PetroVision IV

Version 4.0

User guide

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From developers

You may contact developers by e-mail:skobelev@geoleader.ru. You may inform us about any bugs you found, make your suggestions and comments on any PetroVision IV product.

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INTRODUCTION

PetroVision IV 4.0 is an integrated solution of data management for PetroVision IV data bank. Using PetroVision IV 4.0 you can easily work with a full set of exploration and production (E&P) data – you can view, search, access, visualize, make requests and deliver data. All these actions are available without quitting the PetroVision IV 4.0 environment. Moreover, PetroVision IV 4.0 provides well logging interface based on ESRI ArcGIS Server. Due to its unique configuration, PetroVision IV 4.0 may be easily applied to almost all databases based on the POSC Epicentre data model. PetroVision IV 4.0 provides the access to the tabular data stored in the Oracle DB as well as to the external files located on the disk or automated storages.

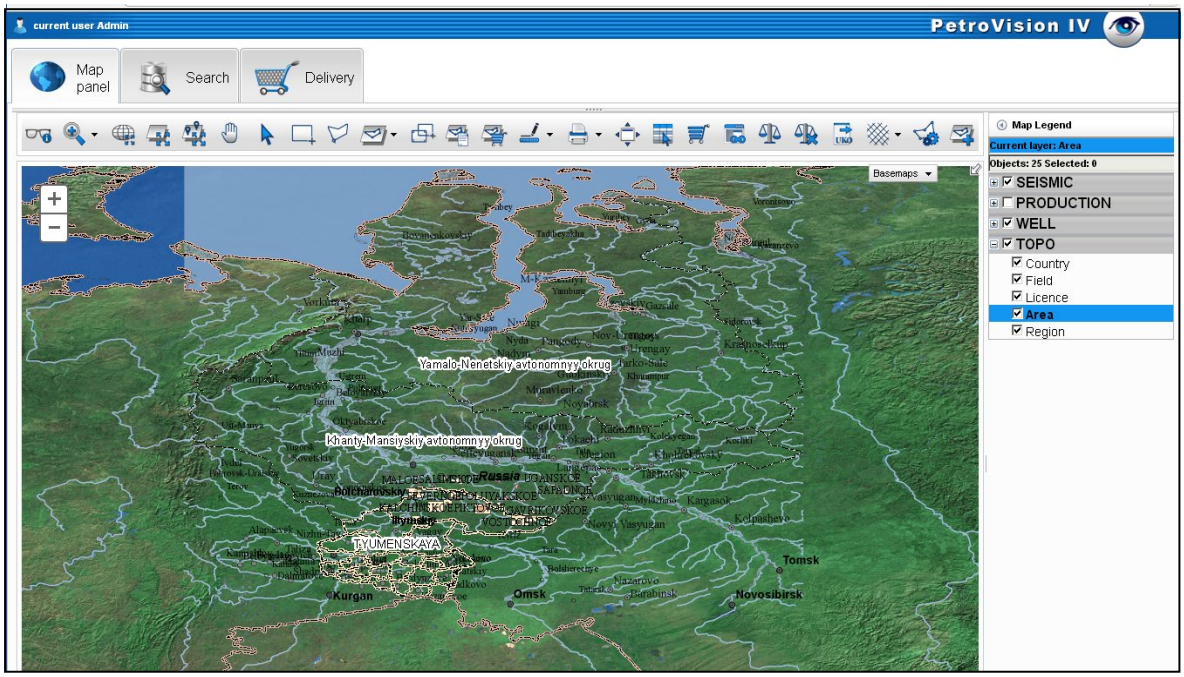
This user guide may help you to learn how to use possibilities and facilities of **PetroVision IV 4.0** in full.

1 PETROVISION IV RUN

To run PetroVision IV you need to enter your login and password on the website.

Running PetroVision IV

If you are an authorized user and if your login and password are correct, then you get an access to the PetroVision IV Software.



The PetroVision IV software complex

It consists of basic modules: **MAP**, **SEARCH**, **DELIVERY**

PetroVision IV modules

Clicking the left mouse button goes to every module, they are linked to each other.

MAP and **SEARCH** modules are single center to access all the information stored in the PetroVision IV Data bank. You can quickly find the object of interest, for example, well or seismic acquisition. You can make a query into the database, view the results of the query, view the files, create and send a report by email, select files to the cart. Data tables with request result have a wide range of tools for filtering, searching, sorting and format changing; it will help you to find target data loaded into DB.

MAP in PetroVision IV provides well logging interface to get an access to all types of information on any objects of interest. You may work with mapping objects by using all tools typical for well logging systems.

The **SEARCH** module consists of three parts. You may find details in the Chapter 5 Working with the "Search" Data Browser:

- Data browser provides you with hierarchical access to data and let you search objects of interest using queries.
- Data search allows user to search objects of interest not only by spatial criteria as in the ***Data Browser*** or **MAP MODULE**, but also by any other criteria such as well flow, logging type, etc. Due to a flexible configuration mechanism, based on XML, the ***Data Search*** may be set up for all specific user requirements.
- Online search allows user to search objects by matching only some characters.

DELIVERY MODULE – during the PetroVision IV work process the user may pick any files to the cart, i.e. create a project with selected data. The cart is a figure of speech which is used in the Internet shops. It is like you go to the supermarket and put products into the cart. In PetroVision IV any file can be regarded as a product and can be added (put) to the cart. But here you may have more than one cart. The cart contents are stored between sessions by your request and you may go back to the cart contents next time when software runs. Apart from that, you may send all or some of the files by e-mail or by network to another computer. You may also send to the operator a request by e-mail for printing files which are in the cart or to record them on a CD. You may send files to other application input, for example magnetic media, interpretation or processing package. All operations with the cart are made in the **DELIVERY MODULE**.

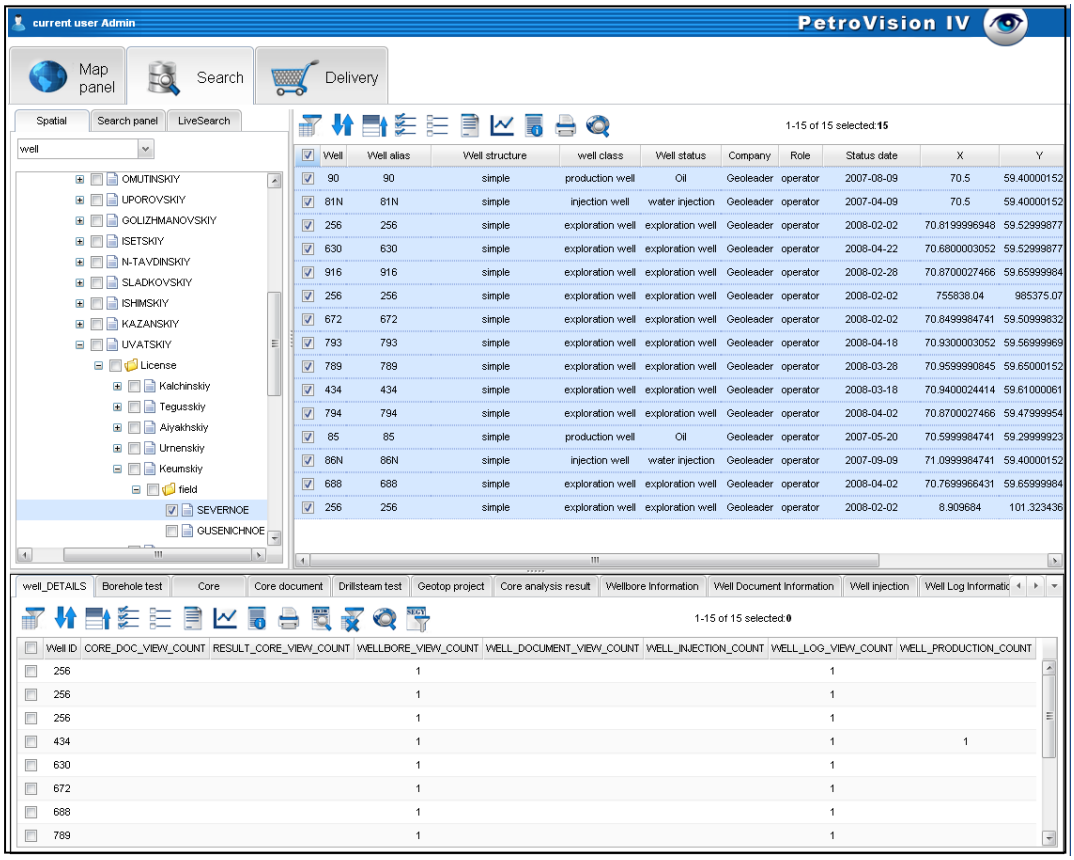
In the upper left corner you may find the **Menu**, which you can open or close with the mouse left button.

Menu

You may find the detailed description of the menu in the Chapter 7 Working with MENU.

2 GENERAL APPROACH OF PETROVISION IV WORKING PROCESS

All PetroVision IV modules have three-window structure. To understand it better let's look at the ***Data browser*** window. It consists of three parts which are called ***panels***.

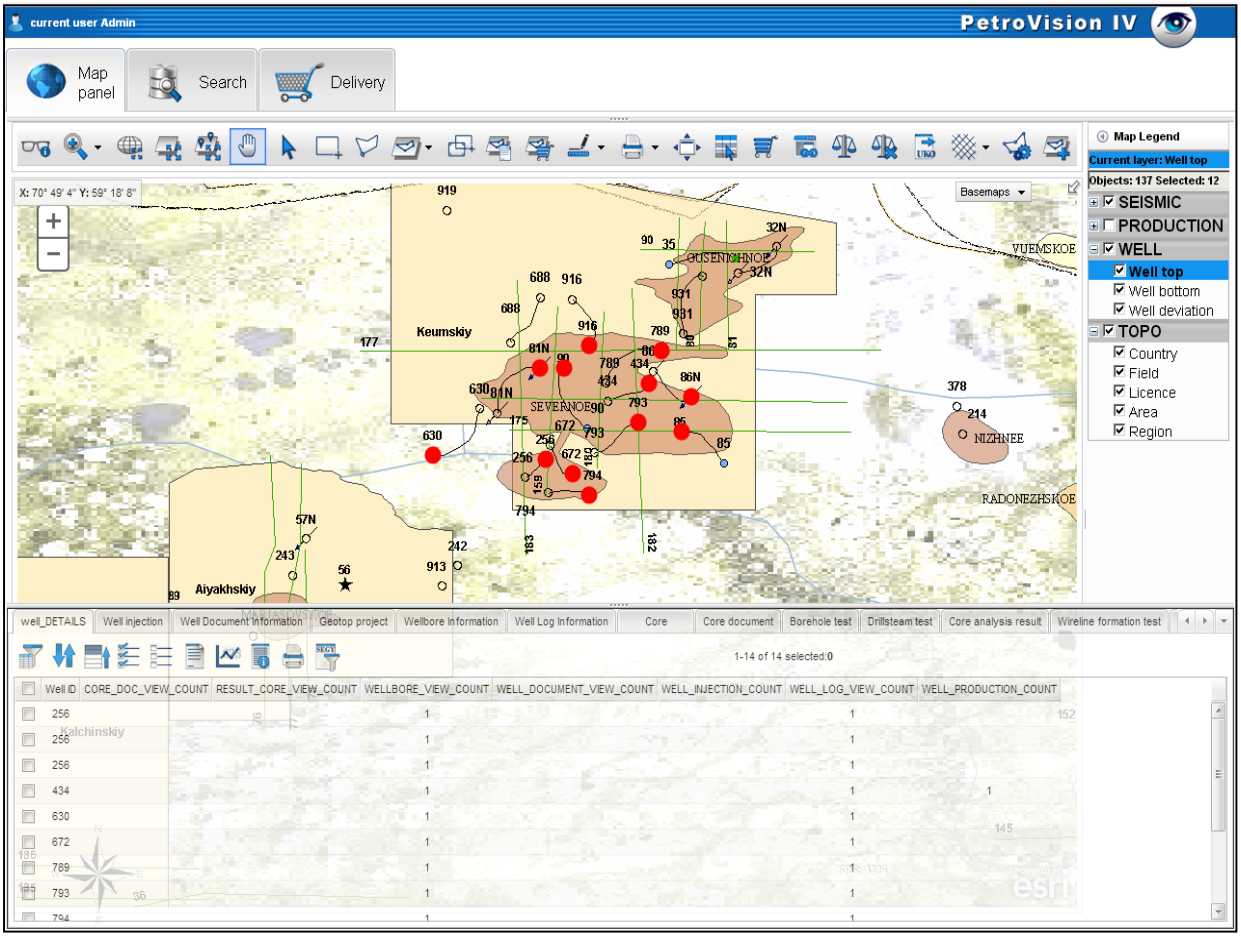


Search panel

When ***Data browser*** is opened, objects and view panels are blank. Data will appear as soon as you start to select spatial (territory) objects in a spatial hierarchy tree and keep on working with objects panel and then look down at the view panel. Each panel's contents depend on the current selection, made in the previous panel. You can click on the section line to close or open the bottom window of the ***View panel***. If you hold a mouse on one of the lines in the ***Objects Panel*** or ***View Panel***, the ***Details*** window for this line will pop up.

