

**GEOSCIENCES AND ENGINEERING DIVISION**

**TECHNICAL OPERATING PROCEDURE**

Proc. TOP-023

Revision 0 Chg 1

Page 1 of 4

Title: **TOP-023 TECHNICAL OPERATING AND SAFETY PROCEDURE FOR THE OPERATION OF THE GEONICS PROTEM 67 D, TIME DOMAIN ELECTROMAGNETICS SYSTEM**

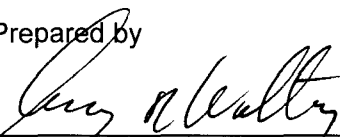
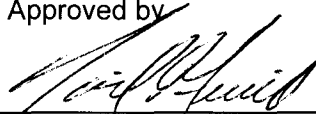
**EFFECTIVITY AND APPROVAL**

Revision 0 of this procedure became effective on 2/06/2001. This procedure consists of the pages and changes listed below.

<u>Page No.</u>	<u>Change</u>	<u>Date Effective</u>
All	1	5/09/2006

Change 1 includes changing the Division name and reformatting to the current style.

Supersedes Procedure No. TOP-023, Rev. 0, Chg 0, dated 2/06/2001

Prepared by 	Date 4/26/06	Approved by 	Date 4/26/06
--	-----------------	---	-----------------

**TOP-023 TECHNICAL OPERATING AND SAFETY PROCEDURE  
FOR THE OPERATION OF THE GEONICS PROTEM 67 D,  
TIME DOMAIN ELECTROMAGNETICS SYSTEM**

**1. PURPOSE**

The purpose of this procedure is to provide general methods and safety precautions to employ while using the PROTEM 67 D, Time Domain Electromagnetics System for field electromagnetics surveys. The system is manufactured by Geonics Limited of Mississauga, Ontario, Canada (see page 4 of 4).

**2. RESPONSIBILITY**

- 2.1 The Manager shall be responsible for the development and maintenance of this procedure.
- 2.2 The cognizant Principal Investigators shall be responsible for the implementation of this procedure.
- 2.3 Personnel performing tasks associated with this procedure are responsible for complying with its requirements.

**3. DEFINITIONS**

- 3.1 System: The PROTEM 67 D system consists of the TEM57-MK2 Transmitter, TEM67 Power Module, and PROTEM Digital Receiver.
- 3.2 Transmitter Loop: A coil or long wire set out on the ground in the general shape of a loop, used for inducing an electromagnetic field into the ground.

**4. PROCEDURE**

- 4.1 Refer to the Geonics PROTEM 67 D Operating Manual for specific information regarding the proper set-up, operation, and teardown for performing field tests (see page 4 of 4).
- 4.2 The following are safety guidelines to be followed when setting up and using the Geonics PROTEM 67D.
  - Personnel operating the PROTEM 67 D shall be knowledgeable of its proper use.
  - The proper operation of equipment listed in the operating manual must be followed.

## **GEOSCIENCES AND ENGINEERING DIVISION**

### **TECHNICAL OPERATING PROCEDURE**

Proc. TOP-023

Revision 0 Chg 1

Page 3 of 4

- No person shall come into contact with the PROTEM 67 D system and portable power generator at the same time because the possibility of electrical shock exists.
- No person shall be in close proximity (standing over or immediately next to) to the transmitter loop while it is energized, as intense electromagnetic field is generated creating the possibility of electrical shock.
- The system operator shall determine that all personnel are clear of the transmitter loop prior to energizing the loop.
- The system should not be used while it is raining unless a canopy can be erected over the equipment area. This includes only the power source and data collection area. Do not use system in standing water, as the possibility of electrical shock exists.
- Testing shall be suspended and equipment turned off if lightning is in the area.
- If the power generator uses gasoline, personnel must not fill the gas tank while the power generator is running. The gas container must be stored away from the power generator.
- Personnel shall use common heavy equipment lifting practices to protect themselves and the system.

#### **5. DATA COLLECTION AND RETENTION**

Data collected or otherwise generated during the course of performing surveys with the system will be recorded in a scientific notebook, in accordance with QAP-001, Scientific Notebook Control, under the oversight of the Principal Investigator.

**GEOSCIENCES AND ENGINEERING DIVISION**  
**QUALITY ASSURANCE PROCEDURE**

Proc. TOP-023  
Revision 0 Chg 1  
Page 4 of 4



**GEONICS LIMITED**

1745 Meyerside Dr. Unit 8 Mississauga, Ontario Canada L5T 1C6

Tel: (905) 670-9580  
Fax: (905) 670-9204  
E-mail: [geonics@sympatico.ca](mailto:geonics@sympatico.ca)  
URL: <http://www.geonics.com>

**PROTEM 67 D**  
**OPERATING MANUAL**  
for  
**20/30 Gate Model**

**GEONICS LIMITED**

***LEADERS IN ELECTROMAGNETICS***

8 - 1745 Meyerside Drive, Mississauga, Ontario Canada L5T 1C6

Tel: (905) 670-9580 Fax: (905) 670-9204

E-mail: [geonics@geonics.com](mailto:geonics@geonics.com) Web Site: <http://www.geonics.com>

September 1999