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A VAX and MS-DOS Computer Program Package for Depth Conversion of Digitized, Line-drawing Interpretations of Seismic Sections

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SOFTWARE/HARDWARE REQUIREMENTS AND AVAILABILITY

Program package VELPACK (version 1.2) is designed to create digitized, line-drawing interpretations from time-migrated seismic sections, to transform the interpretation from a time-section to a depth-section by means of ray-tracing techniques (vertical- or image-ray), and to modify the velocity models used for the depth transformation in various ways.

MS-DOS programs: The MS-DOS programs were developed using Microsoft Fortran Version 5.0 and Microsoft Basic Version 7.1 on a Kaypro 286i microcomputer having an Intel-80286 CPU, enhanced keyboard, math coprocessor and MS-DOS V3.21 operating system. The programs may be run on PC, XT, and AT type microcomputers using MS-DOS (PC-DOS) V2.0 or greater. The programs will use a math coprocessor if one is available, otherwise they will use software emulation. Those programs that use on-screen graphics (ISOEDIT, PLOTSEC and DEPTHRAY) will automatically detect and use the highest possible video resolution from the following: VGA, EGA, CGA (color or monochrome), or Hercules (monochrome). Graphics capability for DEPTHRAY is optional; its output can be stored in files for display on other computers equipped with graphics capability.

VAX-programs: The VAX programs are designed to be used with proprietary DISCO seismic data processing software and were developed using FORTRAN-77 on a DEC VAX 11/780 mini-computer having an FPS-120B array processor, a VERSATEC electrostatic plotter (22-inch wide, black and white), an HSR-11 rasterizer, and VMS V5.1 operating system. The programs that modify velocities are compatible with the DISCO seismic data processing system's database, version 6.0 and above. Proprietary subroutines that access the array processor, Calcomp-equivalent graphics, and Seisdata database were provided by Cogniseis Development Corporation. The array processor is required only for program VSMOOTH; the plotter and rasterizer are used only in programs PLOTSEC and DEPTHRAY. The plotter and rasterizer are optional for DEPTHRAY; its output can be stored in files for display on other computers equipped with such devices.

The required input and output files are in standard ASCII format and are 100% compatible between the VAX and MS-DOS computers and should be compatible with other hardware that can utilize ASCII-format files. Both the MS-DOS and VAX version of the digitizing program SECDIG, assume a Summagraphics digitizer having either a 13-key cursor pad (gray key, keys 0-9, #, and * keys) or 4-key cursor pad (Z, 1, 2, and 3 keys) and access through the serial port. The source code can be modified and recompiled to accept input from other digitizers.

This open-file report is available in paper copy, OF91-303A. The executable files for the MS-DOS programs are available on a diskette, OF91-303B; the source code for both the VAX and MS-DOS programs is available on a diskette, OF91-303C. The source code for the proprietary subroutines mentioned above is not provided; only the calling syntax for those subroutines is included. All diskettes are 5.25 inches and formatted for 1.2 Mbyte capacity.