

DRAINTUBE®



GEOCONDUCT®



ALVEDRAIN®



NOTEX C®



NOTEX®



GEOTER®



MINING
INDUSTRY



ENVIRONMENTAL
ENGINEERING



BUILDING
CONSTRUCTION



PUBLIC
WORKS

Farmington ponds, NM, USA

Gas collection and leak detection

CONTEXT

The oil industry, particularly for shale gas extraction, uses storage ponds for freshwater (to supply the drilling systems) or processed water (from drilling discharges). Because these discharges are highly polluting, the ponds are typically constructed with a double liner system that incorporates a leak detection drainage layer between the primary and secondary geomembranes.

ISSUES

The authorization to operate issued by environmental regulators generally asks operators to comply with a maximum allowed leakage rate. To control the integrity of their ponds, operators conduct a geoelectrical leak location survey before initial operation. This requires the installation of an electrically conductive layer under the primary geomembrane in addition to a drainage system.

Conductive geomembranes are not always adapted because, among other things, they limit the choice of geoelectrical methods available and require a clean, dry surface to be effective. Since geonet geocomposites are not conductive, the DRAINTUBE® Conductive solution is preferred.

RETAINED DESIGN

To meet the requirements, the design engineer asked for:

- a gas collection layer under the secondary liner: DRAINTUBE 606 ST1 D20 composed of 2 geotextiles layers 203 g/m² (6 Oz/sy), and 20 mm (0.8 in.) diameter perforated mini-pipes regularly spaced on 1 m (40 in.) centers. At the end of the drainage, the mini-pipes of the DRAINTUBE® are mechanically connected to the main header pipe using the Quick Connect System. This airtight connection reduces head losses and optimizes the collection of the gas.
- a leak detection layer between the primary and secondary liners: DRAINTUBE 400P FT1 D20 Conductive of a 300 g/m² (9 Oz/sy) protective geotextile, a geotextile filter, and 20 mm (0.8 in.) diameter perforated mini-pipes regularly spaced on 1 m (40 in.) centers. The geocomposite also includes an electrically conductive layer on its upper part that allows for leak location survey on the primary liner. DRAINTUBE® Conductive is compatible with all electrical leak detection methods available on the market (water puddle, dipole, arc test).

ADVANTAGES

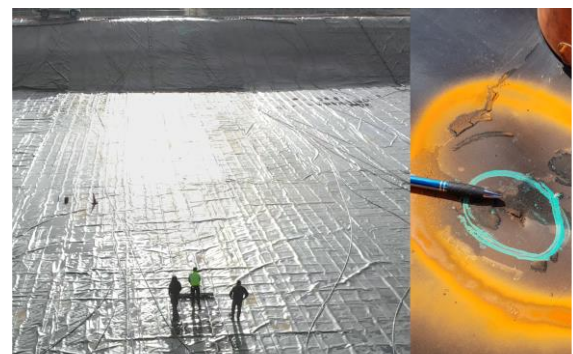
- Allows geoelectrical leak location survey on a double liner system
- Maximizes gas extraction under the secondary geomembrane
- Fast installation to keep short deadlines
- Very good Health & Safety records for the installation crew on site
- Consistent quality controls – 100% conformity



DRAINTUBE 606 ST1 D20 installation for gas collection under the secondary geomembrane. DRAINTUBE® is connected to the main header pipe using the Quick Connect System.



DRAINTUBE 400P FT1 D20 Conductive installation as leak detection layer between geomembranes. The geocomposite includes an electrically conductive layer on its upper part.



Geoelectrical leak location survey on primary geomembrane (water puddle method) and example of defect detected.

PROJECT SUMMARY

Products	DRAINTUBE 606 ST1 D20 (gas collection) & DRAINTUBE 400P FT1 D20 Conductive (leak detection layer)		
Quantity	75,000 m² (800,000 sq ft) each	Design	Souder Miller Associates
Application	Gas collection layer & Leak detection layer with electrical conductivity	Installation	Simbeck Associates
Owner	Enduring Ressources, NM	Years	2018-2019



DRAINTUBE®



GEOCONDUCT®



ALVEODRAIN®



NOTEX C®



NOTEX®



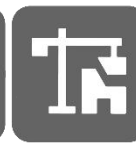
GEOTER®



MINING
INDUSTRY



ENVIRONMENTAL
ENGINEERING



BUILDING
CONSTRUCTION



PUBLIC
WORKS

AFITEX-TEXEL GEOSYNTHETICS ADDED VALUE

The expertise of the AFITEX-TEXEL team provided the designers with all the necessary information and technical support to choose the most suitable solution based on the project's parameters.

« What AFITEX-TEXEL has to offer »

AFITEX-TEXEL will be pleased to assist you in the evaluation and design of your next projects, because our approach has always been and always will be the same: the right product, in the right place, well installed with rigorous quality control.

In case you need technical support? Feel free to refer to the AFITEX-TEXEL team. Expert services will be provided free of charge:

- Technical Assistance
- Assistance during Design
- Technical Training
- Technical Documentation
- Calculation Tools
- Specification & Tender documents
- Installation Guidelines



Processed water pond - New Mexico - 2018, 2019



YOU NEED MORE INFO?

Never hesitate to contact one of our specialists in order to know more about the benefits you can get from your projects

1-800-463-0088

Available documentation

- Technical data sheets
- Installation guidelines
- Standards & Studies
- List of projects
- Design Software

www.afitextexel.com

Important notice - The information contained in this document is provided for promotional purposes only. Thus, not all the characteristics of the project have been mentioned. No guarantee is offered by AFITEX-TEXEL or its partners with regard to the information contained in this document.

**1300, 2^e rue, Parc Industriel
Sainte-Marie-de-Beauce (Québec)
G6E 1G8 CANADA**