



# 4 Survey--4.4 Export

4.4.1 Export Faults

4.4.2 Export FaultStickSets

4.4.3 Export Geometry 2D

4.4.4 Export Horizons

4.4.5 Export Mute Functions

4.4.6 Export Pointsets & Polygons

4.4.7 Export Probability Density Functions

4.4.8 Export Seismic Data






4.4.9 Export Survey Setup



## 4.4 Export

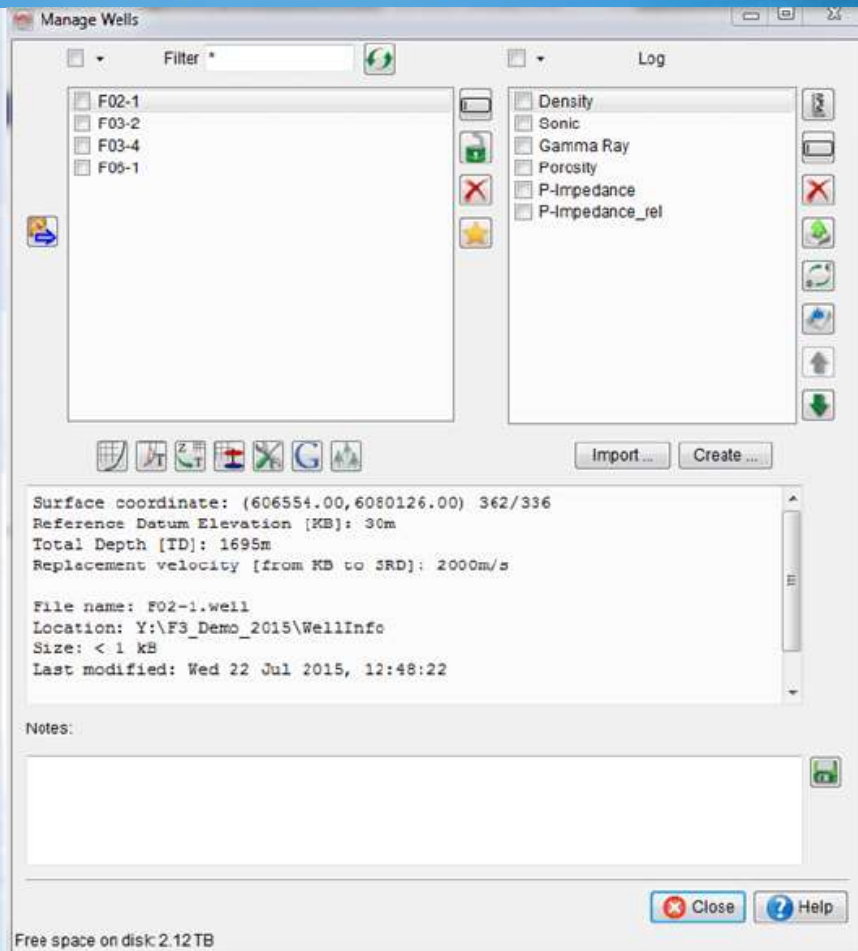
Most of the data types can be exported from OpendText via *Survey > Export* drop down menu of the main window.

Export of well data is available from the *Manage Wells* window (*Survey > Manage > Manage Wells*):

- *Export* button in Well Track , Checkshot , Depth/Time Model  and Markers  editors allows to output corresponding tables to ASCII files.
- Export icon  allows to write well logs to a column sorted ASCII file.



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Direct data exchange with Schlumberger's Petrel is available via PetrelDirect plugin (part of OpendText Pro)

Direct data exchange with Landmark's SeisWorks and Schlumberger's GeoFrame-IESX is available via Workstation Access plugin by ARK CLS.





## 4.4.1 Export Faults

Faults can be exported as ASCII files via *Survey > Export > Fault > ASCII...*

In the *Export Fault* window: select a fault; specify the output format; type an output file name (to save to Survey Data Root folder) or provide a full path by clicking *Select*; select a coordinate system of the output file (the option is available only if the current survey has a defined projection based coordinate system), and press *Export*.

A successful export is confirmed with a message and an option to either export more faults or close the export tool.



## 4.4.2 Export FaultStickSets

Fault stick sets can be exported as ASCII files via *Survey > Export > FaultStickSets > ASCII...*

In the *Export FaultStickSet* window: select a fault stick set; specify the output format; type an output file name (to save to Survey Data Root folder) or provide a full path by clicking *Select*; select a coordinate system of the output file (the option is available only if the current survey has a defined projection based coordinate system), and press *Export*.

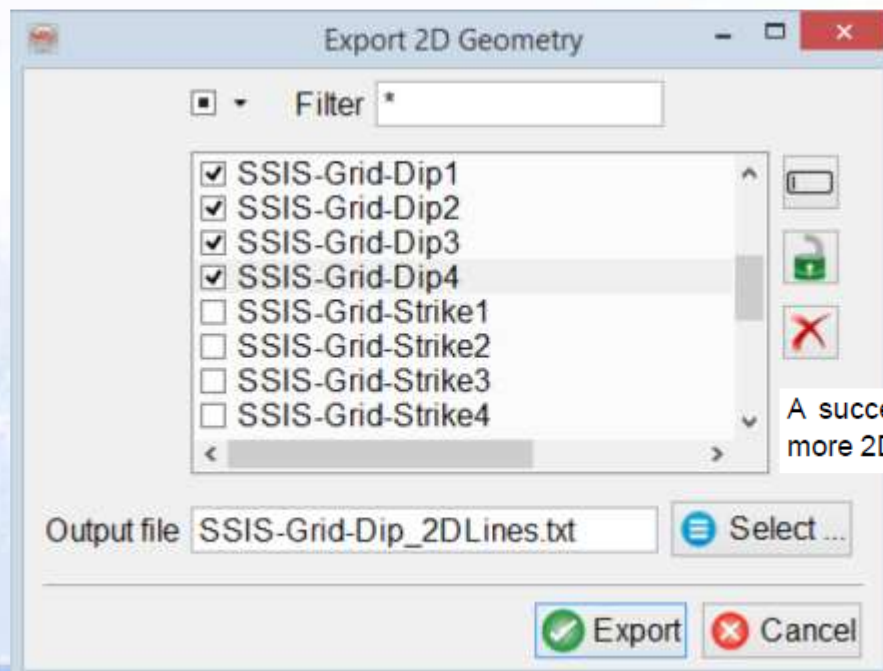
A successful export is confirmed with a message and an option to either export more fault stick sets or close the export tool.



