

# FY10 Guidance Development Priorities

- Vapor Intrusion
- Light Non-aqueous Phase Liquid (LNAPL)
- Compendium of Analytical Methods (CAM)
- Activity and Use Limitation (AUL)
- Remedial Alternatives

# Vapor Intrusion Workgroup Update

Gerard Martin, MassDEP BWSC  
Workgroup Chair



# Vapor Intrusion Guidance Development

- 12/08 – 6/09: 17 meetings with external workgroup, focusing on Regulatory, Assessment and Mitigation Sections resulted in June draft, posted on BLOG  
<http://indoorairproject.wordpress.com/>
- Received comprehensive written comments from LSPs
- Comments posted on blog

# Vapor Intrusion Guidance Development

- 7/09 – 9/09: Internal review of comments received on June draft; coordination of the three sections and future discussion of issues internally

# Vapor Intrusion Guidance Development

- **Goal:** By end of 2009, develop comprehensive guidance for assessment and mitigation of vapor intrusion sites
  - Health protective
  - Clear
  - Consistent approach

# Vapor Intrusion Guidance Development

- **Topics generating the most discussion to date:**
  - Critical Exposure Pathways (CEPs)
  - Modeling
  - Site Closure
  - Future Buildings

# Vapor Intrusion Guidance Development

- **Current/Next steps:**
  - Meetings with the Commissioner to discuss issues
  - Revise Draft and post on blog (this October - notice of availability will be sent)
  - Reconvene Workgroup and solicit additional comments
  - Complete Public Comment Draft by end of 2009

# Vapor Intrusion Guidance Development

## Contact Information:

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# Vapor Intrusion

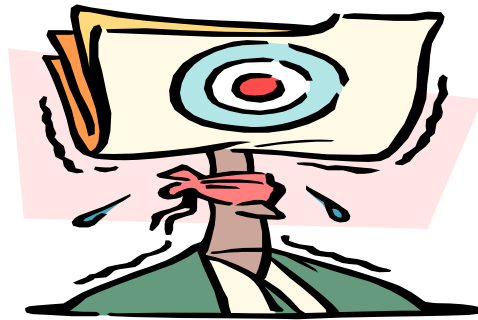
## **REMINDER: About the Blog....**

Please be aware that the material posted on this blog is DRAFT, being made available **ONLY** as part of the policy development process to inform and direct discussion. The material is not final and is very likely to be significantly revised before it becomes final.

**Therefore, do not quote or cite as MassDEP guidance at this time.**



# Questions?



# **Light Non-Aqueous Phase Liquids (LNAPL) Workgroup**

**Ken Marra, P.E., Workgroup Chair**

**[Kendall.Marra@state.ma.us](mailto:Kendall.Marra@state.ma.us)**

**(617) 292-5966**

**<http://www.mass.gov/dep/cleanup/lnaplwg.htm>**



# LNAPL Workgroup Topics (as of 12/08)

- Conceptual Site Model
- Potential exposure pathways
- Risk
- LNAPL mobility and “Residual Oil Saturation” principles
- Previous studies, existing empirical data sets, federal and state policies
- Analytical data requirements and methods
- Implementation under existing regulations
- Possible regulatory changes

# LNAPL Assessment

## **RISK**

Thickness ?

Relative Permeability ?

Mobility ?

## **Exposure Pathway**

### **Dissolved Phase**

Continuous Separate Phase ?

### **Vapor Phase**

Residual Saturation ?

Monitoring Well ?

Concentration ?

## **Closure**

### **Direct Contact**

Viscosity ?

Conceptual Site Model ?