In this case, at the spatial tree panel we selected the "SEVERNOE" field from the list *Well*, marked the wells with "v" at the objects panel, and tables appeared at the view panel. They will be described in the Chapter 3 Working with data tables.

After that, we click on the ***Show on the map*** button, and go to the **MAP MODULE** and can see the selected wells on the map.



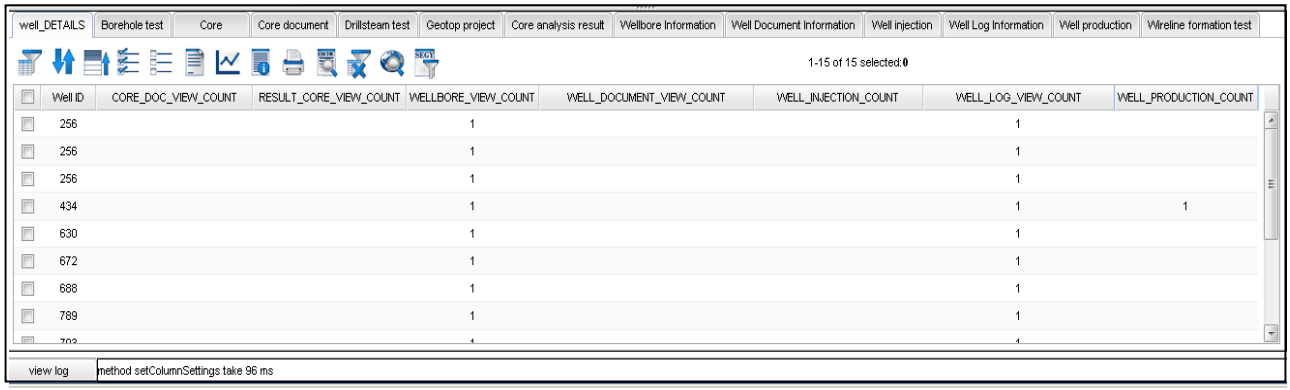
Selected objects in the Map module

Using the PetroVision IV modules in this way, you may view different data stored in the DB and see them on the map. You may find a detailed description in the Chapter 4 Working with map.

3 WORKING WITH DATA TABLES

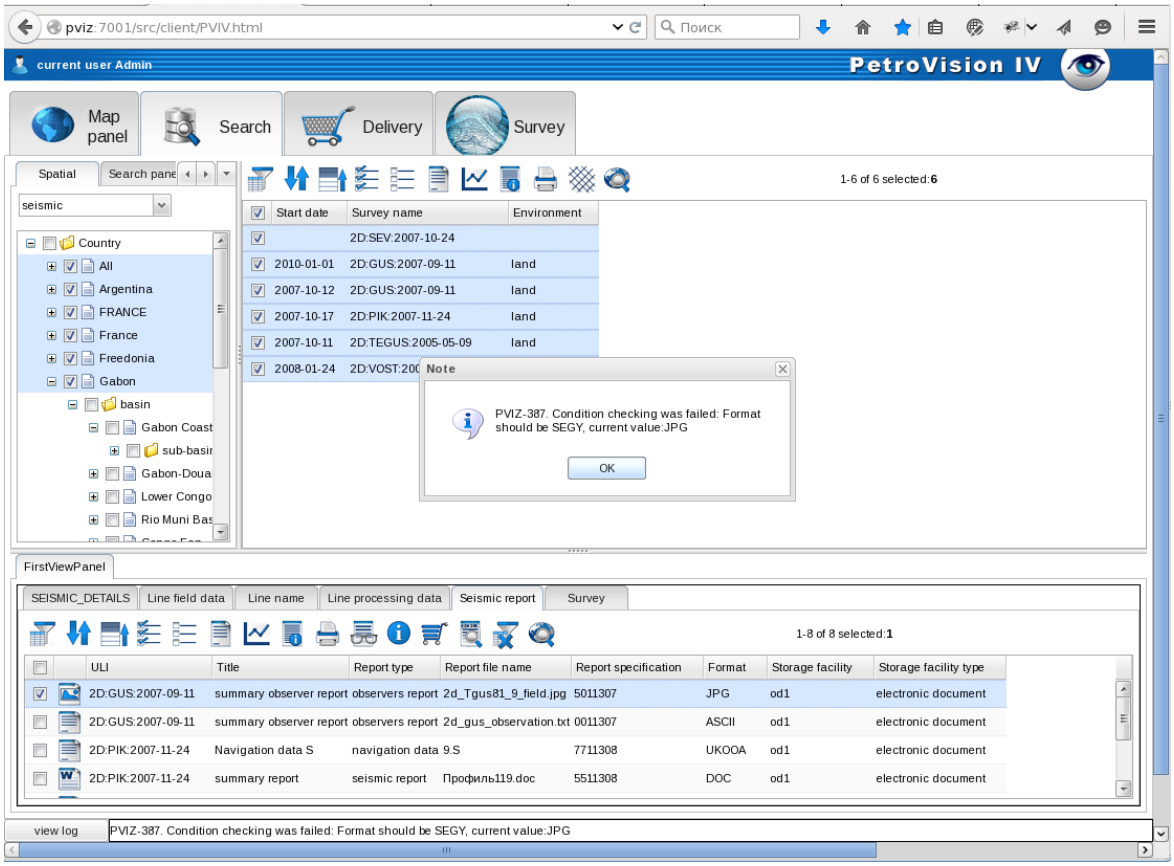
Data table is the basic component of each PetroVision IV module. ***Data tables*** represent the information, retrieved from the Oracle DB and offer a lot of tools to manipulate this data. Before you start to learn how to work with each module, you need to know how to work with ***Data tables***. Despite the fact that ***Data table*** seems to be easy and clear, to work fast and effectively in PetroVision IV we recommend to view all the functions.

View panel consists of three parts: horizontal menu of categories and views, toolbars with buttons and data tables.



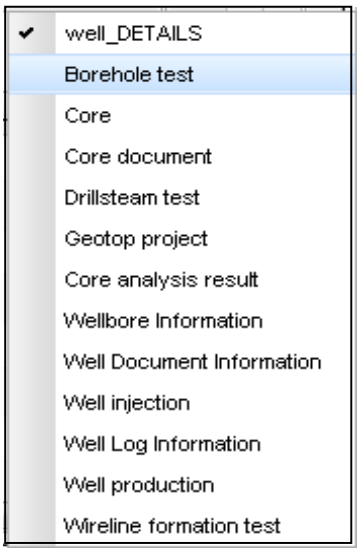
View panel

If the button condition doesn't comply with data, the message with error description will appear.



Message with error description

3.1 List of categories and views

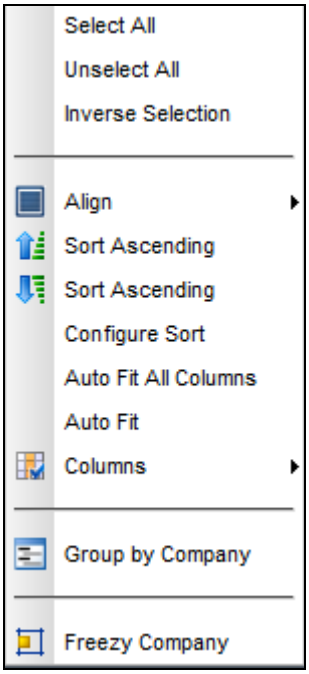


List of categories and views

To fill the ***Data table*** you need to select an item from the horizontal menu and if data is loaded to the databank, then ***Data table*** will be filled as soon as you select an item from the list. The PetroVision IV DB may have more than hundreds of tables with different types of information. These tables are subdivided into different categories: production, core, loggings, reports, etc. These categories are in the horizontal menu, but if there are too many of them, you may find additional buttons to scroll the menu in the right corner of the horizontal menu.

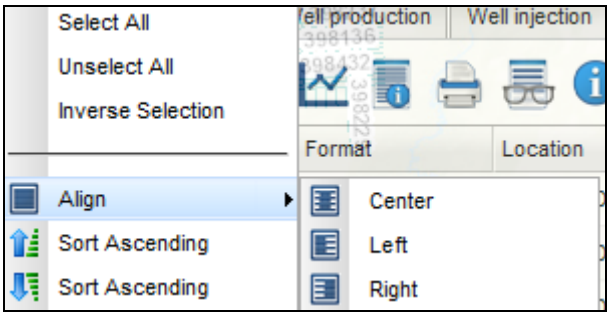
If nothing appears when you select the specific list, it means that there is no such information in the DB.

The pop-up menu will appear while right-clicking on the column header.



Pop-up window

- **Align**

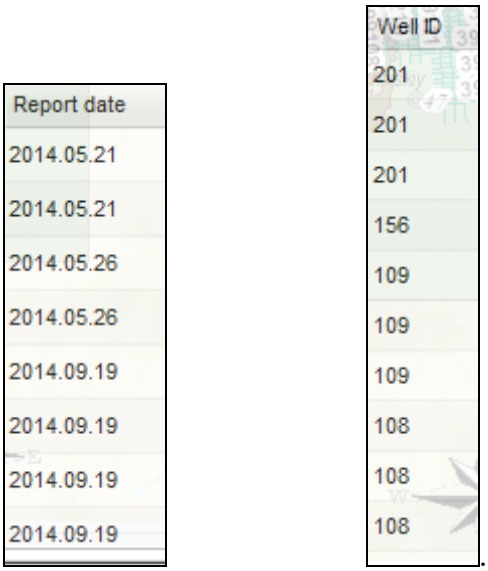


Align

When you select "Center", "left" or "right," the contents of cells aligned on the left, center, or right edge of the cell respectively.

