



## Canada

# **Harold Marcus Terminals, Inc.:**

"In an attempt to reduce fuel odors, and benzene emissions, it was decided to install a Hexa-Cover' system on one of our transmix tanks (gas & diesel mixed), here at the Marcus Terminal in January 2016.

The tank chosen is a 4000 bl. tank, measuring 30 feet wide and 32 feet high. Installation was facilitated through a 24 inch manway cover on top of the tank, where by a large nylon bag containing 1.200 individual hexagonal, interlocking "pucks", was suspended over the manway, using a crane, and the tie on the bottom of the bag released, dispensing the 1.200 pucks in the bag, into the tank, in a matter of seconds. This procedure was repeated for three bags, and in the space of an hour and a half, the installation was complete. A box of 24 additional pucks was supplied and added as the covers came together and interlocked on the fluid surface, exposing gaps.

Since the cover has been installed, it has been observed that odor in the headspace, of the tank has been reduced by an estimated 90%, and around the exterior of the tank, the odor is at times, nonexistent.

Testing of benzene emissions in the headspace of the tank, is ongoing, with preliminary results indicating a reduction of 60 %.

To date, we are very pleased with the performance, and simplicity of Hexa-Cover\* that we have installed on our transmix storage tank"

Update November 2025

The Oil & Gas Duty Hexa-Cover® have been perpetually exposed to Transmix Fluids over a 10 year duration. A sample Cover was fished out of the vessel and examined for weight and overall dimensions.

The 10 year used Cover is within the originally stated margin of weight (+/- 5 grams) for their original weight specification.

A darkening of the polymer from the hydrocarbon fluids is the only indication that this Cover is not brand new.

The overall physical dimensions of the used Cover is identical to a new Cover.

Hexa-Cover® Oil & Gas Duty:

Before and after 10 year duration







## Canada

More than 3.000 installations for the Hexa-Cover® Oil & Gas technology has been deployed, for controlling i.e.:

- \* Reduce tank vent emissions such as BTEX Benzene, Toulene, Ethylbenzene and Xylene
- \* Lower tank head space vapour load burdens
- \* Reduce water vapour
- \* Reduce heat loss
- \* Insulation for liquid surfaces
- \* Reduce offensive and carcinogenic BTEX odours
- \* Reduce expensive defoaming chemicals
- \* Reduce energy consumption

# **CNRL - Canadian Natural Resources Ltd**

"Due to the viscosity of produced heavy oil, we need to heat our storage tanks to 80°C in order to liquefy the oil for transport.

Our goal was to reduce the amount of fuel consumed to maintain the temperature in our heavy oil production tanks.

The storage tanks are already insulated but a void space exists between the top of the oil and the top of the storage tank where heat rises and escapes.

In order to prevent heat loss and improve cost effectiveness, Canadian Natural and a joint venture partner created and tested the installation of a floating blanket that insulates the oil and contains the heat.

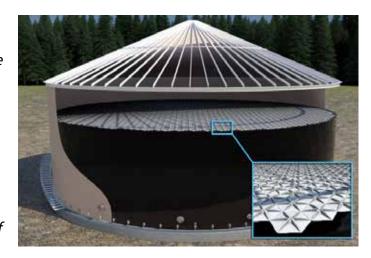
This floating blanket consists of several hundred polymer, hexagonal interlocking tiles. Implementation of this floating blanket created a fuel savings of approximately 20 per cent. By consuming less fuel, we expect to avoid over 27kt CO<sub>2</sub>e/year of emissions over the 10-year life of the project.

To date, Canadian Natural has installed these floating blankets in over 2,000 heavy oil wells and intends to continue installing them in most of our heavy oil production tanks"

## Canadian projects:

Calgary, AB He
Baie-D`urfe, QC Ga
Goderich, ON Wa
Kitchener, ON Wa
Sarnia, ON Tra
Saskatoon, SK Wa

Heavy Oil Gasoline Wastewater Wastewater TransMix Fluids Wastewater





Brazil

Triunfo, RS Wastewater, petrochemical

China

Beijing Industrial wastewater

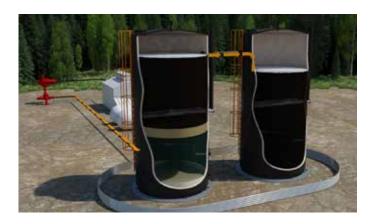
Beijing 1.100 m² Industrial wastewater Beijing 6.400 m² Industrial wastewater

