VAPOR INTRUSION ASSESSMENT BRIEFING

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Focus of Discussion

- UPDATE ON SAMPLING PROTOCOLS AND THOUGHTS FOR DEFENSIBLE SAMPLING RESULTS
- STATUS OF REGULATORY GUIDANCE
- TCE SHORT-TERM AFFECTS

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Indoor Air Sampling

- Summa canisters remain the primary technology
- Temporal and spatial variation - consider and incorporate into sampling plan
- Worst-case scenario sampling
- Ambient air samples
  - *How many are needed?*
  - *Pay attention to placement*

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Tech Tidbit
Altitude affects field vacuum gauges
1,000 feet = 1 inch Hg

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Indoor Air Sampling

- Use of passive media (sorbent media, badges, etc.) is on the rise
- Key benefit is the ability to sample over longer periods – this helps even out temporal variations

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Oregon Former Dry Cleaners

- Current SSDS, retail tenants
- Used passive media for indoor and ambient air sampling (8 hour and 30 day)
- Calibration sampling event
- Used passive media for subsequent events

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Soil Gas Sampling

- Summa canisters remain the primary technology
- Allow sufficient equilibration time
- Leak detection protocols are critical
  - Helium remains a primary tracer
  - Isopropyl alcohol and 1,1-difluoroethane also used
  - Shut-in tests are key regardless of tracer used

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Soil Gas Sampling

- Passive media for soil gas/sub-slab remains qualitative/semi-quantitative
- Achieving sufficient flux across soils can be challenging
  - "Sampler starvation" in tighter soils
- Mass units allow for contouring to fine-tune plume delineation

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State Regulatory Status

- Washington
  - Four implementation memos issued since 2009 draft VI Guidance
  - Revision of draft will incorporate memos
  - Likely within the next year or two
- Oregon
  - Update of 2010 guidance expected within the next year or two
- Idaho
  - Relies on EPA guidance documents and ITRC

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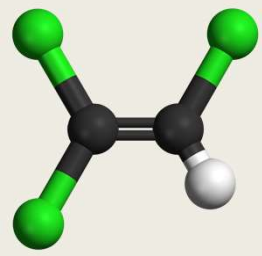
TCE Short-term Affects



- Short-term non-carcinogenic risk
- Ecology - issued guidance on October 1, 2019
  - Implementation Memorandum No. 22
- DEQ – to be discussed in forthcoming guidance revision

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Useful Links

- EPA: https://www.epa.gov/vaporintrusion
- Ecology's VI Guidance: https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Vapor-intrusion-overview#CLARCguidance
- DEQ's VI Guidance: https://www.oregon.gov/deq/FilterDocs/VaporIntrusionGuidance.pdf
- Idaho: http://www.deq.idaho.gov/risk-evaluation-manual
- ITRC VI Page: https://www.itrcweb.org/team/public?teamid=22

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THANK YOU!

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