- **Sort ascending and descending**

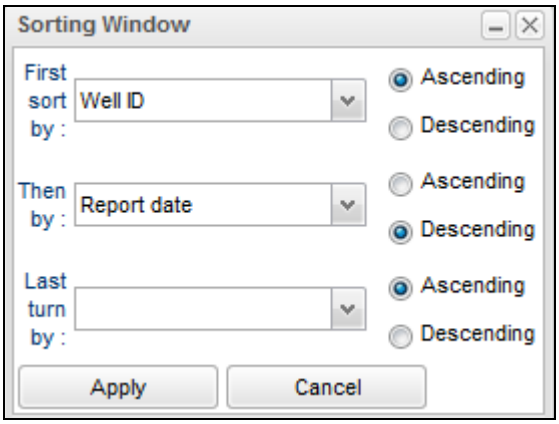
Function to sort alphanumeric values in ascending and descending order



Sort ascending **Sort descending**

- **Configure sort**

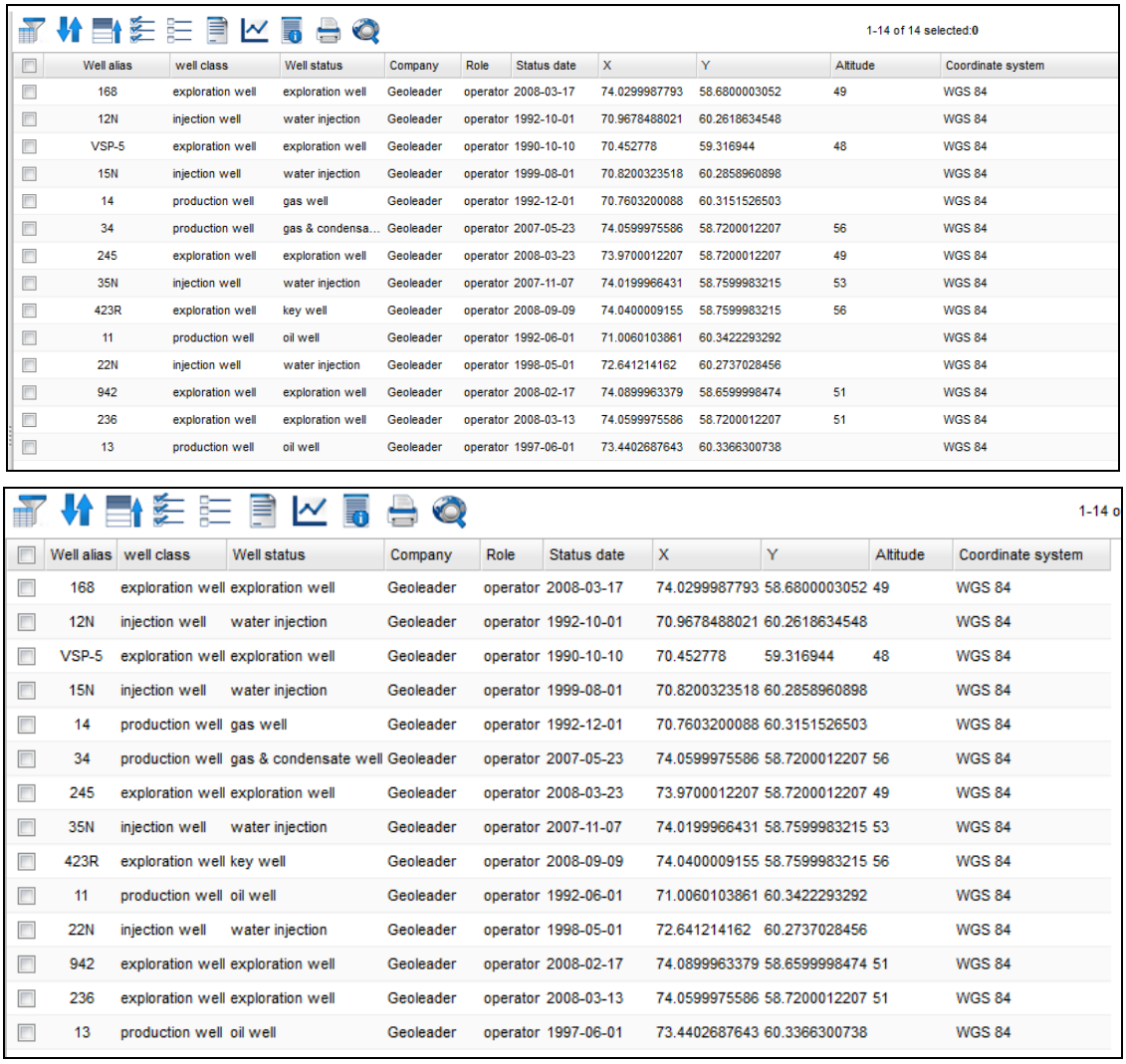
You can define a column to sort (three columns maximum) and sort order - ascending or descending order.



Configure sort

- **Auto fit**

The function fits the width of each selected column according to the text automatically.



1-14 of 14 selected:0

Well alias	well class	Well status	Company	Role	Status date	X	Y	Altitude	Coordinate system
168	exploration well	exploration well	Geoleader	operator	2008-03-17	74.0299987793	58.6800003052	49	WGS 84
12N	injection well	water injection	Geoleader	operator	1992-10-01	70.9678488021	60.2618634548		WGS 84
VSP-5	exploration well	exploration well	Geoleader	operator	1990-10-10	70.452778	59.316944	48	WGS 84
15N	injection well	water injection	Geoleader	operator	1999-08-01	70.8200323518	60.2858960898		WGS 84
14	production well	gas well	Geoleader	operator	1992-12-01	70.7603200088	60.3151526503		WGS 84
34	production well	gas & condensa...	Geoleader	operator	2007-05-23	74.0599975586	58.7200012207	56	WGS 84
245	exploration well	exploration well	Geoleader	operator	2008-03-23	73.9700012207	58.7200012207	49	WGS 84
35N	injection well	water injection	Geoleader	operator	2007-11-07	74.0199966431	58.7599983215	53	WGS 84
423R	exploration well	key well	Geoleader	operator	2008-09-09	74.0400009155	58.7599983215	56	WGS 84
11	production well	oil well	Geoleader	operator	1992-06-01	71.0060103861	60.3422293292		WGS 84
22N	injection well	water injection	Geoleader	operator	1998-05-01	72.641214162	60.2737028456		WGS 84
942	exploration well	exploration well	Geoleader	operator	2008-02-17	74.0899963379	58.6599998474	51	WGS 84
236	exploration well	exploration well	Geoleader	operator	2008-03-13	74.0599975586	58.7200012207	51	WGS 84
13	production well	oil well	Geoleader	operator	1997-06-01	73.4402687643	60.3366300738		WGS 84

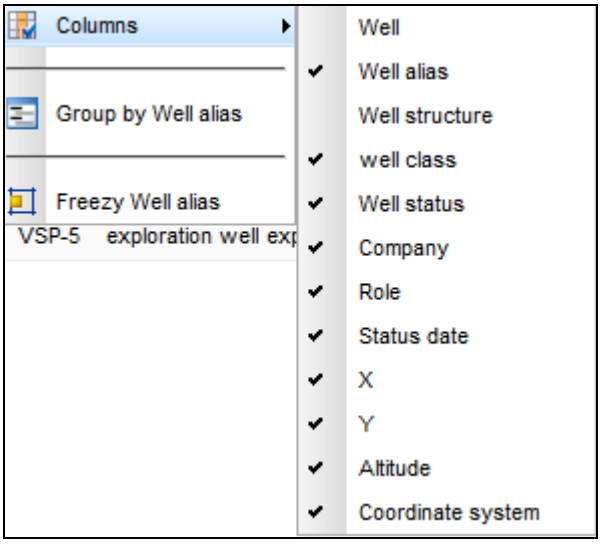
1-14 o

Well alias	well class	Well status	Company	Role	Status date	X	Y	Altitude	Coordinate system
168	exploration well	exploration well	Geoleader	operator	2008-03-17	74.0299987793	58.6800003052	49	WGS 84
12N	injection well	water injection	Geoleader	operator	1992-10-01	70.9678488021	60.2618634548		WGS 84
VSP-5	exploration well	exploration well	Geoleader	operator	1990-10-10	70.452778	59.316944	48	WGS 84
15N	injection well	water injection	Geoleader	operator	1999-08-01	70.8200323518	60.2858960898		WGS 84
14	production well	gas well	Geoleader	operator	1992-12-01	70.7603200088	60.3151526503		WGS 84
34	production well	gas & condensate well	Geoleader	operator	2007-05-23	74.0599975586	58.7200012207	56	WGS 84
245	exploration well	exploration well	Geoleader	operator	2008-03-23	73.9700012207	58.7200012207	49	WGS 84
35N	injection well	water injection	Geoleader	operator	2007-11-07	74.0199966431	58.7599983215	53	WGS 84
423R	exploration well	key well	Geoleader	operator	2008-09-09	74.0400009155	58.7599983215	56	WGS 84
11	production well	oil well	Geoleader	operator	1992-06-01	71.0060103861	60.3422293292		WGS 84
22N	injection well	water injection	Geoleader	operator	1998-05-01	72.641214162	60.2737028456		WGS 84
942	exploration well	exploration well	Geoleader	operator	2008-02-17	74.0899963379	58.6599998474	51	WGS 84
236	exploration well	exploration well	Geoleader	operator	2008-03-13	74.0599975586	58.7200012207	51	WGS 84
13	production well	oil well	Geoleader	operator	1997-06-01	73.4402687643	60.3366300738		WGS 84

Auto fit

- **Columns**

It allows you to set the visibility of table columns. For example, you can hide unwanted columns you. A setting is saved individually for each user of the system. Visibility column also affects the reports that the user does on the specified table.



Columns

- **Group by**

The function groups data by columns. The figure is considered an example of data grouping by well class.

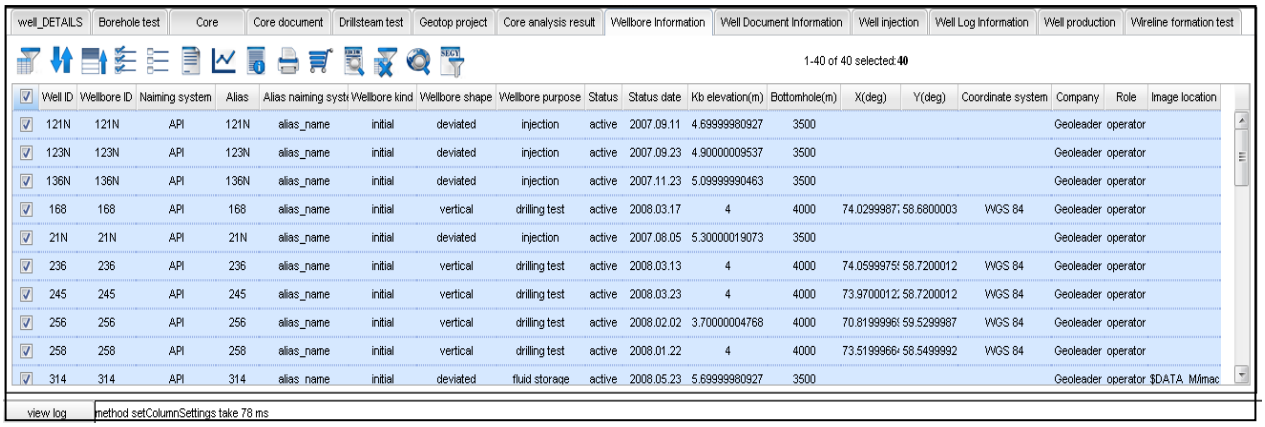
Well alias	well class	Well status	Company	Role	Status date	X	Y	Altitude	Coordinate system
exploration well									
168	exploration well	exploration well	Geoleader	operator	2008-03-17	74.0299987793	58.6800003052	49	WGS 84
VSP-5	exploration well	exploration well	Geoleader	operator	1990-10-10	70.452778	59.316944	48	WGS 84
245	exploration well	exploration well	Geoleader	operator	2008-03-23	73.9700012207	58.7200012207	49	WGS 84
423R	exploration well	key well	Geoleader	operator	2008-09-09	74.0400009155	58.7599983215	56	WGS 84
942	exploration well	exploration well	Geoleader	operator	2008-02-17	74.0899963379	58.6599998474	51	WGS 84
236	exploration well	exploration well	Geoleader	operator	2008-03-13	74.0599975586	58.7200012207	51	WGS 84
injection well									
12N	injection well	water injection	Geoleader	operator	1992-10-01	70.9678488021	60.2618634548		WGS 84
15N	injection well	water injection	Geoleader	operator	1999-08-01	70.8200323518	60.2858960898		WGS 84
35N	injection well	water injection	Geoleader	operator	2007-11-07	74.0199966431	58.7599983215	53	WGS 84
22N	injection well	water injection	Geoleader	operator	1998-05-01	72.641214162	60.2737028456		WGS 84
production well									
14	production well	gas well	Geoleader	operator	1992-12-01	70.7603200088	60.3151526503		WGS 84
34	production well	gas & condensate well	Geoleader	operator	2007-05-23	74.0599975586	58.7200012207	56	WGS 84
11	production well	oil well	Geoleader	operator	1992-06-01	71.0060103861	60.3422293292		WGS 84
13	production well	oil well	Geoleader	operator	1997-06-01	73.4402687643	60.3366300738		WGS 84

Group by

- **Freezy**

3.2 Row selection

To select the row you need to click on the square on the row with the mouse left button; in order to cancel your selection you need to click on the square again. To select all rows you need to click on the upper square.



