Input Data requirements

Seismic data

Seismic data should be provided in SEG-Y or JavaSeis format. The byte positions of inline and crossline, plus offset or angle for pre-stack data, in the trace header should be documented in the EBCDIC header or in a separate document. The seismic can be in depth or time domain. If necessary, we can perform a conversion from depth to time using a supplied velocity model.

The same requirements apply for synthetic gathers and other cubes (velocity, anellipticity, Q model). For synthetic gathers, the fold and offset classes definition should be the same as the recorded seismic data. Ideally, all cubes supplied for one project should be on the same grid definition (origin, azimuth and bin size).

Auxilliary data in ASCII format

SEG-Y format is an option for dense fields of velocity, anellipticity, Q model. If not possible and for all other auxilliary data, the input file should be in ASCII.

A set of defined and existing formats could be used for different types of input. If any of those formats could not be used, the Pre-Stack PRO ASCII loader is flexible enough to allow a custom format as long as it follows a few requirements.

Defined formats

Velocity

Velocity fields could be either RMS or interval velocities. Defined formats ESSO V2 and DISKOS V98 can be used.

Horizon

Exporting the horizon from Petrel with EarthVision Grid format is the easiest way to have a file readable by Pre-Stack PRO. Horizons can be defined either with by two-way time or depth. If necessary, we can perform a depth to time conversion using a supplied velocity model. The spatial location can be either UTM-X/UTM-Y or Inline/crossline (assuming the grid used for bin numbering is the same as the one used for the seismic).

Anellipticity

Like for velocity, ESSO V2 and DISKOS V98 are working fine.

Custom formats

For all types of auxilliary data, a custom ASCII format can be used as long as it follows the following requirements:

- The file is organized in fields. Two fields for spatial position (either inline/crossline assuming the grid used for bin numbering is the same one as used for the seismic or UTM-X/UTM-Y) and one or two field for the attribute value (T/V pair, TWT or Z for horizon, Q value, ...).
- The file has one data point per line, i.e. one value per field per line.
- Each field is separated by either a tabulation, one or more spaces, or a character (comma, colon, semi-colon).

Files exported by Excel as CSV or tabulated follow those requirements.

Wells information

The following information can be loaded into Pre-Stack PRO:

- Path with deviation information
- Top markers
- T/D tables
- Checkshot

The path and markers can be displayed in any map viewers and seismic viewers. T/D tables and checkshot are used for the conversion from depth to two-way time.
All files need to be formatted as described in \ref{subsec:custom_formats}.

Case of true vertical wells

For wells in the Norwegian waters, only markers needs to be provided. The well can be created with the information available on the NPD website.
For wells located outside of Norway, the heads information has also to be provided:

1. Head position in X/Y or Inline/Crossline
2. Kelly Bushing Depth
3. Total depth

Path with deviation information

The following combinations of attributes are all valid:

1. Measured Depth, World X, World Y, True Vertical Depth
2. Measured Depth, Azimuth, Inclination
3. Measured Depth, Offset X, Offset Y

T/D tables and Checkshots

The following attributes are necessary:

1. Measured Depth, Two-way time for checkshots
2. True Vertical Depth, Two-way time for T/D tables

Top markers

Only the Marker name and Measured Depth are necessary to load markers into Pre-Stack Pro.