## 4.4.3 Export Geometry 2D

2D line geometries can be exported as ASCII files via *Survey > Export > Geometry 2D > ASCII...*

In the *Export 2D Geometry* window: choose one or several 2D lines; type an output file name (to save to Survey Data Root folder) or provide a full path by clicking *Select*; and press *Export*. The output file contains 4 columns: 2D line name, trace number, X and Y coordinates.



A successful export is confirmed with a message and an option to either export more 2D line geometries or close the export tool.





## 4.4.4 Export Horizons

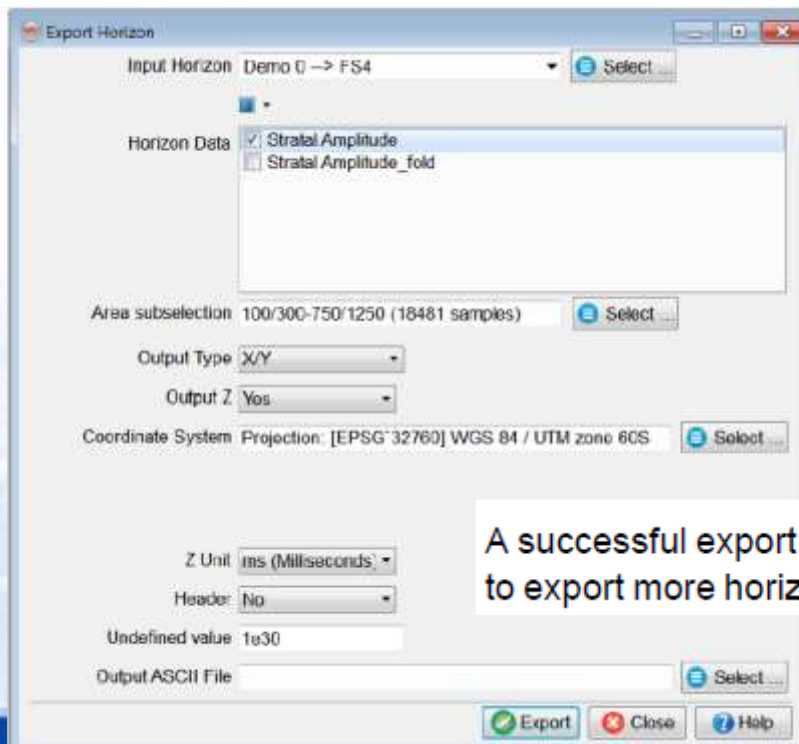
2D and 3D horizons can be exported as ASCII files via *Survey > Export > Horizons*.



#### 4.4.4.1 Export Ascii 3D Horizons

3D horizons (surfaces) can be exported as ASCII files via *Survey > Export > Horizons > ASCII 3D...*

In the *Export Horizon* window: select a 3D horizon; optionally include available *Calculated attributes*; specify the output format; type an output file name (to save to Survey Data Root folder) or provide a full path by clicking *Select*; and press *Export*.



A successful export is confirmed with a message, and the export window stays open to export more horizons.





## Output Format options.

**Calculated attributes:** one or more attributes from the stored horizon data can be exported along with a horizon.

Horizon data can be created via Processing > Create Horizon Output, or an attribute calculated on-the-fly on a horizon in the 3D scene can be Saved as Horizon Data. More information about calculating attributes in OpendText can be found [here](#).

Use Manage 3D Horizons window to manage stored horizon data.



### Output Type:

- default OpendText horizon export format: based on either *X/Y* or *Inline/Crossline* coordinates;

Column 1: *X* or *Inline*; Column 2: *Y* or *Crossline*; Column 3: *Z* in user-specified units (if Output *Z* is Yes or Transformed) or the first selected item in the Calculated attributes list (if Output *Z* is No); followed by other selected items in the Calculated attributes list.

- pre-defined GeoFrame *IESX (3d\_ci7m)* format: *Settings* button appears and allows to change *Horizon name in file* and add *Comment*.

IESX details

Horizon name in file Demo 1 --> MFS4

[Comment]

OK Cancel



**Output Z:** available if the *Output Type* is set to either *X/Y* or *Inl/Crl*.

- **Yes:** by default Z is written to the output file in *Z Unit* specified by a user;
- **No:** this option can be used when exporting attribute grids only;
- **Transformed:** allows domain conversion based on one of the following:
  - *Velocity Volume:* selected interval velocity model;
  - *Well's Depth model:* a time-depth model of a chosen well;
  - *Linear velocity:* a linear velocity function based on a starting interval velocity *Vint* and a velocity gradient *Gradient*

**Coordinate System:** select a coordinate system of the output file (the option is available only if the current survey has a defined projection based coordinate system).

**Header:** available if the *Output Type* is set to either *X/Y* or *Inl/Crl*.

- **No:** no header is written to the file by default;
- **Single line:** the 1st line contains column names, the 2nd line is a separator, while data starts from the 3rd line only;
- **Multi line:** column names are listed in the individual lines followed by a separating line.





#### 4.4.4.2 Export Ascii 2D Horizons

2D horizons can be exported as ASCII files via *Survey > Export > Horizons > ASCII 2D...*

In the *Export 2D Horizon* window: select a 2D horizon; from the list of 2D lines choose which ones to export; specify the output format; type an output file name (to save to Survey Data Root folder) or provide a full path by clicking *Select*; and press *Export*.

A successful export is confirmed with a message and an option to either export more 2D horizons or close the export tool.



## Output Format options

**Select Lines:** selection from the list of 2D lines on which the selected horizon is present.

### Header:

- *No*: no header is written to the file by default;
- *Single line*: the 1st line contains column names, the 2nd line is a separator, while data starts from the 3rd line only;
- *Multi line*: column names are listed in the individual lines followed by a separating line.