Row selection

3.3 Toolbar

Data table ***toolbar*** consists of basic buttons which are common to all data tables, and special buttons which are used in particular modules. If you hold the mouse on one of the buttons, you will see the message about the functions of this button. In the right part of the ***toolbar*** you may see the total number of rows and currently visible rows in the table.

Fig. 10 Table Toolbar

Filtration

Sorting

Select up

Select all

Deselect all

Report

"Crossplot" Diagram

Details

Print

View

Location information

Pick to cart

View EBCDIC header

Reverse filtration

Show all

SEGY filtration

- **Filtration**

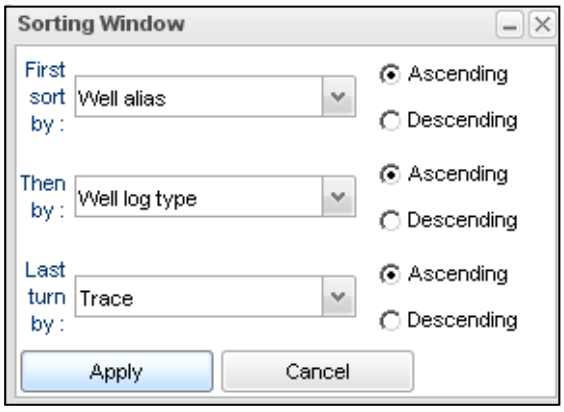
The ***Filtration*** button opens the filtering dialogue window in which you may find settings for the table rows filtration.

Filtration

- **Sorting**

The ***Sort*** button opens the window in which you may specify columns to be sorted (three maximum) and the order of sorting – increasing or decreasing.

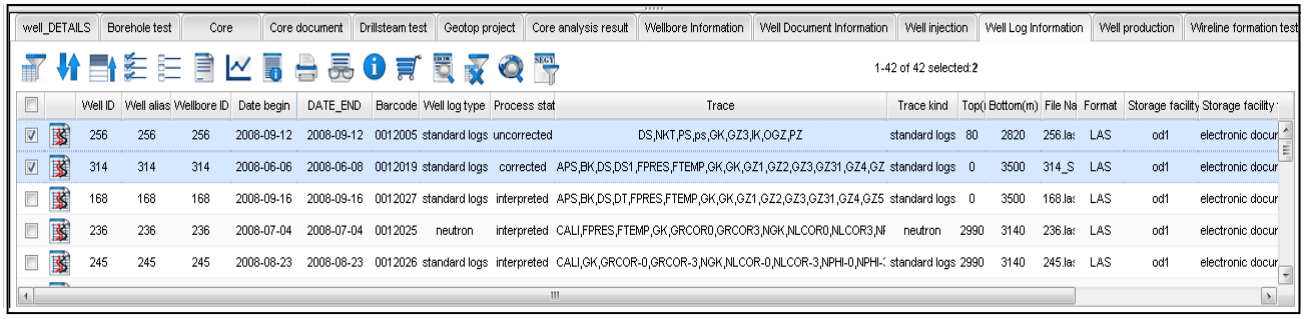
If you want to sort the table by one column, you will need to select the column name from the drop-down list, and if there is a decreasing sorting you shall select ***Decreasing***. If you want to make sorting by two or three columns, then you need to select names of columns sequentially downwards to define the order of sorting.



Sorting

Select up

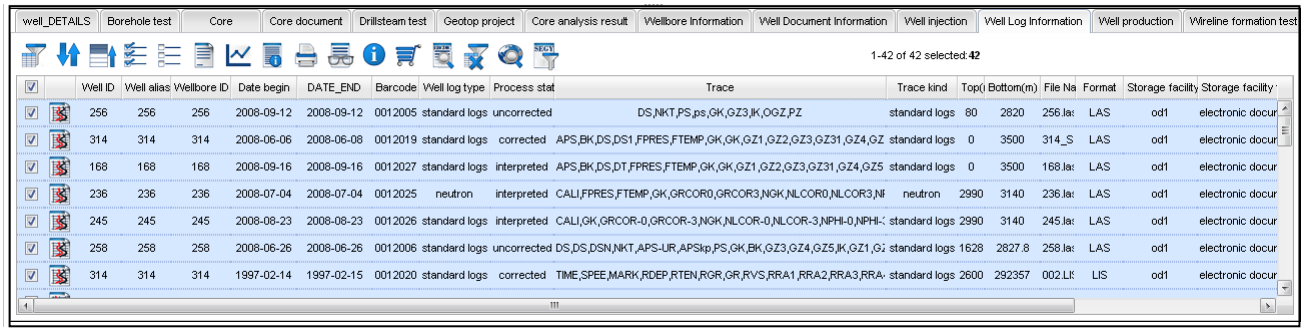
The ***Select up*** button moves selected objects to the first upper rows.



Selected objects moved to the first upper rows

- **Select all**

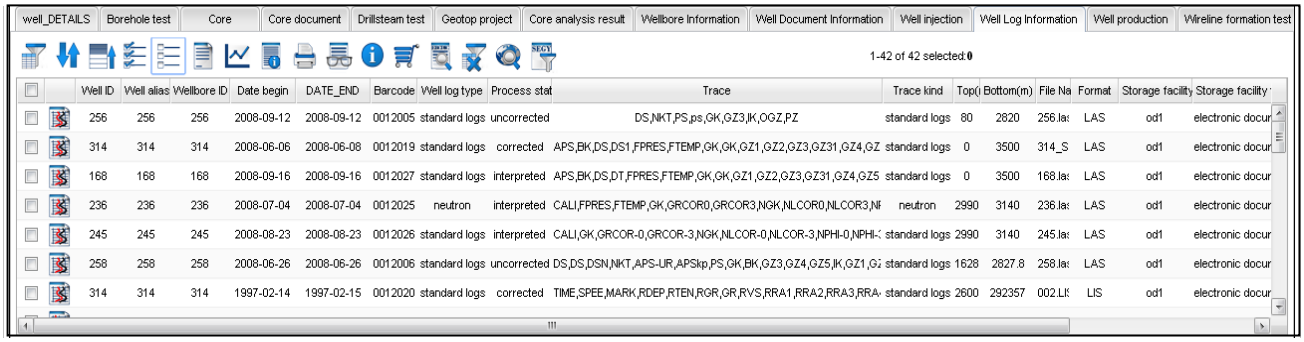
The ***Select all*** button selects all objects from the list.



Selection of all objects from the list

- **Unselect all**

The ***Unselect all*** button deselects all selected objects.

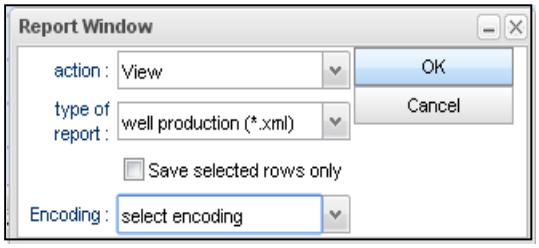


Unselection of all selected objects from the list

- **Report**

You may view the report in web browser, store the table contents into the file called report or send this report by e-mail. The ***Report*** button opens the dialogue window in which you may select any format and target place for report. If you need to change a code page of the report, choose a code page name *Encoding* list**.**

To view the report in web browser select ***View*** that is a default value.



Report window

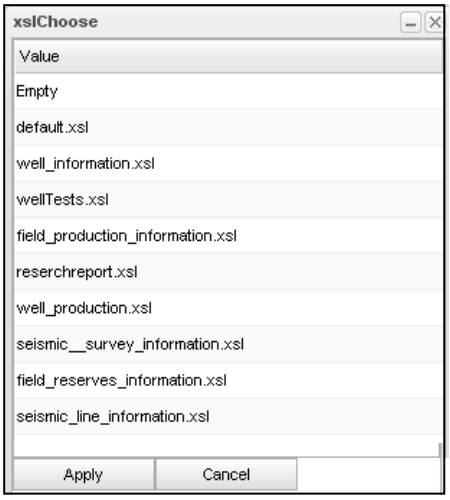
As soon as you define a filename, its type and code, click ***OK*****.** The report will be created and if it is set to *Use editor for reports*, a corresponding viewer opens.

Скважина	Псевдоним скважины	Структура скважины	Назначение скважины	Статус скважины	Предприятие	Роль	Дата статуса
Координата X	Координата Y	Система координат	Альтитуда				
791	791	simple	exploration well	exploration well	Geoleader	operator	2008-03-14	73.5899963379	58.5099983215
WGS 84	47								
709	709	simple	exploration well	exploration well	Geoleader	operator	2008-03-23	73.6800003052	58.5600013733
WGS 84	48								
130	130	simple	production well Oil	Geoleader	operator	2007-10-20	752756	963000	Pulkovo / Gauss zone 27		
84	84	simple	production well Oil	Geoleader	operator	2007-10-15	73.4000015259	58.4000015259	WGS 84	65	
120	120	simple	production well Oil	Geoleader	operator	2007-09-09	100.5299	13.7679	Pulkovo / Gauss zone 27		
136N	136N	simple	injection well	water injection	Geoleader	operator	2007-08-12	72.3000030518	59.2000007629	WGS 84	55
168	168	simple	exploration well	exploration well	Geoleader	operator	2008-03-17	74.0299987793	58.6800003052		
WGS 84	49								
90	90	simple	production well Oil	Geoleader	operator	2007-08-09	70.5	59.4000015259	WGS 84	70	
81N	81N	simple	injection well	water injection	Geoleader	operator	2007-04-09	70.5	59.4000015259	WGS 84	52
784	784	simple	exploration well	exploration well	Geoleader	operator	2008-01-22	73.5199966431	58.5299987793		
WGS 84	50								
429	429	simple	exploration well	exploration well	Geoleader	operator	2008-03-22	73.5500030518	58.5099983215		
WGS 84	51								
122	122	simple	production well Oil	Geoleader	operator	2007-11-23	100.5199	13.7579	Pulkovo / Gauss zone 27		
122	122	simple	production well Oil	Geoleader	operator	2007-11-23	73.4000015259	58.2999992371	WGS 84	67	
35	35	simple	production well Oil	Geoleader	operator	2007-08-13	71.1999969482	59.4000015259	WGS 84	68	
256	256	simple	exploration well	exploration well	Geoleader	operator	2008-02-02	755838.04	985375.07		
Pulkovo / Gauss zone 13											
672	672	simple	exploration well	exploration well	Geoleader	operator	2008-02-02	70.8499984741	59.5099983215		
WGS 84	48								
258	258	simple	exploration well	exploration well	Geoleader	operator	2008-01-22	73.5199966431	58.5499992371		
WGS 84	49								
394	394	simple	exploration well	exploration well	Geoleader	operator	2008-02-13	73.3399963379	58.6599998474		
WGS 84	50								
314	314	simple	production well Oil	Geoleader	operator	2008-05-13	73.2200012207	58.4000015259	WGS 84	54	
942	942	simple	exploration well	exploration well	Geoleader	operator	2008-02-17	74.0899963379	58.6599998474		
WGS 84	51								
793	793	simple	exploration well	exploration well	Geoleader	operator	2008-04-18	70.9300003052	59.5699996948		
WGS 84	45								
789	789	simple	exploration well	exploration well	Geoleader	operator	2008-03-28	70.9599990845	59.6500015259		
WGS 84	48								
794	794	simple	exploration well	exploration well	Geoleader	operator	2008-04-02	70.8700027466	59.4799995422		
WGS 84	48								
85	85	simple	production well Oil	Geoleader	operator	2007-05-20	70.5999984741	59.2999992371	WGS 84	56	
86N	86N	simple	injection well	water injection	Geoleader	operator	2007-09-09	71.0999984741	59.4000015259	WGS 84	50
431	431	simple	exploration well	exploration well	Geoleader	operator	2008-03-22	73.6200027466	58.6199989319		
WGS 84	49								

