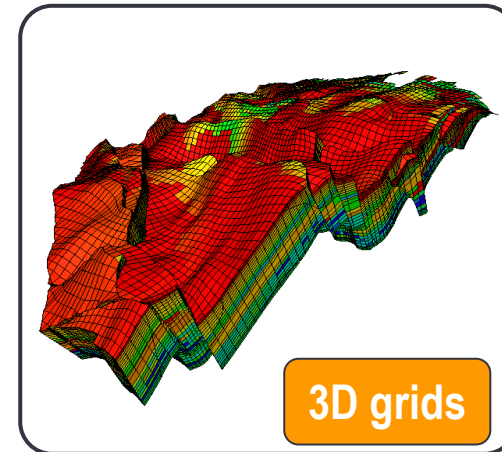
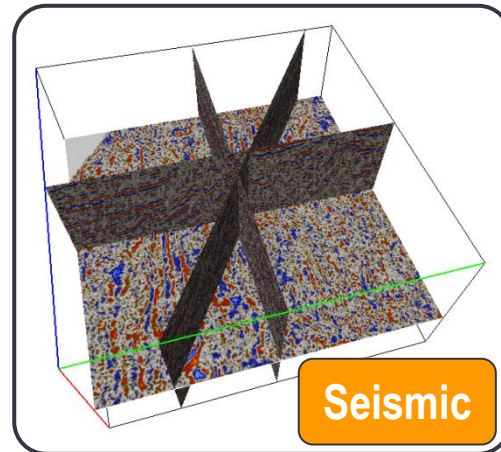
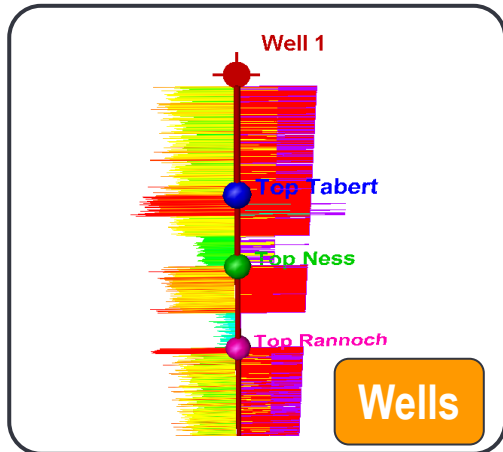
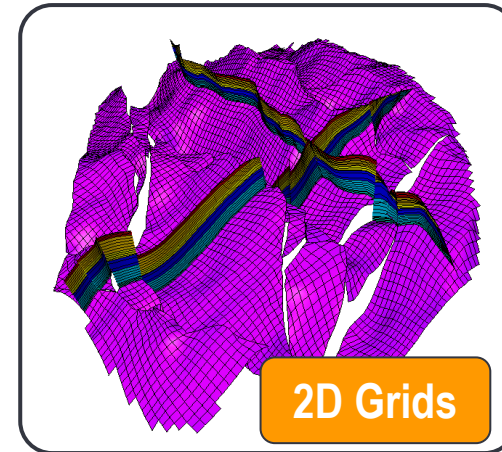
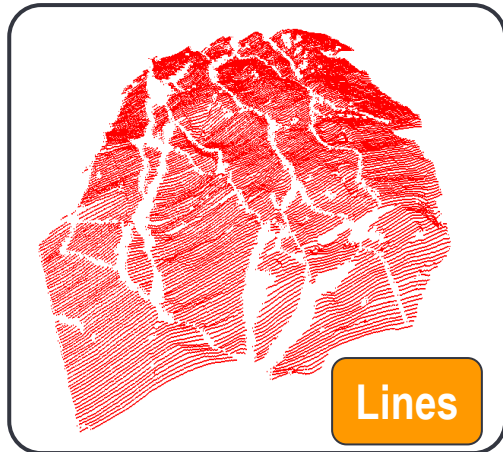


