Draft Updates to Oregon DEQ Vapor Intrusion Guidance

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Process for Issuing VI Guidance

- Internal DEQ Review - May thru June
- Informal Public Comment – August through September
- Revise and Finalize – end of 2023

Discontinuing Use of J&E Derived RBCs for Soil and Groundwater

- Dated analytical model - generates high attenuation factors unsupported by empirical measurements (EPA Database)
- Soil RBCs for screening the VI pathway will be eliminated
- RBCs to be based on empirically derived attenuation factors (AF) recommended by EPA (2015) and generated by EPA VISL calc
- Substantial decrease in RBCs for groundwater, smaller decrease for soil gas

Contaminated Medium		SOIL mg/Kg (ppm)					
Exposure Pathway		Vapor Intrusion into Buildings RBC_{si}					
Receptor Scenario		Residential		Urban Residential		Occupational	
Contaminant of Concern	Note		Note		Note		Note
1,1-Dichloroethene	nc, v	54		54		640	
cis-1,2-Dichloroethene	nc, v	9.4		9.4		110	
trans-1,2-Dichloroethene	nc, v	19		19		230	
Tetrachloroethene	c, v	0.08		0.[illegible]		1.5	
1,1,1-Trichloroethane	nc, v	590		590		-	>Csat
Trichloroethene	c	0.0055		0.012		0.094	
Vinyl chloride	c, v	0.037		0.045		2.0	
1,4-Dioxane	c, nv	100		220		1,700	

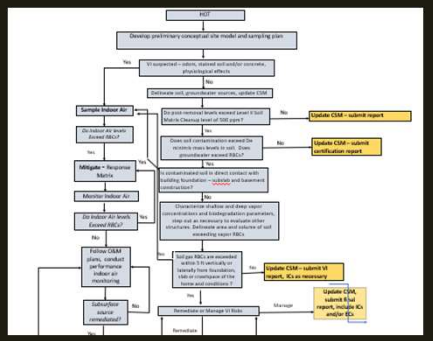
Contaminated Medium		GROUNDWATER µg/L (ppb)					
Exposure Pathway		Vapor Intrusion into Buildings RBC_{wi}					
Receptor Scenario		Residential		Urban Residential		Occupational	
Contaminant of Concern	Note		Note		Note		Note
1,1-Dichloroethene	nc, v	27,000		27,000		330,000	
cis-1,2-Dichloroethene	nc, v	34,000		34,000		410,000	
trans-1,2-Dichloroethene	nc, v	32,000		32,000		390,000	
Tetrachloroethene	c, v	78		170		1,300	
1,1,1-Trichloroethane	nc, v	520,000		520,000		-	>S
Trichloroethene	c, v	6		14		110	
Vinyl chloride	c, v	16		19		840	
1,4-Dioxane	c, nv	660,000		1,400,000		11,000,000	

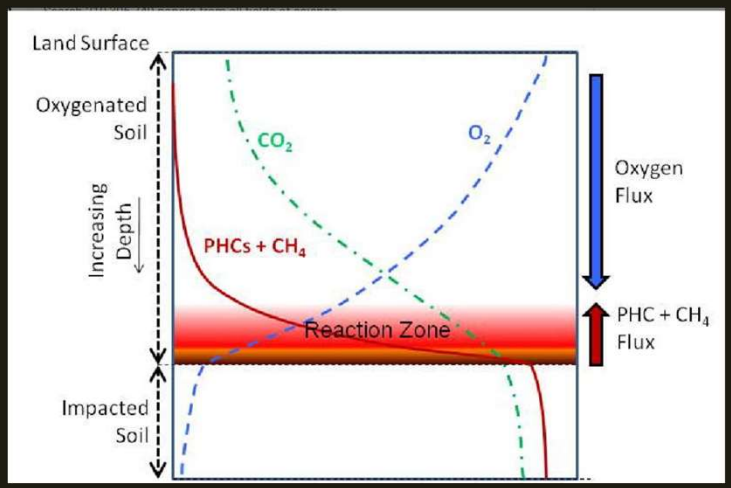
Separate Flow Charts for Petroleum VI and Heating Oil Tank Sites

- PVI approach emphasizes development of CSMs that include biodegradation (*e.g.* collection of major gasses, identification of aerobic, clean soils conducive to biodegradation), use of ITRC criteria

- PVI Soil RBCs triggering soil gas sampling are replaced with Soil Matrix Standards

- *De minimis* volume soil off-ramps from VI investigation based on volatile constituents and TPH fractions