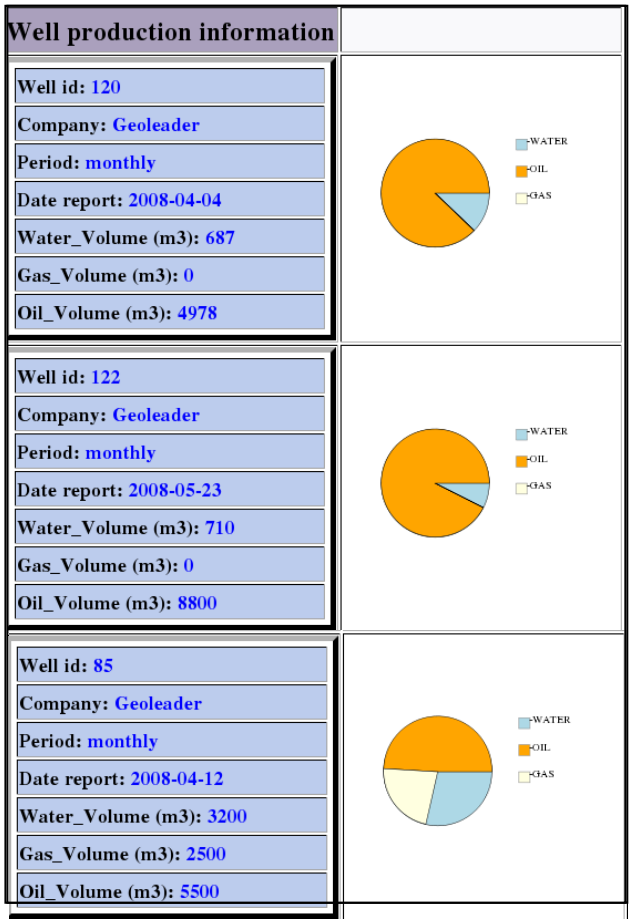
Report

If you select ***View*** with type of report, extension .xml, a list of values will be offered to you for defining a report.

This example shows a report on well production.



Value selection



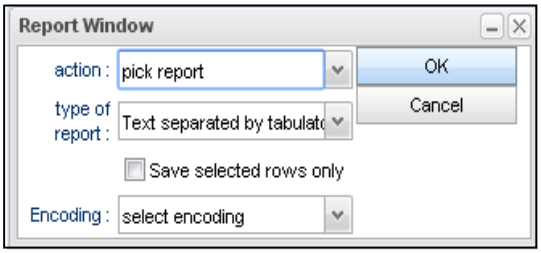
Production report

If you want to save the report into the file, you need to select ***Pick report*** which is set by default, select its type and code page if required. There are three basic types of reports:

Text with tabulation – in the result you have the ASCII file with columns, divided by tabulations.

Text with semicolon - in the result you have the ASCII file with columns divided by semicolon.

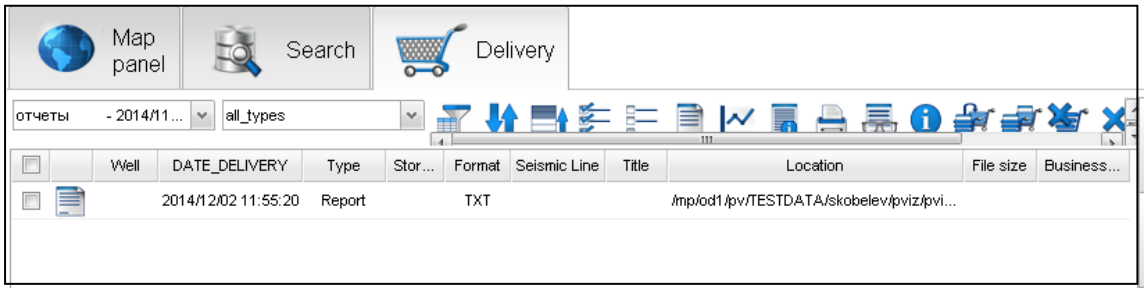
Dbase – format – in the result you have the DBASE IV file.



Pick report window

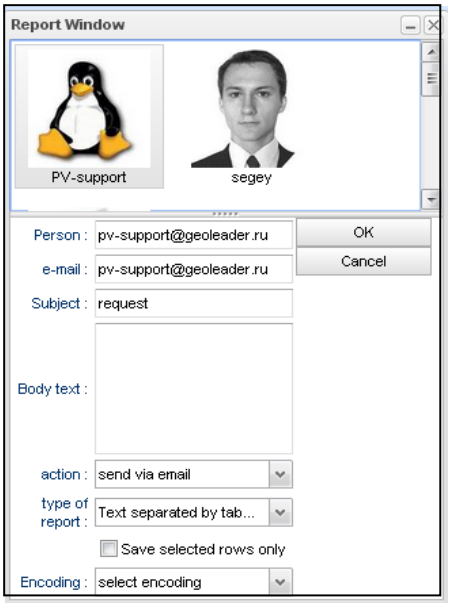
If you need to change the code page of the report, you shall select the name of code page from the *Coding* list.

Once a file destination, its type and code page have been defined, click ***OK*****.** A new file of Report type with TXT extension will appear in current cart of **Delivery module**.



Report to cart

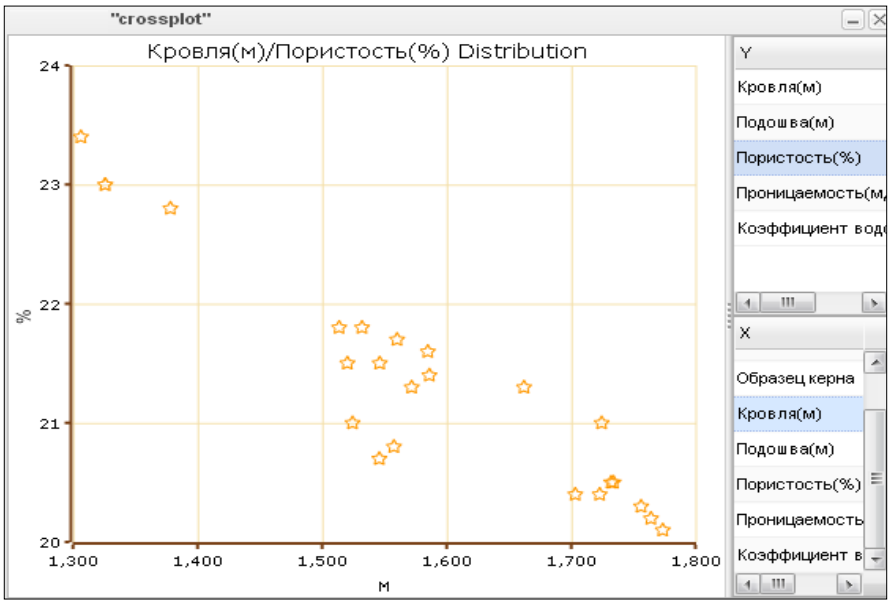
If you want to save a report into a file, select ***Send by e-mail***. The report will be delivered to e-mail.



Send a report by e-mail

- **"Crossplot" Diagram**

This is the way to fast visualization of relations between two table values (columns) to one another.

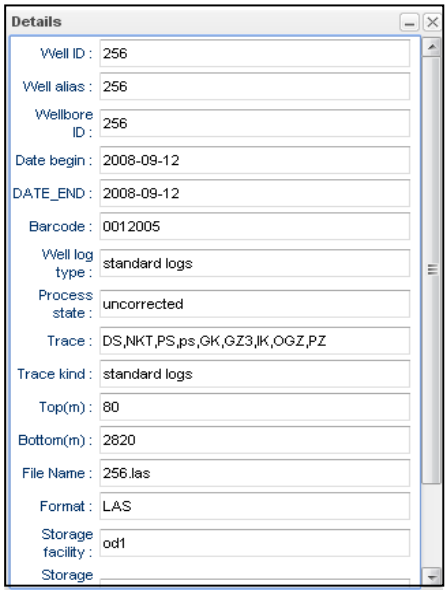


"Crossplot" diagram

- **Details** – getting information about the file.

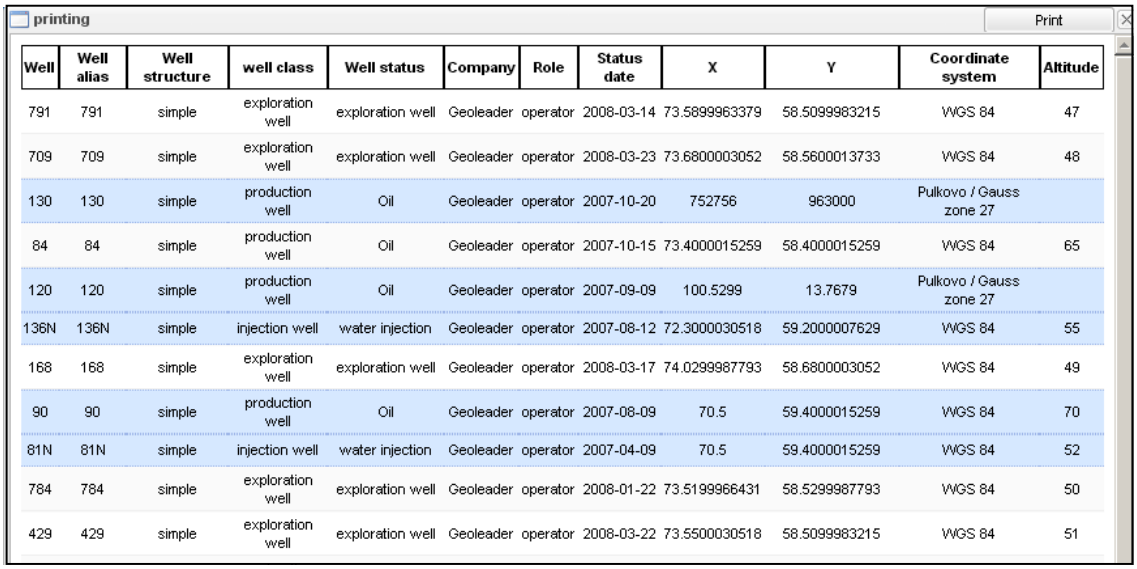
To get the information on the file or files you need to select their rows and click on the ***Details*** button at the toolbar or hold the mouse on the required row. PetroVision IV will get the current information on selected files directly from the storage and display it. File location (with

nickname of the path for security purposes), file size (in bytes) and additional information the nature of which can vary depending on the type of files storage.



