



DEEP has funded nine research projects related to diesel emission control and measurement in underground mines. In this section we provide documents, such as project final reports, describing this research. Short plain-English summaries of our projects are also available from the [technology transfer](#) page. We extend special thanks to the [peer reviewers](#) who have taken the time to constructively criticize our projects.

Note: Several documents are available in the pdf format. Adobe Acrobat Reader has to be installed on your system to display and print pdf files. You can download Acrobat Reader free of charge from the [Adobe](#) web site.

1: Biodiesel Fuel Project

Investigator: UMN & team @ INCO's Creighton Mine

The study was conducted at Inco's Creighton Mine in Sudbury, Ontario in October of 1997. The results of the study are described in three reports: (1) by the University of Minnesota (UMN), (2) by the Michigan Technological University, and (3) by ORTECH.

[Project Proposal](#) (pdf, 189k)

UMN Final Report (contact: [Win Watts](#))

[Executive Summary](#)
[UMN Report](#) (pdf, 441k)

MTU Final Report (contact: [Susan T. Bagley](#))

[Executive Summary](#)
[MTU Report](#) (pdf, 128k)

2: DPM sampling in high sulfide mine

An investigation by CANMET team @ BMS mine of a high sulphide ore comparing the RCD/SS/EC sampling methods for diesel particulate matter (contact: [Michel Grenier](#)).

[Final Report - Executive Summary](#) (html)
[CANMET Final Report](#) (pdf, 758k)
[Project proposal](#) (pdf, 63k)

3: Statistical comparison of DPM sampling methods

University of Minnesota (contact: [Win Watts](#))

[Project proposal](#) (pdf, 69k)
[Final report](#) (pdf, 375k)

4: Maintenance impact on diesel emissions

Project conducted by Noranda Technology Centre at Falconbridge's Strathcona mine (contact: [Sean McGinn](#))

[Project proposal](#) (pdf, 115k)

Final Documents

[Final Report - Executive Summary](#)
[Final Report](#) (pdf, 1,687k)
Appendix: [Maintenance Guidelines and Best Practices](#) (pdf, 506k)
Appendix: [Diesel Engine Maintenance Audit Plan](#) (pdf, 90k)

Jump to Project

- 1: [Biodiesel fuel project](#)
 - 2: [DPM sampling in high sulfide mine](#)
 - 3: [Statistical comparison of DPM sampling methods](#)
 - 4: [Maintenance impact on diesel emissions](#)
 - 5: [Light duty vehicles & DPM exposures](#)
 - 6: [Flameless thermal oxidation](#)
 - 7: [Review of DPM control strategies for underground mines](#)
 - 8: [INCO particulate filter test](#)
 - 9: [Noranda particulate filter test](#)
- [Related independent projects](#)

5: Light duty vehicles & DPM exposures

Investigator: CANMET @ Kidd Creek mine (contact: [Michel Grenier](#)).

[Project Proposal](#) (pdf, 71k)

[Phase I Report](#) (pdf, 413k)

[Phase II Report](#) (pdf, 280k)

6: Flameless thermal oxidation

Evaluation of the flameless thermal oxidation technology (Thermatrix) at the University of Minnesota; this project was never finalized.

[Project Proposal](#) (pdf, 77k)

7: Review of DPM control strategies for underground mines

Literature study by ESI (contact: [Dale McKinnon](#))

[Final Report - Table of Contents](#) (html)

[Final Report](#) (pdf, 531k)

8: INCO particulate filter test

Field evaluation of diesel particulate filter systems in an underground mine - INCO (contact: [Joe Stachulak](#))

[Final Report](#) (pdf, 6.5 MB)

9: Noranda particulate filter test

Field evaluation of diesel filter systems in an underground mine - Noranda Technology Centre (contact: [Sean McGinn](#))

[Project Proposal](#) (pdf, 184k)

[Request for proposals for particulate filter suppliers](#) (pdf, 1.6M)

[Vehicle application data](#) (Compressed Excel spreadsheet, 144k)

[Final Report](#) (pdf, 4 MB)

Related Independent Projects

The following are selected independent projects, not funded by DEEP, which may be of interest to the mining community.

Impact Of Low-Emission Diesel Engines On Underground Mine Air Quality

Investigation performed at the Cote Blanche salt mine by the Michigan Technological University, funded by the U.S. National Institute of Occupational Safety and Health. DEEP did not support, authorize or technically review this report.

[Project Summary](#)

[Final Report](#), May 2002 (pdf, 351k)

[Appendices](#)

Review of Technology Available to the Underground Mining Industry for Control of Diesel Emissions

A report by the U.S. National Institute of Occupational Safety and Health (NIOSH), peer reviewed by DEEP.

[Final Report](#) (from the NIOSH web site)

Diesel Particulate Filter Selection Guide

A step-by-step procedure developed by NIOSH and MSHA to assist mines in selecting particulate filter technologies.

[DPF Selection Guide from MSHA](#)—this version can be used on-line using your web browser.

[DPF Selection Guide from NIOSH](#)—this version must be downloaded to your computer and can be ran under Windows.

