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### 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

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

"In an attempt to reduce fuel odors, and benzene emissions, it was decided to install a Hexa-Cover® Floating 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.

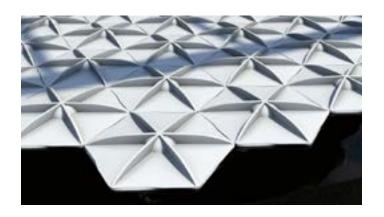
Since the cover has been installed, it has been observed that odor in the headspace, of the tank has been reduced by an estimated 90%, and around the exterior of the tank, the odor is at times, non-existent.

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

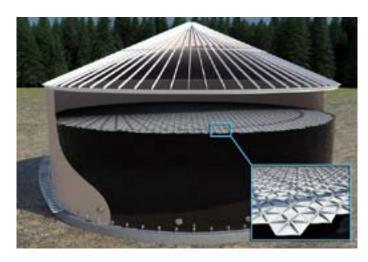
To date, we are very pleased with the performance, and simplicity of Hexa-Cover\* Floating Cover that we have installed on our transmix storage tank"

John Barnes, Harold Marcus Terminals, Inc.

October 2017 Harold Marcus Terminals covered another tank with Hexa-Cover® Floating Cover







### **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. I 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  $27kt CO_2e/year$  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"

### **Brazil**

RS region: Wastewater, petrochemical

### China

Beijing	Industrial wastewater
Beijing	1.100 m2 industrial wastewater
Beijing	6.400 m2 industrial wastewater
Dongguan	Industrial wastewater
Hebei	Industrial wastewater
Jinzhou	Contaminated wastewater
Nanjing	Industrial wastewater
Tianjin	1.000 m2 Industrial wastewater
Tianjin	3.300 m <sup>2</sup> Wastewater tanks (petro
	chemical)
Tianjin	4.000 m2 Industrial wastewater

Oilu SinoPec Contaminated wastewater





Chile	
Santiago	Refinery - 800 m² wastewater
Santiago	Refinery - 2.400 m <sup>2</sup> wastewater
BioBio	Refinery - 2.500 m <sup>2</sup> wastewater

Refinery - 2.700 m<sup>2</sup> wastewater

DK-4400 Refinery (VOC - benzene, toulene)

**Finland** 

ConCon

**Denmark** 

FIN99250 CCD (counter current decantation)

France

F-13165 Diesel tank F-36670 Wastewater, VOC F-93155 Collection pit (diesel, gasoline etc)

**Germany** 

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

# Greece

GR-8648 Wastewater (seawater / oil mix)

# Italy

Refinery, water storage facility I-95121



## **Jordan**

7.900 m2 wastewater

### Kazakhstan

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

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







# **Middle East**

4.800 m<sup>2</sup> wastewater facility (Odor / emission)

1.100 m2 wastewater pond 60-90°C (VOC etc))

4.350 m2 wastewater







Norway

N-5954: Wastewater / crude oil

**Spain** 

E-08272: Hazardous wastewater

E-43110: Styrene

**Sweden** 

S-453 92: Industrial wastewater (petrochemical)

# **Switzerland**

CH 1868: Water storage facility

CH 8353: Water storage facility

UK

DA11: 2 x Industrial water storage (1.500 m2)

EH27: industrial wastewater









Clarksburg, 36036 WV: 2.315m<sup>2</sup> Frac Water Tank

Colorado: 5 x Frac Water Tanks

Dallas, 26301 WV: 2.315 m<sup>2</sup> Frac Water Tank

Pacheco, CA: 1.800 m<sup>2</sup> water reservoir















## For more information

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