# Data Types

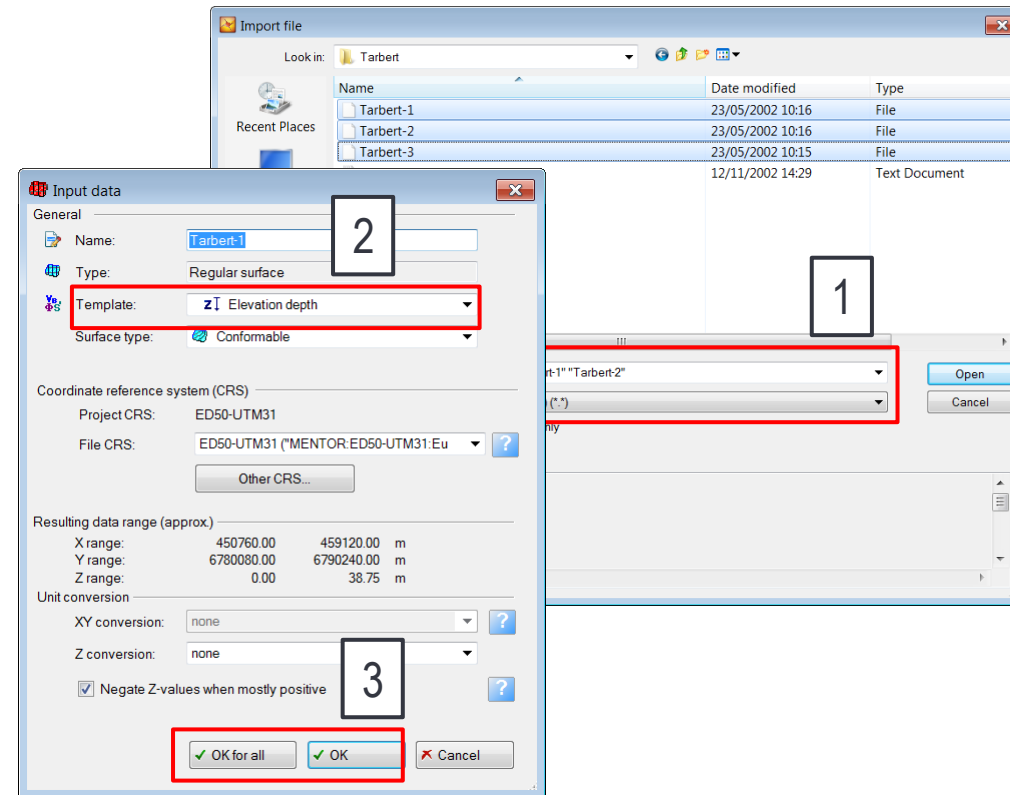


# Import with a Predefined Format

After creating a folder and selecting **Import (on Selection)**, the **Import file** dialog displays.

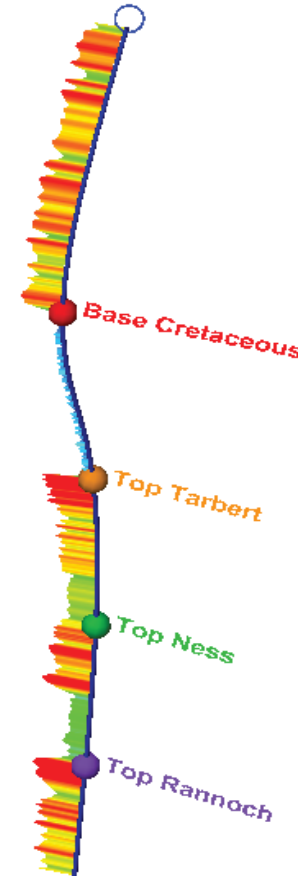
1. Find the data to import and choose the appropriate format. Click **Open**.
2. Specify the template (such as Elevation Time or Thickness depth).
3. Click **OK for all** if all the files have the same format or click **OK** if they have different formats.

**Note:** Petrel works in Negative Z-values.



# Importing Wells: Overview

1. Import well header
2. Import well path (deviation)
3. Import well logs
4. Import well tops



# Importing Wells: Well heads

Well heads file: ASCII file defining the well's top location, as X-Y-Z or as Lat-Lon and name.

1. Select the file and chose the right format: Well heads (\*.\*)
2. Check that the column numbers match the Header info; capture at the bottom of the dialog window.
3. Each well can have only one name, specified in the Well Header. When importing deviation and logs, the names must match.

The screenshot shows the 'Import well head: Well Header' dialog box. It has two main sections. The top section is for file selection, with 'File name' set to 'Well Head' (annotated with a '1') and 'Files of type' set to 'Well heads (\*.\*)' (annotated with a '2'). The bottom section is for header information, with a table of columns and a 'Header info' section at the bottom. The table has 7 columns: Column #, Attribute, Attribute name, Attribute type, Unit, and two unlabeled columns. The 'Header info' section shows the first 30 lines of the file, with the first line being the header line (annotated with a '3').

Column #	1	2	3	4	5	6	7
Attribute	Name	Surface X	Surface Y	Offset	User	TD (MD)	Well symbol
Attribute name	Name	Surface X	Surface Y	Offset	TopDepth	TD (MD)	Well symbol
Attribute type	Text	Continuous	Continuous	Continuous	Continuous	Continuous	Discrete
Unit		meter	meter	meter		meter	

Number of header lines: 1  
Undefined value: -999

Header info (first 30 lines):

Line	WellName	X-Coord	Y-Coord	KB	TopDepth
Line 1:					
Line 2:	A10	456979.063700	6782712.412000	0.000000	1499.878992
Line 3:	A15	456945.058100	6781579.733000	0.000000	1808.894667
Line 4:	A16	456910.405500	6784012.020000	0.000000	1805.453854

# Well Heads: Latitude/Longitude

As with previous steps, you select the correct format to import Wellheads (\*.\*) and match information from the columns with information in the file. Edit latitude/longitude information in the Settings of the well or in the **Well Manager**.

The left screenshot shows the 'Settings for A10' dialog box. The 'Position' tab is selected. The 'Latitude' field is set to 61°10'30.2673"N and the 'Longitude' field is set to 2°12'0.7230"E. The 'Reference level' is set to KB (Kelly bushing). The 'Reposition well tops, checkshots and trace' and 'Reposition logs and completions' checkboxes are checked. The 'Main well' field is empty.

