



Remediation and Redevelopment Program

Issues & Trends 2016

February 3, 2016
12:00 p.m.

Dial: 1-855-947-8255

Passcode: 6612 745#



Screening Closed BRRTS Sites for Vapor Risk: How RR-042 Can Help Speed Property Transactions

Alyssa Sellwood

Alyssa.Sellwood@wisconsin.gov

Terry Evanson

Theresa.Evanson@wisconsin.gov

Questions will be taken during the presentation . You may also submit questions to DNRRComments@wisconsin.gov



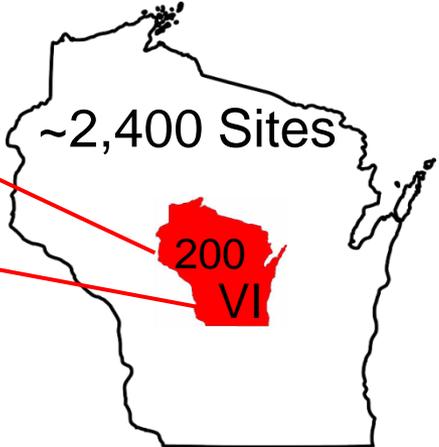
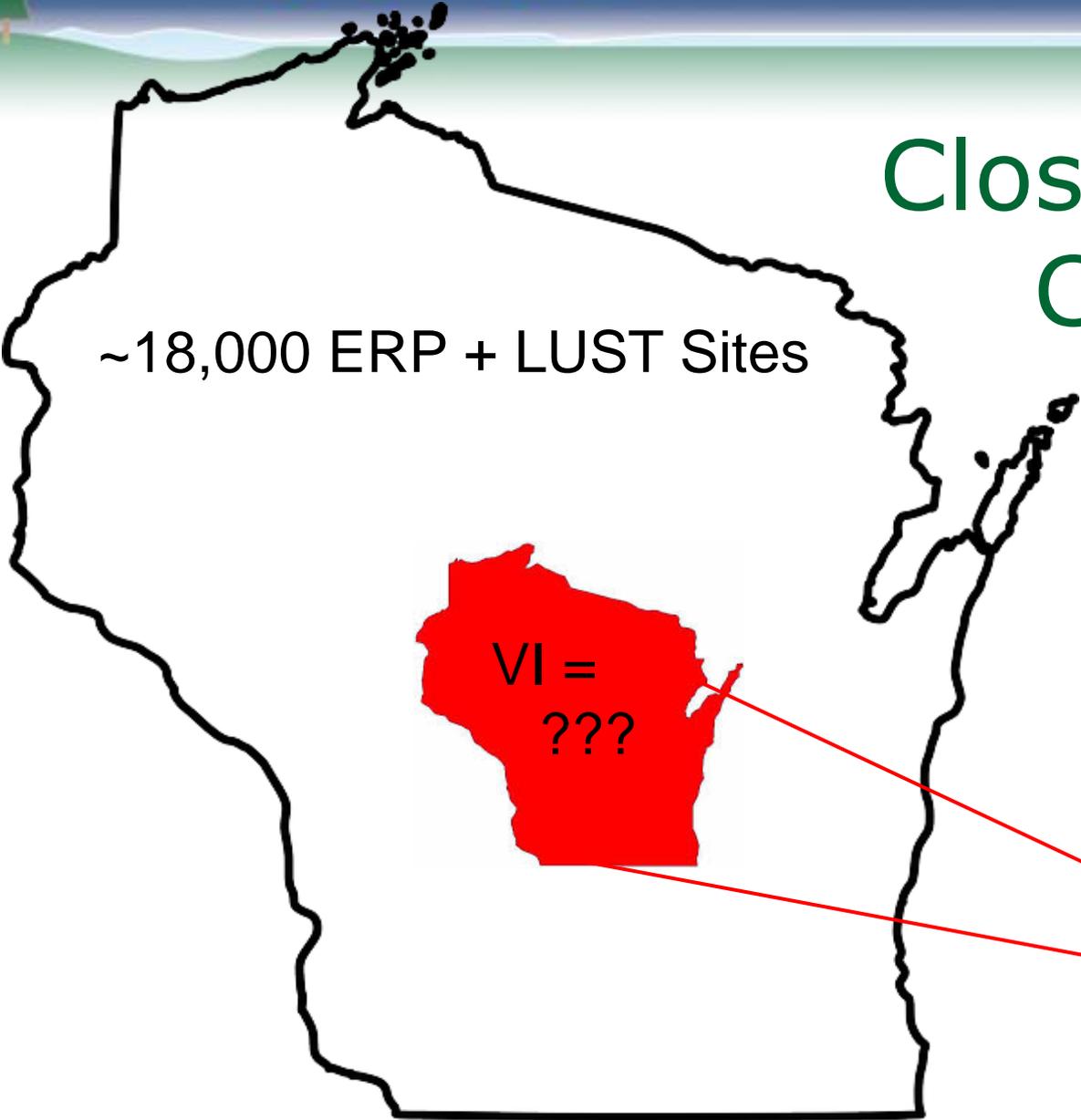
RR-042 – Previous Webinar

