



## **Workshop RAWFILL - “ Legal requirements in France and advantage of landfill mining for authorized landfill”**

**Gaëtan VIVIEN**  
- **SAS Les Champs Jouault**

# Our Role in RAWFILL



## SAS Les Champs Jouault :

Owner of a landfill created in 2009

- 20 years of exploiting, 75 000 T per year
- exploiting in bioreactor mode (with reinjection of leachates)

Integrate research and development in our management.

- national research program especially with IRSTEA : the main question is about the stability of waste.

**RAWFILL interest** : Sustain our activities and anticipate the future with the development of new opportunities for landfills.

# Landfill-mining - First Experience

## Lingreville Case:

18 000 tons of waste : 4 000 tons re-use (sand)

- extraction, screening, re-use, valorization or burying

- context : environmental emergency

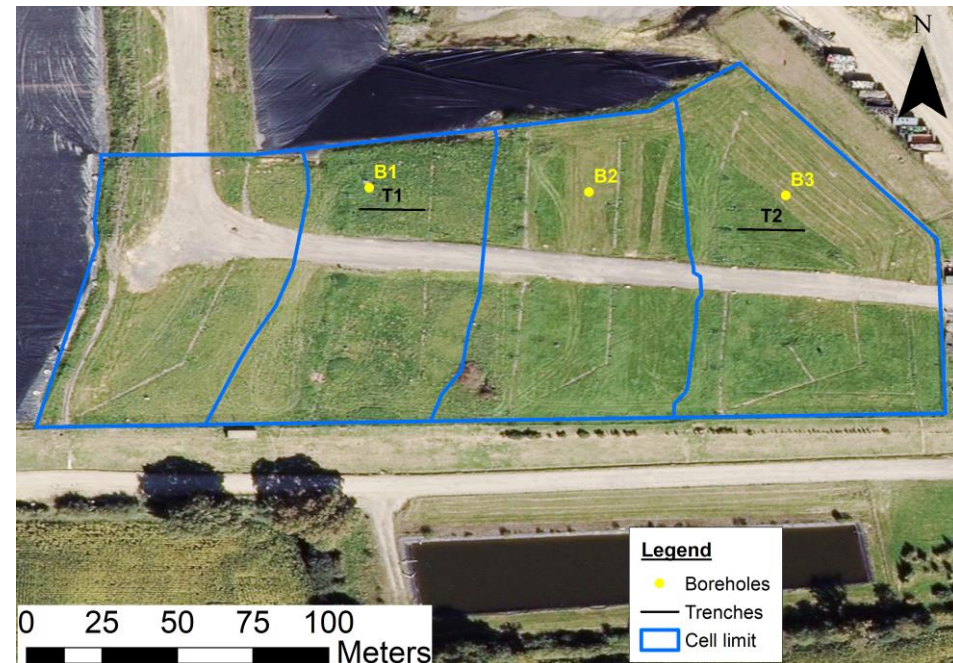


# Site-Pilot : Sampling Planning

## Our main input in RAWFILL project :

site available for geophysics and experimental characterization. Focus on older cells.

- November 2018 : first geophysics campaign : pre-sampling for boreholes and trenches.
- 5 works planned in December 2019 (250m<sup>3</sup> total)
- Extraction, screening like we do in Lingreville
- Waste analysis and valorization expected



# Follow-up of authorities and regulatory



## Main follow-up institution :

“Local authority” by DREAL (Direction régionale de l’environnement, de l’aménagement et du logement)

Regional authority in charge of the environment

We send an information notice (“*portée à connaissance*”) (description of our planned operations at the beginning of 2019

And after discussions, modifications, we receive a additional decree (“*Arrêté complémentaire*”) that authorizes us to perform those operations.

-> Description of this document below

# Follow-up of authorities and regulator



## Timing requirements :

- 1 month before extraction : Need to prevent regional authorities for the start of operations
- All the operations (extractions, screening) need to be done in 3 weeks and each work have its own planning :
  - 2 days per borehole
  - 4 days per trench
- Only 15 days are allowed to find valorization outlet for the waste extracted. But depending on the analysis delays, it will be short... a discussion is on-going.

# Follow-up of authorities and regulator



## Biogas measurement and requirements :

- Continuous measurement :
  - Every agent will be wearing multi-gas sensor
  - 3 points of measurement will be done each day and required forms will be filled

Although, we work on older cells and we saw the biogas production decrease on those cells, biogas risks will be present. Workers will be acknowledged of the risk.

# Follow-up of authorities and regulator



## Temporary cover layer and definitive cover layer :

- a temporary cover layer will be performed after each working day. Any borehole or trench will be on open-air during the night.
- we are authorized to use neutral material or no-hazardous-waste without risk of flight to perform this layer.
- After extraction a definitive cover layer is performed as we do it every time : with geomembrane, vegetal clay, etc..
- Geomembrane need to be controlled by external consultant.
- Each material (ground, clay, etc..) that is used for any layer will be considered as waste and treated as such.



# Follow-up of authorities and regulator



## Reporting :

- 2 months after works, we will produce reports for :
  - \* a material balance (quantity, destination of each waste)
  - \* a performance report
  - \* a control report of the definitive cover-layer

# Interreg



EUROPEAN UNION

# North-West Europe

# RAWFILL

European Regional Development Fund

# Thank you!