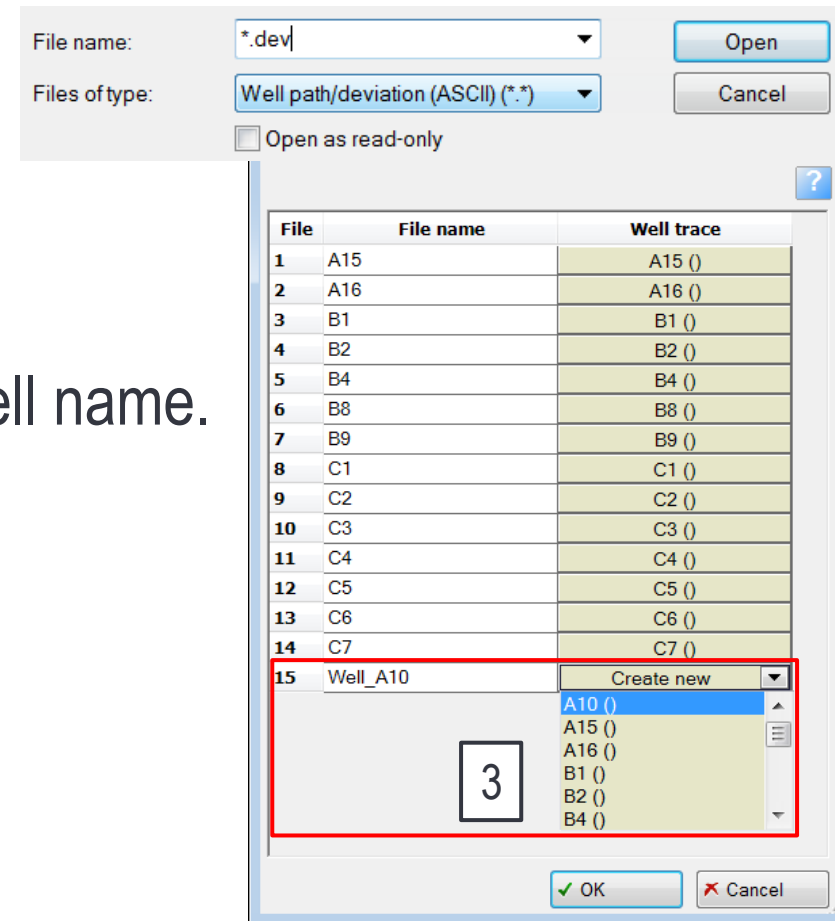
The right screenshot shows the 'Well manager' window. The table displays the following data:

	Name	UWI	Folder	Well symbol	Surface X	Surface Y	Latitude	Longitude
1	Proposed 5		'Wells/Proposed wells/Well sub folder 1'	Proposed	457227.70	6785572.34	61°12'2.7840"N	2°12'15.0
2	Proposed 3		'Wells/Proposed wells/Well sub folder 1'	Proposed	457227.70	6785572.34	61°12'2.7840"N	2°12'15.0
3	Proposed 1		'Wells/Proposed wells'	Proposed	452286.88	6783583.02	61°10'56.4448"N	2°06'45.9
4	Proposed 2		'Wells/Proposed wells'	Proposed	452443.98	6783629.04	61°10'58.0007"N	2°06'56.4
5	A10		'Wells'	Oil	456979.06	6782712.41	61°10'30.2673"N	2°12'0.7
6	A15		'Wells'	Oil	456645.06	6781579.73	61°09'53.5322"N	2°11'39.3
7	A16		'Wells'	Dry	456510.41	6784012.02	61°11'12.0778"N	2°11'28.2
8	B1		'Wells'	Gas	457324.81	6785978.89	61°12'15.9597"N	2°12'21.2
9	B2		'Wells'	Abandoned oil an	458003.13	6785817.93	61°12'11.0225"N	2°13'6.7
10	B4		'Wells'	Oil	457617.89	6785129.58	61°11'48.6289"N	2°12'41.5
11	B8		'Wells'	Abandoned mino	457746.94	6787092.61	61°12'52.1146"N	2°12'48.5
12	B9		'Wells'	Oil, plugged and	456727.66	6785559.45	61°12'2.1694"N	2°11'41.5
13	C1		'Wells'	Gas	453062.30	6786788.36	61°12'40.3604"N	2°07'34.9
14	C2		'Wells'	Oil	454635.00	6787607.12	61°13'7.4862"N	2°09'19.6
15	C3		'Wells'	Proposed	456244.15	6788724.75	61°13'44.2619"N	2°11'6.5
16	C4		'Wells'	Proposed	454640.19	6786210.63	61°12'22.3615"N	2°09'21.1
17	C5		'Wells'	Proposed	453503.72	6783001.80	61°10'38.1896"N	2°08'7.9
18	C6		'Wells'	Proposed	451503.84	6781788.24	61°09'58.1019"N	2°05'55.1
19	C7		'Wells'	Proposed	452119.18	6784852.47	61°11'37.3924"N	2°06'33.5

The 'Edit points' dropdown menu is open, showing the following options: 'Edit surface X/Y', 'Edit Latitude/Longitude', 'Edit offset', and 'Edit TD (MD)'. The 'Edit Latitude/Longitude' option is highlighted.