**Z:** by default in seconds (or meters in Depth surveys), can be changed to milliseconds (or feet in Depth surveys)

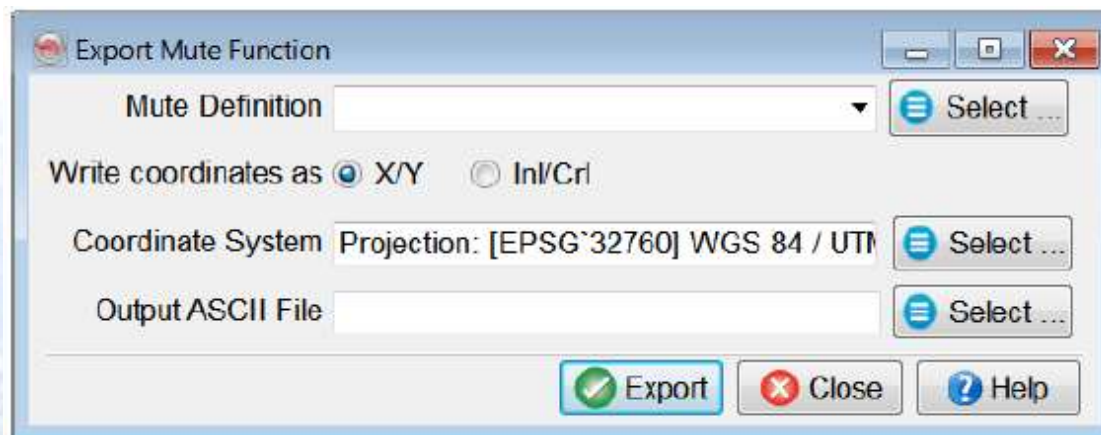
**Coordinate System:** select a coordinate system of the output file (the option is available only if the current survey has a defined projection based coordinate system).



## 4.4.5 Export Mute Functions

Mute functions can be exported as ASCII files via *Survey > Export > Mute Functions > ASCII...*

In the *Export Mute Function* window: select a mute definition; choose coordinates format; type an output file name (to save to Survey Data Root folder) or provide a full path by clicking *Select*; select a coordinate system of the output file (the option is available only if the current survey has a defined projection based coordinate system), and press *Export*. The output file contains 4 columns: X/Y or In/CrI coordinates, offset and Z (time or depth) values.



A successful export is confirmed with a message, and the export window stays open to export more mute functions.

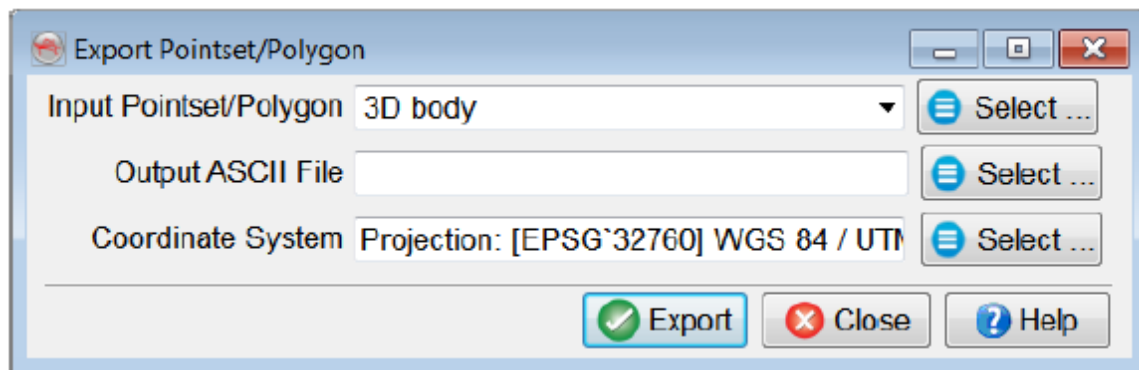




## 4.4.6 Export Pointsets & Polygons

Pointsets and polygons can be exported as ASCII files via *Survey > Export > pointsets/Polygons > ASCII...*

In the *Export pointsets/Polygons* window: select a pointset or a polygon; type an output file name (to save to Survey Data Root folder) or provide a full path by clicking *Select*; select a coordinate system of the output file (the option is available only if the current survey has a defined projection based coordinate system), and press *Export*. The output file contains 3 columns: X/Y coordinates and Z (time or depth) values.



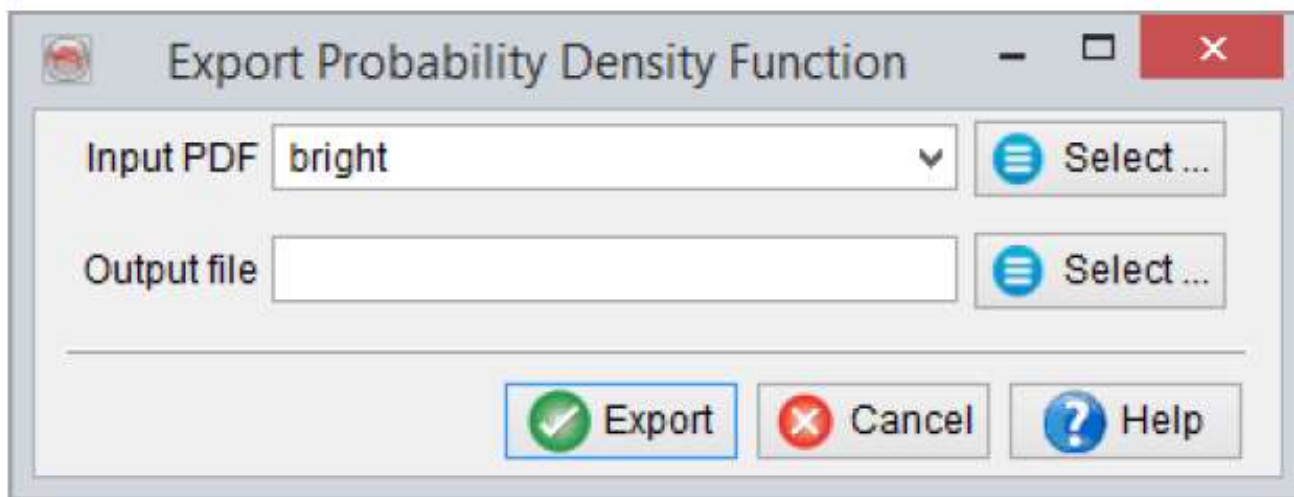
A successful export is confirmed with a message and an option to either export more pointsets/polygons or close the export tool.



## 4.4.7 Export Probability Density Functions

Probability Density Functions (PDFs) can be exported as ASCII files in Icon Science's RokDoc format via *Survey > Export > Probability Density Functions > ASCII (RokDoc)...*

In the *Export Probability Density Function* window: select a PDF; type an output file name (to save to Survey Data Root folder) or provide a full path by clicking *Select*; and press *Export*.



