



Brownfields Investments: Minimizing Risks and Maximizing Returns

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Founder and President, EnviroSouth, Inc.

Phase I Environmental Site Assessment (ESA)

Phase I Environmental Site Assessment (ESA)

Why perform a Phase I ESA?

- To identify subsurface environmental concerns before property purchase
- To satisfy U.S. EPA requirements for “All Appropriate Inquiry” (a.k.a. Environmental Due Diligence)
 - ASTM Standard E1527-21
 - “Innocent Landowner” defense
- To identify “Recognized Environmental Conditions” (a.k.a. Environmental “Red Flags”) that may need to be further evaluated (Phase II ESA)
- **FAQ: Should I have a Phase I ESA done on this property?**

Phase I Environmental Site Assessment (ESA)

Included in Phase I Process:

- Visual Inspection of the Property and Vicinity
- Review of Environmental Databases (State and Federal)
- Historical Sources of Information (maps, aerial photos, city directories, etc.)
- Review Any Prior Environmental Reports
- Interviews

Phase I Environmental Site Assessment (ESA)

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- Interviews



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AUTHORIZED PERSONNEL ONLY

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Phase I Environmental Site Assessment (ESA)

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468 E MAIN ST
468 E MAIN ST
SPARTANBURG, SC 29302

Inquiry Number: 5495058.2s
December 05, 2018

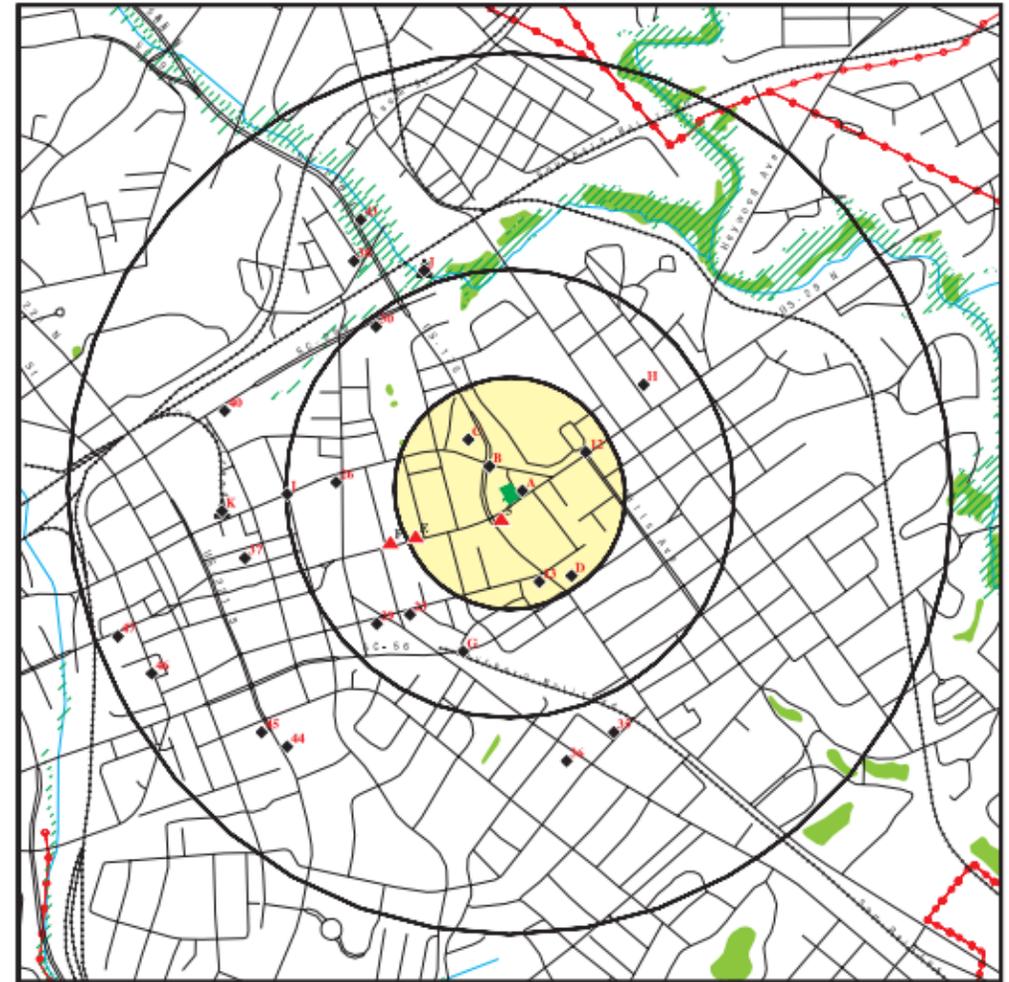
The EDR Radius Map™ Report

Prepared using the EDR FieldCheck® System



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Shelton, CT 06484
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www.edr.com

OVERVIEW MAP - 5495058.2S



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Method Details List Sites
- Indian Reservations BIA
- Power transmission lines
- 100-year flood zone
- 500-year flood zone

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	0.001		0	NR	NR	NR	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site list								
SEMS-ARCHIVE	0.500		0	0	1	NR	NR	1
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-CESQG	0.250		1	1	NR	NR	NR	2
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	0.001		0	NR	NR	NR	NR	0
State- and tribal - equivalent CERCLIS								
SHWS	1.000		0	1	2	13	NR	16
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.500		0	0	1	NR	NR	1
State and tribal leaking storage tank lists								
LUST	0.500		4	2	8	NR	NR	14
INDIAN LUST	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
FEMA UST	0.250		0	0	NR	NR	NR	0

