WPI 3.4.2.
As-built document, restauration work report

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SUMMARY

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1. Introduction

The NEW-REGENERATIS project (Interreg North-West Europe), coordinated by SPAQUE, aims at demonstrating that resources (metal, minerals, and land) can be recovered from Past Metallurgical Sites and Deposits (PMSDs) by Urban Mining techniques.

Duferco's involvement in the project essentially consists in providing an experimental site and to process a pilot project following prescriptions elaborated by CTP partner.

The proposed flowsheet has been widely described by CTP in deliverable I3.4.3 "Report on lessons learnt on site" but we resume hereunder main objectives of the pilot :

The pilot test is divided into two batches:

- Recovery of reusable materials such as aggregates and fines from slag;

- Demonstration that fines-type materials can be recovered to stabilize soils and as sub-foundations for aggregates.

The principle of the treatment consists of recovering materials from a batch of around 3,000 tons of slag at the DUFERCO site in La Louvière in order to reproduce the previously determined protocol on an industrial scale, by producing two experimental boards:

- One made up of aggregates used as a sub-base layer;

- One made up of soil stabilised in part by slag fines.

These boards will ultimately serve as a platform for demonstrating the technical feasibility of the process developed.

In order to conclude this experimental test, this report assess the restauration work done on site after the pilot.

2. MATERIAL EXTRACTION

2.1 Extraction and storage

About 3.000 tons of material were necessary to ensure the success of the pilot test. Material was extracted from slag stockpile where samples have been previously taken for the characterization of the site.

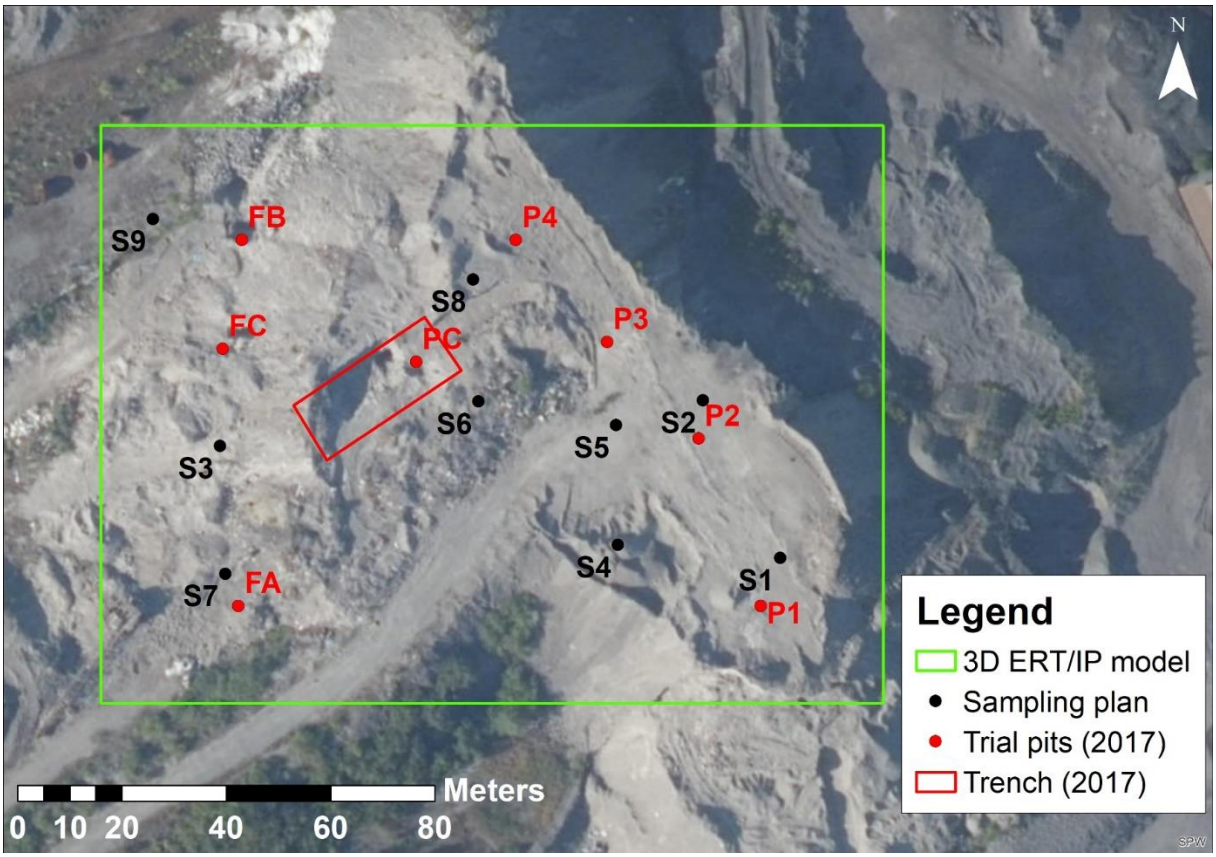

Figure 1 : Excavation area

Figure 2: Excavated S6 to S8 area

Figure 3 : Excavated S1, S2 and S4 area

In total, there were 3263 tons of material extracted, transported and stored to the working area. 216 tons of these slags has been directly removed from the process as they were containing too many rubbish material.

Figure 4 : Stockpile with rubbish material on the left side

Figure 5 : Slag directly removed - too many exogenous material

2.2 Pilot test

Test has been done with screens, crusher, cranes, loaders… All occupying a dedicated area on the bottom of the slag stockpile

Figure 6 – Working area

Figure 7 : Magnet

Figure 8 : Screen

Figure 9 : Boards of aggregates and stabilized soil

Results of the pilot test are addressed in deliverable I3.4.3 “Report on lessons learnt on site”

2.3 Restauration work

After completion of the test, all engines have been removed from the site and all products have been stored and labeled on a dedicated platform pending validation of the possibilities for valorization.

Figure 10 : Storage of potentially valuable materials

Figure 11 : Label of processed material

These stock of valuable materials will be kept on site for future uses and boards will be also kept as demonstration example of the technical feasibility of the process developed.

Exogenous material removed from the very first step of process has been transported back on the top of the slag stockpile.

3. Conclusion

Pilot test has been started on 26th February 2023 with extraction and transportation of slags from top of the Duferco stockpile.

All recovered material have been stored on a dedicated platform for potential future valorization and material not processed have been placed back on their original extraction origin.

Restauration operations on Duferco site have been concluded on 23rd June 2023.