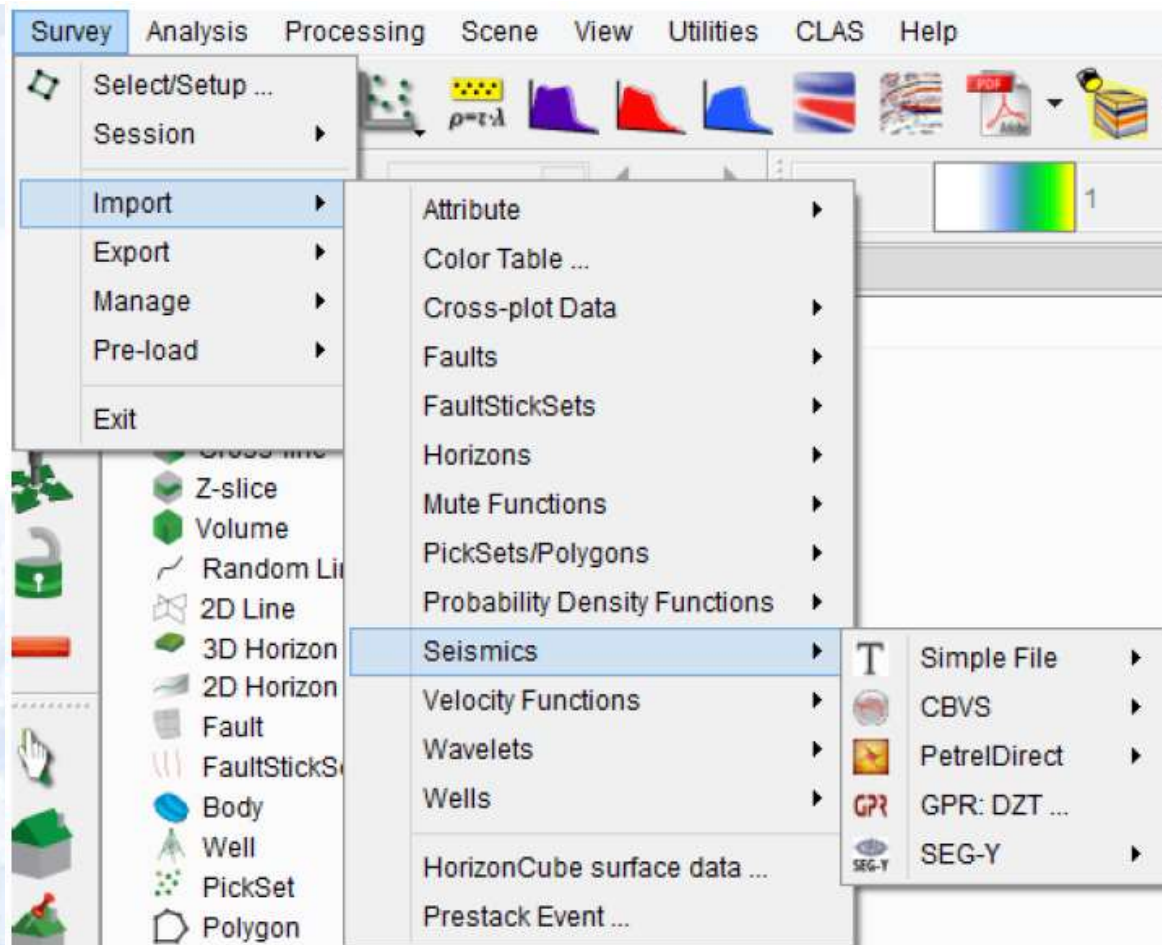
A successful export is confirmed with a message, and the export window stays open to export more PDFs.





## 4.4.8 Export Seismic Data

2D/3D poststack and 3D prestack seismic data can be exported as SEG-Y or simple files via *Survey > Export > Seismics*.

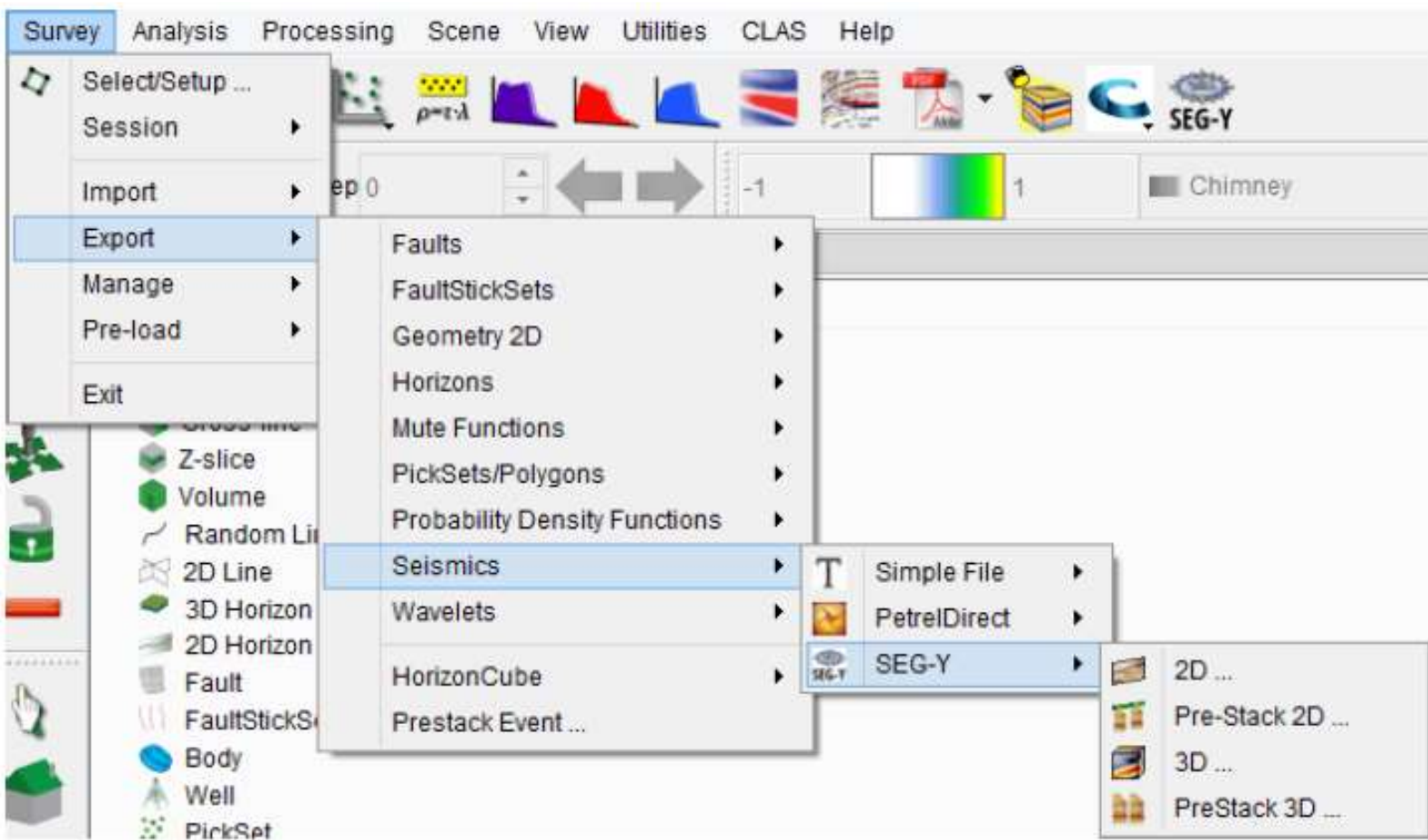






#### 4.4.8.1 Export SEG-Y

2D/3D Poststack and 3D Prestack data can be exported from OpendText in SEG-Y format:





The SEG-Y revision 1 default bytes locations will be used during export, but additional positions can be used with the personal setting keywords personal setting keywords listed on the right-hand side.

