Notes from NAPL Investigation Calls 6/24, 7/1, 7/6
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W 6/24
NAPL Investigation Call
Dante, Marlon, Ted, Safouh, Randy

- Ted, Membrane Interface probe. Marlon - grabs vapor sample, somehow analyzed it in surface mobile lab or in PID, FID, ECD that we think is built into system. EPA Clu-in has technology report on it.
- Marlon comment is essentially same in that we need collocated sample using another reliable technology, to confirm what UVOST telling us.
- Wouldn't napl remain mixed mixture of BTEX and other impurities? Could have some separation w/i tank (before release) as well as in subsurface after leaks.
- Can't be positive that UVOST is detecting all our areas of interest. Essentially, could get false negatives where UVOST detects no HC but there is still some below detection limit of UVOST. Or could not be picking up BTEX.
- Maybe do extensive MIP use with UVOST in one area, gain confidence to then use UVOST solely in other areas. Marlon. QA issue, boils down to, false negatives. Validation of UVOST. Couple ideas - one per source area, else lots in one area. Maybe Area 6 or 11 would be good, since Area 12 has known PAH etc SVOCs impurities.
- Marlon's heartburn with RP plan for utilizing borings is that borings are done with different objective than QA. Borings are done after the UVOST. He would want them done up front, to demonstrate effectiveness. Or in case of DTSC suggestion, use simultaneously MIP and UVOST.
- MIP could be used both as verification/validation collocated sample in area with known source, and then in fringe area to confirm which areas contain no more HC contamination.

W 7/1
NAPL Call -
George Deely, John, Erich, Safouh, Ted, Dante, David Meyers, Marlon, Eva

- Marlon - precision of UVOST, determine using direct methods. If can get agreement from 2 or 3 locations, would give confidence.
- Eva - different nature of how UVOST works, than sampling soil. Marlon's proposed calibration method would be better than method vendor proposes.
- Ted - delineating plume, UVOST can't. It doesn't delineate benzene, but HC. Only screening tool. Only detects residual and not dissolved. Erich - not try to get concentrations.
- Erich, other contaminants in the benzene fluoresce. 0.1-0.2% is the baseline reading, where presence of napl is at 100%.
- Erich - looked into MIP, less confidence due to indirect method. Basically a fancy PID; interpretation would be difficult due to saturating probe with napl, and interpreting what amount of vapor constitutes napl. Takes time to get to surface through tube. Soil samples would be better confirmation of UVOST. TPH analysis would be most useful. Dean Stark HC sat test also good - measures pore space saturated w/ napl. Correlation may or may not work on individual soil sample basis.
- Ted - re: MIP, DTSC folks recommend it, for better use in outer areas where UVOST shows mid or low range saturations. Dave Myers - did both tools, MIP and UVOST, at Casmalia. MIP shows middle and high vapor concentrations, but need. Used for targeting sample locations, for identifying areas of concern.
- Eva - borings would be better for confirmation of UVOST than MIP. Still questions about how you would want to delineate or define your cleanup area. Detection limit of tool? Could get false positives from high concentrations that aren't yet saturated. Can say gross contamination is defined by UVOST.
- Marlon - underlying QA concern is that area is under-represented by UVOST.
- Eva - agrees with my synopsis of FS level work here, RD refinement of remediation area later. UVOST and confirmatory borings now, FS level estimate for area, then refinement in RD could use other tools (MIP, soil gas, etc).
- Marlon - benzene is good solvent and would've picked up other chemicals.
- How about do the UVOST/soil boring confirmation at one area, say Area 12, then look at results, then
go back out? Inefficient.

- Important point - false negative on UVOST. Worst case QA/QC scenario. UVOST has no response and boring does. Erich - in that case, wouldn't even need to do boring; if UVOST gets no response in areas we know are contaminated (based on previous work), then we should just discontinue, right then. If there is false positive, where UVOST gets hits and boring doesn't, then you could just as well question the boring, I suppose. Worst effects of that is over-estimating area of remediation, which is conservative. Could then lead us to orient RD sampling to address that further. Erich -- so why not approach project like in workplan, where select boring locations after UVOST done? If false negatives, we won't proceed. If false positives, at least its conservative and can fine tune in RD. Dante - so why not approach project like in workplan, where select boring locations after UVOST done? If false negatives, we won't proceed. If false positives, at least its conservative and can fine tune in RD.

Dante - will run this discussion by Marlon re: QA/QC approach.

W 7/1
Talked with Marlon -
Follow-up from end of call with RPs re: napl. Bottom line - do borings in fewer areas but do more borings. Would give better confidence in UVOST. Do 3 borings in each of 2 areas, six total borings. One each in middle/known napl area, one adjacent to last UVOST that shows HC response, and one adjacent to push that showed no response. OK to do borings after UVOST done. This would have more confidence because you would have more data points in an area. That confidence established in one or two areas can be transferred to other areas.

(I called and left Erich a message about this).

M 7/6
Marlon & Erich - re: NAPL Sampling
Dante, John, Erich, Marlon
- Erich had left me vmall on W 7/1 re: my message proposing 6 borings, 3 each in 2 source areas. Erich suggested leaving workplan vague, saying "up to 6 borings at locations TBD following completion of UVOST. Incorporates our suggestion by leaving it open to it. Another consideration: plan currently says "up to 15 samples per boring." With the additional borings, they would like to cut back on the samples within each boring on the fringes.
- Talked with Marlon and Erich /John all together. Agreed to the following. Will do up to 7 borings at locations to be determined once UVOST data is available. Erich said that Shell really wanted at least one boring per area. Marlon really wanted 3 in at least one area, preferably two, and Erich wasn't convinced 3 would get you more confidence than 2. Seven would enable 3-2-1-1 borings in the 4 areas. The group would decide locations upon getting UVOST results.

Field duplicate UVOST push, 1 per area. Agreed to partially rely on previous ROST data for this. Will do, per current workplan, UVOST pushes, 1 or 2 in each areas, co-located with previous ROST. If they confirm each other reasonably well, then we'll rely on the ROST confirmation. If not, then we will do a co-located UVOST push (a second UVOST push). We can make that decision as the UVOST result is obtained, right then in field. If need second push, can do next day.

Provide UVOST calibration documentation. OK. Provide signature approval page. OK. Decided not to require field duplicate encore sample of soil.

I will provide the comments from Ted regarding additional step out directions/locations. Erich did not commit until he sees them.

I will send the comment letters and indicate which ones we discussed.

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