



# **Destination Landfill**

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# **Google search**







### Introduction





### Landfill Mineralz Maasvlakte

Landfill for hazardous waste with immobilisation plant;

Designated landfill for NORM waste for which notification is required ("ZELA" < 10 Bq/g);

Permit for the reuse of NORM materials for which a permit is required > 10 Bq/g (on hold);

Specific solutions for specific problems.

### **Facts & Figures**





- Since october 1988;
- · Area of 26 ha;
- Capacity of 8.5 million cubic meters (m<sup>3</sup>);
- Fully equiped for hazardous wast;
- Specialized in immobilisation for strongly leaching waste since 1998 (only landfill in NL);
- 30 fte.

# **Deponie Maasvlakte (VBM)**















# Facts & Figures

Activities

#### **Landfill Maasvlakte**

### Direct deposit

140.000 ton per year:

- 20.000 ton polluted soil
- 60.000 ton residu soil washing
- 3.000 ton asbestos
- 7.000 ton industrial waste

### **Immobilisation**

100.000 ton per year:

- 60.000 ton fly ash incinerator
- 20.000 ton gas cleaning salts
- 10.000 ton industrial ashes (specific clearance)

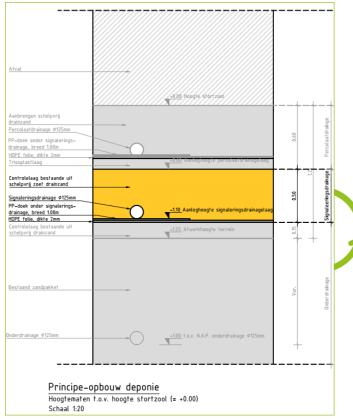
### Reuse NORM

0 ton per jaar:

- Permit
- Projects
- Useful application

### **Construction landfill for hazardous waste**





- Construction required by law.
- Double bottom seal.
- Dubbele check (control drainage).
- leachate water collected and treated in water purification
- Run off also collected and treated.

# **Construction signaling foil**





### Apply mineral sealing layer and 2nd foil layer











# In gebruik



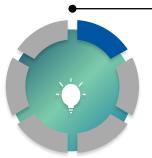








Autoriteit Nucleaire Veiligheid en Stralingsbescherming



Various initiatives from various companies



Principles are strict



Results were not useful or did not offer a solution.



Consultations led to a new perspective: specific clearance on landfill.



Radiation Authority ANVS agrees with approach.



External factors led to an acceleration.

### **Elaboration**



#### STAP 1

(Specific) conditions to the company for that same company.

#### STAP 3

Emphasis on duty of care (protection of employees).

Fulfilling the duty of care requires a critical

procedure of acceptance.

STAP 5

Ability to receive higher values than table, provided they are matched with lower values.



**STAP 2**Enforceable for ANVS.

Possibility to average within the specific clearance within a calendar year.

### **Possibilties**



### **Exclusively**

NORM-materials from Geothermal Energy, Oil- & Gas Extraction and the Transport of Gas;

### **Solution**

For Geothermal Energy and Oil and Gas Extraction this means a solution for a significant part of the NORM materials, even for very high peaks (up to 1000 Bq/g or 300 Bq/g);

#### **Conditions**

Strict conditions for data provision per delivery:

- Data directly from owner of NORM material;
- Validated by (registerded) Radiation Protection Expert;
- Representation of the data is a specific responsibility of the Radiation Expert;
- Representative for the party leading to a thorough and reliable estimate of employee exposure on landfill



1

#### PRE-NOTIFICATION

At the first pre-notification, if necessary, a site visit to assess the administration and storage of NORM materials.

#### PRE-NOTIFICTION STANDARDIZED

- Registration by primary owner of the NORM materials;
- Standard format (excel sheet);
- Associated final analysis reports as an attachment;
- Statement Radiation Expert declaring data are representative.

3

**VERIFICATION OF DATA BY MINERALZ** 

Request for Landfill and implementation of the duty of care

ASSIGNING WASTE REGISTRATION NUMBER AND APPOINTMENT FOR DELIVERY (DATE + TIME)

4

2

