

What a Good LCSM Looks Like

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The Goal(s) of an LCSM

- To summarize under one cover, site specific technical data to date to determine if remaining free product is recoverable
- If it is determined that free product is unrecoverable, the LCSM should be able to serve as a guide to an potential future property owner of where free product might be encounter during construction

Under One Cover

- Yes, we have all the information. No, we are not going to make the argument for you.
- MoDNR's goal is to make sure responsible parties comply with the regulations.
- Your goal is to get your client a no further action letter (NFA).

Specifically For Older Sites

- Pre-MRBCA investigations
- Multiple consultants
- Multiple characterization events
- Intermittent free product
- No unacceptable risks

LCSM Sections

- Volume of the release
- Date of release/age of the LNAPL
- Type of LNAPL
- Chemical composition and physical properties of the LNAPL
- LNAPL saturation
- LNAPL mobility
- LNAPL recoverability/transmissivity
- Location of potential receptors

LCSM Sections (cont.)

- Horizontal and vertical extent of the LNAPL body
- Source and pathway
- Seasonal water table fluctuations
- Soil and/or bedrock lithology
 - Presence of preferential migration pathways

Horizontal and Vertical Extent

- What we look for:
 - Map with all wells that had free product
 - Boring and well construction logs
 - Cross sections through the free product plume
 - An interpretation of the data; and evaluation of quality and quantity

Evaluation of Quality and Quantity

- Questions MoDNR will want answered:
 - Vertical extent
 - Based on field screening did the borings get under the contamination?
 - Horizontal extent
 - MRBCA requires borings on 25-foot centers. How many borings are there, are we even close to this density?
 - Quality
 - What is the level of detail on the boring log? Were the soil sample taken from the right interval based on field screenings?

Source and Pathway

- What we look for:
 - Where was the point of release compared to the wells that have free product
 - Connecting the point of release to all the wells that have shown free product
 - A discussion of the route product used to migrate

Water Table Fluctuations

- Discussion of seasonality (min, max, avg.)
- Is presence or thickness of product related to depth to groundwater?
- Confined or unconfined conditions
- At times of high water, is any of the screened interval submerged?

Soil and/or Bedrock Lithology and Presence of Preferential Migration Pathways

- Not just a literature reference or cut and paste from previous submittals
- Use of boring logs and cross sections to supplement discussion of migration pathways and smear zone
- “*Chert layer may be acting as a preferential pathway*” – “May be” not acceptable at this point

Contact Information

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