

**PROOF OF EVIDENCE
OF
JAMES PEARSON MCIWM
FOR
THE ENVIRONMENT AGENCY**

**REGARDING AN APPEAL BY NICK BROOKES
AGAINST THE ISSUE OF AN ENFORCEMENT NOTICE UNDER REGULATION 36 OF THE
ENVIRONMENTAL PERMITTING (ENGLAND AND WALES) REGULATIONS 2016**

PINS APPEAL REFERENCE NUMBER: APP/EPR/684 (ENV/3353252)

1. Introduction

1. This proof of evidence has been prepared by James Pearson. I am currently employed by the Environment Agency as a Senior Advisor in the National Hazardous Waste Compliance and Misdescription Team. I have held this post since 2018. I have worked for the Environment Agency in various waste management roles since 2011, including Environment Officer and Senior Technical Officer. My current role involves providing technical support to colleagues on issues relating to hazardous waste and waste classification. This includes answering complex technical queries, writing technical guidance and delivering training to EA staff. I was the lead for the EA's national campaign on the classification of trommel fines in 2020 and have been the national subject matter expert for this waste stream since.
2. I have been a fully chartered waste manager with the Chartered Institute of Wastes Management since 2017.

2. Scope and structure of proof of evidence

3. This proof of evidence has been prepared to assist the Inspector at the hearing in appeal reference APP/EPR/684 (ENV/3353252).
4. My evidence primarily addresses the following matters:
 - The legal framework for classifying trommel fines
 - The risks that trommel fines pose to the environment and human health
5. My evidence therefore explains the regulatory background and general concerns that underpin the Environment Agency's approach, against which we do not consider the appeal site to be acceptably managed. However, I do not address issues of day-to-day compliance at the appeal site. My colleague Jemimah Smith deals with these issues in her proof of evidence.
6. References to documents in the Core Document Library for this appeal in my proof of evidence are given in the form "**CD#**" where # is a core document number.

3. Trommel fines and waste classification

7. Trommel fines are fine fractions of waste which are produced as part of a mechanical treatment process. Waste is passed through a trommel (a large cylindrical revolving screen) to remove and segregate larger materials. The granular material, typically between 10-40mm, which is too fine to move through the trommel, falls out of the

screen where it is collected and dealt with as a separate waste stream known as trommel fines or simply 'fines'.

8. Correct classification is the basis for ensuring that the collection, transportation, storage and treatment of waste is carried out in a manner that protects the environment and human health and in compliance with legal requirements. The UK guidance which consolidates the legislative requirements to classify and assess waste is Technical Guidance WM3 (**CD6.5**). WM3 is a comprehensive practical guide for anyone involved in producing, managing and regulating waste. Although it is not statutory guidance, it sets out our recommended method for classifying and assessing waste, to ensure the legislative requirements which underpin the need for accurate classification and assessment, primarily (but not only) the duty of care, are met in full.
9. All waste within scope of the Waste Framework Directive ("**WFD**") (**CD9.7**) must be classified using one or more of the codes in the List of Wastes (LoW). The LoW categorises waste types according to what they are and how they were produced. Divided into twenty chapters (related primarily to specific industries), individual wastes within each chapter are assigned a six-figure code. Decision 2000/532/EC establishing a list of wastes ("**the LoW Decision**") (**CD9.6**) clarifies the structure of the LoW and lays down detailed rules for selecting an appropriate waste code. It is explained that the sequence of waste code selection must be followed to identify the correct waste code. This involves identifying the most relevant chapter, sub-chapter and LoW code.
10. WM3 sets out the seven steps that must be followed to classify waste. The first step is to check whether the waste needs to be classified, i.e. is it controlled waste? Steps 2 and 3 involve identifying the relevant code or codes from the LoW and identifying the assessment needed to classify the waste. Chapter 19 of the LoW is for wastes from waste management facilities. Sub-chapter 19 12 is for wastes from mechanical treatment. It is within this sub-chapter that the two most suitable waste codes for trommel fines are found: 19 12 11* "*other wastes (including mixtures of materials) from mechanical treatment of waste containing hazardous substances*" or 19 12 12 "*other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 191211**". These are known as 'mirror entries' and require a hazardous property assessment to determine if the trommel fines are hazardous (19 12 11*) or non-hazardous (19 12 12). Step 4 requires the producer to determine the chemical composition of the waste. For trommel fines, the only way to determine this is through sampling and chemical analysis. Step 5 requires the producer to identify if any of the substances in the waste are hazardous substances or Persistent Organic Pollutants ("**POPs**"). Step 6 requires the producer to assess

whether the waste displays one or more of the 15 hazardous properties (“**HP**”) listed in Annex III of the WFD. Finally, step 7 requires the producer to assign the classification code and provide a description of the waste. Unless these steps have been followed the mirror non-hazardous code cannot be assigned and the waste should be classified as hazardous on a precautionary basis in line with technical guidance WM3.