## **Feasibility**

# LNAPL Workgroup

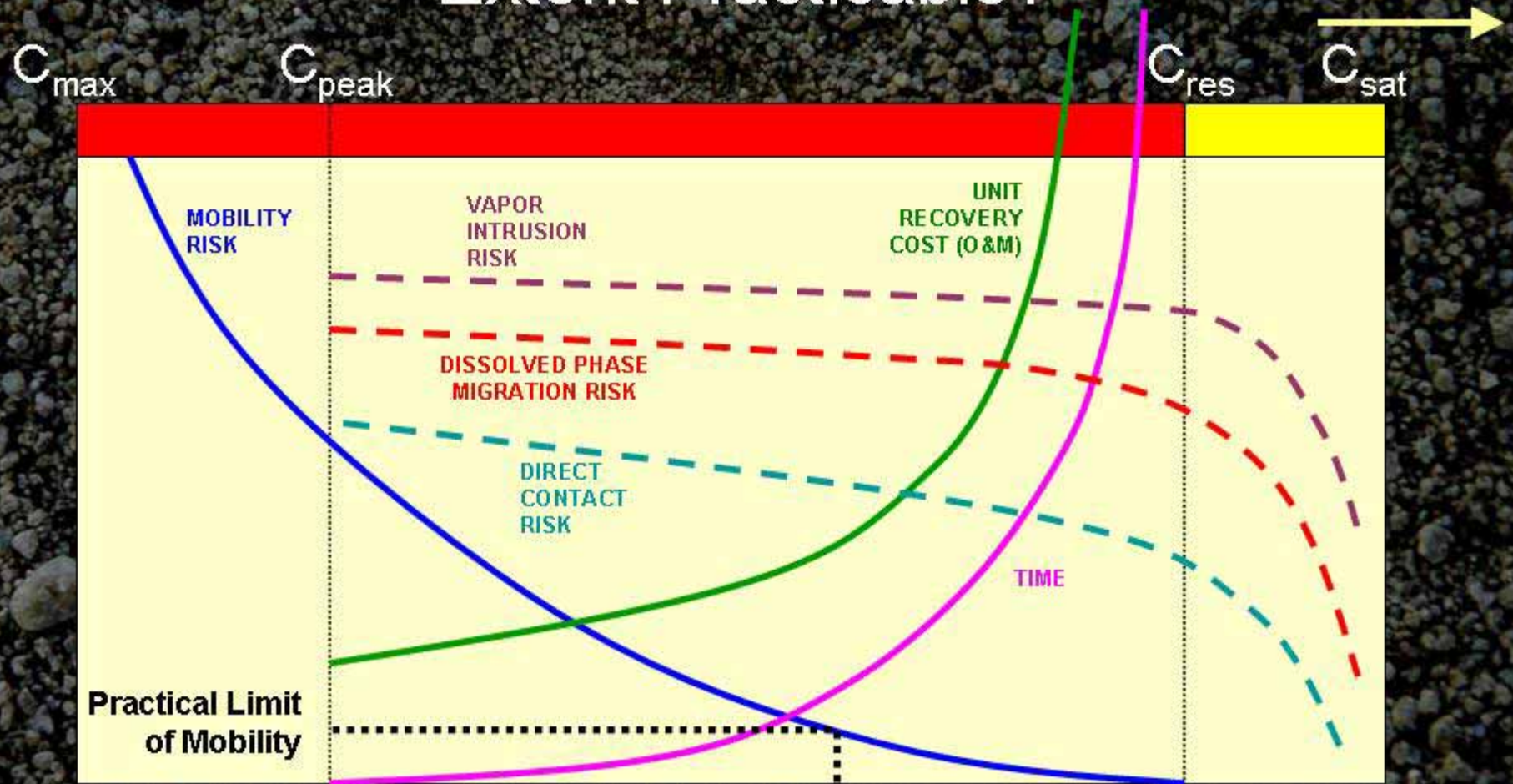
## Areas of Consensus

- LNAPL Cannot:
  - 1) migrate
  - 2) be a continuing source of gw contamination, vapor intrusion, sw break-out
  - 3) infiltrate subsurface utilities/structures
  - 4) pose significant risk
- 1/2 inch criterion is not an ideal metric

## Areas Needing Work

- Mobility determinations
- LNAPL left behind in wells or formation

# Should We Try to Recover to the Maximum Extent Practicable?



$C_{max}$

$C_{peak}$

$C_{res}$

$C_{sat}$

40,000

10,000

100



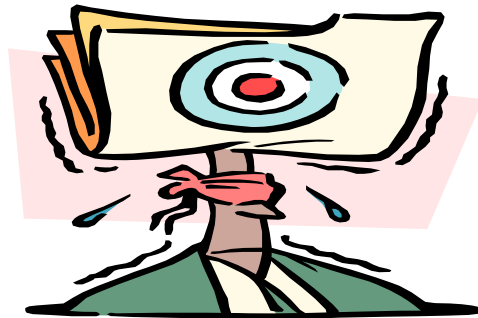
# Meaning and Significance of LNAPL left behind? (in wells or formation)