# Importing Wells: Well Path (Deviation Survey)

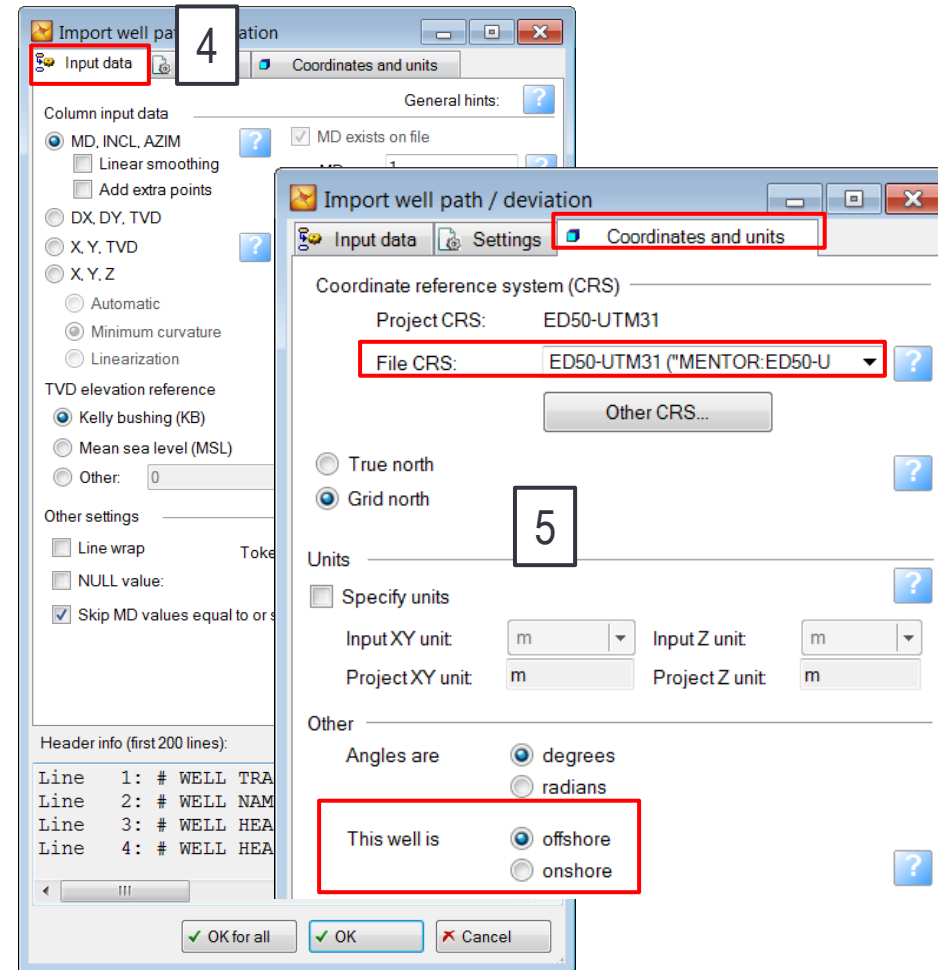
1. Import (on selection) into the *Wells* folder.
2. Select the correct format.
3. Match the file name to existing well name.



# Importing Wells: Well Path (Deviation Survey)

4. Select correct survey type and define columns.

5. Select well type (onshore/offshore) adjust units if necessary, and set the CRS.



# Importing Wells: Deviation Survey

The deviation survey can be viewed in **Spreadsheet**.

Input

Wells

Global well logs

Global completions

Global observed data

Well attributes

Well filters

Saved searches

A10

A15

A16

Spreadsheet ...

Well trace spreadsheet for "A10"

Interpolate values

Specify limit

Domain: MD

Step: 100

Min:

Max:

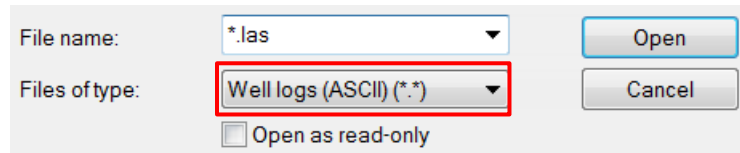
	X	Y	Z	MD	INCL	AZIM	AZIM (TN)	DX	DY	DX(TN)	DY(TN)	TVD
599	457486.53	6782626.11	-2243.53	2412.60	20.00	101.00	101.00	507.47	-86.30	507.47	-86.30	2243.53
599	457486.58	6782626.10	-2243.68	2412.75	20.00	101.00	101.00	507.52	-86.31	507.52	-86.31	2243.68
599	457486.63	6782626.09	-2243.82	2412.91	20.00	101.00	101.00	507.57	-86.32	507.57	-86.32	2243.82
599	457486.68	6782626.08	-2243.96	2413.06	20.00	101.00	101.00	507.62	-86.33	507.62	-86.33	2243.96
599	457486.74	6782626.07	-2244.11	2413.21	20.00	101.00	101.00	507.67	-86.34	507.67	-86.34	2244.11
599	457486.79	6782626.06	-2244.25	2413.36	20.00	101.00	101.00	507.72	-86.35	507.72	-86.35	2244.25
599	457486.84	6782626.05	-2244.39	2413.52	20.00	101.00	101.00	507.77	-86.36	507.77	-86.36	2244.39
599	457486.89	6782626.04	-2244.54	2413.67	20.00	101.00	101.00	507.83	-86.37	507.83	-86.37	2244.54
599	457486.94	6782626.03	-2244.68	2413.82	20.00	101.00	101.00	507.88	-86.38	507.88	-86.38	2244.68
599	457486.99	6782626.02	-2244.82	2413.97	20.00	101.00	101.00	507.93	-86.39	507.93	-86.39	2244.82
600	457487.04	6782626.01	-2244.97	2414.13	20.00	101.00	101.00	507.98	-86.40	507.98	-86.40	2244.97
600	457487.09	6782626.00	-2245.11	2414.28	20.00	101.00	101.00	508.03	-86.41	508.03	-86.41	2245.11
600	457487.15	6782625.99	-2245.25	2414.43	20.00	101.00	101.00	508.08	-86.42	508.08	-86.42	2245.25
600	457487.20	6782625.98	-2245.40	2414.58	20.00	101.00	101.00	508.13	-86.43	508.13	-86.43	2245.40
600	457487.25	6782625.97	-2245.54	2414.74	20.00	101.00	101.00	508.18	-86.44	508.18	-86.44	2245.54
600	457487.30	6782625.96	-2245.68	2414.89	20.00	101.00	101.00	508.24	-86.45	508.24	-86.45	2245.68
600	457487.35	6782625.95	-2245.82	2415.04	20.00	101.00	101.00	508.29	-86.46	508.29	-86.46	2245.82
600	457487.40	6782625.94	-2245.97	2415.19	20.00	101.00	101.00	508.34	-86.47	508.34	-86.47	2245.97

The Deviation survey can be edited after import, but it is not recommended. Only white columns are editable.