Map ID
Direction
Distance
Elevation

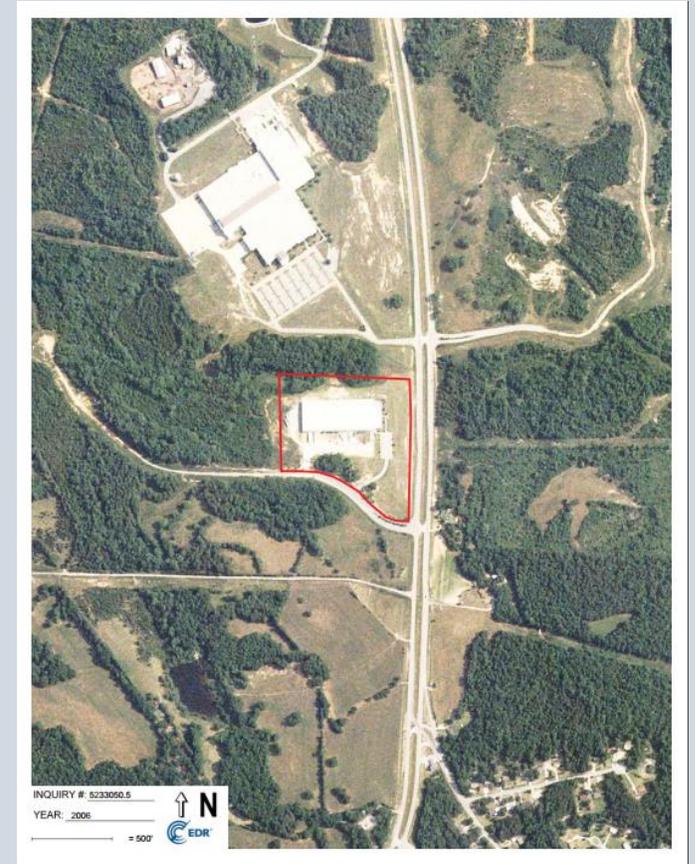
MAP FINDINGS

Site	Database(s)	EDR ID Number EPA ID Number
A1 East < 1/8 0.019 mi. 98 ft.	FORMER ESSO SERVICE STATION 500 E MAIN ST SPARTANBURG, SC Site 1 of 5 in cluster A	LUST U004140903 UST N/A
Relative: Lower	LUST: Release Number: 1 Facility ID: 19480 Release Status Number: 1 Substance: PETROL Tank Owner Company Name: NIXON, GEORGE Tank Owner Last Name: NIXON Tank Owner First name: GEORGE NFA Date: 05/25/2010 Tank Owner City: SPARTANBURG Confirmed Date: Not reported Release Date: 08/11/2009 EID: 50305518 Local Facility District: Spartanburg EQC Office SCRBCA Class Number: 4BC Release Fin Type Code: W25 Qualified: Y Release Source: Not reported Local Fac Last Name: FORMER ESSO SERVICE STATION Local Fac First Name: Not reported User Name: MILENKMP Cleanup Initiated Date: 08/13/2009 Prefix: U Total Score: 1	
Actual: 801 ft.	LUST: Release Date: 08/11/2009 Cleanup Complete Date: 04/20/2010 Depth to Ground Water: 10 Ground Water Flow Direction: NE Release Number: 1 Confirmed date: 08/13/2009 RP Name: NIXON RP Address: 460A MARION AVE RP City: SPARTANBURG RP State: SC RP Zip: 29306-3610 SCRBCA Class Code: CLASS4BC Project Manager: MILENKOVA, MAIA P Release Fin Type Code: W25	
	LUST: Facility ID: 19480 Permit: U 19480 Owner: NIXON, GEORGE Owner Address: 460A MARION AVE Owner City, st, zip: SPARTANBURG SC 29306-3610 Owner Phone: 864-585-2391	
	Tank ID: 1 Status: Abandoned	

Phase I Environmental Site Assessment (ESA)

Included in Phase I Process:

- Visual Inspection of the Property and Vicinity
- Review of Environmental Databases
