October 2019

**Horncastle Arena diesel leak recovery and management**

**Background to the diesel leak**

**What happened, when and why?**

In July 2018 a diesel smell was noticed in a stormwater retention basin near Horncastle Arena. Investigations revealed a stake had nicked the southern diesel fuel line of Horncastle Arena, causing diesel to leak out. The pipe was **immediately fixed**, however subsequent investigations revealed it may have been leaking for a number of years and has infiltrated the soil in the area.

By October 2018, a diesel recovery system was in place and a set of shallow perimeter bore holes drilled, which were regularly inspected to pick up any changes in the extent of the diesel plume.

We also began monitoring stormwater sumps/manholes and drains around the Horncastle Arena area.

In February this year, during a routine monitoring round, diesel was detected in one of our perimeter bore holes. Our immediate course of action was to investigate this in more detail by drilling more bore holes.

Following installation of these new perimeter bore holes, diesel was detected in one of the three bore holes. Monitoring showed us the diesel appeared to be moving in a narrow pathway near the boundary of residential property.

We drilled a further four shallow bore holes within the grass berm in Moule and Lindores streets to helped us get a better understanding of the extent of the diesel plume. Monitoring of these four bore holes have not shown any sign of diesel floating on the water surface.

Ongoing monitoring over the past four months has shown no change in these bore holes, which provides further evidence that the leading edge of the diesel plume is stabilising. We continue to keep a close eye on this area.

**Diesel recovery**

**How much diesel has leaked into the soil?**

We estimate it covers an area measuring about 100 metres by 50 metres, extending south to south east of the leak site at Horncastle Arena.

Around 41,000 litres of diesel fuel has been recovered to date. Once we have finished the removal process of recoverable diesel, any trapped residual diesel that remains in the soil will slowly degrade over time through natural decomposition processes.

**How are you recovering the diesel?**

We began recovering diesel in October 2018 – using a pump system to draw product from our bore holes on Horncastle Arena land. By January 2019, we’d installed a longer-term diesel recovery system in a container unit, which housed a controller, pump and storage system. This was located close to our well head trench (which was filled in and re-planted).

The controller system within the container allows our contractor to remotely monitor progress to recover diesel from the well heads. The pump system operated in 5–10 minute cycles every 30 minutes, 24/7. To date we have recovered around 41,000 litres of diesel from this area.

We have re-located our container diesel recovery system to an area near the TAB building and installed a below-ground recovery trench.

This additional trench has helped us recover diesel from the ground where we’ve identified the narrow pathway the diesel was moving along.

The container pump system is designed to be easily moved between the two recovery trenches (the current TAB site and the original site near Jack Hinton Drive). We periodically move it between the two sites.

**Who’s working on the recovery of the diesel?**

Vbase is managing the diesel recovery and has put together a project team of industry professionals and representatives from Christchurch City Council, Environment Canterbury and Addington Racing Board. Professional expertise include:

* Environmental monitoring, science and engineering
* Designing and operating diesel recovery systems for the fuel industry.

**Has any diesel been found recently in stormwater drains, sumps or retention basins?**

We continue to monitor all stormwater drains, sumps and retention basins in the Horncastle Arena area. We have not detected diesel in any of these recently.

**Communicating with residents**

We are very mindful of local residents’ anxiety about the diesel leak and the ongoing diesel recovery and investigative work we are undertaking. We routinely and regularly send updates about our investigations – what’s planned and what we’ve found, and what this means for residents and their properties.

We do letter box drops and face-to-face door knocking. We make sure our communications include contact details, and for those people living near our bore holes an offer to meet with the project team.

**Residents’ health**

**What about the health risk?**

Addington’s drinking supply is drawn from a deep aquifer and these wells are located hundreds of meters from the area where we have found diesel.

In addition, the reticulated drinking water supply lines in the immediate area are located at relatively shallow depth, above the water table so are not in direct contact with any diesel in the ground.

However, as a precautionary measure the Council tested the local drinking water and **no trace of diesel fuel has been found.**

The Council also inspected, and continues to monitor, the nearby sewer line in Moule Street and no trace of diesel has been found.

At this stage we do not believe there is any immediate risk to nearby residents or the environment. However, we will take every precaution to manage the situation and have been in touch with the Council and Environment Canterbury.

Council staff are advising the Medical Officer of Health, Dr Alistair Humphrey of the steps we are taking.

**What about the drinking water supply?**

Testing for diesel contaminants in local drinking water was undertaken as a precautionary measure in early October 2018 and again late-November 2018 showed no trace of diesel in drinking water.

We can now feel reassured that none of the leaked diesel has entered the drinking water supply.

Drinking water mains run close to areas that have been detected as having diesel present. However, the ground testing done to date has only detected diesel at depths of between 1.5–2 metres below ground and in varying levels. Typically, Council drinking water mains are at shallower depths.

The Council’s wells supplying the drinking water for the reticulated supply are located over 500 metres away from Horncastle Arena, and are all drawing water from the deeper groundwater aquifers. These wells are not at risk from this diesel leak.

**What about vegetable gardens?**

Ground testing done to date has detected diesel only at depths of between 1.5–2 metres below ground and in varying levels. Vegetable roots are typically shallow and would not be affected.

Canterbury Medical Officer of Health Dr Alistair Humphrey says that liquid diesel in the ground is not toxic to humans. If diesel had entered into some local water supplies, the taste and odour would be detected long before any toxic effects from ingestion were likely to occur. If anyone notices a taste or smell of diesel in their drinking water, they should contact the Council on 941 8999 or 0800 800 169.

**Contact details**

If you have any questions, please contact Chris Mintern, General Manger Vbase

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