June 3, 2015 Webinar:

RR-042, DNR Case Closure Continuing
Obligations: Vapor Intrusion

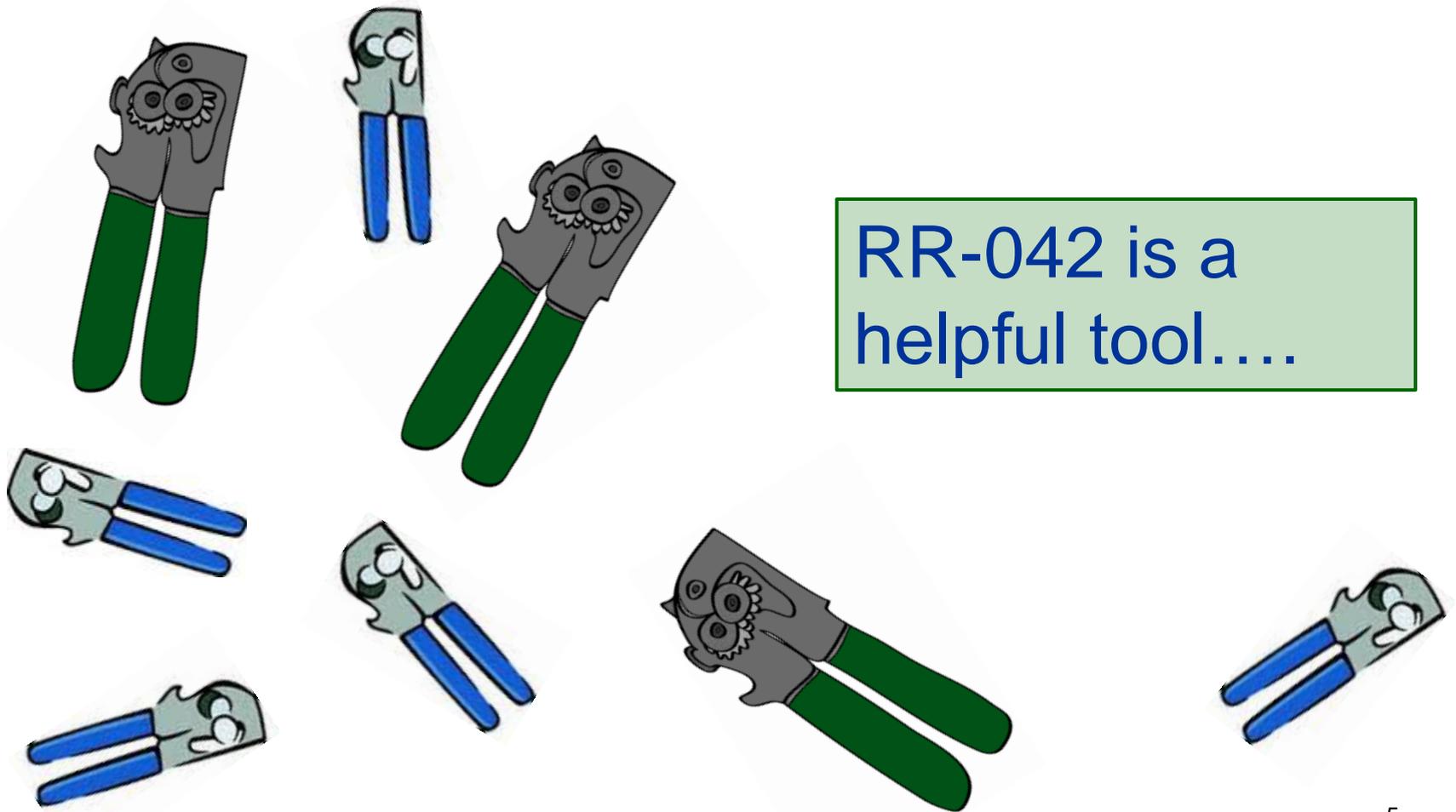
<http://dnr.wi.gov/topic/Brownfields/TrainingLibrary.html>

Closed BRRTS Cases & VI



CLOSURE YEAR	1996- 2010	2011 - Today
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Re-Opener or Helpful Tool?