- Heterogeneities? Local anomaly? Works both ways
- Is there a level that is unacceptable even if:
  - Not a source of GW contamination
  - Not a source of vapor
  - Not currently migrating (PLM?)
  - AUL in place
- What concerns would remain if LNAPL left behind?
  - Persistence, would (some) mass removal speed degradation?
  - Public Welfare (odor)
  - Future activities
  - Liability

# LNAPL Workgroup Objective

“Develop a regulatory approach....that is consistent with the risk-based framework of the MCP”

# Questions?



# LNAPL Workgroup

## *NEXT MEETING*

**Monday November 23, 2009**

**1 to 3 pm**

**One Winter Street, 2nd floor Conf. “C”**

# CAM Revisions Workgroup Update

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Workgroup Chair

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# CAM Revisions Workgroup

*First Meeting .....January 27, 2009*

## **Mission:**

- Conduct a technical review and update of existing Compendium of Analytical Methods (CAM)
- Create new CAM documents for **APH, TO-15 and Perchlorate** analyses
- Develop training for laboratories on the new and revised CAM documents.

# CAM Revisions Workgroup (*cont.*)

Based on feedback received since 2004, a thorough review of all methods is needed to ensure ...

- Consistency among each of the CAM methods,
- CAM “Analytical Notes” are incorporated into the revised methods
- CAM quality control requirements and performance standards for “presumptive certainty” are clarified, and
- Detailed REDUA guidance is referenced but not repeated in CAM documents.

# CAM Revisions Workgroup (*cont.*)

CAM revisions are well underway.

- 6 workgroup meetings since January 2009
- Next workgroup meeting **December 15, 2009**
- Approximately 30 active members (LSPs, Laboratory, Risk Assessors, Auditors and BWSC Regional Staff)

# CAM Revisions Workgroup (*cont.*)

Currently organized into 4 sub-committees working independently to provide draft technical CAM protocol revisions for total workgroup review and consideration.

- Organics
- Inorganics
- Air
- Administrative (MCP and REDUA consistency)

# CAM Revision Process

- Technical revisions of organic, inorganic and air protocols proposed by sub-committees
- Proposed revisions reviewed and approved by total workgroup
- Approved Workgroup revisions are posted on web page as DRAFT FINALS.
- Comments on the DRAFT FINAL Protocols will be evaluated and incorporated, as appropriate, in FINAL protocols.

# CAM Revision Highlights

- Method V D, Aromatic and Chlorinated VOCs by GC has been removed fro CAM
- Readily achievable CAM Reporting Limits have been developed for individual protocols
- A Matrix Spike requirement has been added for all inorganic methods
- CAM Certification Form has been modified to clarify requirements for “Presumptive Certainty”; and
- New CAM protocols are under development for
  - ✓ MassDEP APH Method
  - ✓ EPA TO-15 Method
  - ✓ Perchlorate (LC/MS and LC/MS/MS Methods)

