

# Inventory of potential on-site odorous waste materials

Potentially odorous on-site waste materials	Waste type	Waste description	EWC	Location	Source	Quantity	Age	Treatment method	Storage	Duration
Waste paper sludge	Solid	Settled solids from paper recycling and tissue manufacture comprising inert fillers of clay and limestone and short fibres of cellulose, hemi-cellulose and lignin	03 03 05	Old Tip	Waste materials from the former paper mill	6,255m <sup>2</sup> / 19,500m <sup>3</sup>	circa 42 years	The surface of the Old Tip is to receive a nominal re-grade to facilitate the installation of the treated waste paper sludge from the New Tip (which forms the initial substrate of the restoration cover system)	N/A	Re-grade operation anticipated to take 2 weeks
			03 03 05	New Tip		1,075m <sup>2</sup> / 3,000m <sup>3</sup>	<28 years	The waste paper sludge in the New Tip is to be excavated and mechanically mixed with cement at a ratio of 10:1 to form a low density, chemically and geotechnically stable aggregate (for use as the basal layer of the Old Tip restoration cover system). This new material is categorised as EWC 19 03 07.	During the mixing operation the treated material is to be stored locally within the footprint of the New Tip in stockpiles circa 500m <sup>3</sup> to allow the mixed product to cure and enable the necessary confirmatory testing to be carried out. Post treatment the stockpiles are to be relocated to the east end of the Old Tip in preparation for placement as part of the restoration cover system	The mixing process and temporary stockpiling of materials is anticipated to take approximately 8 weeks
Leachate	Liquid	Liquid that, passing through other matter which extracts potentially environmentally harmful soluble and suspended solids	19 07 03	Old and New Tip	Waters passing through the Old and New Tip wastes.	EQS exceedances have been recorded within the waste paper sludge, however, the levels at the discharge point are within limits suggesting that the leachate is either being contained or subject to significant dilution.	circa 42 years	Leachate is to be pumped from the leachate chamber located towards the west end of the New Tip, into temporary containment for testing. Dependant upon the results of testing, the leachate is either to be disposed of on site under discharge consent NPSWQD006635 or removed off site to a suitable facility	Leachates are to be stored in temporary containment located within the footprint of the New Tip	It is anticipated that temporary containment of leachates will be ongoing for a 10 week period
Landfill gas	Gas	Landfill gas generally containing: <u>Methane</u> (CH <sub>4</sub> ) - <i>Odorless</i> <u>Carbon Dioxide</u> (CO <sub>2</sub> ) - <i>Odorless in low concentrations</i> <u>Hydrogen Sulphide</u> (H <sub>2</sub> S) - <i>Pungent odour</i> Landfill gas generation is highly dependant upon atmospheric pressure and water table movements	N/A	Old Tip	Anaerobic degradation of the waste paper sludges located within the Old Tip	Surface flux box testing by SGP found a maximum surface emission rate of 1.0 l/m <sup>2</sup> /hr (equivalent to natural wetlands)	circa 42 years	The restoration cover system of the Old Tip will enable bio-oxidation of the landfill gas	N/A	Ongoing
Hydrocarbon impacted soils	Solid	Hydrocarbon impacted soils due to historic spillages on site.	17 05 03 17 05 04	Former bulk fuel storage areas of site	Accidental spillages	Unknown (but significant volumes are not anticipated)	Unknown	Hydrocarbon impacted soils will be excavated and relocated to temporary stockpile on a hardstanding. Testing will be carried out to determine the severity / type of contamination. Dependant upon testing the materials will be subject to either ex-situ bioremediation / soil stabilisation for retention on site or disposed off site at a suitable facility	Hydrocarbon impacted soils will be stockpiled separately on a suitably protected and bunded hardstanding for testing and potential treatment.	Unknown