RR-042 is a helpful tool....



DNR Guidance RR-042

[RR-042 Guidance Document Link](#)

TITLE:

DNR Case Closure Continuing Obligations: VI

SITUATION xiii (pgs. 7 - 11):

Residual volatile contamination poses future risk of VI

USES:

1. Closure of sites with VI risk, but no buildings

OR....

2. Due Diligence, Phase I, Planning, etc.,
for property transaction/redevelopment
(Closed with VOC impacts but no VI Assessment)

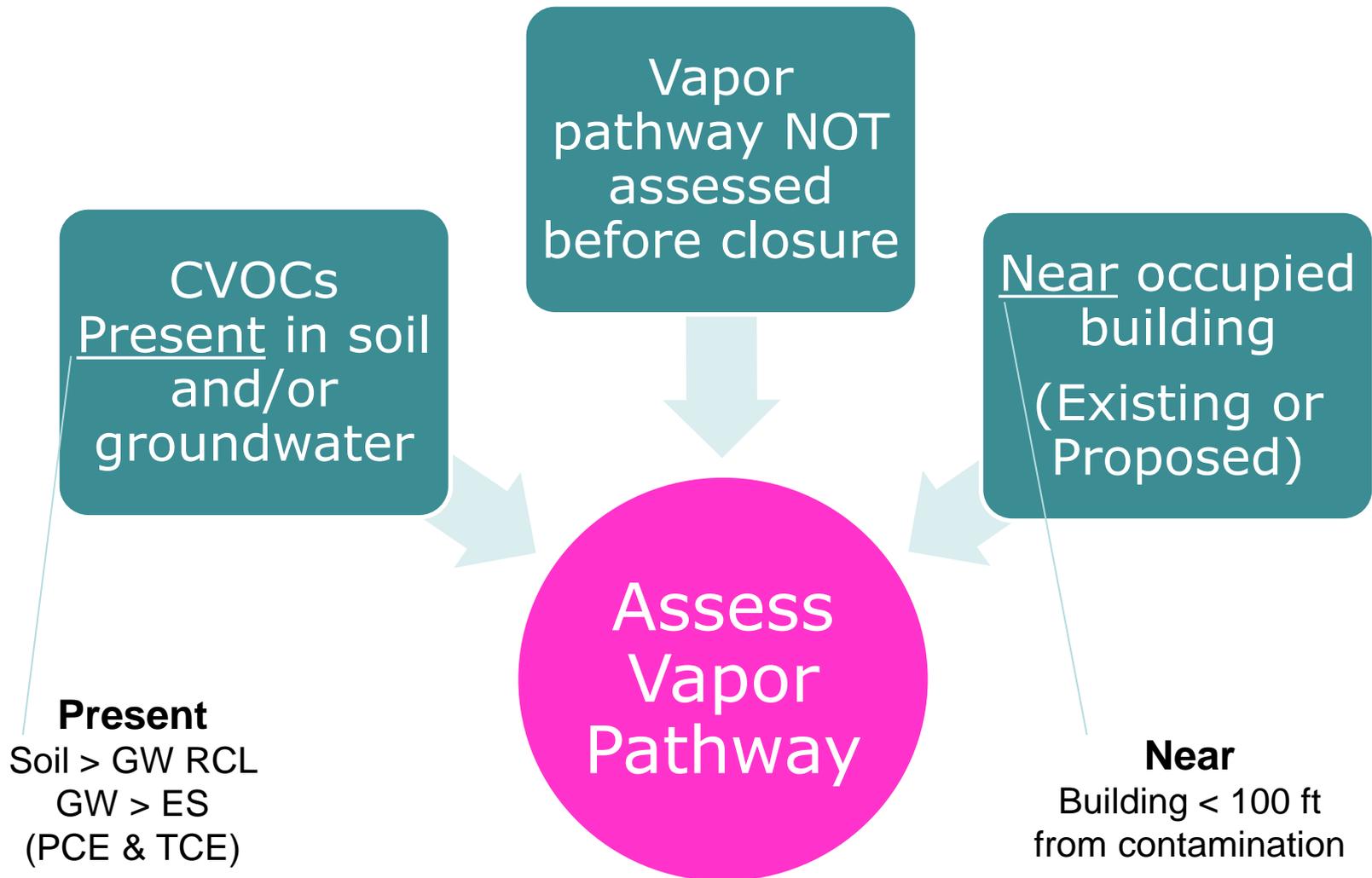
Considerations for Applying Vapor Intrusion Continuing Obligations