- **Historical Sources of Information (maps, aerial photos, city directories, etc.)**
- Review Prior Reports
- Interviews



HILL'S GREENVILLE (GREENVILLE COUNTY, S. C.) CITY DIRECTORY 1960

INCLUDING

Bates Heights, Brandon Mills, City View, Dunean Mills, Florence Mills, Judson Mills, Leawood, McCullough Heights, Mills Mills, Monaghan Mills, Paris, Paramount Park, Piedmont Park, Poe Mills, Riverside, Sans Souci, Sans Souci Heights, Southern Worsted Mills, Summit View, Union Bleachery, West Highland, Westview Heights and Woodfields.

Containing an Alphabetical Directory of Business Concerns and Private Citizens, a Directory of Householders, Occupants of Office Buildings and Other Business Places, Including a Complete Street and Avenue Guide, a Numerical Telephone Directory and Much Information of a Miscellaneous Character; also the

YELLOW PAGES
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and a Complete CLASSIFIED LIST
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ACE9-5559

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V @ ACE3-5979

ACE2-0607

@ ACE9-4351

G @ ACE9-8332

@ ACE2-3316

G

O @ ACE3-1036

S @ ACE9-1955

Y @ ACE3-8082

@ ACE3-3755

P @ ACE2-2583

hd E @

ay begins

237 Stinson Wm

ACE2-0323

239 Barnes Gerald V ACE5-5147

240 Lewis E Eugenia @ ACE2-2975

30

PLEASANTBURG DRIVE N (State Hwy 291) — From 1429 Laurens rd north to Rutherford rd, 1 southwest of Airport rd

— Blue Ridge Printmakers ACE2-2021

16 Pleasantburg Drive Lndry & Clns ACE9-4689

— Am Plmb Co Inc contrs ACE2-3821

29 Airport Alignment Serv ACE5-6408

32

Keith dr ends (Numbers irregular)

