Appendix F

Construction of Preliminary SEG-Y Gathers

Below we describe the usage of *ph5toseg*, the software available to build a preliminary SEG-Y gather from your ph5 file. A plot of a gather is obviously useful for a quick inspection of some of the meta-data provided as well as the traces within the ph5 file.

Note: it will be helpful, if not essential, to view the ph5 file with hdfview when preparing the segy data request.

Example: ph5toseg -n 08-021 -o Gather -e 9012 -a 1 -l 10 -O -2

Usage: Version: 2012.265.1
ph5toseg --eventnumber=shot --nickname=experiment_nickname --length=seconds [--path=ph5_directory_path] [options]
      options:
      --array=array, --offset=seconds (float), --reduction_velocity=km-per-second (float)
--format=['SEGY', 'PSGY']

ph5toseg --allevents --nickname=experiment_nickname --length=seconds [--path=ph5_directory_path] [options]
      options:
      --array=array, --offset=seconds (float), --reduction_velocity=km-per-second (float)
--format=['SEGY', 'PSGY']

ph5toseg --starttime=yyyy:jjj:hh:mm:ss[:.]sss --nickname=experiment_nickname
--length=seconds [--path=ph5_directory_path] [options]
      options:
      --stoptime=yyyy:jjj:hh:mm:ss[:.]sss, --array=array, --reduction_velocity=km-per-second
(float) --format=['SEGY', 'PSGY']

ph5toseg --all, --nickname=experiment_nickname [--path=ph5_directory_path] [--das=das_sn]
[--station=station_id] [--doy=comma seperated doy list] [options]

      general options:
      --channel=[1,2,3]
      --sample_rate_keep=sample_rate
      --notimecorrect
      --decimation=[2,4,5,8,10,20]
      --out_dir=output_directory

Convert ph5 file to standard SEG-Y or PASSCAL SEGY format.

Options:
  -h, --help   show this help message and exit
  -e event_number, --eventnumber=event_number

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-E, --allevents
-s start_time, --starttime=start_time
-A, --all
-t stop_time, --stoptime=stop_time
-a array, --array=array
-l length, --length=length
-O offset, --offset=offset
-n nickname, --nickname=nickname
-p ph5_path, --ph5path=ph5_path
-c channel, --channel=channel
-N, --notimecorrect
-d decimation, --decimation=decimation
-f format, --format=format
-o out_dir, --out_dir=out_dir
-C, --check_tables
--use_deploy_pickup   Use deploy and pickup times to determine if data
                exists for a station.
-D das_sn, --das=das_sn
-S station, --station=station
-Y doy_keep, --doy=doy_keep
                Comma separated list of julian days to extract.
-r sample_rate, --sample_rate_keep=sample_rate
-V red_vel, --reduction_velocity=red_vel
-U, --UTM          Fill SEG-Y headers with UTM instead of lat/lon.
-x extended_header_style, --extended_header=extended_header_style
                Extended trace header style:
                'P' -> PASSCAL,                'S' -> SEG,
                'U' -> Menlo USGS,             'I' ->
                Scripts SIOSEIS
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In our example the "-e" option lists the event number (id_s) found within the Event Table (Event_t). The array chosen from which to build the gather is set with the "-a", and references the number of the array as defined by the Array_t name, (array 1 here) The "-l" option defines the length, in seconds, of the gather. And the "-O" defines start time offset of the gather relative to the shot time.

To view the gather, use *segyVista*, a PASSCAL-written GUI useful for providing a preliminary view your data. The viewer plots the data in station order; the geometry is not taken into account. The GUI interface of *segyVista* is relatively intuitive. Two windows open upon starting *segyVista* on the command line; a Control Panel and Display Window. Load your ph5 file by choosing the "Input file..." option under the File Menu of the Control Panel. After loading the file, click on "Plot/Re-plot" and moments later your data will be plotted within the Display Window.
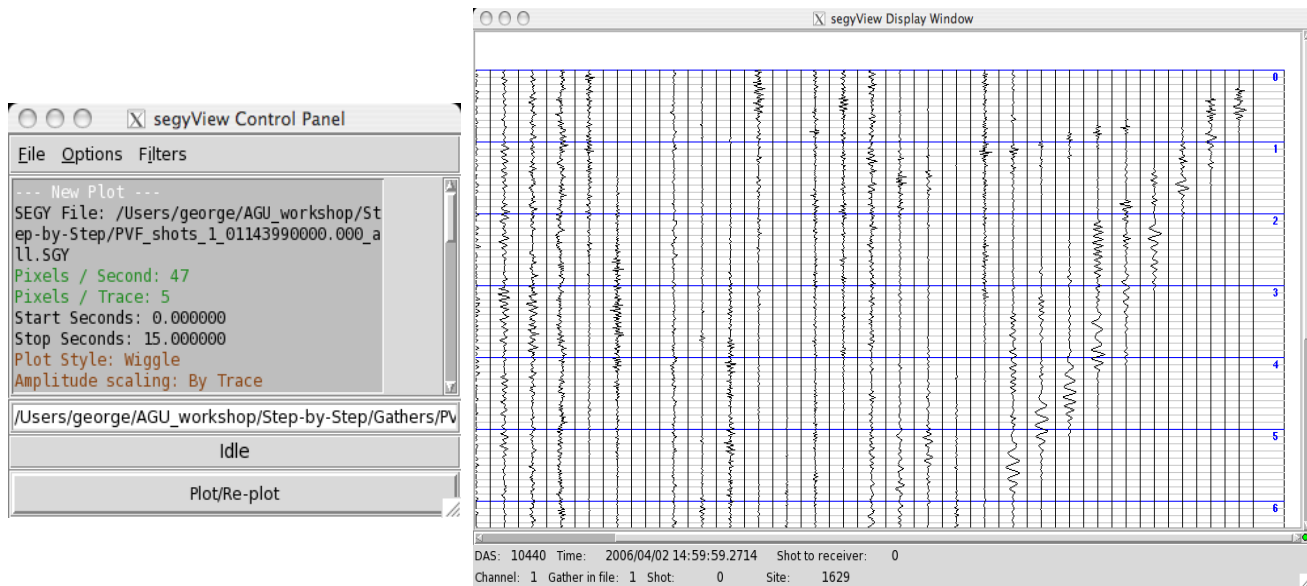
Figure 1a and 1b. A look at segyVista's Control Panel and Display Window. Within the plot of the gather you may "Alt Click" (on a Mac) on a trace to see the data logger serial number and time where the mouse pointer is located. The data logger serial number labeled, "DAS", is visible in the lower left corner of the Display Window.