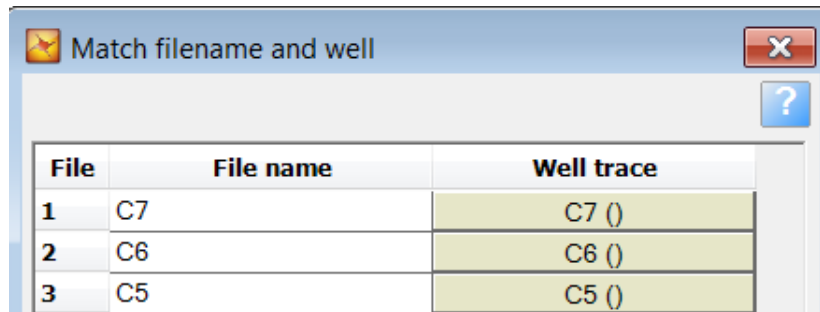


# Importing Wells: Well Logs (ASCII or LAS format)

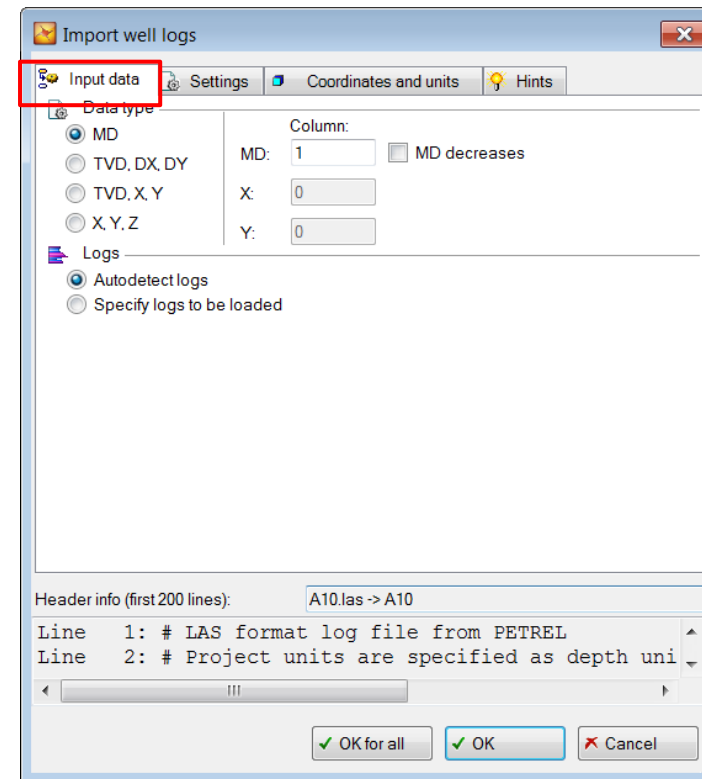
1. Import (on selection) into *Wells* folder.
2. Select data files and the correct format



3. Match the file name to the well trace name.



4. Go to **Input data** tab and set the appropriate Data type.



# Importing Wells: Well Logs Specify Logs

**Import well logs**

Input data | Settings | Coordinates and units | Hints

Data type

☒ MD  
☐ TVD, DX, DY  
☐ TVD, X, Y  
☐ X, Y, Z

Column:

MD: 1 ☐ MD decreases  
X: 0  
Y: 0

Logs

☐ Autodetect logs  
☒ Specify logs to be loaded

Log	Log name	Column	Property template	Global well log
1	DEPT	1	Measured depth	Create new
2	Perm	2	Permeability	Create new
3	Gamma	3	Gamma ray	Create new
4	Porosity	4	Porosity	Create new
5	Fluvialfacies	5	Facies	Create new
6	NetGross	6	Faults Fluids Fluvial facies Fraction Fractional flow Fracture aperture	

Header info (first 200 lines): A10 Fracture aperture

Line 1: # LAS format log file from PETREL  
Line 2: # Project units are specified as depth units

☒ OK for all ☐ OK ☐ Cancel

**Input**

Wells

Global well logs

Log attributes

☒ DEPT  
☒ Perm  
☒ Gamma  
☒ Porosity  
☒ Fluvialfacies  
☒ NetGross

Global completions

Global observed data

Well attributes

Well filters

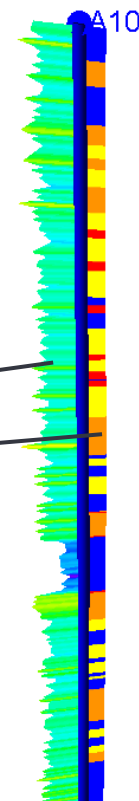
Saved searches

A10

Well logs

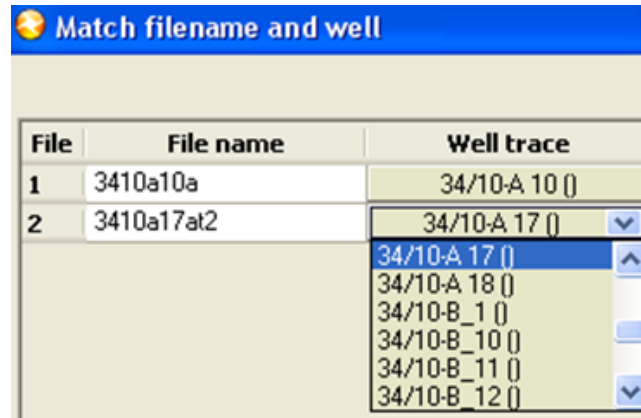
☒ DEPT  
☒ Perm  
☒ Gamma  
☒ Porosity  
☒ Fluvialfacies  
☒ NetGross