The point is a trace attribute stored in the OpendTect seismic files. It is most often not used.

The reference number is most often the Shot Point for 2D data but could be used for anything else. Please note that a SEG-Y scalar at bytes 201-202 apply for values stored in bytes 197-200. The SP scalar will always be -10, thus the value written on bytes 197-200 is 10 times the SP value.

All values listed above are encoded on 4 bytes by default. The byte length can be overridden using the following personal key words, except for the coordinates:

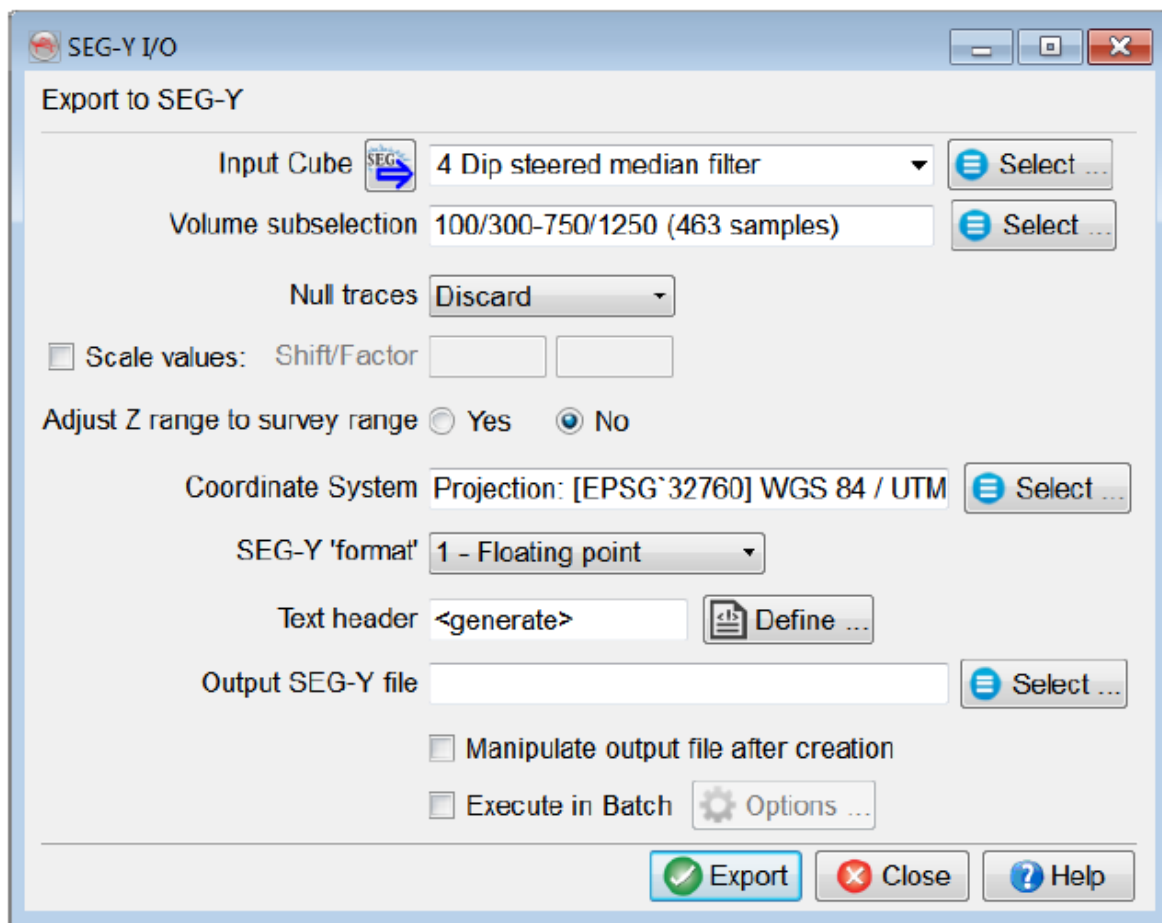
- SEG-Y.Nr bytes for In-line
- SEG-Y.Nr bytes for Cross-line
- SEG-Y.Nr bytes for Offset
- SEG-Y.Nr bytes for Azimuth
- SEG-Y.Nr bytes for trace number
- SEG-Y.Nr bytes for Point
- SEG-Y.Nr bytes for RefNr

The layout of the SEG-Y export window changes slightly based on the data type.




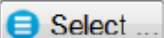
## 4.4.8.1.1 Export SEG-Y 3D

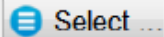
Stored 3D volumes can be exported from OpendText in SEG-Y format.



SEG-Y I/O

Export to SEG-Y

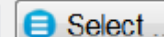
Input Cube  4 Dip steered median filter 

Volume subselection 100/300-750/1250 (463 samples) 

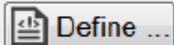
Null traces Discard

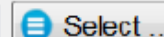
☐ Scale values: Shift/Factor

Adjust Z range to survey range ☐ Yes ☒ No

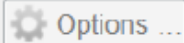
Coordinate System Projection: [EPSG`32760] WGS 84 / UTM 