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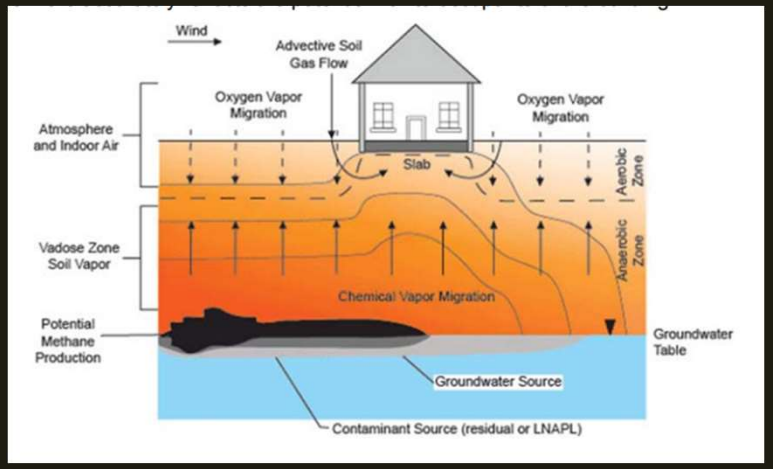
Emphasizing Subsurface Characterization

- Emphasis on delineating area and depth of subsurface vapor plumes
- Collection of soil gas samples at a minimum of two depths to better identify VOCs sources, vapor attenuation, and characterize current and future risks
- Lateral inclusion zones (distance to structures) for PVI and chlorinated solvents – trigger for external soil gas sampling
- Developing and refining CSMs related to fate and transport of vapor plumes – put the data into context



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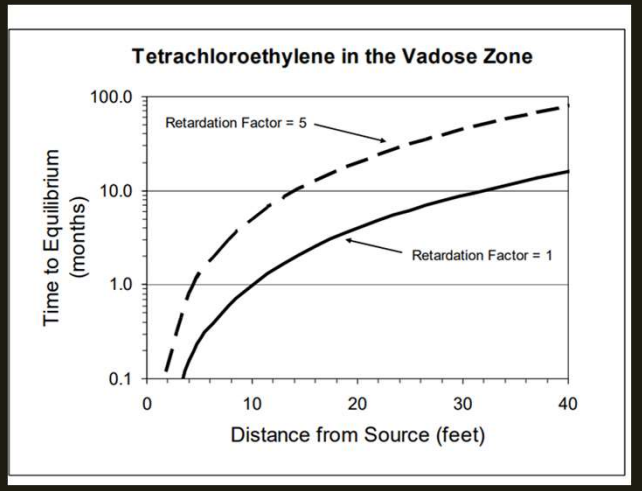
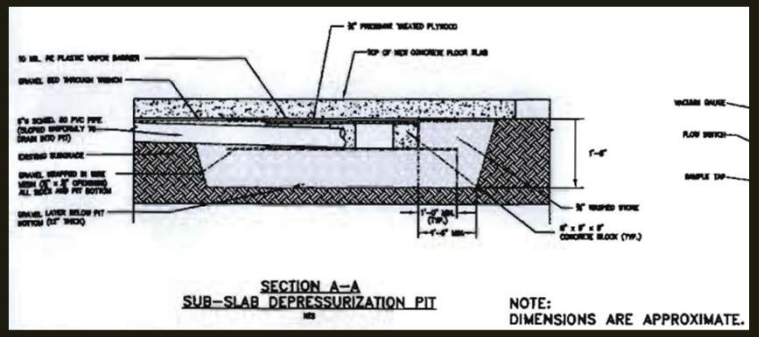
Remediation and Mitigation Systems

- Expectation for treating/remediating hot spots
- Establishing “New Normal” - Evaluating post-remedy subsurface vapor rebound and re-equilibration
- Substantially more detail on VI mitigation systems – physical descriptions, performance monitoring and goals
- Indoor air performance expectations for mitigation systems – *consistent compliance with RBCs*





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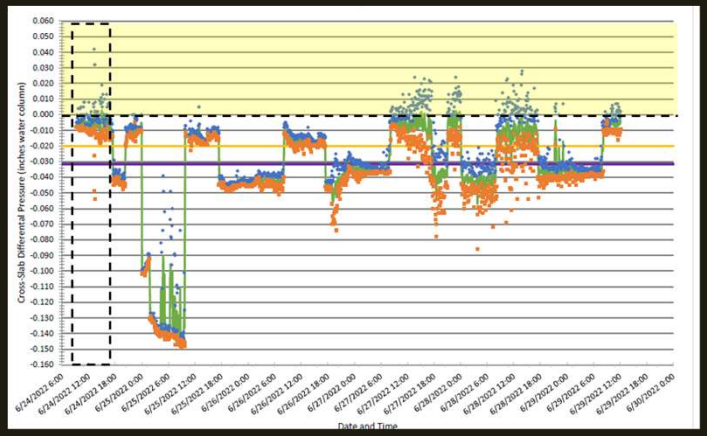
Indoor Air Sampling

- Greater reliance on long-term passive sampling for characterizing indoor air levels at non-petroleum sites
- Correlating results to differential pressure measurements
- Consideration of acute exposure effects (*e.g.* TCE) and the need for higher resolution indoor air sampling
- Response matrix for indoor air exceedances – time-frame expectations for addressing unacceptable risk