# CAM Certification Form

MassDEP Analytical Report Certification Form					
Laboratory Name:			Project #:		
Project Location:			RTN:		
This Form provides certifications for the following data set: list Laboratory Sample ID Number(s):					
Sample Matrices: Groundwater/Surface Water    Soil/Sediment    Drinking Water    Air    Other:					
<b>CAM Protocol</b> (check all that apply below):					
8260 VOC CAM II A <input type="checkbox"/>	7470/7471 Hg CAM III B <input type="checkbox"/>	MassDEP VPH CAM IV A <input type="checkbox"/>	8081 Pesticides CAM V B <input type="checkbox"/>	7196 Hex Cr CAM VI B <input type="checkbox"/>	MassDEP APH CAM IX A <input type="checkbox"/>
8270 SVOC CAM II B <input type="checkbox"/>	7010 Metals CAM III C <input type="checkbox"/>	MassDEP EPH CAM IV B <input type="checkbox"/>	8151 Herbicides CAM V C <input type="checkbox"/>	8330 Explosives CAM VIII A <input type="checkbox"/>	TO-15 VOC CAM IX B <input type="checkbox"/>
6010 Metals CAM III A <input type="checkbox"/>	6020 Metals CAM III D <input type="checkbox"/>	8082 PCB CAM V A <input type="checkbox"/>	9014 Total Cyanide/PAC CAM VI A <input type="checkbox"/>	332.0 Perchlorate CAM VIII B <input type="checkbox"/>	
<b>An AFFIRMATIVE RESPONSE to questions A through F is required for "Presumptive Certainty" status</b>					
<b>A</b>	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method Holding Times?				Yes    No
<b>B</b>	Were the analytical method(s) and associated QC requirements specified in the selected CAM protocol(s) followed?				Yes    No
<b>C</b>	Were the required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?				Yes    No
<b>D</b>	Does the laboratory report comply with all reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?				Yes    No
<b>E</b>	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).				Yes    No
<b>F</b>	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?				Yes    No
<b>A RESPONSE to questions G, H and I below is required for "Presumptive Certainty" status</b>					
<b>G</b>	Were the reporting limits at or below the CAM reporting limits specified in the selected CAM protocol(s)?				Yes    No <sup>1</sup>
<i>Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40.1056 (2)(k) and WSC-07-350.</i>					
<b>H</b>	Were all QC performance standards specified in the CAM protocol(s) achieved?				Yes    No <sup>1</sup>
<b>I</b>	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?				Yes    No <sup>1</sup>
<sup>1</sup> All negative responses must be addressed in an attached laboratory narrative.					
I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, is accurate and complete.					
Signature: _____			Position: _____		
Printed Name: _____			Date: _____		



# CAM Revision Schedule

17 Other CAM protocols are in various stages of completion and scheduled to be posted...

- All Organic Methods on or before **October 9, 2009**
- All Inorganic Methods on or before **October 30, 2009**
- Perchlorate Method on or before **November 13, 2009**
- CAM VII A Protocol on or before **October 16, 2009**

# CAM Revision Web Page

CAM Revisions Web Page is being used by workgroup as a source of reviewable DRAFT CAM protocols.

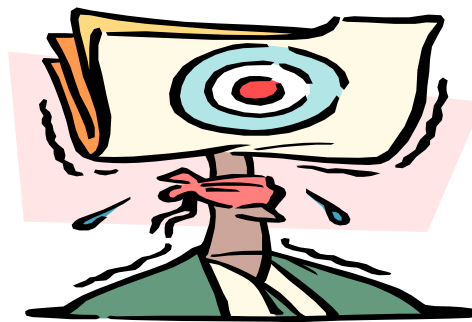
<http://www.mass.gov/dep/cleanup/camwg.htm>

- Meeting Notes
- Workgroup Members List
- Useful QA/QC, EPA Methods, and CAM links
- One DRAFT FINAL Protocol Currently Posted for Comment
  - WSC-CAM-II A. QA/QC Requirements and Performance Standards for Volatile Organics by GC/MS

# CAM Revision Training

- UMass Soils Conference **October 20, 2009** for LSPs
- ITLA training (laboratory oriented) to be scheduled in **early 2010** at 2 locations (eastern/western)
- Additional LSP training under consideration

# Questions?



# AUL Guidance Development

- Goal: Update 1999 Policy
- MassDEP is developing an updated draft
- External workgroup to be convened to review and comment on draft
  - First meeting to be scheduled in Fall 2009
- Peggy Shaw (chair)

[Margaret.Shaw@state.ma.us](mailto:Margaret.Shaw@state.ma.us)

(617) 556-1092

# Revision List to AUL Guidance:

- Incorporate '99 and '06 MCP revisions
- Clarifications based on 10 years of experience
- Emphasis on most common violations
- Incorporate new Registry formatting requirements
- Move procedures for Grants to Appendices
- Rework the Case Studies

# Common AUL Related Violations

- Failure to notify record interest holders
- Failure to reference the AUL in future instruments of transfer
- Language describing obligations or conditions for conducting permitted Site Activities not consistent with site conditions or too broad
- Failure to attach appropriate signatory authority documentation
- Alteration of Form 1075

## Also to be addressed by AUL Guidance Revisions...

- Evolving guidance in other areas (Indoor Air, LNAPL) will be reflected in AUL Guidance

# Questions?