(Numbers in this table are only recommendations. All decisions for applying continuing obligations are made on a site-by-site basis using professional judgment.)

Continuing Obligation Options Case Closure-GIS Registry Form 4400-202	Criteria for Application of VI Options	
	Chlorinated VOCs	Petroleum VOCs
(ix) O&M of VMS needed to protect VI pathway	Sub-slab > VSRL	Sub-slab (each compound, respectively): BETX, N, MTBE, TMBs > VRSL
(x) Hydrologic control for VMS to operate effectively	Sub-slab/sump air > VRSL At highest level, water table intersects building foundation	Sub-slab/sump air BETX, N, MTBE, TMBs > VRSL Water table intersects foundation
(xi) Compounds of Concern in use	Sub-slab > VRSL Solvent use in building at time of closure	Sub-slab: BETX, N, MTBE, TMBs > VRSL Petroleum products used within building
(xii) Commercial/Industrial Exposure Assumption	Sub-slab > Commercial/industrial VRSL Solvent NOT in use at time of closure	Sub-slab: BETX, N, MTBE, TMBs > Commercial/industrial VRSL
(xiii) Future Construction. Includes remodeling or additions on an existing building. (assumes: 1) there are no preferential pathways between the new building and residual VOC source and 2) the groundwater plume is stable or receding)	<u>If any of the following exist:</u> <u>Soil:</u> GW-RCL for PCE/TCE met or exceeded anywhere in vadose zone on property <u>GW</u> ≥ ES on property <u>GW</u> ≥ PAL if contaminated groundwater may contact building foundation	NAPL: (any of the following indicators) near where a building can be placed on the property: 1. Soil: B > 10 mg/kg; N > 5 mg/kg; Total PVOC > 250 mg/kg 2. Groundwater: B > 1 mg/l; Total PVOC > 30 mg/l 3. Presence of petroleum product (e.g., floating product, LIF survey results) <u>Soil:</u> significant contamination less than NAPL indicators and a building foundation can be placed within 5 feet of the contamination <u>Groundwater:</u> (significant dissolved petroleum less than NAPL indicators) 1. Building foundation can be placed within 5 feet or less of contaminated groundwater 2. Dissolved petroleum VOC ≥ PAL if contaminated groundwater may contact building foundation

Table on Page 11 of RR-042

Chlorinated VOCs: If ALL exist



Petroleum VOCs: If ANY exist

NAPL

- Distance: 15' vertical; 30' lateral
- Floating product
- Soil: Benzene >10 ppm; Naphthalene >5 ppm; PVOC >250 ppm
- Groundwater: Benzene >1 ppm; PVOC >30 ppm

Soil

- Distance: 5 feet or less
- Significant concentrations < NAPL

Ground-water

- Distance: 5 feet or less
(if groundwater in contact with building, PAL concentrations apply)
- Benzene <1 ppm; significant concentrations < NAPL