11. With regards to providing a description of waste, the Duty of Care Code of Practice (**CD6.11**) states that producers must ensure that:

“3: The description of the waste is accurate and contains all the information you are reasonably in a position to provide to ensure the lawful and safe handling, transport, treatment, recovery or disposal by subsequent holders”

12. The primary function of a trommel is size separation and therefore the resultant fines are essentially fine fractions of whatever inputs are fed into the trommel. If you put soil, stone, glass, paper, wood, and plastic through a trommel then the fines will contain fine fractions of soil, stone, glass, paper, wood and plastic. Although most waste sites that produce trommel fines are not authorised to accept hazardous waste, mixed skips have the potential to contain contaminated waste. Hazardous substances present in such inputs, such as asbestos fibers or oil, would not be removed by the trommel, and would accumulate and concentrate in the fines. Although trommel fines can have the appearance of soil, this would not be an accurate description: trommel fines derived from construction and demolition or municipal wastes are a mixed waste, comprising fine fractions of the waste inputs. It is due to the mixed nature of trommel fines that they are coded as 19 12 11*/ 19 12 12. These codes are used for wastes from mechanical treatment (such as a trommel) that are either a mixed waste or a waste not listed elsewhere in subchapter 19 12. These codes have been in the LoW since 2005.

4. Environment Agency investigation and the risks associated with trommel fines

13. The Environment Agency’s concerns about trommel fines, their potential environmental impact and the need for more proactive regulation have become more acute since around September 2020.
14. In 2018 a landfill operator in Yorkshire notified their local officer that two separate producers of purportedly non-hazardous waste fines had deposited loads which later proved to be hazardous, following routine verification sampling. This was due to

elevated concentrations of petroleum hydrocarbons and lead. There was a similar instance in south London where another landfill that carried out verification testing found they had received trommel fines that should have been classified as hazardous, again due to high concentrations of petroleum hydrocarbons. On the back of this, waste officers in Yorkshire area were asked to carry out sampling of trommel fines at sites which classify their waste fines as non-hazardous. Of the five sites sampled, three came back as hazardous (elevated petroleum hydrocarbons and heavy metals), one was just under the threshold, and one was clearly non-hazardous.

15. As a result of the issues identified, in 2019 the Environment Agency led a national campaign to sample trommel fines at multiple waste sites across England. The aim of the campaign was to better understand the chemical composition of trommel fines and the scale of the issue with misclassification of this waste stream. The findings of the campaign were written into the report: *Trommel fines: chemical analysis and waste classification* (September 2020), provided at **Appendix 1** to this proof of evidence. Below is a summary of the findings.

16. Samples were taken at 36 individual waste sites that regularly produce trommel fines. The results showed:

- 42 out of 56 samples (75%) contained petroleum hydrocarbons (oil) above the 0.1% hazardous threshold for HP7 carcinogenic and HP11 mutagenic.
- Four out of 67 samples (6%) contained heavy metals above the hazardous threshold for HP14 ecotoxicity.
- Six out of 76 samples (8%) were found to contain asbestos. Two of these samples contained asbestos above the 0.1% hazardous threshold for HP7 carcinogenic.
- Over 60% of the samples had a LOI (Loss on Ignition) result of >10%. The LOI test is used to determine whether trommel fines going to landfill are inert, for landfill tax purposes. Trommel fines with >10% LOI cannot qualify for the lower rate landfill tax.
- High levels of sulphate in trommel fines, indicating the presence of gypsum (plaster board). Although it is not a hazardous substance, gypsum (and other high sulphate bearing materials) is of concern because when it is mixed with biodegradable waste at landfill it can produce hydrogen sulphide, resulting in a rotten egg smell that can cause significant odour pollution. The landfilling of gypsum and other high sulphate bearing wastes with biodegradable waste has been prohibited in England and Wales since July 2005. However, plasterboard which has been broken up can find its way into trommel fines and ultimately into landfill. The consequences of

this can be significant, as was seen with the odour pollution at Whalley's quarry.