SEG-Y 'format' 1 - Floating point

Text header <generate> 

Output SEG-Y file  

☐ Manipulate output file after creation

☐ Execute in Batch 





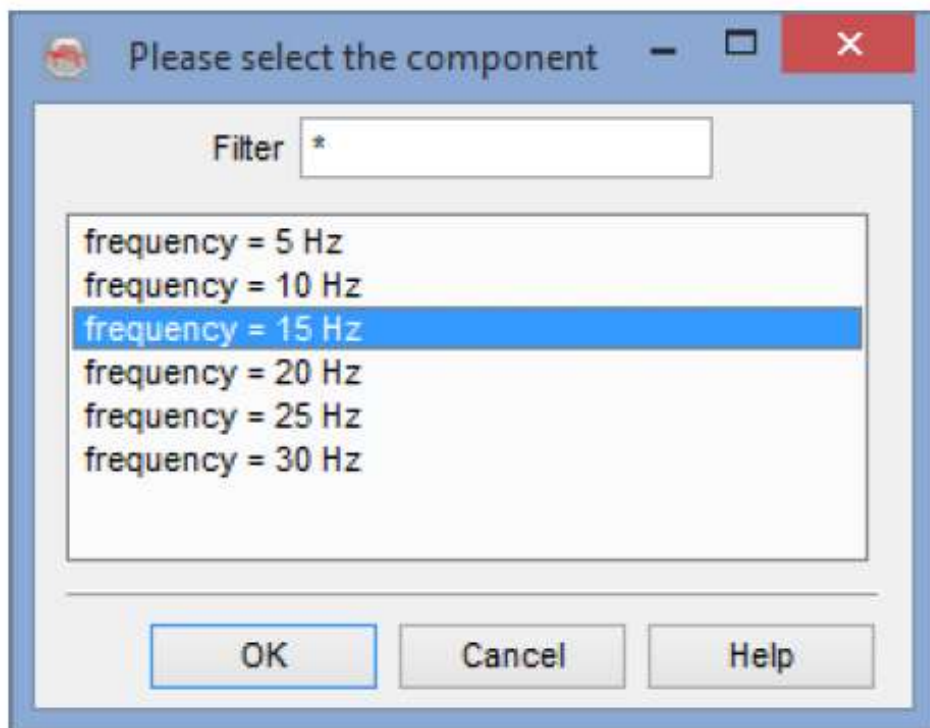
All fields are optional, except the output filename that must be provided. The export will be launched when pressing Ok.

- **Volume subselection:** Can be defined here in various ways.
- **Null traces:** They can be either discarded or written in the SEG-Y file. For 3D SEG-Y export there is a third option in addition to the two described previously, Add. It basically adds null traces where there is NO data present in the seismic cube, such that the output SEG-Y cube will be without any gaps for one individual inline or crossline.
- **Scale values:** A linear scaling can be applied while exporting the data.
- **Coordinate System:** select a coordinate system of the output file (the option is available only if the current survey has a defined projection based coordinate system).
- **SEG-Y format:** Please note that this option may clip your data if the output format has less bytes than the input OpendText format.
- **Text header:** The SEG-Y textual header is automatically created, but may be provided by the user, either from a text file or directly from a SEG-Y file.



## Multi-Component Export

If the input cube contains multiple components, an additional window will pop-up on pressing 'Run' and ask for which component to output (see below), since SEG-Y files can only contain one component per file.



**Tip:** It is a good practice to display the 3D seismic data on a z-slice to check for any gaps in inline/cross-lines or the presence of null traces, before exporting it.




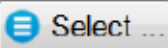


## 4.4.8.1.2 Export SEG-Y 2D

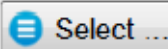
Stored 2D data can be exported from OpendText in SEG-Y format.

SEG-Y I/O

Export to SEG-Y

Input 2D Data (attribute)  Seis 

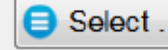
Line name SSIS-Grid-Dip1

Trace subselection R: Line 0:13-686 (463 samples) 

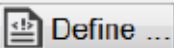
Null traces ☒ Discard ☐ Pass

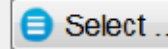
☐ Scale values: Shift/Factor

Adjust Z range to survey range ☐ Yes ☒ No




Coordinate System Projection: [EPSG:32760] WGS 84 / UTM 

SEG-Y 'format' 1 - Floating point

Text header <generate> 

Output SEG-Y file  

☐ Export more lines from the same dataset





All fields are optional, except the output filename that must be provided. For 2D you also need to select a specific line. More lines can be exported if the option '*Export more from same dataset*' on the last line is selected. The export will be launched when pressing Ok.

- **Input Data Set:** Select the data set to be exported.
- **Line name:** The lines available in the data set are listed here. Only one line can be selected.
- **Trace subselection:** Can be defined here in various ways.
- **Null traces:** They can be either discarded or written in the SEG-Y file.
- **Scale values:** A linear scaling can be applied while exporting the data.
- **Coordinate System:** select a coordinate system of the output file (the option is available only if the current survey has a defined projection based coordinate system).
- **SEG-Y format:** Please note that this option may clip your data if the output format has less bytes than the input OpendText format.
- **Text header:** The SEG-Y textual header is automatically created, but may be provided by the user, either from a text file or directly from a SEG-Y file.



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## 4.4.8.1.3 Export SEG-Y Prestack 3D

Prestack 3D data may be exported from OpendText in SEG-Y format.

Export Seismic Data to SEG-Y

Input Prestack 3D Data step1\_multicube\_datastore

Volume subselection 0/0-0/0 (463 samples)

Null traces ☒ Discard ☐ Pass

☐ Scale values:

Adjust Z range to

Export

S

Output SEG-Y file D:\training\_v7\Export\step1\_multicube\_datastore.sgy

☐ Manipulate output file after creation

☐ Execute in Batch

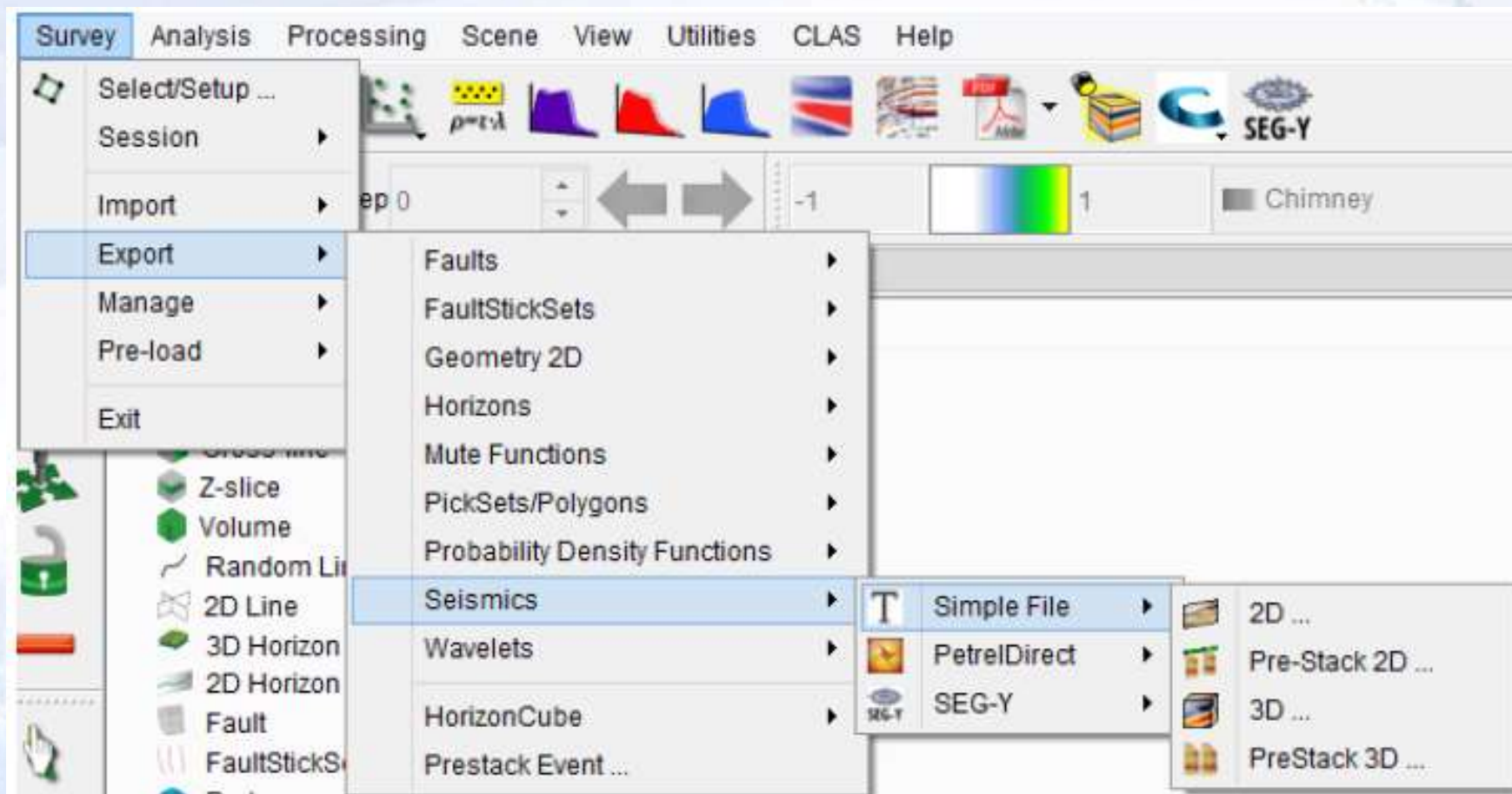
- **Volume subselection:** Can be defined here in various ways.
- **Null traces:** They can be either discarded or written in the SEG-Y file.
- **Scale values:** A linear scaling can be applied while exporting the data.
- **SEG-Y format:** Please note that this option may clip your data if the output format has less bytes than the input OpendText format.
- **Text header:** The SEG-Y textual header is automatically created, but may be provided by the user, either from a text file or directly from a SEG-Y file.

All fields are optional, except the output filename that must be provided.





## 4.4.8.2 Export Simple File







## 4.4.8.2.1 Export 3D Simple File Format

The stored volumes in the OpendText survey can also be exported as a simple Ascii or binary file.

Export 3D Seismics to simple flat file

Input Cube 4 Dip steered median filter

Volume subselection 100/300-750/1250 (463 samples)

☐ Scale values: Shift/Factor

Null traces ☒ Discard ☐ Pass

Output a position for every trace ☒ Yes ☐ No

Position in file will be ☐ X Y ☒ Inl Crl

Put sampling info in file start ☐ Yes ☒ No

File type ☒ ASCII ☐ Binary

Output file



## Simple 3D Seismic File Export Window

- **Input Cube:** Select the volume to export.
- **Volume Subselection:** A part of the line can also be sub-selected. If the entire line is meant to be exported: after clicking on Select..., define the number and time ranges. Leave the values default or select All in the trace subselection window.
- **Scale values:** The data can be scaled in the output. The output will be calculated with:  
$$\text{Output} = \text{Factor} * \text{Input} + \text{Shift}$$
- **Null traces:** Null traces can be discarded or left inside the line (Pass).
- **Output a position for every trace:** If Yes then the output will contain a short header information. If No, no header will be added.
- **(If Yes selected in the previous option) Position in file will be:** In the output file, the position information can either be XY locations or Inline/crossline numbers
- **Put sampling info in file start:** Select Yes to allow the sampling information to appear at the beginning of the file.
- **File type:** Select the appropriate output file type: Ascii or Binary.
- **Output file:** Select/write the output file location.



## Multi-Component Export

If the input cube is a stored multi-component data, an additional selection box will appear in the window. Select the desired component to be exported as an Ascii or Binary file.





## 4.4.8.2.2 Export 2D Simple File Format

A stored data set in the OpendTest survey can also be exported as a simple Ascii or binary file.



## Simple 2D Seismic File Export Window

- **Input Data Set:** Select the data set to be exported
- **Line name:** The lines available in the data set are listed here. Only one line can be selected.
- **Trace Subselection:** A part of the line can also be sub-selected. If the entire line is meant to be exported: after clicking on Select..., define the number and time ranges. Leave the values default or select All in the trace subselection window.
- **Scale values:** The data can be scaled in the output file. The output will be calculated with:  $\text{Output} = \text{Factor} * \text{Input} + \text{Shift}$
- **Null traces:** Null traces can be discarded or left inside the line (Pass).
- **Output a position for every trace:** If Yes then the output will contain a short header information. If No, no header will be added
- **(If Yes selected in the previous option) Include trace number (preceding X/Y):** In the output file, it includes the trace numbers before X and Y locations.
- **Put sampling info in file start:** Select Yes to allow the sampling information to appear at the beginning of the file.
- **File type:** Select the appropriate output file type: ASCII or Binary.
- **Output file:** Select/write the output file location.





#### 4.4.8.2.3 Export PreStack Simple File

In OpendTect, you can also export a simple seismic Ascii or Binary file from Pre-Stack 3D seismic data via *Survey > Export > Seismic > Simple File > Prestack 3D*.

- **Input Data Store:** Select the Pre-Stack seismic to export.
- **Volume Subselection:** A part of the line can also be sub-selected. If the entire line is meant to be exported: after clicking on *Select...*, define the number and time ranges. Leave the values default or select *All* in the trace subselection window.
- **Scale values:** The data can be scaled in the output. The output will be calculated with:  
$$\text{Output} = \text{Factor} * \text{Input} + \text{Shift}$$
- **Null traces:** Null traces can be discarded or left inside the line (Pass).
- **Output a position for every trace:** If Yes then the output will contain a short header information. If No, no header will be added.
- **(If Yes selected in the previous option) Position in file will be:** In the output file, the position information can either be XY locations or Inline/crossline numbers
- **Include:** Optionally you can select to include Offset and/or Azimuth information.
- **Put sampling info in file start:** Select Yes to allow the sampling information to appear at the beginning of the file.
- **File type:** Select the appropriate output file type: ASCII or Binary.
- **Output file:** Select/write the output file location.