Assess
Vapor
Pathway



Applying Screening Criteria

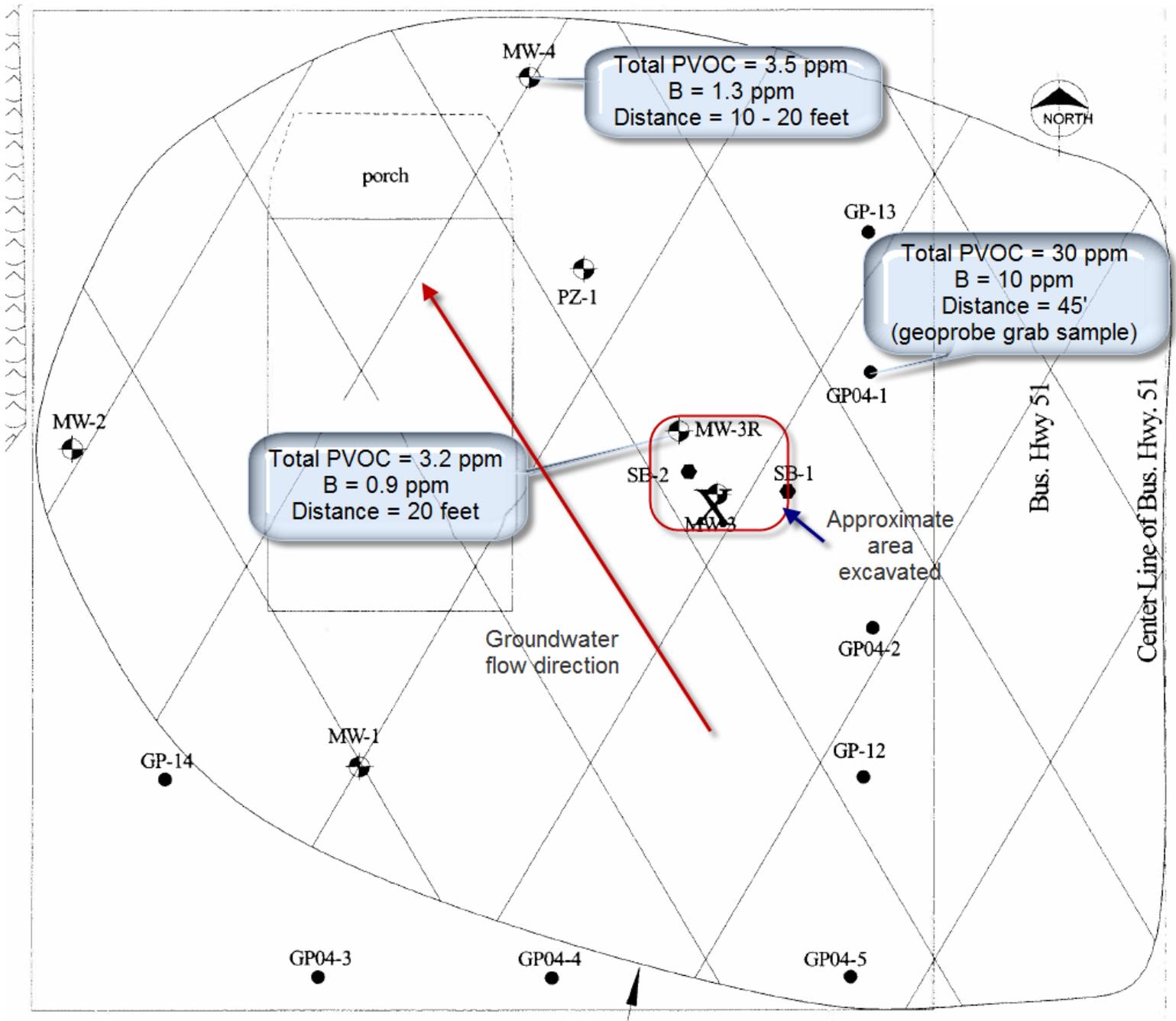
Question: Could conditions that give rise to vapor intrusion exist at this property?

