

epa.gov/cleanups/cleanups-my-community

Environmental
Protection in Indian
Country

epa.gov/tribal

Envirofacts

enviro.epa.gov



Questions?



ADDITIONAL SLIDES



Updates and Revisions to ASTM E1527-05 to E1527-13 Standard

