



CASE STUDY

Landfill Cell Lining - Geosynthetic Clay Liner/ Multi-Layer Lining System

LOCATION: Hinton, Alberta

PROJECT TYPE: Supply & Installation

PRODUCT USED: 60mil HDPE DST, Double Sided Geocomposite, 8oz & 16oz
Nonwoven Geotextile & Geosynthetic Clay Liner (GCL)



▼ CHALLENGE:

To address the growing waste management needs of the region, a new landfill cell project was initiated in Hinton, Alberta.

This project aimed to integrate a new cell into the existing landfill, utilizing cutting-edge technologies and sustainable methods for effective waste management. The expansion was necessary to comply with stringent environmental regulations and to meet the waste disposal demands of the growing local population and surrounding areas.



▼ SOLUTION:

The design approach prioritized using multiple layers of geosynthetic materials to reinforce the landfill liner system and improve its resistance to potential pollutants. Each layer was specifically selected and positioned to perform certain roles, enhancing the barrier system's overall effectiveness.

This significant undertaking involved the installation of over 34,000m² of 60mil HDPE double-sided geomembrane, 34,000m² of Geosynthetic Clay Liner (GCL), and 24,000m² of non-woven geotextile for a cushion layer, in addition to approximately 20,000m² of Biplanar Geocomposite. These remarkable quantities underscore the project's vast scope and forward-thinking ambition, representing a significant leap towards a more environmentally sustainable future. Also, a third-party company was hired to perform a Dipole Leak Detection test to ensure the highest standards of integrity.



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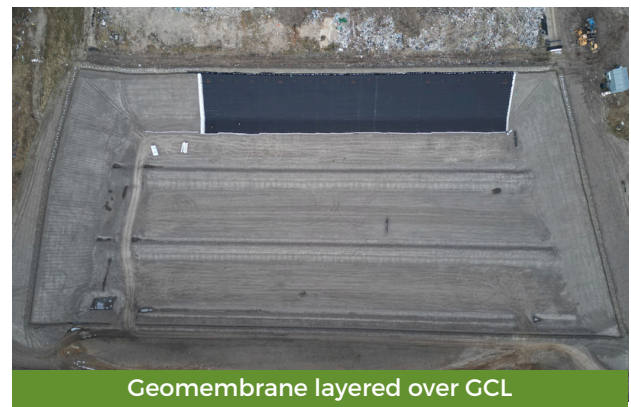
ACHIEVEMENT:

Using a multilayered geosynthetic barrier technology helped to protect the environment during the facility's construction. By effectively confining contaminants and eliminating environmental concerns, the project demonstrated the effectiveness of geosynthetic systems in environmental protection initiatives. The barrier system, which was meticulously designed, installed, and monitored, served its purpose and demonstrated the significance of sustainable methods in modern construction tasks.

Despite encountering several significant challenges, the landfill liner installation in Hinton, Alberta was largely successful due to the diligent preparation, strong contractor support, and the adaptability of the crew. The project demonstrated the importance of having a well-prepared site, experienced contractors, and a dedicated team capable of overcoming unforeseen obstacles. The successful implementation of over 34,000m² of HDPE geomembrane and GCL, along with 24,000m² of geotextile, ensured the landfill's integrity and environmental safety.



GCL being installed.



Geomembrane layered over GCL



Geotextile was applied as final layer