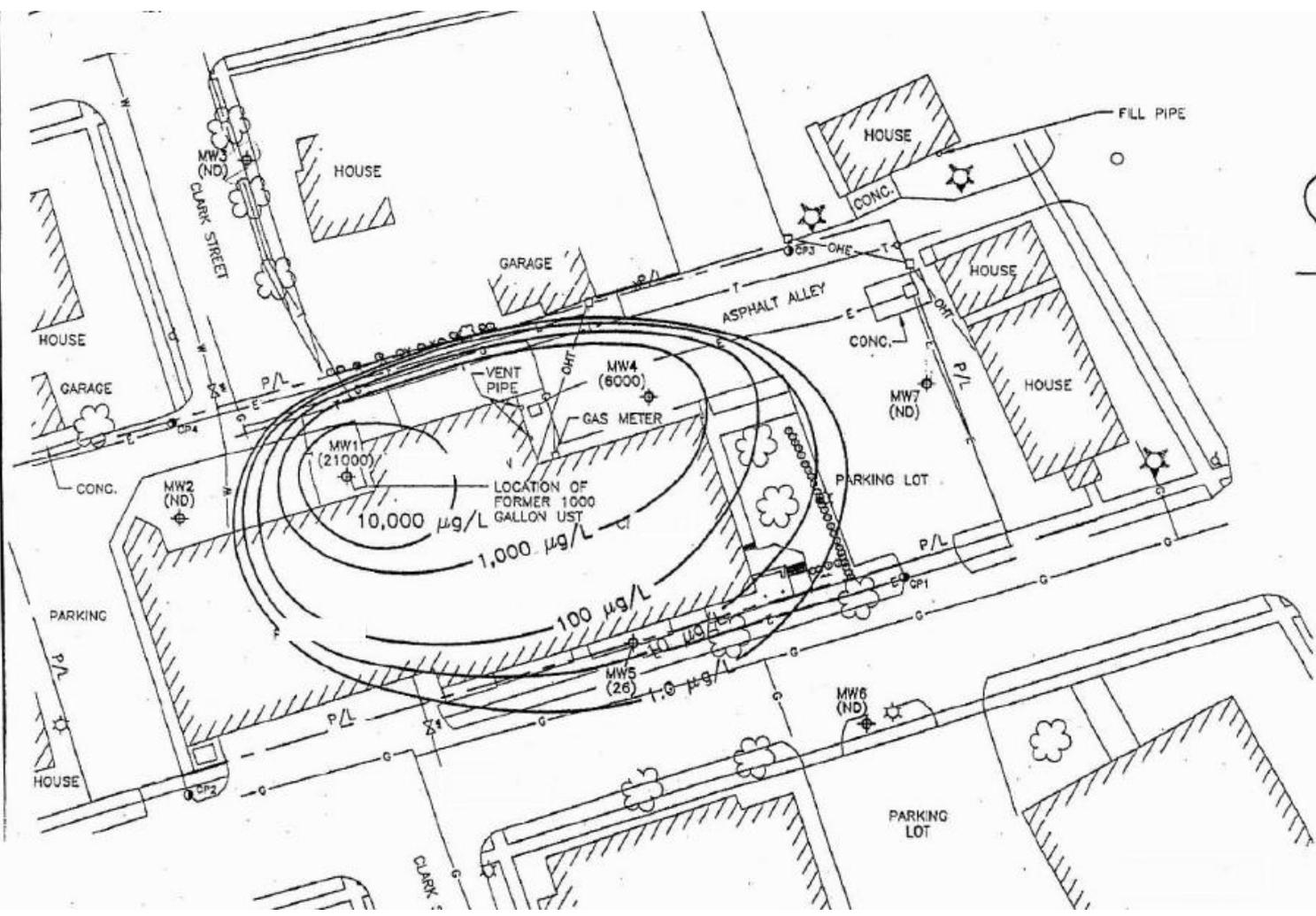
- Assess available data, site conditions.
Note: Most closed sites will not have soil or groundwater data within 5-ft of buildings.
- Determine whether VI can be ruled out.
- If not, additional assessment needed.



Screening Closed Petroleum Sites for Vapor Risk

CASE EXAMPLES





LEGEND

- MW4 (6000) MONITORING WELL WITH BENZENE CONCENTRATION ON JULY 17, 2003
- BENZENE ISOCONCENTRATION CONTOUR
- P/L APPROXIMATE PROPERTY LINE

NOTE:
1. CONCENTRATIONS IN µg/L

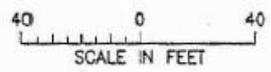


FIGURE 9
GROUNDWATER BENZENE ISOCONCENTRATION CONTOURS
JULY 17, 2003



Contact Information

Alyssa Sellwood

(608) 266-3084

Alyssa.Sellwood@wisconsin.gov

Terry Evanson

(608) 266-0941

Theresa.Evanson@wisconsin.gov



Issues & Trends 2016

March 2 12:00 p.m.

General Liability Clarification & Off-Site Exemption

Audio and information from today's presentation and future *Issues & Trends Series* events can be found on the RR Program Training Webpage at:

[Http://dnr.wi.gov/topic/Brownfields/Training.html](http://dnr.wi.gov/topic/Brownfields/Training.html)

Questions/Comments/Suggestions regarding the
Issues & Trends Series can be submitted to:

DNRRRComments@wisconsin.gov

