

Keeping oil waste out of ecosystem

With the new oil resource comes an environmental challenge; disposing of the oil waste. Pascal Kwesiga takes you through the process at the Hoima treatment plant

OIL WASTE TREATMENT



Nyamasoga waste treatment facility is located 45km from Hoima town. Photos by Richard Sanya

It is 9:00am here in Nyamasoga village. Dressed in white laboratory garbs, two technicians enter one of the newly constructed buildings on the expansive land.

With gloved hands, the two technicians pick up lab apparatus to carry out tests on a liquid. It is the beginning of the day's work here.

About 30 metres away from the lab, a man clad in a blue overall is operating an effluent treatment facility (ETF).

The facility is located between eight tanks which are built into the ground.

Over 200 metres away from the ETF, a group of men are working on a landfill and a contaminated storm water dam.

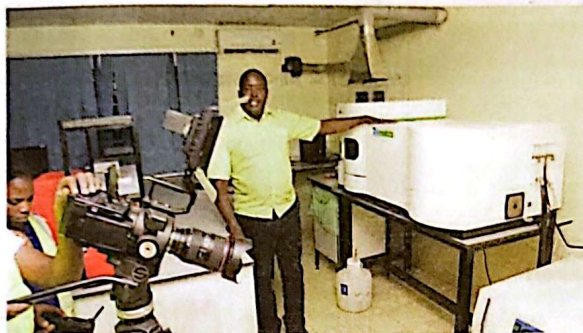
This is Nyamasoga Waste Treatment and Disposal facility located 45km from Hoima town on Hoima-Kaiso-Tonya road in Buseruka sub-county.

Commissioned in 2014, the sh40b plant is owned by Enviroserve, a company jointly run by Green Albertine Uganda Limited and Enviroserve International holding from South Africa.

According to Joel Ogarubo, the plant's landfill manager, the facility has three main components – the landfill, ETF and a contaminated storm water dam. The ETF is used to treat liquid oil waste while the landfill is for solid oil waste treatment and disposal.

He says the plant which currently handles waste generated from Total E & P oil exploration field operations can treat and dispose all sorts of waste apart from radioactive, gases and explosives.

The method of waste disposal, Ogarubo, explains depends on the type of waste. "We take samples of the waste from the field to find out its profile before sending trucks to pick it," he says.



Journalists at the facility

Samples of waste collected from the field are tested again in the facility's lab before they are offloaded from the trucks.

"We want to make sure the waste material we tested in the field before we sent trucks to pick it is the one which has been delivered," Ogarubo adds.

The facility which still has a running contract with Total E & P has so far treated and consolidated drilling mud (liquid waste) and drilling cuttings (solid waste) from Total's operation areas in Purongo in Nwoya, Bugungu wild life reserve in Buliisa and Tangi in the northern part of the Albertine basin. Other oil companies are still consolidating the waste in

exploration areas.

The drilling mud and cuttings are contaminated by the chemicals oil companies apply to soften the soil during oil exploration and other oil linked operations.

Brine (concentrated salt solution) and permeate (a clear water solution) are produced from the liquid oil waste at the end of the treatment process in the ETF.

The tanks adjacent to ETF are used to keep brine, permeate, waste from the field (feed tanks) before it is treated and leachate (taped rain which falls on the landfill). Brine, according to Ogarubo, is used to blend solid waste during the treatment process.

LANDFILL

Apart from brine, the facility also uses cement from Hima factory in Kasese to compress the solid waste in the landfill.

Compression makes it difficult for the rain to percolate into the solid waste which can contaminate water in the ground.

In addition to compressing the solid waste, it is also placed in the landfill in layers separated by non-biodegradable geo synthetic liners imported from Germany. The tanks are also placed on geo synthetic liners.

OBSERVATION BOREHOLES

The facility has sunk observation 11 bore holes around its 100 acres of land to monitor the safety of the water consumed by the neighbouring communities.

According to Ogarubo, they are required to submit reports on the safety of ground water to the directorate of water resources

sh40b Treatment plant

The Nyamasoga Waste Treatment and Disposal facility located 45km from Hoima town on Hoima-Kaiso-Tonya road in Buseruka sub county was commissioned in 2014 and is owned by Enviroserve, a company jointly run by Green Albertine Uganda Limited and Enviroserve International holding from South Africa

after every three months.

The first quarterly report was submitted in July. "It showed that the ground water was still clean," he adds.

STORM WATER DAM

The contaminated storm water dam, facility officials, say is used to collect rain that falls around the plant. The rain is not allowed to flow away from the facility because it is suspected that it might be contaminated.

The contaminated storm water and leachate are treated through the EFT to produce brine and permeate.

More landfills, Ogarubo, states will be sunk depending on the amount of waste available, and that they (landfills) will be capped after 30 years. The facility will be monitored for 50 years after its closure.

"Waste has different effects on people. We will close it after 30 years and monitor it for 50 years. Somebody will keep coming to ensure the environment is not contaminated," he adds.

The facility, Ogarubo, says can handle waste from petrochemical, beverages and other industries.

The National Environment Management Authority executive director, Tom Okurut, says he is satisfied with the technology employed at Nyamasoga waste plant to treat and consolidate waste.

"Their technology is really good and they are doing well. We are happy with what they are doing," he adds.

Enviroserve Uganda limited is one of the three companies which the environmental watchdog was licensed to handle oil waste.

The other two include Luwero industries and White Nile which plans to establish a treatment plant at Hohwa on Hoima-Kaiso-Tonya road.



In 2014, the sh40b Nyamasoga facility is owned by Enviroserve