Dalian Industrial wastewater Dongguan Industrial wastewater

Harbin 5.500 m<sup>2</sup> Industrial wastewater

Hebei Industrial wastewater
Heinan Industrial wastewater
Jinzhou Contaminated wastewater
Nanjing Industrial wastewater

Tianjin
 Tianjin
 Tianjin
 Tianjin
 4.000 m² Industrial wastewater (petrochem)
 Tianjin
 4.000 m² Industrial wastewater
 Qilu SinoPec
 Contaminated wastewater







Chile

Santiago 800 m² Wastewater, Refinery Santiago 2.400 m² Wastewater, Refinery BioBio 2.500 m² Wastewater, Refinery ConCon 2.700 m² Wastewater, Refinery

**Denmark** 

DK-4400 Refinery (VOC - benzene, toulene)

**Finland** 

FI-99250 CCD (counter current decantation)

**France** 

F-13165 Diesel tank
F-13500 Wastewater Oil & Gas
F-36670 Wastewater, VOC
F-44480 Industrial process water (Oil & Gas)
F-93155 Collection pit (diesel, gasoline etc)

**Germany** 

D-06237 2.300 m<sup>2</sup> Water storage, Refinery



Greece

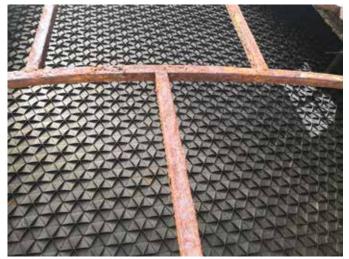
GR-8648 Wastewater (Seawater / Oil mix) GR-1930 1.400 m<sup>2</sup> Oil & Gas applications Kazakhstan

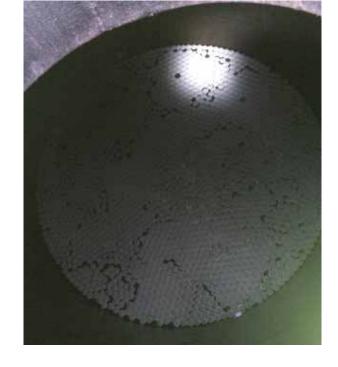
Aktogay 4.000 m<sup>2</sup> PLS reservoir Almaty 1.650 m<sup>2</sup> PLS reservoir

Italy

I-95121 Water storage facility, Refinery











**Jordan** 7.900 m<sup>2</sup> Wastewater



# **KSA**

4.800 m<sup>2</sup> Wastewater facility
1.100 m<sup>2</sup> Wastewater pond 60-90°C (VOC etc))
4.350 m<sup>2</sup> Wastewater

# Netherlands, The

NL-6161 Maleic acid / Styrene

#### Oman

4.200 m<sup>2</sup> Industrial wastewater, Petrochemical)

## **Qatar**

4.160 m<sup>2</sup> Industrial wastewater, Petrochemical)











Water scarcity: a growing problem!

Hexa-Cover® helps Australia reduce evaporation by 73%.

Additionally, Hexa-Cover® eliminates algae growth and prevents unwanted birds and ducks from landing on the covered water.

All to the benefit of the environment and human beings.

"Made from 100% recycled plastic, the covers were shown to reduce evaporation by 73%, saving more than 1.6 million liters of drinking water, during a recent trial involving researchers from the University of Western Australia in Wellstead, 90km east of Albany."

#### **More Water Better Water**



## Link, article

Government of Western Australia



#### Link, video

**ABC News** 



## Another dam well underway:





Norway

Wastewater / crude oil

Spain

N-5954

E-08272 Hazardous wastewater

E-43110 Styrene

**Sweden** 

S-453 92 Petrochemical wastewater

**Switzerland** 

CH-1868 Water storage facility
CH-8353 Water storage facility

UK

DA11 Industrial water storage (1.500 m<sup>2</sup>)

EH27 Industrial wastewater

USA

Clarksburg, WV Colorado Pacheco, CA 2.315m<sup>2</sup> Frac Water Tank 5 x Frac Water Tanks 1.800 m<sup>2</sup> Water reservoir

Installation, videos:

Single Tank Thief Hatch Side Door / Door Pull Multi-Tank







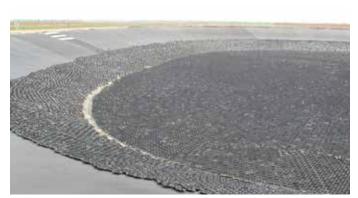
















# For more information

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