File note

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Patea Freezing Works - Investigation of fill areas

The entire embankment area between the factory and estuary, on the southern (seaward) side of the site, had been used for the disposal of waste materials from the site. Of particular interest was the dumping of ash and clinker from the early period when the boilers were coal fired, prior to fuel oil and then gas.

Test pits

It was originally intended that up to 25 test pits would be excavated over the entire site to determine other fill locations. However, discussions with past employees indicated that the disposal of waste materials occurred exclusively in the area adjacent to the estuary. In addition, the site is flat and has a high water table so it was decided to concentrate resources on the investigation of this area. On 11 March 2008, a series of test pits were excavated on terraces in the southwestern (8 pits) and southeastern (5 pits) corners of the site, noting the depth to natural ground and collecting samples from any areas of interest.

<u>Southwest corner</u>

Pit 1 (821)   2637361-6159383
Natural ground at 2.5m, sampled dark material at 1.5m, noted rubble/debris.

Pit 3   2637382-6159377
Natural ground to 1.5m, not sampled.

Pit 2 at 2637377-6159380 was natural ground to 1.5m where a stormwater pipe was struck, no photo or sample taken.

Pit 4 (822)   2637396-6159372
Natural ground at 1.5m, sampled dark material at 0.5m.

Pit 5 (823)   2637394-6159364
Building rubble to 2m, sampled dark material at 1.5m.

Pit 5 excavation

Pit 5 spoil, showing extensive building rubble.

Pit 6 at 2637351-6159399, natural ground encountered under approx 200mm of metal.

A surface soil sample (824) was taken at 2637348-6159410, of blackened soil amongst rail line metal.

Pit 7 (825)   2637370-6159394
Under rail line, blackened gravel to 0.4m then natural ground, sampled dark material at 0.3-0.4m

Pit 8 (826)   2637388-6159422
Sampled dark band at 0.2-0.3m, pit had been dug north of the northwest corner of the main reservoir.

Southeast corner

Pit 1 (828)   2637624-6159206
Fill to bottom of hole at 3m, sampled dark material at 1.5m.

Pit 1 spoil - ash, bottles, steel, building rubble.

Pit 2 (829 & 830)   2637622-6159215
Layer of pumice 0.2-0.3m, then dark layer
0.3-0.5m (sampled) and friable red material
(sampled at 1.5m).

Pit 2 (831)
Puggy white material (sampled from bucket)
and friable red material.

Pit 2 spoil showing fill material

Pit 4 (832)   2637611-6159235
Natural ground 1.5m, sampled dark material
at 0.3m.

Pit 3 dug at 2637619-6159232, natural ground.

Pit 5 (833) dug at 2637600-6159273, sampled dark layer 0.3-0.4m on top of natural ground, clinker from boilers evident in spoil.

Trench

A trench approximately 1 m wide, 1.5 m deep and 85 m long was excavated parallel to the estuary to capture surface water flow during firefighting activities. This provided a great opportunity to inspect spoil from the trench and the soil/fill profile, and to collect samples from areas of interest. Inspection of the trench spoil revealed that extensive dumping of building rubble had occurred in this area. A band of dark material approximately 100 mm thick was present at a depth of around 1 m, along almost the entire length of the trench. On 13 March 2008, samples of this material were collected at 10 m intervals and clinker was present in most, upon visual inspection.

Trench 1 (949)   2367427-6159359
Sampled dark material at 1m, clinker evident in sample.

Trench 2 (950)   2367439-6159353
Sampled dark material at 1m.

Trench 3 (951) 2637446-6159350
Sampled dark material at 1m, clinker evident in sample.

Trench 4 (952) 2637457-6159349
Sampled dark material at 1m.

Trench 5 (953) 2637469-6159348
Sampled dark material at 1m, clinker evident in sample.

Not sampled due to extensive bricks

Trench 6 (954)   2637490-6159347
Sampled dark material at 1m, clinker evident in sample, 20m from previous due to bricks.

Trench 7 (955)   2637500-6159345
Sampled dark material at 1.2m, clinker evident in sample.

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