17. The findings of the campaign were that trommel fines, particularly those derived from mixed construction and demolition skip waste, are a highly variable waste stream. Construction and demolition waste can include a range of hazardous materials including, but not limited to, contaminated soil, asbestos, fuels, paints, solvents, treated wood, contaminated packaging and insulation board. If these materials are disposed of in mixed skips, they are not always visible, making it difficult to identify and remove them prior to processing. Even if the waste inputs are classified as non-hazardous, the trommel fines could still exceed hazardous thresholds and pose a risk to both the environment and human health. This is because hazardous substances within the waste, such as oil, can accumulate in the granular fraction.
18. The analysis showed that trommel fines have the potential to display carcinogenic and ecotoxic hazardous properties. This poses a potential risk to human health and the environment if the waste is not managed appropriately. Whilst robust waste acceptance procedures can reduce the risk of non-conforming materials entering a site, chemical analysis is needed to provide assurance that the resultant trommel fines are non-hazardous and are suitable for the proposed recovery or disposal option. Hazardous fines must be sent to a suitably authorised hazardous waste facility. Non-hazardous waste management facilities may not have the necessary containment and infrastructure to manage this waste safely. Trommel fines which are used to produce an aggregate also pose a risk, as this material can end up in the environment with no containment, giving a clear pathway to environmental pollution such as land contamination or pollution to ground or surface water. There would also be no indication to the people handling this material that it contains hazardous substances and therefore there is a risk to human health, particularly as trommel fines have the potential to contain substances such as oil and asbestos that are carcinogenic.
19. The analysis also showed that the trommel fines contained a significant quantity of non-inert material. Typically, in trommel fines this would include organic materials such as wood, plastics and textiles. Non-inert materials can be biologically or chemically reactive and can increase the risk of waste fires. They are also not an acceptable waste input for the production of aggregate.
20. Letters were sent to all operators that produce trommel fines, reminding them of their legal duty to classify their waste and audits were undertaken across the country to assess compliance. My understanding is that a copy of this letter was sent to the Appellant's waste facility on 7th October 2020 (**CD8.8**).

21. In 2023 a review of the trommel fines campaign was undertaken and another report was produced, *Trommel fines campaign review* (August 2023), see **Appendix 2**. Using sampling data from after the initial campaign, the report found an improvement in the chemical composition of trommel fines. The average concentration of heavy metals and petroleum hydrocarbons was below hazardous thresholds. Similarly, the average LOI result fell below the 10% limit. Despite this overall improvement, there were still several samples that breached hazardous thresholds. It also showed the importance of chemical testing, as the results showed trommel fines still have the potential to be hazardous waste.

5. Compliance

22. All producers of trommel fines should have robust waste acceptance procedures in place to identify and segregate any non-conforming materials. They should also undertake regular chemical testing of the fines, in line with a sampling plan, to demonstrate the waste is not hazardous. The frequency of testing should be informed by characterisation testing, which provides information on the chemical composition of the waste as well as the variability. If the fines are highly variable in composition and close to hazardous thresholds then much more frequent testing would be required to justify a non-hazardous classification. Without chemical analysis and a hazardous property assessment the non-hazardous code cannot be applied. This is set out on page 7 in WM3:

“Where the composition of a mirror entry waste is not known and genuinely cannot be determined the mirror entry waste must be classified under the ‘mirror hazardous’ entry.”

23. In these instances, the operator would be expected to classify their waste as hazardous until such time they are able to provide evidence to demonstrate that it is non-hazardous. This is also consistent with the application of the precautionary principle to waste management.¹ The precautionary principle does not require evidence of harm to be demonstrated before action is taken to exclude that harm.

6. Mixing of hazardous waste

¹ See for example Case C-487/17 *Criminal proceedings against Alfonso Verlezza* (**CD10.8**) where the Court of Justice of European Union concluded that the precautionary principle must be interpreted to mean that it is for the waste holder to determine the presence of hazardous substances or to assess the hazardous property of that waste and if it not possible to do this, the material must be classified as hazardous waste (paras. 60 and 62).

24. Regulation 19 of the Hazardous Waste (England and Wales) Regulations 2005 (CD9.2) prohibits the mixing of hazardous waste with non-hazardous waste, a different category of hazardous waste, or any other substance or material, unless authorized by an environmental permit. This is to ensure that hazardous waste is appropriately managed and not diluted. In the absence of a hazardous property assessment, trommel fines should be assumed to be hazardous waste and therefore mixing this waste with another waste is prohibited.

7. Management of trommel fines

25. Landfill is the primary disposal route for trommel fines from mixed construction and demolition waste. The fine nature of the material and the fact that it can contain a mixture of soil, plastic, paper, wood, polystyrene and other materials, makes it very difficult to recycle further.

26. Trommel fines are often used as cover at landfills to prevent the escape of litter and reduce odour from waste that has been deposited at the landfill each day. In order for fines to be utilised in this way, the producer needs to demonstrate that the fines are non-hazardous, that they have <10% LOI and that they do not contain high sulphate bearing material (e.g. gypsum). These controls are in place to prevent pollution and ensure the waste is managed appropriately. Fines that are high in sulphate must be sent to a separate cell to prevent odour pollution. Fines that are hazardous should be sent to a suitably authorized hazardous waste treatment or disposal facility.

8. Conclusion and endorsement

27. In summary, trommel fines are a complex, variable waste stream, with the potential to contain substances that pose a risk to both the environment and human health. Understanding the chemical composition of trommel fines is vital to ensure that the waste is classified correctly and managed appropriately.

28. The evidence that I have prepared and provide for this appeal in this proof of evidence is true. I confirm that the opinions expressed are my true and professional opinions.

Signed: 

Dated: 13/10/2025

James Pearson

Environment Agency – Crosskill House, Beverley, East Yorkshire.

LIST OF APPENDICES

Appendix 1: Trommel fines: chemical analysis and waste classification – 2020

Appendix 2: Trommel fines campaign review – 2023