

PACKAGE ID - 000808IB38601 FLOW4.0

KWIC TITLE - A Computer Program for Processing In Situ
Permeable Flow Sensor Data

AUTHORS - Ballard, S.
Sandia National Labs., Albuquerque, NM (United States)

LIMITATION CODE -COPY **AUDIENCE CODE** - LIM

COMPLETION DATE - 04/15/1996 **PUBLICATION DATE** - 04/15/1996

DESCRIPTION - FLOW4.0 is used to interpret data from In Situ Permeable Flow Sensors which are instruments that directly measure groundwater flow velocity in saturated, unconsolidated geologic formations (Ballard, 1994, 1996; Ballard et al., 1994; Ballard et al., in press). The program accepts as input the electrical resistance measurements from the thermistors incorporated within the flow sensors, converts the resistance data to temperatures and then uses the temperature information to calculate the groundwater flow velocity and associated uncertainty. The software includes many capabilities for manipulating, graphically displaying and writing to disk the raw resistance data, the temperature data and the calculated flow velocity information. This version is a major revision of a previously copyrighted version (FLOW1.0).

PACKAGE CONTENTS - Media Directory; Software Abstract; SAND93-2779;
Media Includes Source Code, Executable Module;

SOURCE CODE INCLUDED? - Yes

MEDIA QUANTITY - 1 3.5 Diskette

METHOD OF SOLUTION - An analytical solution to the problem of the temperature distribution on the surface of a finite length heated cylinder buried in an infinite homogeneous medium is the mathematical basis for the code (Romero, 1995). The inversion technique used is from Caceci and Cacheris (1984).

COMPUTER - IBM PC 386

OPERATING SYSTEMS - MSDOS version 6.22

PROGRAMMING LANGUAGES - Borland Pascal v 7.0.

SOFTWARE LIMITATIONS - None

SOURCE CODE AVAILABLE (Y/N) - Y

UNIQUE FEATURES - This software is completely unique. No other software is available to process data from In Situ Permeable Flow Sensors

RELATED SOFTWARE - This software supersedes an earlier version (1.0)

PACKAGE ID - 000808IB38601 FLOW4.0

OTHER PROG/OPER SYS INFO - None

HARDWARE REQS - 4 megabytes of RAM, a mouse and a VGA graphics card and monitor.

TIME REQUIREMENTS - The program requires approximately 2 seconds per inversion on a 486Dx2/50 computer.

ABSTRACT STATUS - Submitted 12/4/96. Released screened 12/18/96

SUBJECT CLASS CODE - HR

KEYWORDS -

COMPUTER PROGRAM DOCUMENTATION
F CODES
FLOWMETERS
GROUND WATER
FLOW RATE

EDB SUBJECT CATEGORIES -

990200 420400

SPONSOR - DOE/DP

PACKAGE TYPE - SCREENED