Details

- **Print** – print out.

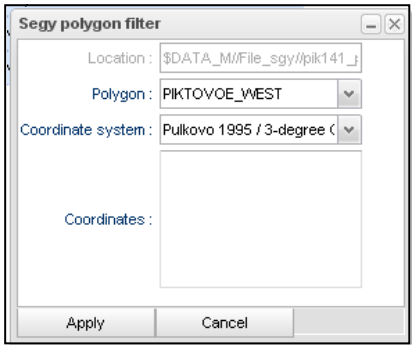


Well	Well alias	Well structure	well class	Well status	Company	Role	Status date	X	Y	Coordinate system	Altitude
791	791	simple	exploration well	exploration well	Geoleader	operator	2008-03-14	73.5899963379	58.5099983215	WGS 84	47
709	709	simple	exploration well	exploration well	Geoleader	operator	2008-03-23	73.6800003052	58.5600013733	WGS 84	48
130	130	simple	production well	Oil	Geoleader	operator	2007-10-20	752756	963000	Pulkovo / Gauss zone 27	
84	84	simple	production well	Oil	Geoleader	operator	2007-10-15	73.4000015259	58.4000015259	WGS 84	65
120	120	simple	production well	Oil	Geoleader	operator	2007-09-09	100.5299	13.7679	Pulkovo / Gauss zone 27	
136N	136N	simple	injection well	water injection	Geoleader	operator	2007-08-12	72.3000030518	59.2000007629	WGS 84	55
168	168	simple	exploration well	exploration well	Geoleader	operator	2008-03-17	74.0299987793	58.6800003052	WGS 84	49
90	90	simple	production well	Oil	Geoleader	operator	2007-08-09	70.5	59.4000015259	WGS 84	70
81N	81N	simple	injection well	water injection	Geoleader	operator	2007-04-09	70.5	59.4000015259	WGS 84	52
784	784	simple	exploration well	exploration well	Geoleader	operator	2008-01-22	73.5199966431	58.5299987793	WGS 84	50
429	429	simple	exploration well	exploration well	Geoleader	operator	2008-03-22	73.5500030518	58.5099983215	WGS 84	51

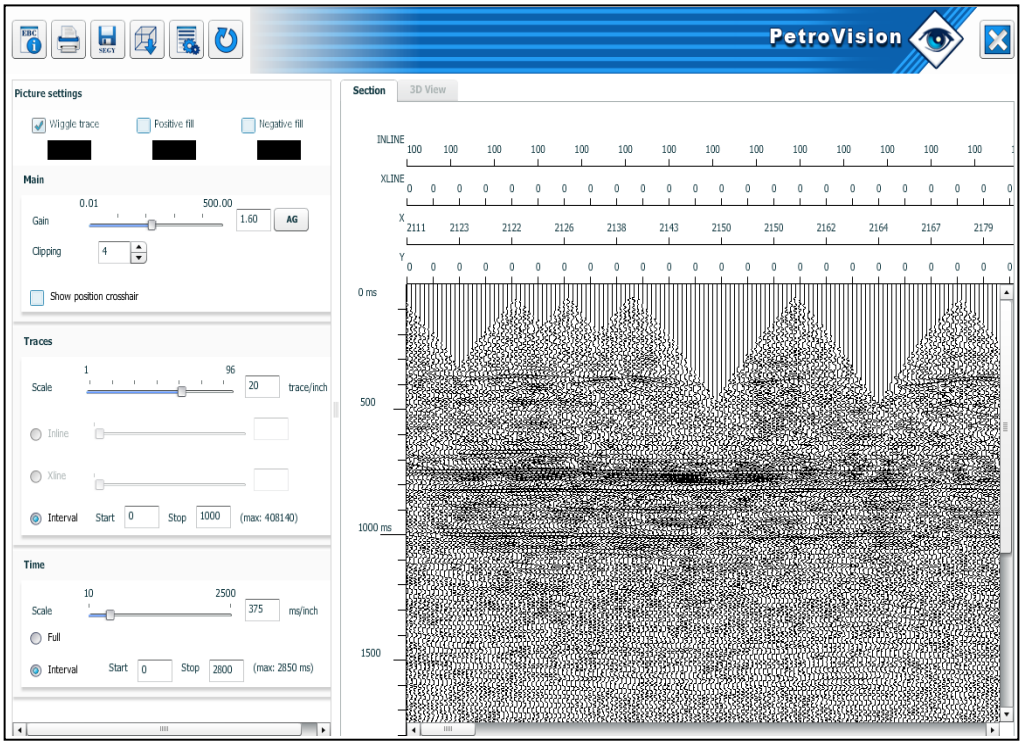
Print

- **View –** display of geophysical and seismic data, images, office documents in web browser.
- **Location information –** information on physical location of file in datastore.

- **Pick to cart –** send selected data to a current cart of **Delivery module**.
- **View of the EBCDIC header** – view the text header of the file in the SEGY format.
- **Back filter** – cancel filtration
- **Show all** – show all rows in the table (default paging by 50 rows).
- **SEGY polygon filter** – allows to cut a part of SEGY-file, using the specified polygon stored in the Data Base.



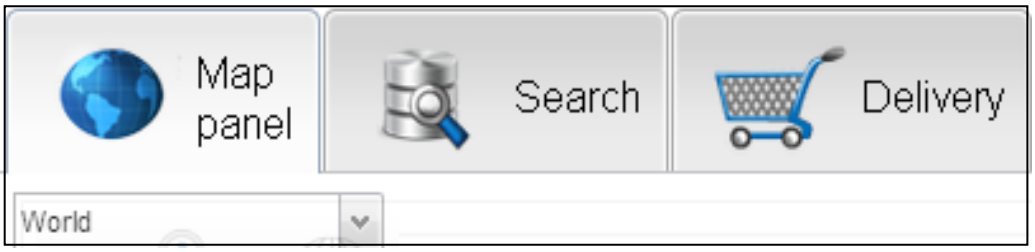
SEGY filtration window



SEGY-file view

4 WORKING WITH MAP

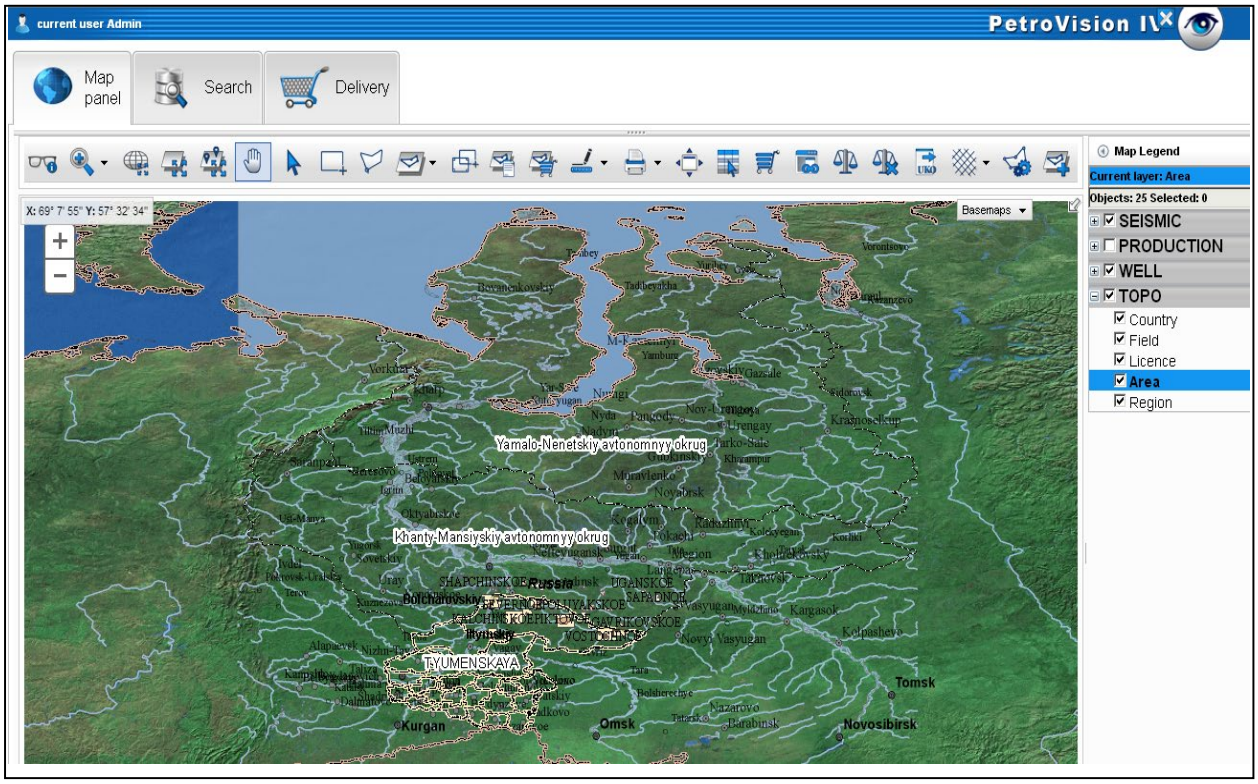
By default, after you log in you are in the **MAP MODULE** and you have an access to the maps, loaded into you DB.



Modules and window with maps

Click on the tick in the selected area and you will see the whole list of maps available for you as the current user. Select the map and click on the splitter again. Then you will see the map with tools for the map and legend on the screen.

At the upper left corner you can see coordinates of your mouse on the map.

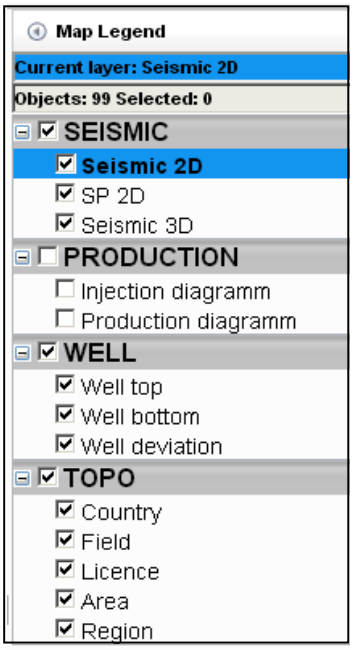


Map panel

4.1 Map legend

You may find the **Map legend** vertical menu with data on loaded map layers in the right near the buttons.

