

EQUIPMENT

Recorder: Geometrics "GEODE", 24 channel seismic recorder
24 bit A/D conversion, 144 dB dynamic range
Controlled via external computer running Windows XP and SEISMODULE software
with data transmission to controller via RJ45 (ethernet)
Data format is SEG-2

Sensor:: 15 Hz geophones
8m take-out seismic cable - but we will use something smaller

Source: hammer --> steel plate

SETUP - PHYSICAL

- 1) lay out the seismic cable - BEING CAREFUL TO HAVE THE CABLE ENDS COVERED
AND NOT DRAGGING THE ENDS THROUGH THE BRUSH
- 2) plant the geophones and connect to the cable
- 3) connect: geophone cable
data cable from "0->" port to Geometrics laptop adaptor
trigger cable
battery BE CAREFUL OF PLUS (+) AND MINUS(-)
Geometrics laptop adaptor (RJ45) to computer NIC
- 4) power up: power up the computer
toggle the "enable power up" switch on the Geometrics laptop adaptor
login into computer class)X3B692(
start "Seismodule Controller" which is on the desktop
(blue light should flash every ~3 sec under normal operation)

SEISMODULE SOFTWARE*MENUS (general)*

Survey -> starting and naming a new survey

Geometry -> sets survey mode, geophone interval, relative locations of shot and geophones

Observer -> survey description (informational only) and line number

Acquisition -> sample interval and record length, filters, stacking options, gain (individual or constant)

File -> file saving parameters and format, file reading

Display -> controls how data is plotted

DoSurvey -> most of the commands used to acquire, display and save data while doing the survey

Window -> maximize or minimize display windows

Answers -> field quality control programs and quick analysis of data

Print -> print

System -> set units, set trigger options, channel remapping, exit

HOTKEYS: t -> trigger

2 -> clear memory

1 -> arm/disarm

SETUP - Seismodule

Survey -> 1. New Survey -> fill in name ("Tish Field") and initial line number ("000")

Geom -> 1. Survey mode -> refraction

2. Group interval (geophone spacing)-> 1.0 (or set the far geophones manually)

3. Geom -> set up the geometry - shot offset and geophone spacing

can set the geophone location by highlighting the "shot coordinate" and moving the left right arrow

can set geophone at 0 (1 m offset) then at 12 then at 25

for each line - 1st shot location is 0

set first geophone location

ripple will set the others

4. Phone increment -> 1

5. Shot increment -> 0

Observer -> 1. Edit survey description - not really used

2. New line number - any number

Acquisition -> Sample interval/Record Length -> set sample interval of 0.25 msec,

Record length 0.128 sec

Acquisition Filters -> set BOTH filters to 60Hz notch

Stack Options --> stack limit 5

check "auto stack"

check "display intermediate stacks"

set "Unstack delay" to 10

(unstack delay - number of seconds the last stack is displayed to give the operator a chance to REMOVE the last stack)

Preamp gain - set all to 36dB or individual

Stack polarity -> positive

Set trigger holdoff to 0.2

File -> Storage parameters next file number to 1

Set directory to c:\earth_forces_2026

set AUTOSAVE to OFF for refraction (autosave On used for reflection)

set Data Type to be SEG-2

check "save to disk"

set the directory to save in (new directories will be created)

set the first file name

System -> set time date units -> set to meters

can set channel re-mapping for far shot

Display -> (1) shot parameters -> (1) display boundary - set to .2

DO SURVEY: - modify the shot geometry - Geom 3. Group/Shot locations

- clear memory (HK 2)

- arm (HK 1)

- **send OK to source operator**

- wait for signal - (accept or reject) (tab to NO for NO UNSTACK i.e. accept)

- stack - send OK signal to source operator

- repeat until a stack of 5

- save file

- print/record PDF of shot record

- disarm then move the shot point

TO TURN OFF

toggle the "enable power down" switch on the Geometrics laptop adaptor

System -> 0. close controller