

# Environmental Considerations prior to purchasing Properties

Sabine E. Martin, Ph.D., P.G.

Center for Hazardous Substance Research

Kansas State University

May 2010

# Purpose of Site Assessments

## Identification of Environmental Risk

- avoid taking ownership of contaminated property
- avoid responsibility for cleanup under CERCLA as an “innocent landowner”
- evaluate whether environmental risks are worth accepting in a case where contamination is discovered

# Acronym Alert !!!

**ESA**

stands for

**Environmental Site Assessment**



# Types of ESA's

**Phase I ESA – non-intrusive**

**Phase II ESA – intrusive**

**Extended Phase II – intrusive**

**Phase III ESA**

**Site Characterization**

# Phase I ESA

(non-intrusive)

Identifies *potential* environmental concerns

Also called *recognized environmental conditions*

- Research on historical and current uses and activities of the site and surrounding area
  - Records review
  - Site reconnaissance
  - Interviews

# Records Review

- Surrounding area of subject site
  - Search radius varies: between 1/8 mile and 1 mile
- Site specific

Phase I Env. Site Assessment



All Appropriate Inquiry

# All Appropriate Inquiry

## What's that?

- Federal standard for conducting environmental site assessments
- Refers to the requirements for assessing environmental conditions of a property **prior to** its acquisition



# Why AAI?

- AAI provides protection against liability for bona fide prospective purchasers of properties with actual or threatened environmental contamination as well as contiguous landowners
- Clarifies the requirements necessary to establish the innocent landowner defense under CERCLA

# All Appropriate Inquiry, cont.

- Rule was published in the Federal Registry November 1, 2005
- The final rule was effective as of November 1, 2006

# AAI Compliance

- AAI final rule standards (effective as of 11-01-06)

OR

- follow the standards set forth in ASTM E1527-05 Phase I Env. Site Assessment Process

# AAI Requirements, cont.

- AAI applicable to commercial real estate, residential used for commercial purposes, residential under gov. ownership
- Identify releases or threatened releases of hazardous substances on subject property
- AAI report **valid for 1 year**, after that it becomes invalid
- AAI must be conducted **within 1 year prior to purchase** of the property with certain aspects conducted or updated **within 180 days of purchase** date (i.e. site inspection, interviews, local records search, EPs declaration).

# AAI Requirements

- Inquiry to be conducted by an “Environmental Professional”
- Interviews with past and present owners, operators, occupants of the facility/site
- Review of historical records since the property was first developed
- Searches for recorded env. clean-up liens against the facility/site filed under federal, tribal, state, or local law

# AAI Requirements, cont.

- Reviews of federal, tribal, state, or local government records
- Review of waste disposal records; UST records; haz. waste handling, generation, treatment, disposal records; spill records
- Visual inspection of site plus adjoining properties
- Interview adjoining property owners **mandatory** if subject property is abandoned

# AAI Requirements, cont.

- Responsibility for searching records of engineering and institutional controls falls to the EP (if sources are reasonably ascertainable) – requirement
- Requires written opinion by EP addressing the thoroughness and reliability of the gathered data
- Requires statement re. the EPs credentials and qualifications

# AAI Requirements, cont.

- Extensive documentation of **data gaps**; describe efforts to resolve them; EP is required to issue an opinion about the impact of the data gaps on his/her ability to identify conditions indicative of releases or threatened releases of hazardous substances at the subject site
- Places extensive reliance on the EPs professional judgment



# Phase II ESA

evaluates the recognized environmental conditions identified in the Phase I *ESA*



# Phase II ESA cont.

(intrusive)

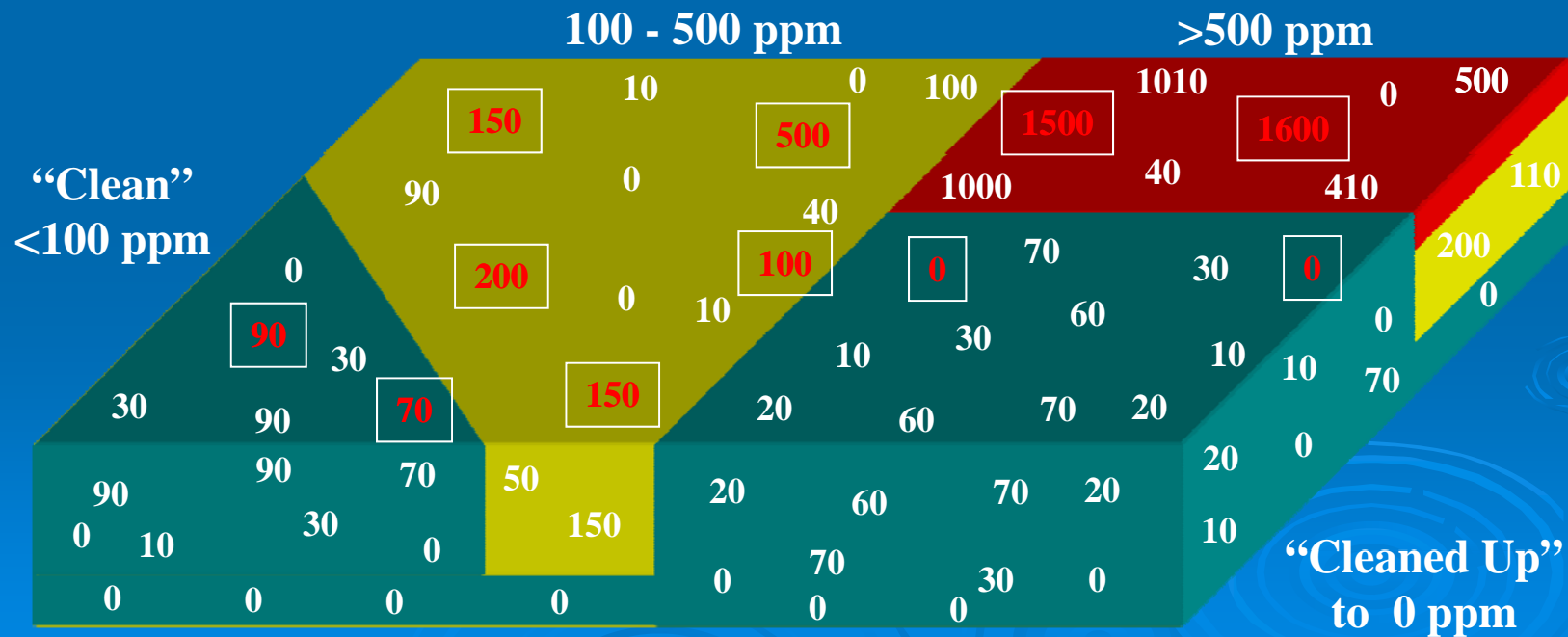
## Components:

Sampling and chemical analyses of impacted media (i.e. soil, groundwater, surface water, air, etc.)

Identification of horizontal and vertical extent of contamination – if present

# Contaminants are rarely distributed evenly

- Neither horizontally, nor vertically
- Assessment estimates between available sample points



# Phase II ESA cont.

## Stepwise Approach:

- Development of scope of work
- Assessment activities
- Interpretation of results
- Presentation of findings and conclusions

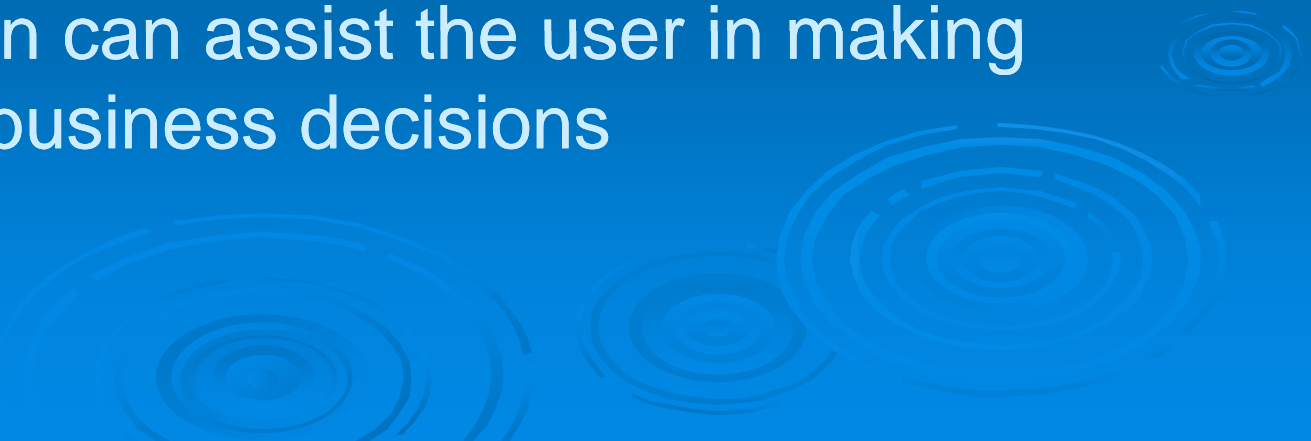


# Phase II ESA Results


- Identified contaminants
- Identified lateral and vertical distribution
- Identified concentrations of contaminants present
- Identified potential receptors
- Identified potential for off-site migration
- Produced detailed report, incl. detailed maps
- Recommendations for further action, i.e. is remediation necessary

# Phase II ESA Results

*Results may show:*

- Hazardous substances have not been disposed or released
  - Environmental condition does exist and information can assist the user in making informed business decisions
- 

# Extended Phase II ESA

- Obtain more and detailed data regarding the contaminants and the impacted media
  - More sampling
  - Pump tests/slug tests
  - Detailed geologic cross sections
- 

# Extended Phase II ESA Results

- Identification of source(s) of contaminants
- Identification of migration pattern
- Identification of receptors
- Identification of **full** extent of contamination
- Identification of subsurface conditions
- Recommendation of suitable remedial options
- Detailed report



# Presentation of Findings

Describe the work performed

- Provide documentation of the data
- Provide evaluation that
  - Constitutes the factual findings
  - Supports the conclusions
  - Facilitates decisions about the transaction
  - Documents the basis for decision whether further assessment is warranted

# Assessment Activities

- Field screening/field analytical methods
- Environmental media sampling (soil, water, air)











# TAB Contacts

Dr. Sabine Martin (Program Coordinator)

1-800-798-7796

785-532-6519

[smartin1@k-state.edu](mailto:smartin1@k-state.edu)

Beth Grigsby

317-579-4069

[beth.grigsby@atcassociates.com](mailto:beth.grigsby@atcassociates.com)

Web site: <http://www.engg.ksu.edu/chsr/outreach>