A15  
A16  
B1  
B2

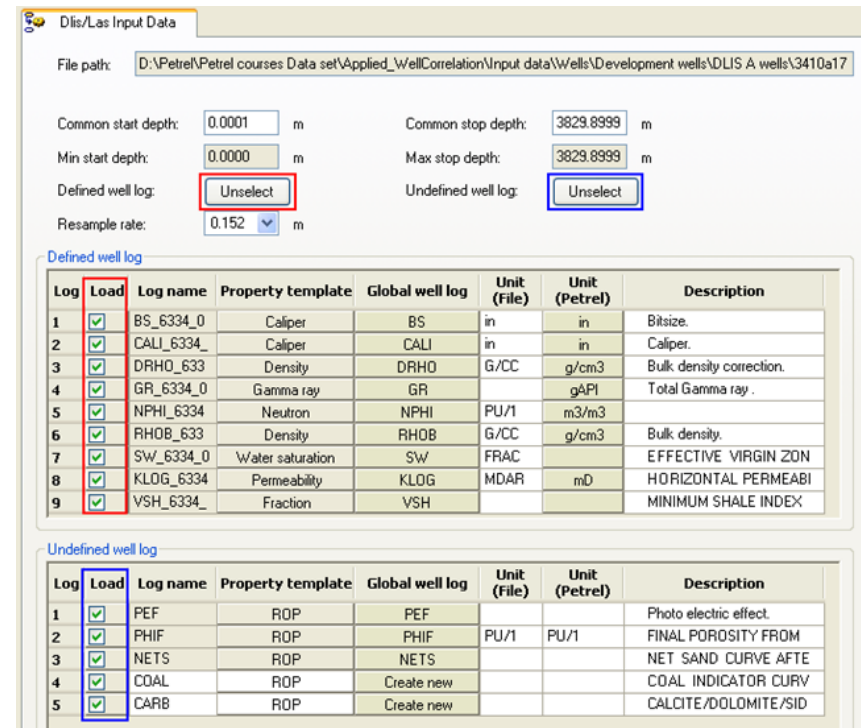


# Importing Wells: Well Logs (DLIS)

1. Import (on selection) into the *Wells* folder.
2. Select data files and the correct format (\*.DLIS).
3. Match the file name to the well trace name.

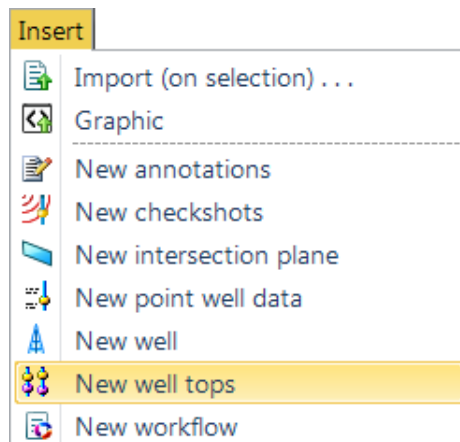


4. By default, all logs are selected. If only a few logs should be loaded, click **Unselect** and click **Load** in front of the desired logs. Click **OK**.

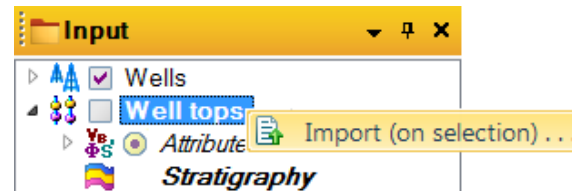


# Importing Well Tops

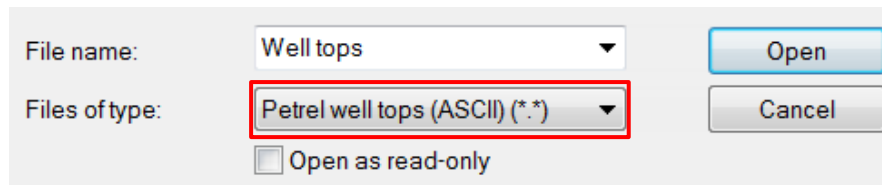
1. Insert a new *Well Tops* folder.



