

In terms of employment for Envirosoil, there are three full-time employees and approximately eight part-time employees. It is expected that the additional of a PERC treatment capability would marginally add to the employment demand of the company.

The company depends on the services of a number of Nova Scotia based contractors. This includes service for trucking, laboratory analysis, oil recycling and skimming, and engineering and environmental. In the event that the company processes PERC contaminated soils, the company would require additional services from these suppliers.

3.5 Case Studies Similar in Nature

The company has undertaken a considerable amount of analysis as to the feasibility of providing a remediation service for PERC contaminated soil. As part of this evaluation, the company has examined the performance record of LTTD equipment in remediation PERC contaminated soil. In particular, a number of case studies similar-in-nature have been examined. Envirosoil believes that a number of key case studies lend themselves as indicators of potential performance of the LTTD equipment and PERC.

The following are the case studies:

Case Studies

- Case 1 Thermal Desorption at the Metaltec Superfund Site
Franklin Borough, NJ, USA
Dec 1994 – Jan 1995

Trichloroethene (TCE) – 7,600 mg/kg

Note: This project is practically identical to the operation Envirosoil is proposing, including the technology and contaminants.

- Case 2 DRE Emissions Test Results – SFP Airport Plot 50
San Francisco, CA, USA
Mar 1996

Trichloroethene (TCE) – 369.4 grams/hr @ 20 ton/hour treatment rate
99.995% DRE

Note: This project has less detail than the project listed above, however the technology and contaminants are the same.

- Case 3 Longhorn Army Ammunition Plant Burning Ground No. 3
Karnack, TX, USA
Feb – Dec 1997

Trichloroethene (TCE) – 1,000 mg/kg

Note: This project is very similar with respect to the technology, however the secondary treatment is slightly different using a catalytic oxidizer and a packed bed scrubber for off gas treatment. The contaminant is the same as Envirosoil proposes to treat.

Case 4 Envirosoil Limited Demonstration
 Bedford, NS, Canada
 Oct 1996

Pentachlorophenol (PCP) – 720 – 890 – mg/kg (99.99995% DRE)

Note: The technology is the exact equipment that Envirosoil proposes to use. The only difference between this case study and the proposed project is the contaminant treated is PCP rather than TCE, which have the same treatment requirements via LTTD and can achieve the same results.

Details of these important case studies are in Appendix G: Case Studies Similar in Nature.

During research completed for similar case studies, no documented case studies were found for projects in Canada. This stands to reason, as the United States has been documenting the remediation of Superfund Sites, supervised by the USEPA for many years and have had more opportunity to document the effective treatment of soil via LTTD. Thus, the case studies provided are primarily based on projects completed in the United States, except for the Demonstration Test completed by Envirosoil, in Bedford, in October 1996.

A demonstration test on a spiked volume of impacted soil to further demonstrate the LTTD treatment capacity could be made as a condition of the facility approval. Although, by definition, Low Temperature Thermal Desorption (LTTD) is not considered incineration, the “CCME National Guidelines for Hazardous Waste Incinerators” could be used as a general guideline for the demonstration, with operating conditions being set a site specific based on the demonstration results.

3.6 *Alternative Methods of Treatment*

Alternative methods of treatment of the volatilized PERC have been considered, including condensing (wet scrubbers and strippers). The issues associated with condensing as an alternate for off gas treatment is excess impacted water from the condensing process, to be treated verses the selected technology, which removes the contaminant from the soil and the gas stream leaving both void of contaminants.

Additionally, the existing technology has been proven to treat the proposed contaminants and requires minimal modification to established operating procedures. This allows for effective treatment using existing trained operating personnel.

