Albarrie
#FABRICSCHANGINGINDUSTRY

SECONDARY OIL CONTAINMENT

SORBNSEAL™
AN Albarrie PRODUCT

CASE STUDY

MAJOR SPILL REMEDIATION

Scope of Remediation

A catastrophic oil failure occurs when a sudden or unexpected breakdown of the transformer's electrical system, oil storage system, or other primary containment systems malfunctions, and oil is released into the surrounding area.

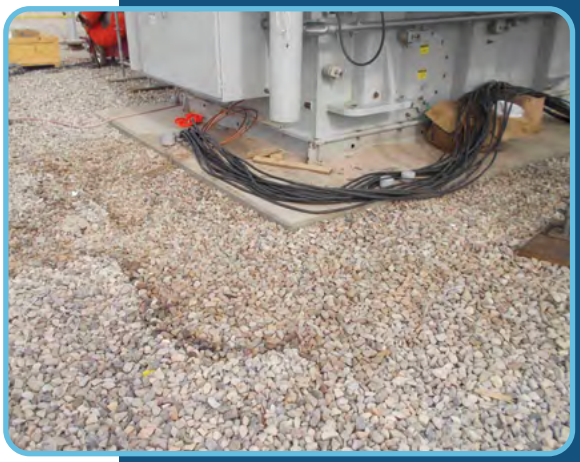
The **SorbNSeal™** system is a passive oil containment system that provides sufficient containment for spilled oil as a result of a sudden oil spill following a catastrophic transformer failure.

If a significant spill occurs, prompt action must be taken to remediate the spill, and prevent the migration of oil into other areas or layers of the system. The longer oil remains in the containment the greater the risk that the entire **SorbNSeal™** system will require replacement.

The system is optimized to reduce the economic costs involved in replacing the most important elements of the system. The extent of the remediation and associated cost is limited to the quantity of oil released, and the response time of the remediation.

It is recommended that **Albarrie** be notified within 24 hours of the discovery of a spill.

A spill may be reported to **1-844-767-2932** which serves as **Albarrie's** emergency contact number. Within 24 hours of receiving notice of a spill, **Albarrie** staff will review remediation procedures with the client and provide guidance as required.



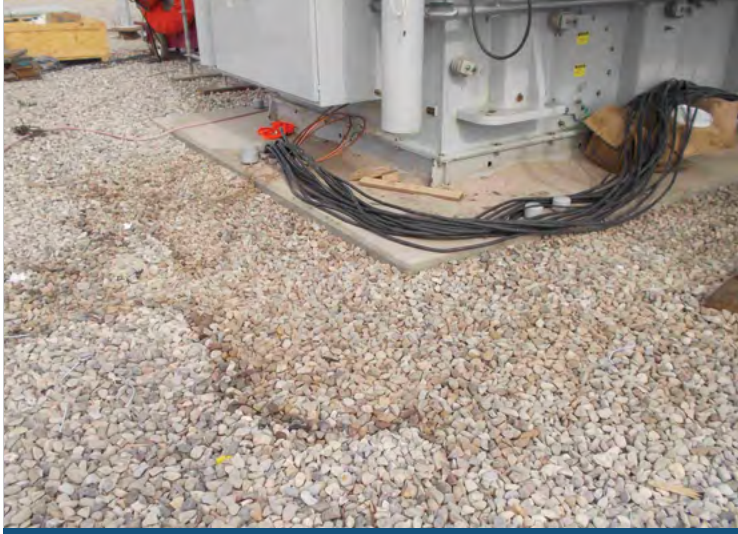
In 2015, a significant oil spill occurred in Southern Alberta for a major electrical utility.

BACKGROUND

This turnkey remediation project was divided into three main tasks:

1. Site visit to determine the extent of the spill size throughout the **SorbNSeal™** system's layers.
2. Remediation, removal and disposal of the contaminated stone, sand layer, and system layers
3. Construction, **SorbNSeal™** system rehabilitation.

Albarrie acted as the general contractor for the entire project.



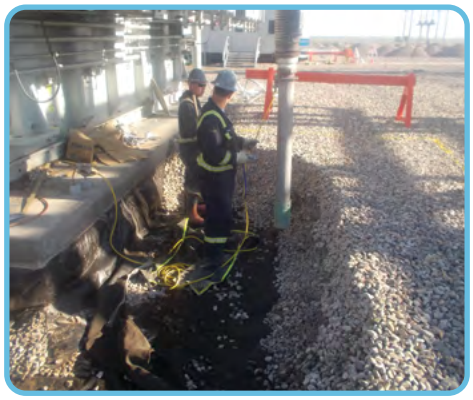
Visual discoloration was observed from the area that came into contact with the oil.

A Vac-Truck was used to remove all the contaminated stone.

The impermeable liner within the contaminated area was inspected.

The top contaminated sand layer was removed within the contamination area using the Vac-truck.

The contaminated **Alabsorb** layer was removed within the contamination area.



The existing non-woven geotextile showed signs of oil contamination, which was removed and discarded.

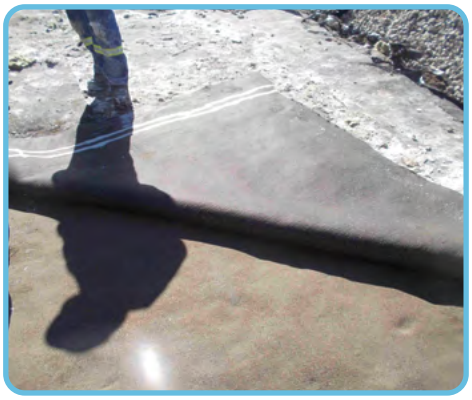
The surface of the contaminated **Alabsorb** layer had noticeable gelling, which indicated a reaction with oil.

*The **SorbNSeal™ Secondary Oil Containment System** was an effective containment system for this substation transformer.*

The construction crew removed and disposed of all the layers that came into contact with the oil.

All the contaminated layers were removed until the clean **Oilmat** and **Albasorb** could be seen.

The contaminated **Oilmat** was removed and disposed of by the construction crew.



The sand beneath the congealed **Oilmat** was observed to be clean and unaffected by the spill.

A new **Oilmat** was cut and placed, maintaining the required minimum overlap in between the existing and new **Oilmat** layers.

The remaining layers were re-installed.

CONCLUSION

The **SorbNSeal™ Secondary Oil Containment System** was an effective containment system for this substation transformer. Any oil that was spilled from the transformer after installation was contained within the area. Any oil that reached the **Oilmat** did not penetrate into to the bottom sand layer, or underlying subgrade soils, offering the client optimized clean up and remediation costs.

1. The sand beneath the congealed oilmat was observed to be clean and unaffected by the spill. **2.** Stone was replaced in the affected area. **3**. The site was cleared of all debris and all equipment was removed from the substation.