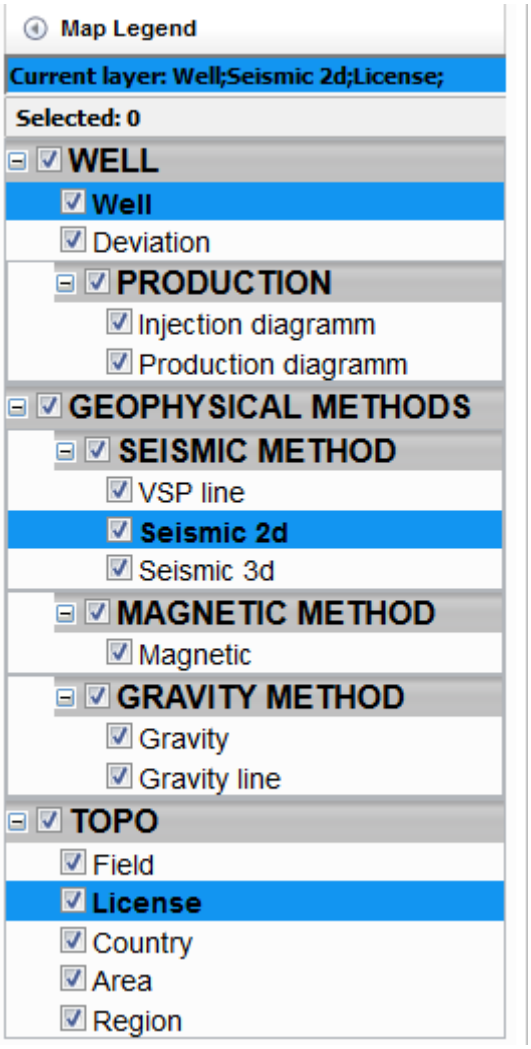
The layers, marked with the tick are displayed on the map. With mouse left button you may hide or tick layers for visualization if required. The picked layer is active.



Map legend

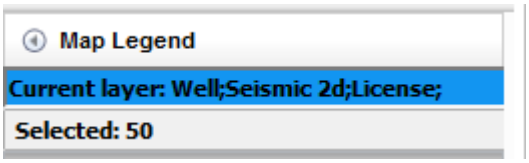
In order to link a layer with the DB, click on the layer in the legend, it will highlight, and if data on this layer is loaded then a window with tables will pop up at the bottom, if you mark the area on the map. If it is difficult for you to work with maps because of tables, you may hide them by clicking on the splitter of the pop-up window.

To select several layers hold «Ctrl», while choosing the layers. To select multiple sequence layers, click the first and last layers of the sequence, holding «Shift» key.



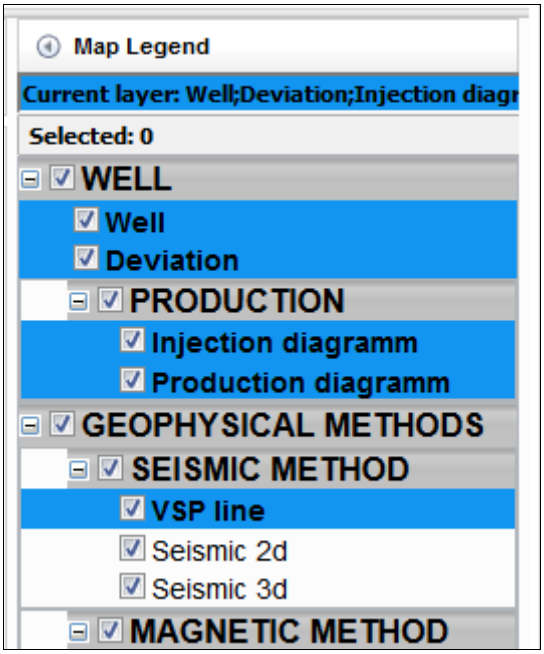
Selecting of several layers

The line "current layer" shows the selected layers. The line "selected" shows number of selected objects.



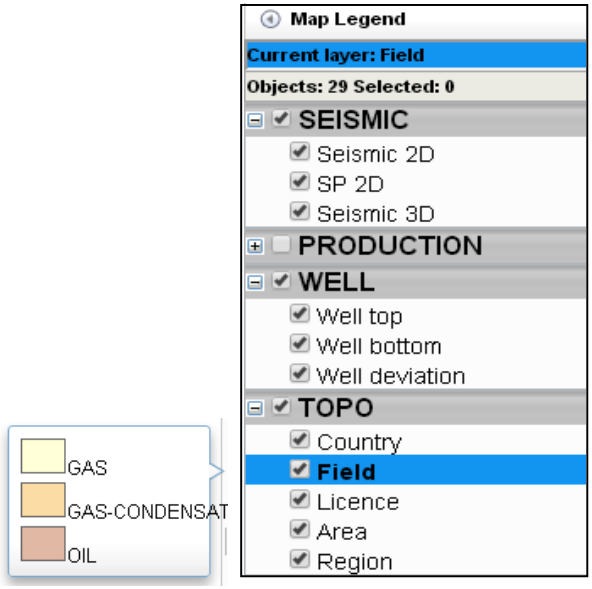
Current layer

To select multiple sequence layers, click the first and last layers of the sequence, holding «Shift» key.



Multiple sequence layers

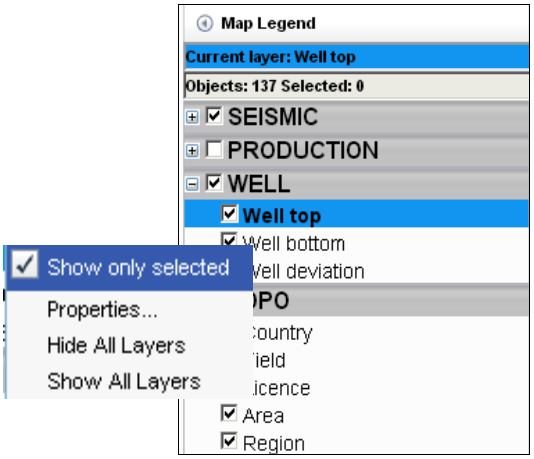
If you put a cursor over any layer, a window with legend of layer objects will appear.



Layer legend

Note. You may work with the map only after selecting the layer in the legend.

If you click left mouse button on the layer, the list of functions will appear.



List of layer functions

4.2 Tools for working with the map

You can see a row of buttons at the top. If you put cursor on them, you may see their functions.

Toolbar for working with the map

View info

Scale

Zoom to full extent

Zoom to layer

Zoom to selected

Move

Pointed selection

Select rectangular

Select by polygon

AOI – area of interest

Intersections

AOI Contents Report

Pick AOI

Measure distance

Measure area

Print

Full screen

Data view

Pick

Quick view

Entitle

Delete entitlements

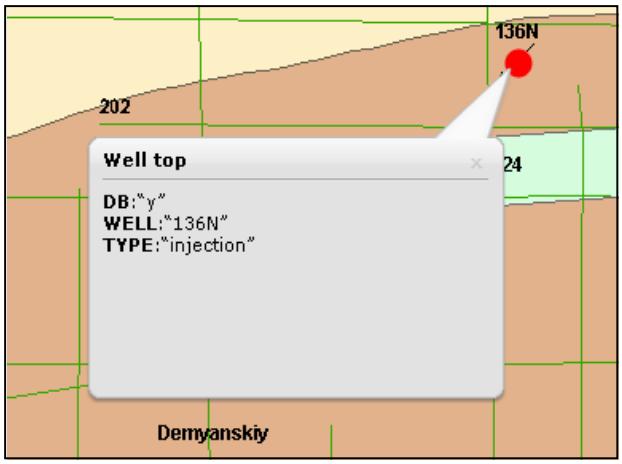
UKOOA export

Multiprofile (seismic 2D)

Settings

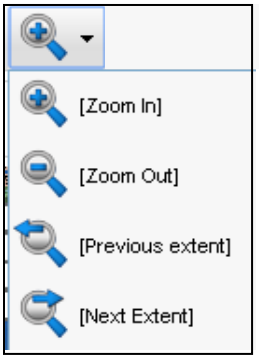
Create new layer

- **View information** — information about selected object.



View information

- **Scale**



Scale

Zoom In — zoom the selected area of the map in;

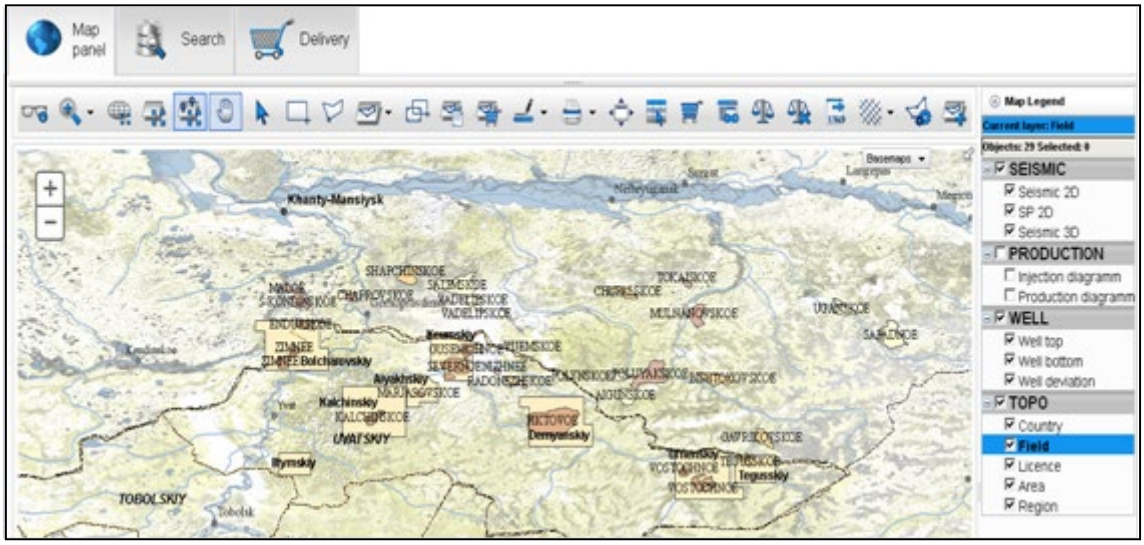
Zoom Out — zoom the selected area of the map out;

Previous extent – switch to the level of map zooming from the previous step;

Next extent - switch to the level of map zooming from the forward step.

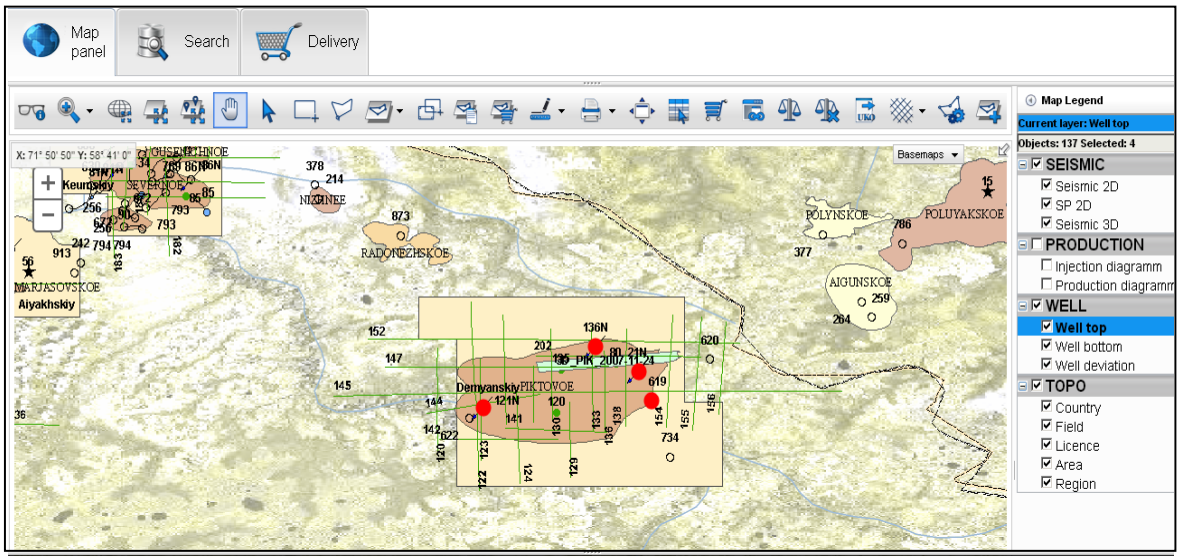
- **Full size** – full map on the screen.