— Keith Dr Sinclair Serv Sta ACE5-9794

— Hertz Truck Rental Serv ACE2-3609 ACE9-9086

— RC Mtr Lines Inc ACE2-2456

— Howard Philip K liquor ACE9-4596

— Sans Souci Lndry & Dry Clns (br)

— Airport Barber Shop ACE5-9278

— Eison Raymond F @ ACE5-8455

— Sealtest Foods (Div of Natl Dairy Products) ACE5-0417

— Thurston Mtr Lines Inc ACE9-9071

— Morris Constn Co ACE3-7410

531 Vacant
533 Minyard
ACE2-

Fis
Nor

— Mullikin ACE3-

— Mullikin

— G W G C ACE9-

— Pleasant road

Cre

1601 North G
Rooms:

1 Reynold ACE2-

2 Peterson Serv ACE

3 Townes ACE3-

4 Vacant

5 Traynha ACE9-

6 Tarletor ACE5-

7 Hoffman conditi ACE3-

10 Powers ature ACE5-

Street continued

— Brown T Equip)

— Alexand

— Mayfield

Phase I Environmental Site Assessment (ESA)

Included in Phase I Process:

- Visual Inspection of the Property and Vicinity
- Review of Environmental Databases
- Historical Sources of Information
- **Review Prior Reports (ESAs, UST Removal, Groundwater Monitoring)**
- Interviews

Phase I Environmental Site Assessment (ESA)

Included in Phase I Process:

- Visual Inspection of the Property and Vicinity
- Review of Environmental Databases
- Historical Sources of Information
- Review Prior Reports
- **Interviews (with owners, site managers, long-term tenants, etc.)**

Phase I Environmental Site Assessment Questionnaire

(Please email to info@envirosouth.com when completed)

SECTION I: SUBJECT PROPERTY INFORMATION

Instructions: Complete the following descriptive information about the subject property. Completion of this questionnaire to the best of your personal knowledge is required for the user(s) of this report to qualify for landowner liability protections and to meet the "all appropriate inquiries" requirements of 40 CFR 113.25, 28, 29, 30, and 31.

Name:	Sue [REDACTED]
Title:	
Company/Organization:	
Contact Phone Number:	864- [REDACTED]
Property Address:	Hwy [REDACTED], [REDACTED], SC
Affiliation with Subject Property:	<input checked="" type="checkbox"/> Owner <input type="checkbox"/> Site Manager <input type="checkbox"/> Occupant <input type="checkbox"/> Other

1. What years have you been associated and/or familiar with the subject property?

1960 UNTIL PRESENT

2. What is the approximate acreage of the subject property?

2.34 ACRES.

3. What is the approximate square footage of any and all on-site structures?

NO STRUCTURES CURRENTLY ON PROPERTY.

4. What is the current use of the subject property?

PROPERTY IS CURRENTLY VACANT.

5. What are the known past uses of the subject property?

GROCERY / CONVENIENCE STORE + CONSTRUCTION / ROOFING COMPANY OFFICE.

6. Who are the current occupants of the subject property?

NO CURRENT OCCUPANTS.

	YES	NO
9. To your knowledge, are there currently any underground storage tank(s), or have any been removed, abandoned, or taken out of service from this subject property? If yes, please explain: <u>TO OUR KNOWLEDGE STORAGE TANKS WERE REMOVED</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
10. To your knowledge, have any underground holding tanks such as oil/water separators and/or septic tanks ever been used on the subject property? If yes, please explain: <u>SEPTIC TANKS WERE ON PROPERTY</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
11. To your knowledge, have any above ground storage tank(s) ever been used on the subject property? If yes, please explain:	<input type="checkbox"/>	<input checked="" type="checkbox"/>
12. To your knowledge, has any contaminated soil or groundwater been discovered and/or remediated at the subject property? If yes, please explain:	<input type="checkbox"/>	<input checked="" type="checkbox"/>
13. To your knowledge, have there been fires and/or explosions at the subject property which may have caused a release of hazardous waste or materials? If yes, please explain:	<input type="checkbox"/>	<input checked="" type="checkbox"/>
14. To your knowledge, have nearby residents complained to a governmental agency of any type of illness that were alleged to have been caused and/or related to activities at the subject property? If yes, please explain:	<input type="checkbox"/>	<input checked="" type="checkbox"/>
15. To your knowledge, are there any areas on the subject property which were formerly used for transferring, using, or storing chemicals or petroleum products? If yes, please explain: <u>GAS TANKS</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
16. To your knowledge, has any search of recorded land title records (or judicial records where appropriate) identified any environmental liens filed or recorded against the subject property under federal, state, or local law? If yes, please explain:	<input type="checkbox"/>	<input checked="" type="checkbox"/>