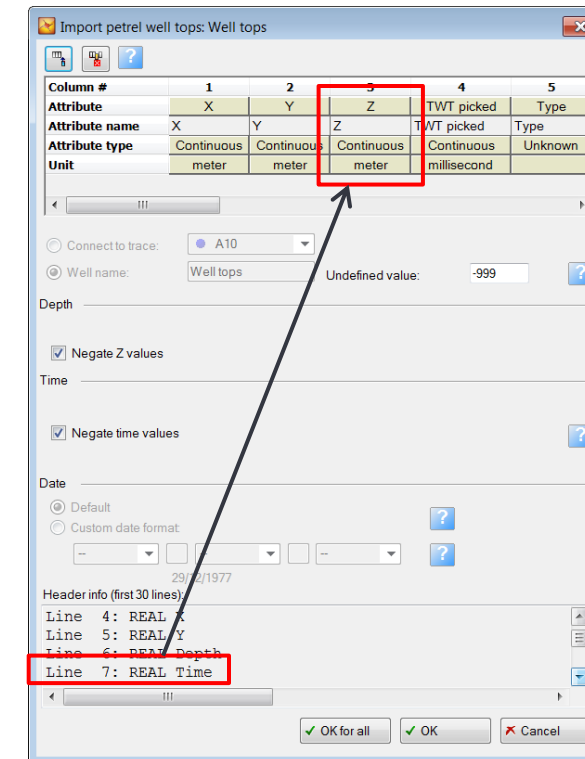
2. Right-click on the *Well Tops* folder and choose **Import (on selection)**.



3. Select the files to import and the correct format.

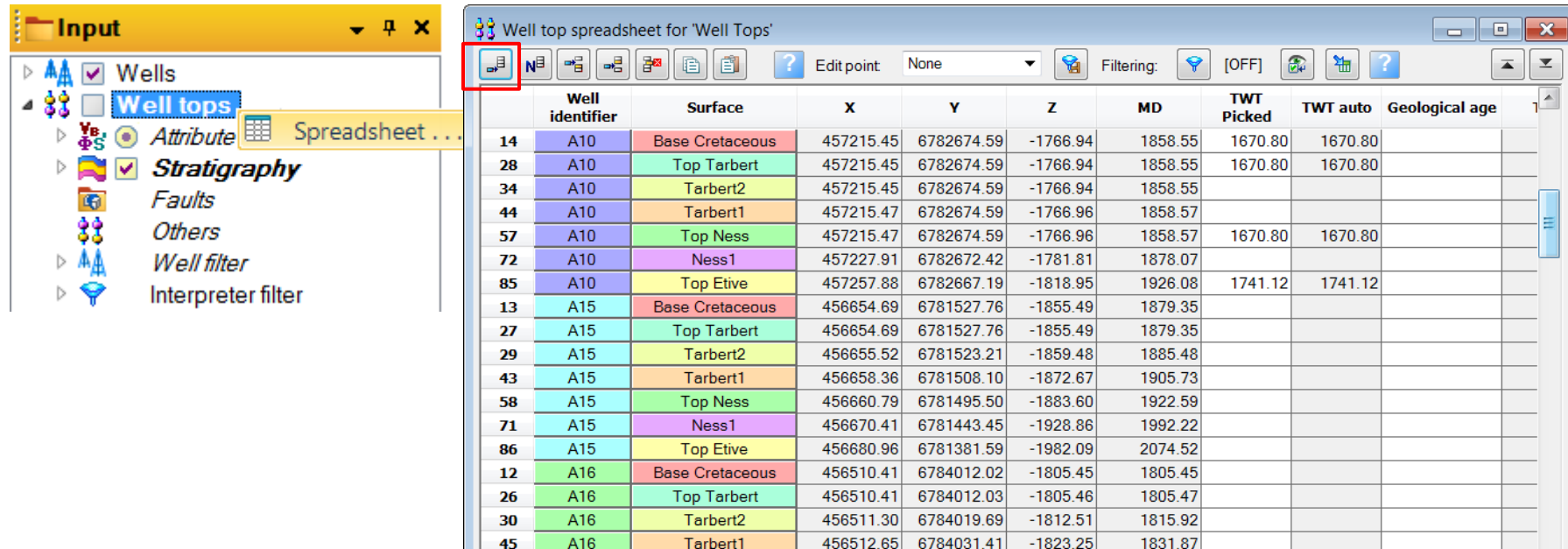


4. Check the units and attributes and change if necessary. Click **OK for All**.



# Well Tops Spreadsheet

Well tops are sorted by: Attribute, Stratigraphy (+ Faults and Others) and by Wells.

