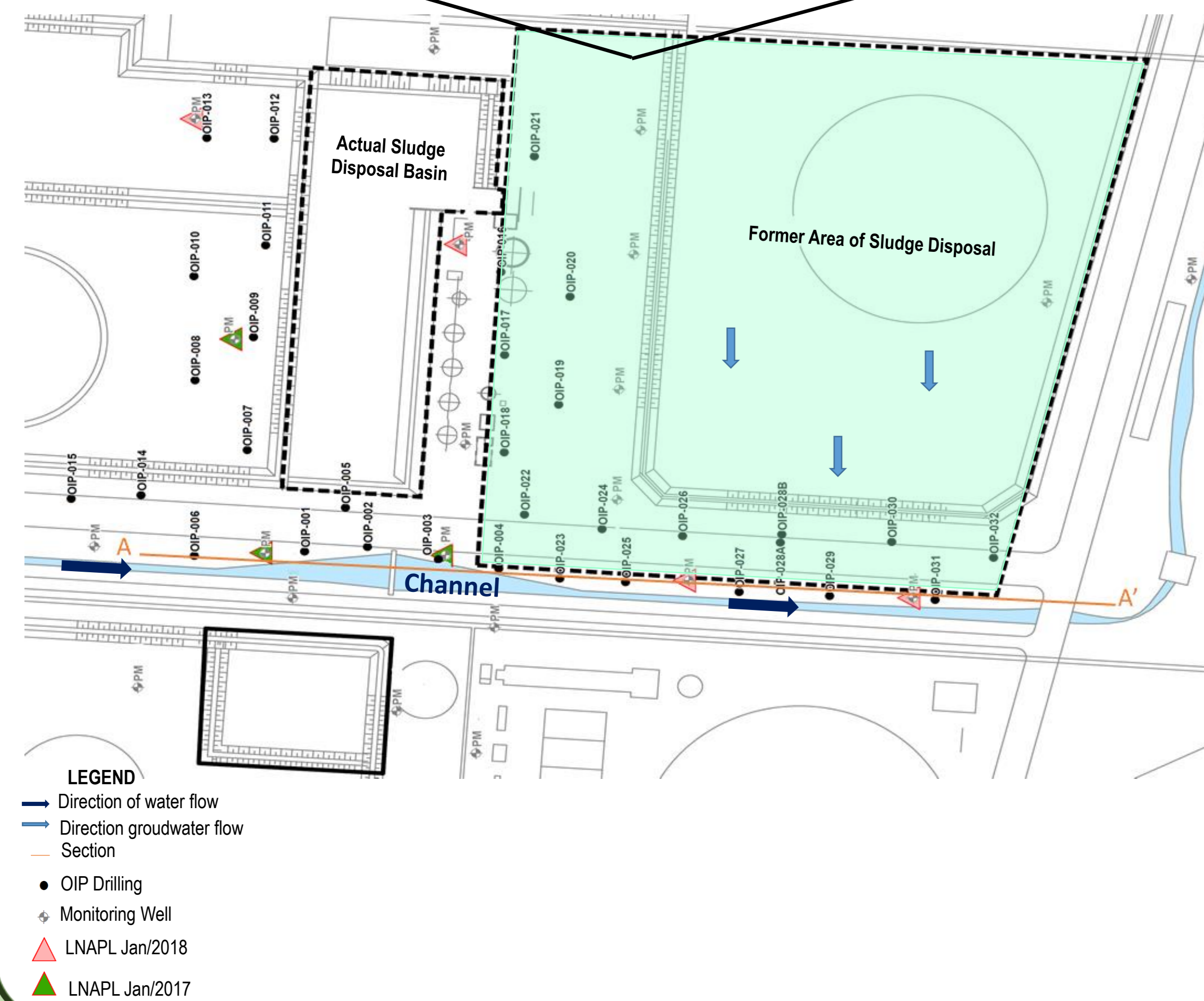


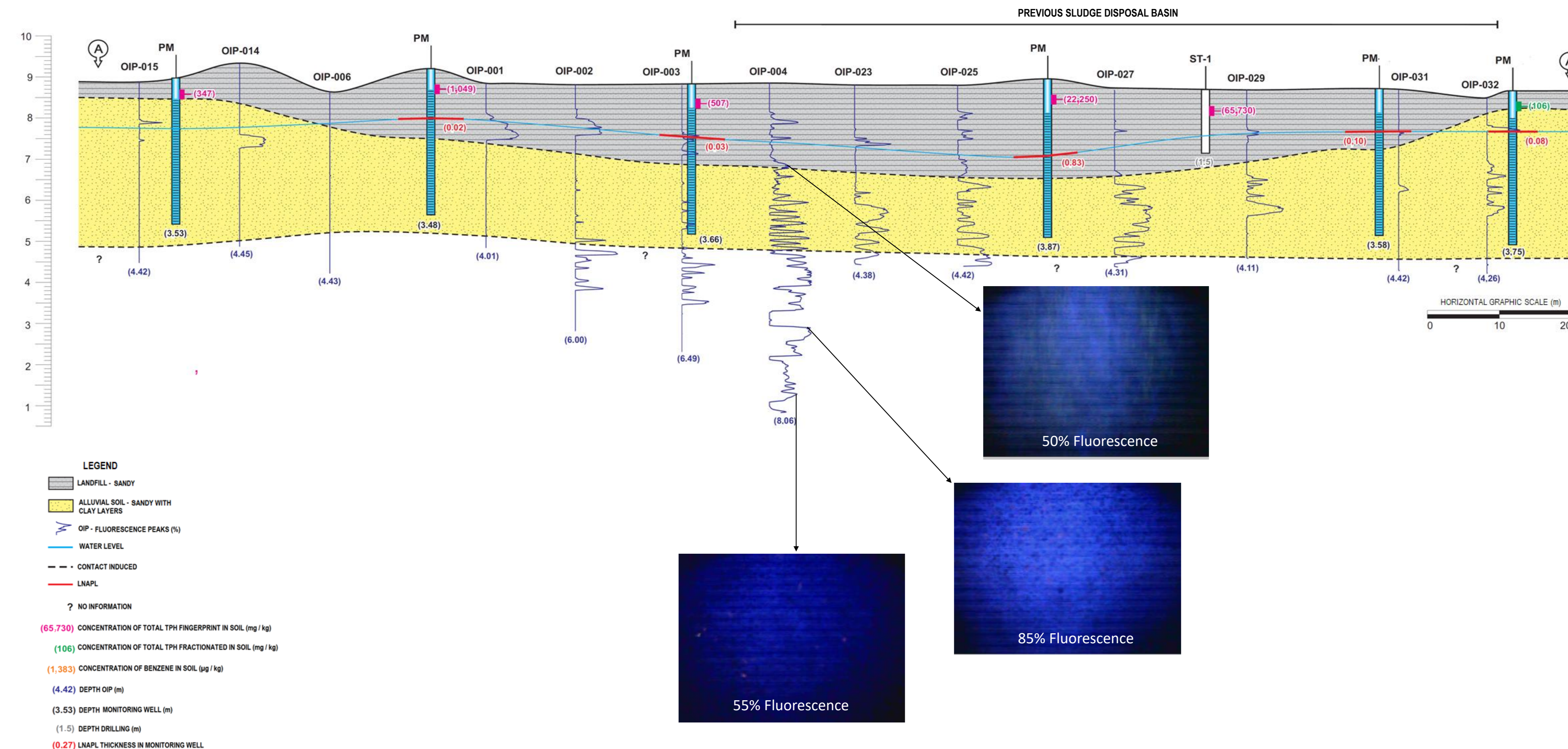
DELINEATION OF RESIDUAL FREE-PHASE PRODUCT USING OIP TOOL

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STEP 1: DATA ACQUISITION



STEP 2: HIGH RESOLUTION INVESTIGATION - OIP



FINAL OUTCOMES

- Conceptual model review;
- Proposal of engineering actions to prevent the contribution of LNAPL in the surface water according to the signals identified by the OIP;
- Study of alternative remediation techniques to remove LNAPL.

Results: It was initially expected that NAPL vertical distribution would occur in the zone of oscillation of the water level surface, between 1.0 m bgs and 1.5 m bgs; however fluorescence readings were observed between 1.80 m bgs and 8.15 m bgs, with peaks going from 30% up to more than 90% of fluorescence. The fluorescence peaks covered both the upper horizon near the water level and deeper portions within saturated zone.

Lesson Learned: The fluorescence observed in the deeper portions is believed to be linked to the base level of the former sludge disposal basin, since it is known that the local elevation has significantly changed through backfilling (although no accurate data is available on its original elevation). Additionally, it is possible to observe that removing the former sludge disposal basin has proved to be less efficient in the borders close to the water channel. The scenario revealed by the OIP tool enabled a revision of the site's conceptual model, therefore supporting the future design of an effective solution to prevent the oily product from reaching the water channel.