25 . 03 . 2022

Phase I Environmental Site Assessment (ESA)

FAQ: Does a Phase I Include Sampling of Soil, Groundwater, Asbestos, Lead-Based Paint, etc...?

No. Sampling is not Included in the Phase I Process.

Out-Of-Scope Services

- Buildings: Asbestos, Lead-Based Paint, Radon, Mold, Indoor Air, Building Condition
- Outdoors: Wetlands, Flood Zone Determination
- Sampling of soil, groundwater, or subsurface chemical vapors
- Ground Penetrating Radar (GPR) Surveys (typically used to find old USTs)

Phase I Environmental Site Assessment (ESA)

Recognized Environmental Condition (REC):

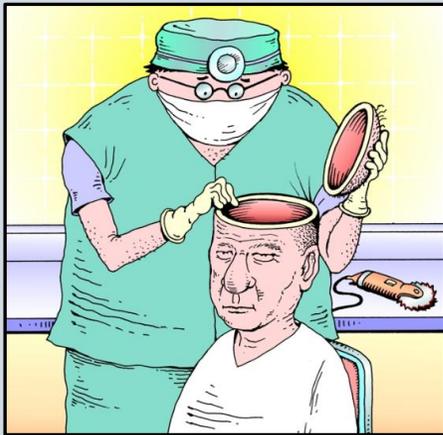
- ASTM Definition of REC: the **presence or likely presence** of hazardous substances or petroleum products in, on, or at a property (i.e., in the soil, soil vapor, groundwater and/or surface water)...
- A common problem is when an EP considers a **Possible or Potential** (vs. **Likely**) environmental concern to be a REC.
- The EP must interpret what the definition of **“likely”** is.
- For borderline environmental concerns not considered a REC, the client should still be aware of the concern

Phase I Environmental Site Assessment (ESA)

Recognized Environmental Condition (REC):

There are many disagreements among Environmental Professionals (EPs) in deciding if an environmental concern is a REC.

Some are “No-Brainers”



But...

Phase I Environmental Site Assessment (ESA)

Does a REC Exist? Many times there is not a clear answer, but a matter of interpretation by the EP based on experience and the definition of a REC.

Possibility vs. Likelihood



Phase I Environmental Site Assessment (ESA)

Recognized Environmental Conditions

Client ultimately decides the level of concern of a REC based on counsel from EP, Environmental Attorney, and other factors, including....

Phase I Environmental Site Assessment (ESA)

Factors Influencing the Client's Response to RECs:

- Personal Risk Tolerance
- Bank Requirements (often based on loan amount or property type)
- Planned Use of the Property (dry cleaner vs. day care)
- Impact on Future Sale
- Eligibility for Brownfield (Non-Responsible Party) Contract with State

Phase I ESA Case Study

Spartanburg County, SC -- Steel Fabricating Plant from 1960 to 2014



Phase I Environmental Site Assessment (ESA)

ESA Case Study - Continued

- Upstate SC -- Steel Fabricating Plant from 1960 to 2014
- Common use of degreasing solvents (i.e. TCE) in that industry
- Septic systems as sole source of sewerage, including floor drains
- Operated a lab and reported generation of hazardous wastes
- Current owner's reps only knew chemical use history back to 2000