Import 3D Prestack Seismics from simple flat file

File type ☒ ASCII ☐ Binary

Input file

Traces start with a position ☒ Yes ☐ No

Position in file is ☐ XY ☒ Inl Crl

Position includes ☐ Offset ☐ Azimuth

Offset definition: start, stop, step

File start contains sampling info ☐ Yes ☒ No

Sampling info: start, step (ms) and #samples

☐ Scale values: Shift/Factor

Null traces ☒ Discard ☐ Pass

Output Pre-Stack 3D Data



### 4.4.8.3 Cube Positions



Exports the positions of a cube in the following format:

*Number of inlines*

(inline number) (number of segments on this inline) (start crossline) (stop crossline) (step)

.....



## 4.4.9 Export Survey Setup

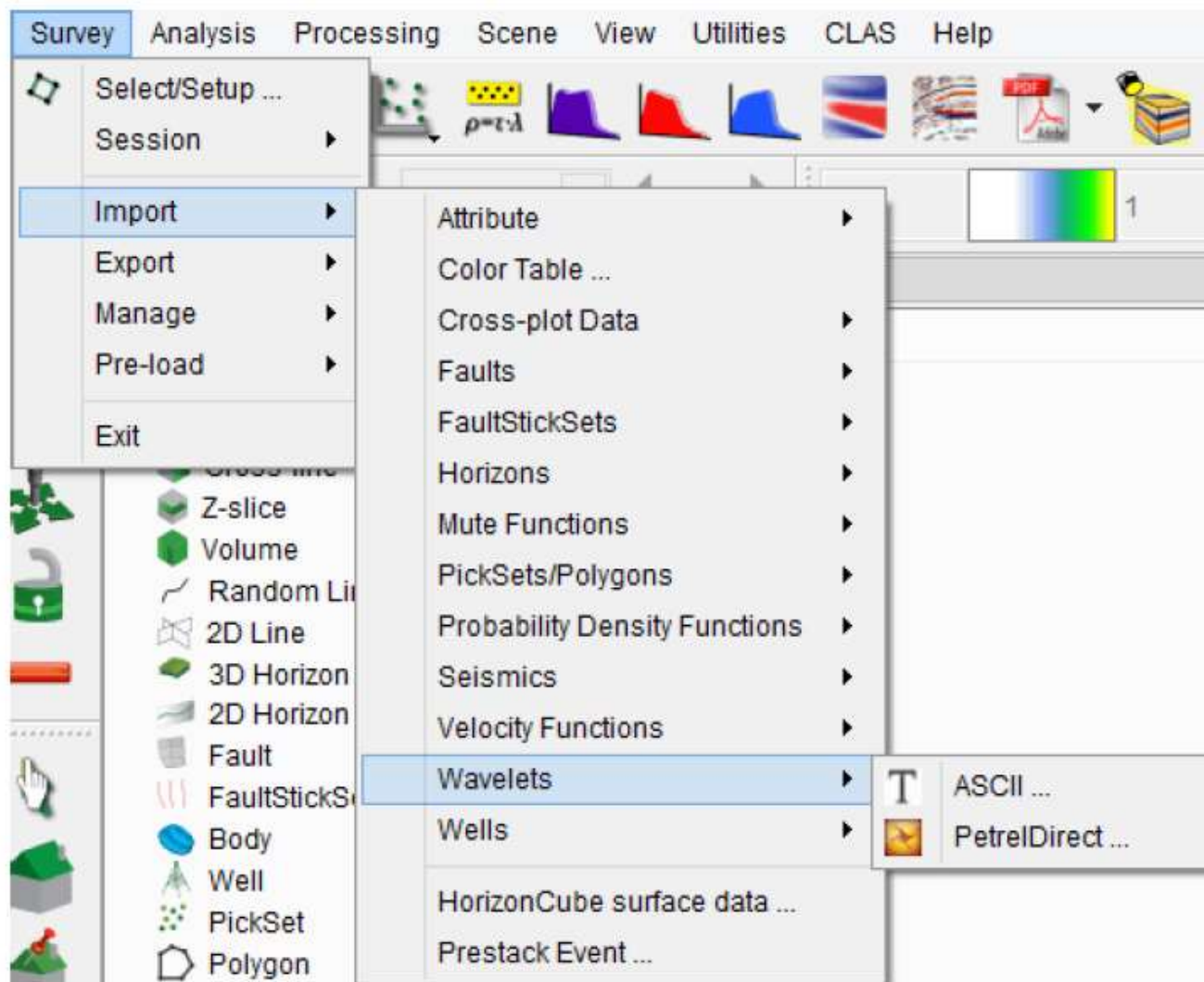
Exports an OpendTect Survey Setup into a text file:

```
1 dTect V6.4
2 Survey Info
3 ma 20 .apx 2020, 17:15:32
4 !
5 Name: F3_Demo_2020
6 Survey Data Type: Both 2D and 3D
7 In-line range: 100'750'1
8 Cross-line range: 300'1250'1
9 Z range: 0'1.848'0.004'I
10 Coord-X-BinID: 598408.2476'-0.6980137931'24.99024752
11 Coord-Y-BinID: 6070847.887'24.98965517'0.6984323432
12 Set Point.1: 99/104' (600938.13,6073394.5)
13 Set Point.2: 824/1316' (630720.25,6092358.5)
14 Set Point.3: 99/1316' (631226.31,6074241)
15 Coordinate System.System name: ProjectionBased System
16 Coordinate System.Projection.ID: EPSG'33031
17 Coordinate System.Projection.Name: ED50 / UTM zone 31N
18 Lat/Long anchor: (617460.875,6092095)-[54.872108,4.83051]
19 XY in feet: No
20 Seismic Reference Datum: 0
21 !
22 F3-block, offshore the Netherlands.
23 Licensed under Creative Commons BY-SA 3.0. For more information, please refer to http://www.opendtect.org/ccr
24
25 2015 version for OpendTect 5.0
26
```





## 4.4.10 Export Wavelets





## Wavelet Export Window

After selecting the wavelet to export, you can optionally also output the time (if time survey) or depth (if depth survey). Give an appropriate name and storage location, the wavelet will be exported when clicking on Ok.

Export Wavelet

Wavelet: Coloured Inversion Operator\_bp Select ...

Output Time: ☒ Yes ☐ No

Output ASCII File: Select ...

Export Cancel Help