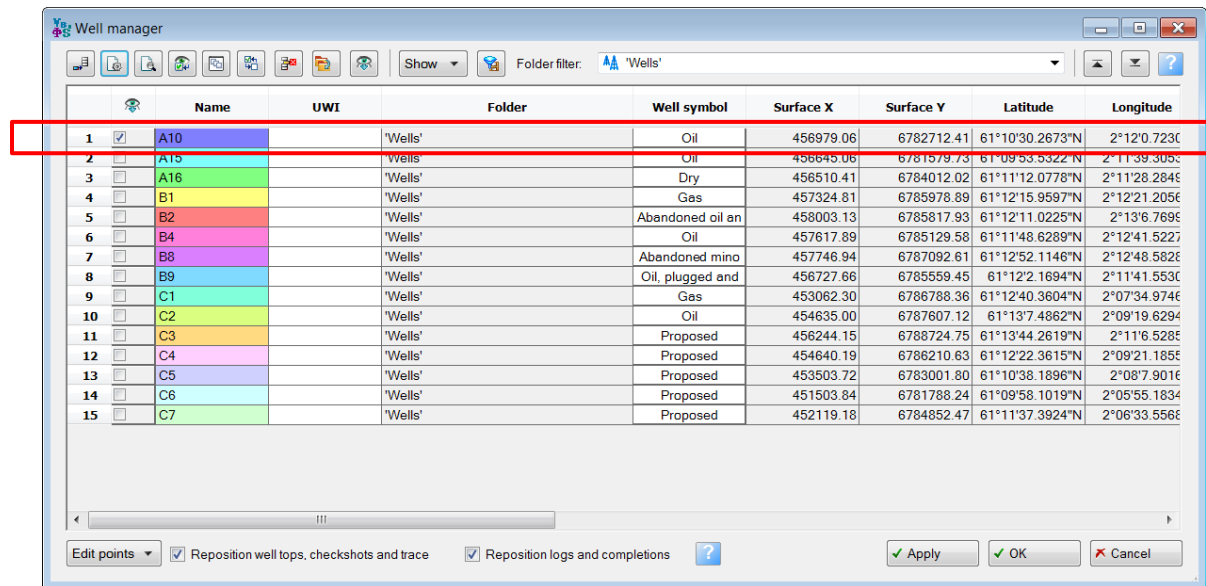


	Well identifier	Surface	X	Y	Z	MD	TWT Picked	TWT auto	Geological age
14	A10	Base Cretaceous	457215.45	6782674.59	-1766.94	1858.55	1670.80	1670.80	
28	A10	Top Tarbert	457215.45	6782674.59	-1766.94	1858.55	1670.80	1670.80	
34	A10	Tarbert2	457215.45	6782674.59	-1766.94	1858.55			
44	A10	Tarbert1	457215.47	6782674.59	-1766.96	1858.57			
57	A10	Top Ness	457215.47	6782674.59	-1766.96	1858.57	1670.80	1670.80	
72	A10	Ness1	457227.91	6782672.42	-1781.81	1878.07			
85	A10	Top Etive	457257.88	6782667.19	-1818.95	1926.08	1741.12	1741.12	
13	A15	Base Cretaceous	456654.69	6781527.76	-1855.49	1879.35			
27	A15	Top Tarbert	456654.69	6781527.76	-1855.49	1879.35			
29	A15	Tarbert2	456655.52	6781523.21	-1859.48	1885.48			
43	A15	Tarbert1	456658.36	6781508.10	-1872.67	1905.73			
58	A15	Top Ness	456660.79	6781495.50	-1883.60	1922.59			
71	A15	Ness1	456670.41	6781443.45	-1928.86	1992.22			
86	A15	Top Etive	456680.96	6781381.59	-1982.09	2074.52			
12	A16	Base Cretaceous	456510.41	6784012.02	-1805.45	1805.45			
26	A16	Top Tarbert	456510.41	6784012.03	-1805.46	1805.47			
30	A16	Tarbert2	456511.30	6784019.69	-1812.51	1815.92			
45	A16	Tarbert1	456512.65	6784031.41	-1823.25	1831.87			

After import, additional well tops or well cuts can be added by appending a new row in the Spreadsheet. Well tops also can be copied from an Excel file (Ctrl+C/Ctrl+V).

# Well Manager

All information is associated with each wellbore and presented in a user-friendly spreadsheet format. Each well in the project is represented as a row, with all associated attributes listed as columns. Most fields are editable, allowing copy/paste from other spreadsheets.



The screenshot shows the 'Well manager' application window. It features a toolbar with various icons and a 'Folder filter' set to 'Wells'. The main area is a spreadsheet with columns: Name, UWI, Folder, Well symbol, Surface X, Surface Y, Latitude, and Longitude. The first row is highlighted with a red rectangle. Below the spreadsheet, there are checkboxes for 'Reposition well tops, checkshots and trace' and 'Reposition logs and completions', along with 'Apply', 'OK', and 'Cancel' buttons.

	Name	UWI	Folder	Well symbol	Surface X	Surface Y	Latitude	Longitude
1	A10		'Wells'	Oil	456979.06	6782712.41	61°10'30.2673"N	2°12'0.7236"E
2	A15		'Wells'	Oil	456645.06	6781579.73	61°09'53.5322"N	2°11'39.3093"E
3	A16		'Wells'	Dry	456510.41	6784012.02	61°11'12.0778"N	2°11'28.2845"E
4	B1		'Wells'	Gas	457324.81	6785978.89	61°12'15.9597"N	2°12'21.2056"E
5	B2		'Wells'	Abandoned oil an	458003.13	6785817.93	61°12'11.0225"N	2°13'6.7695"E
6	B4		'Wells'	Oil	457617.89	6785129.58	61°11'48.6289"N	2°12'41.5227"E
7	B8		'Wells'	Abandoned mino	457746.94	6787092.61	61°12'52.1146"N	2°12'48.5825"E
8	B9		'Wells'	Oil, plugged and	456727.66	6785559.45	61°12'2.1694"N	2°11'41.5536"E
9	C1		'Wells'	Gas	453062.30	6786788.36	61°12'40.3604"N	2°07'34.9746"E
10	C2		'Wells'	Oil	454635.00	6787607.12	61°13'7.4862"N	2°09'19.6294"E
11	C3		'Wells'	Proposed	456244.15	6788724.75	61°13'44.2619"N	2°11'6.5285"E
12	C4		'Wells'	Proposed	454640.19	6786210.63	61°12'22.3615"N	2°09'21.1855"E
13	C5		'Wells'	Proposed	453503.72	6783001.80	61°10'38.1896"N	2°08'7.9016"E
14	C6		'Wells'	Proposed	451503.84	6781788.24	61°09'58.1019"N	2°05'55.1834"E
15	C7		'Wells'	Proposed	452119.18	6784852.47	61°11'37.3924"N	2°06'33.5566"E