Phase I Environmental Site Assessment (ESA)

ESA Case Study - Continued

- Prior consultant in 2004 concluded no RECs existed
- EnviroSouth considered the likely past use of solvents combined w/septic drainfields as a REC based on likely chemical impact

Common Phase I ESA RECs

Underground Storage Tanks (USTs)



Underground Storage Tanks (USTs)

- Petroleum UST Releases are source of over 90% of groundwater contamination cases in U.S.
- South Carolina's S.U.P.E.R.B. (UST Trust) Fund -- A "safety net" for UST owners and buyers
 - Eligible ONLY for sites with USTs that store regulated fuels (excludes heating oil)
 - Funding (½ cent per gallon tax; UST annual fee)
 - \$25,000 deductible
 - UST owner at time of discovery is the Responsible Party (RP)
 - "Orphan" site if USTs abandoned and no RP exists

Underground Storage Tanks (USTs) – Continued

Regulated (primarily gas stations)

- Rules for Installation, Operating, and Abandonment
- Must be abandoned by Removal or Filling-In-Place
- Annual Fees (per tank per year; approx. \$7,000 per UST since 1988)
- Releases (spill or leaks) are SUPERB eligible

Non-Regulated (primarily heating oil USTs of any size)

- No State Environmental Regulations

Existing motor vehicle fuel USTs out-of-service prior to January 1974 - Not regulated, but eligible for SUPERB if a release is discovered

Common Phase I ESA Recs

Dry Cleaners

- Petroleum vs. Perc vs. “Green” Solvents
- Problems with Perc (persists long-term in the ground, spreads far in GW, vapor intrusion)
- S.C. Dry Cleaning Restoration Trust Fund
 - Eligibility (**closed to new claims as of 1/1/2015**)
 - Grossly Underfunded – liability implications for buyers (Brownfield NRP Contract recommended if contamination exists)
- Considerations for Property Purchasers
 - Off-Site Contamination
 - Vapor Intrusion if no longer used as a dry cleaner

Common Phase I ESA Recs

Industrial Properties

- Typical Contaminants
 - Degreaser Solvents (TCE, PCE, etc.)
 - Metal Plating Wastes
 - Petroleum Fuels and Lubricants
- Industrial Septic Systems
- Chemicals Used, Waste handling/Disposal Practices (past and present)
- Waste Treatment Ponds
- Large Acreage Sites - Difficult to Thoroughly Assess
 - Purchasers typically enter into Brownfield (NRP) contracts with State

Common Phase I ESA Recs

Automotive Facilities

- Repair Shops
- Body Shops
- Dealerships
- Salvage Yards

Contaminants may include petroleum fuels, automotive fluids, and parts cleaners

Phase II ESAs and Case Studies

Phase II ESA - Assessments

“Phase II ESA” is a Generic Term for any Subsurface Environmental Assessment; typically triggered by Phase I RECs

FAQs: Who Usually Pays?

What is the Cost?

How Long Does It Take to Complete?

- **Most Common: Petroleum fuels, Chemical Solvents, Plating Waste**
- **Impacted Media: Soil, Groundwater, Soil Vapor, and Indoor Air**

