

Oilfield Suplacu de Barcau, Romania

Advanced treatment of produced water



WABAG has built a new produced water treatment plant at the Suplacu de Barcau oilfield for OMV Petrom SA, which is the largest in the country.

Due to specific oil extraction processes the produced water contains large quantities of non-

biodegradable organic compounds. Hence, an innovative process was tailor-made for the specific requirements of the oilfield.

The design includes physical/chemical and biological process steps as well as advanced

filtration and adsorption technologies, which represents a first in this specific field.

The advanced, multi-stage treatment process was tested successfully on the spot over several months. The plant was commissioned in 2017.

Features

- Produced water treatment plant for Romania's largest oilfield.
- Capacity: 8,000 m³/d
- Innovative process using biological steps and activated carbon filter for post-treatment
- Turnkey completion



Client
OMV PETROM SA

Type of contract
EPC – Turnkey execution

Award of contract
November 2014

Commissioning
2017

Capacity
8,000 m³/d

Raw water
Produced water/oil field

Technology
Advanced multi-stage treatment

Main Components/Process Steps

- Storage and equalization tanks
- Dissolved air flotation (DAF)
- Cooling towers (55°C down to 35 °C)
- Biological treatment
- Lamella clarifiers
- Flocculation and dual media filtration
- Activated carbon filtration for extended COD removal
- Sludge dewatering (2 phase centrifuge)
- Service water station



On-site pilot testing: the pilot plant showed that all the required parameters could be easily maintained.



Parameter	Units	Limits
COD	mgO ₂ /l	≤ 125
BOD ₅	mgO ₂ /l	≤ 25
TPH	mg/l	≤ 5
Phenol index	mg/l	≤ 0,3
Total N	mg/l	≤ 15