Unique Remedial Design Case Study with Potential for Drastically Variable Outcomes

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Abstract

Presuming we follow the standardly understood playbook for Remedial Design / Remedial Investigation (RD/RI) sampling design strategies from QAPP Toolkit #1, we would commonly complete the following in order of appearance: **1)** design/conduct transect digital geophysical mapping (DGM) surveys, **2)** analyze transect DGM detections within Visual Sample Plan (VSP), **3)** define areas of interest based on transitions from lower density to higher densities, **4)** plan subsequent grid pattern DGM surveys, **5)** collect grid DGM survey data, **6)** investigate grid DGM anomalies, and **7)** summarize each step of the process within various forms of memorandum or report writeups to continually garner Project Delivery Team (PDT) approvals. Essentially, the process (and PDT reviewers of the process) commonly emplaces a lot of weight on transect anomaly densities prior to intrusive investigations of grids and this concept significantly narrows down ground truthing which, for compact targeting/bombing ranges is good but for other sites can be misleading.

What will be reviewed is a single unique case whereby the outcome would have varied drastically if we followed the standard playbook as commonly understood by contractors, clients, and regulators alike. This simply requires an awareness by yourself and others on the PDT, that your site may be unique, not well understood or defined via limited sampling history, or may have been a multi-purpose range and/or currently be a re-purposed property. In the example case, not following standard methods led to coincidentally / randomly discovering MEC along transects at unexpected locations relative to anomaly densities. To complete the RD, we also sampled grids in order to meet the contract requirements and to bolster the case the MEC finds were random. (*For this case, density-biased grid sampling would have recovered no MEC and No further Action [NFA] or Long-Term Monitoring would've been recommended; however, given the MEC finds the site was instead recommended for future removal/remedial actions.*)

What this infers are a few important lessoned-learned strategies: consider investigating transects/transect areas for unique project sites that don't resolve into anomaly density "bullseyes"; regardless, prepare for additional grid sampling from either contractor or PDT perspective, particularly if NFA recommendations are imminent; and communicate with the PDT regularly and expect varying opinions for unique projects.