VAPOR INTRUSION



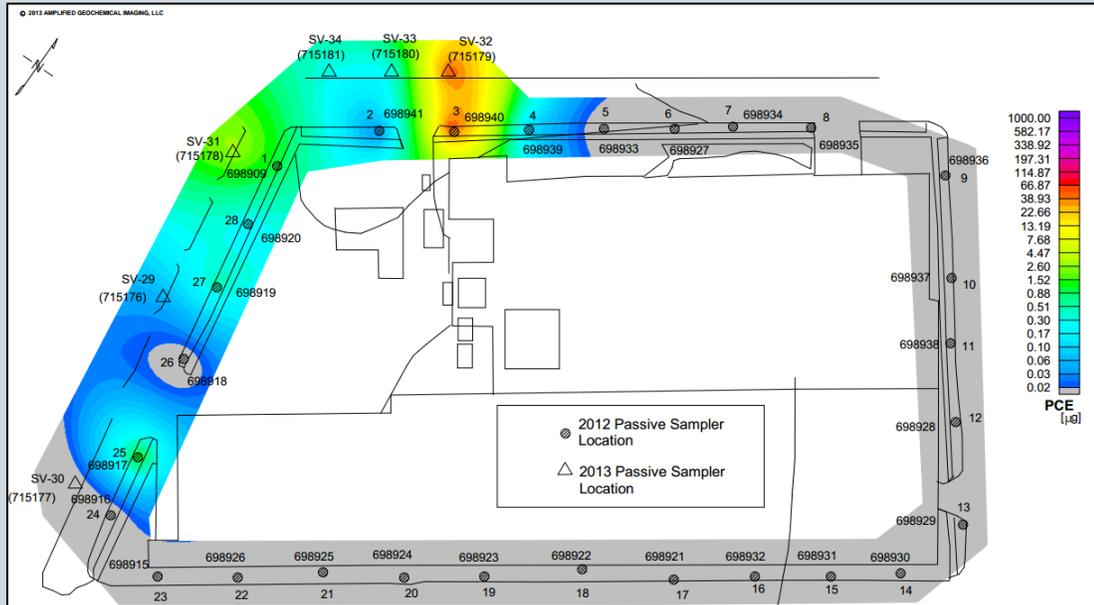
Phase II ESAs - SOIL



Phase II ESAs - GROUNDWATER



Phase II ESAs – VAPOR/AIR



Phase II ESA – Case Study

Groundwater Impact at UST/AST facility, Florence County, SC



Phase II ESA – Case Study

Groundwater Impact at UST/AST facility, Florence County, SC



2008

- USTs Closed by Owner
- "Clean" Closure
- NFA Letter from SCDHEC
- Aboveground Fuel Tanks (ASTs) installed

2015

- Phase I ESA for Buyer
- Phase II found dissolved gasoline in GW
- Not eligible for SUPERB Fund because clean UST closure, then ASTs used with U/G pipes
- Price reduced by \$50,000 for delays and VCC costs

Phase II ESA – Case Study

Former Dry Cleaning Facility, Greenville, SC



City Directories: On-site drycleaner
from 1935 to 1970

Type of DC solvent unknown; Perc
use was widespread beginning in 1940s

Petroleum Tanks and Chemical
Drums located off-site at property
line



Phase II ESA – Case Study

Former Dry Cleaning Facility, Greenville, SC



4 Groundwater samples collected

Analyzed in lab for VOCs

VOCs include many petroleum compounds and the main chlorinated dry cleaning solvent Perc (PCE or tetrachloroethene)

No VOCs found in groundwater

Concluded that the DC likely used petroleum-based solvents

SCDHEC Brownfield Process

Buyer Submits VCC Application with Current Phase I ESA

Wait 8+ weeks for DHEC Response

SCDHEC Provides Draft VCC Contract for Buyer's Review

Buyer Reviews / Negotiates Changes / Signs Contract

***** Closing can now occur with NRP-VCC Protection for Buyer*****

Then...30-Day SCDHEC Public Notice / Sign Erected by Applicant

Work Plan Submitted

SCDHEC Approval of Work Plan

Field Sampling / Lab Analyses (soil, groundwater, indoor air, surface water)

Assessment Report Submitted to SCDHEC

SCDHEC Approves Report

Media Management and Stewardship Plans Submitted

SCDHEC Issues Draft Deed Restrictions

Buyer Records Final Deed Restrictions

SCDHEC Issues Certificate of Completion



Forever Chemicals (PFAS)

What's New and Impact on Property Transactions