

date: 03 October 2019
your reference: 1186/Holbeach Road
our reference: EHTC/
ask for: Susan Armour
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FAO Mr Paul Palgrave
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Dear Sirs

Re: Holbeach Road, Spalding

EHC UK were instructed by GeoInvestigations Limited by email on 19th September 2019 to undertake pre-application advice relating to the above-mentioned location. This letter report presents the review of the GeoInvestigations Limited report 'Remediation Verification Report For The New Lidl Supermarket Site at Holbeach Road, Spalding' dated September 2019 ref 1057-R-02, as well as follow up emails dated 1/10/2019 (with attachments comprising a revised site plan and borehole logs) and 2/10/2019.

A 'Remediation Strategy and Verification Plan' (ref 696-R-01A dated March 2019) was produced following previous site investigation reports. It is recommended that the aforementioned Plan and any previous site investigation reports are read in Conjunction with this letter.

The key driver behind the remediation was the mass removal of petroleum hydrocarbons from soil and groundwater to reduce the potential for unacceptable exposure to offsite residents via vapour inhalation within their domestic properties.

Remedial works to date have included removal of the tank farm and associated pipe work, some pumping of a perched oil/groundwater mix, and removal of soil contaminated with hydrocarbons present at and around the groundwater level. This included a 'smear zone', where contamination from the groundwater is deposited on to the soil as the groundwater level fluctuates. The majority of soil in the 'smear zone' and 10.5m³ of hydrocarbon contaminated groundwater was removed. It was not possible to completely remove the petroleum hydrocarbons in the smear zone on the western boundary, closest to the identified receptors.

Validation sampling was undertaken from both within the excavation and of groundwater from outside of the former tank farm. The test results were compared with the remedial targets derived in March 2019.

All soil samples were below the initial assessment criteria, but elevated petroleum hydrocarbons (Aliphatic C8-C10) in groundwater exceeded the preliminary assessment criteria of 242.9µg/l in borehole MW5, with 1200µg/l recorded. At this concentration there was the potential for free-phase hydrocarbons to be present.

Equilibrium soil vapour concentrations were then recalculated based on the potential for free phase product to be present. When the resulting average daily exposure was compared to the health criteria value using CLEA, the ratio was less than one (at 0.56) and therefore concentrations predicted with offsite residential properties are within acceptable limits.

To add confidence to this, it should also be noted that:

- The main source of contamination (tank farm and associated soil) has been removed.
- No free phase hydrocarbons have been observed in soil or groundwater.
- Previous trial pitting had indicated that the lateral extent of the smear zone in that area was limited.
- The conceptual model used for the risk assessment was very conservative when compared to the actual conditions on site.
- A further 6m³ of oil/water mix has been removed from the sump since the groundwater samples were taken, further improving the situation.

I therefore consider that the information presented adequately demonstrates that the remediation objectives have been achieved.

Prior to submission for condition discharge, the following should be addressed:

- Inclusion of the borehole logs & final waste disposal slips
- Inclusion of the reissued site plan
- Clarification of the series of events

This advice is given in accordance with our standard terms and conditions which can be found here:

<https://www.ehtc.co.uk/terms-and-conditions>

If you wish to discuss this matter further, or require any clarification, then please do not hesitate contact me.

Yours faithfully

**Susan Armour
Commercial Associate**