- **Show layer –** zoom the map in, so that all objects of the selected layer were fitted in the visible area of the map.



Objects of selected layer

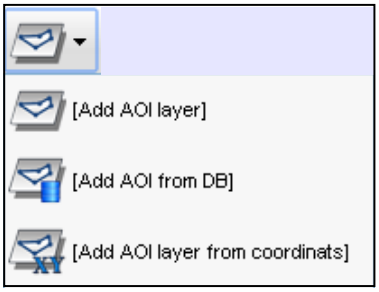
- **Show layer** – zoom the map in, that contains all selected objects at the moment in the visible area of the screen.



Selected objects on the layer

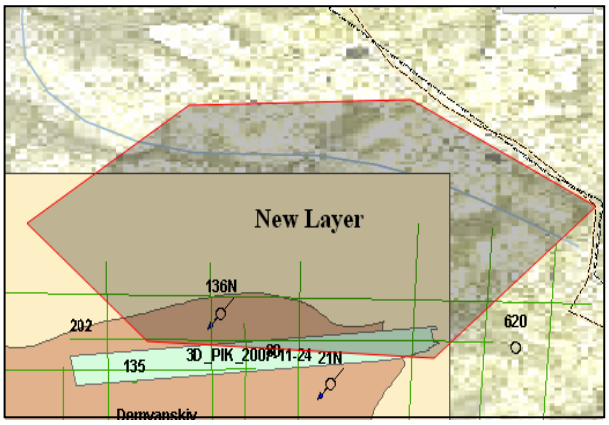
- **Move** – move the map using the cursor.
- **Pointed selection** – select an object, indicated by the cursor.
- **Select rectangular** – select rectangular area on the map.
- **Select by polygon** – select the area of arbitrary shaped form on the map.

- **AOI – area of interest** – the arbitrary user-defined map area, which subsequently acts as a dynamic map layer

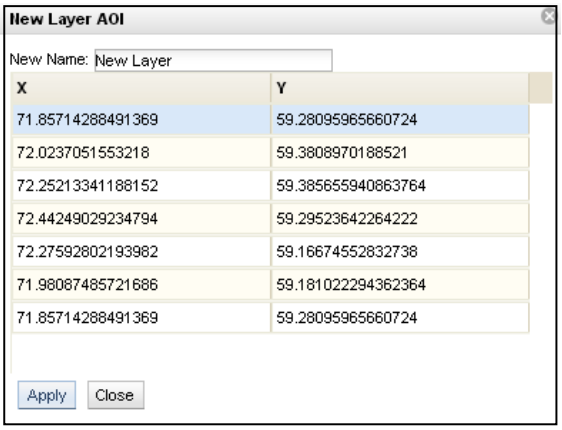


AOI functions

Add AOI layer – select the area of interest on the map using the mouse

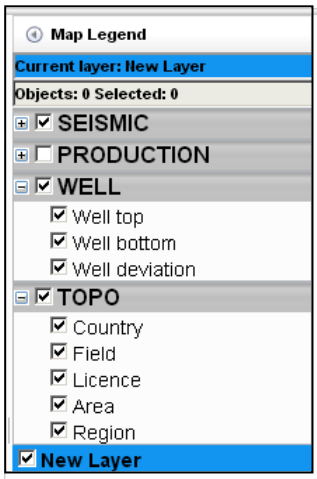


AOI selection



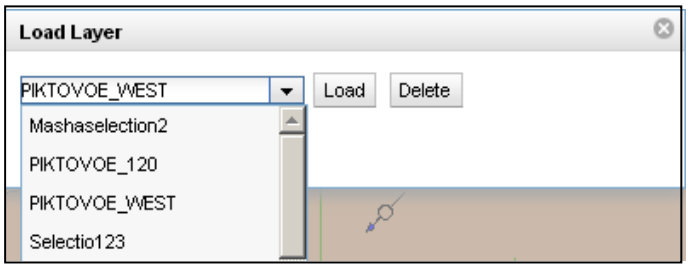
Coordinate

Selection will be completed with double click; the table with coordinates will be displayed. You need to give the name to the new layer. New layer will appear in the list.



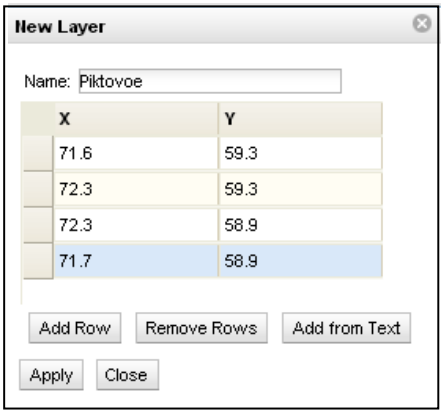
New layer in the list

Add AOI layer from DB — the list of the AOI stored in the database will be offered. Loaded layer appears in the legend.



AOI list

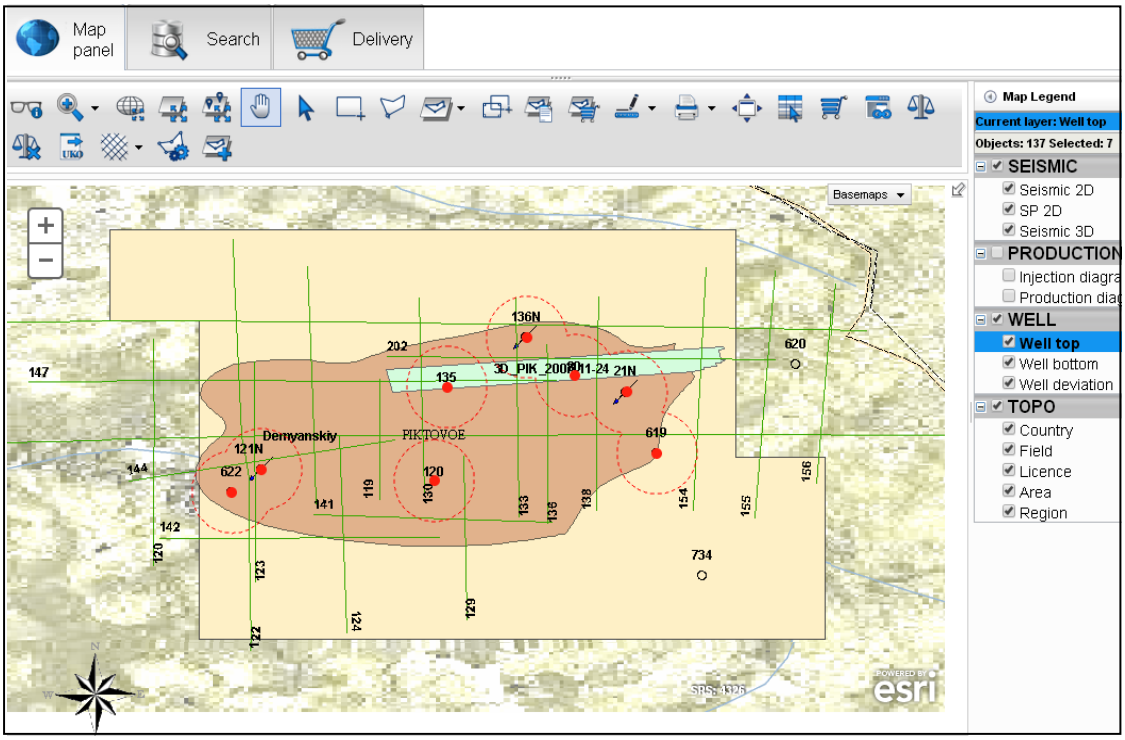
Add AOI layer from coordinates – creation of the area of interest is carried out directly by entering the coordinates in the table.



AOI coordinate table

- **Intersect** – option to find relationships between the objects of different layers, for example, Well and Field.

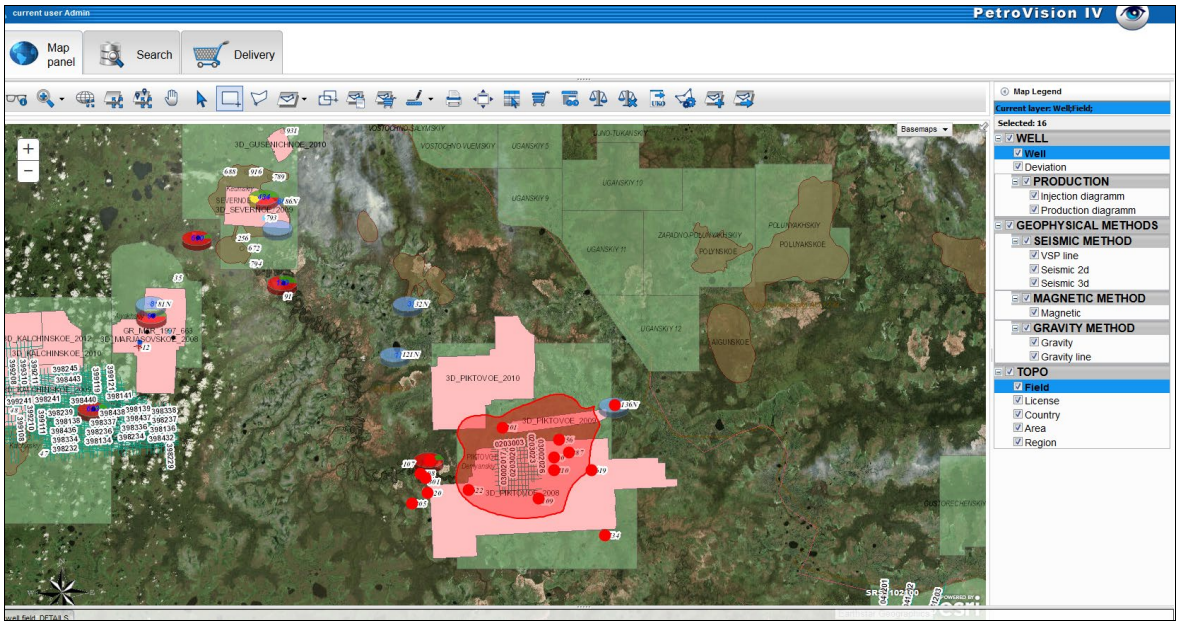
Layer object selection



Intersections

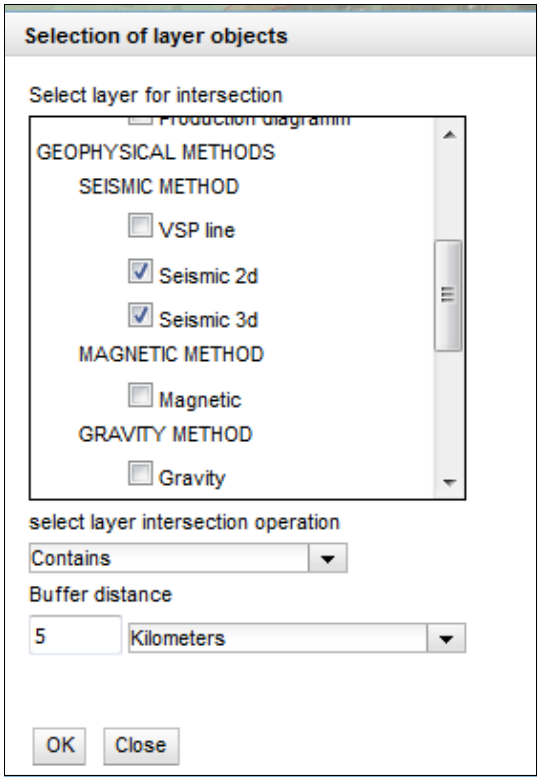
Also you can find relationships between the objects of several different layers, for example, Well/ Field and Seismic2D/Seismic 3D.

Select the layers and the area of intersection.



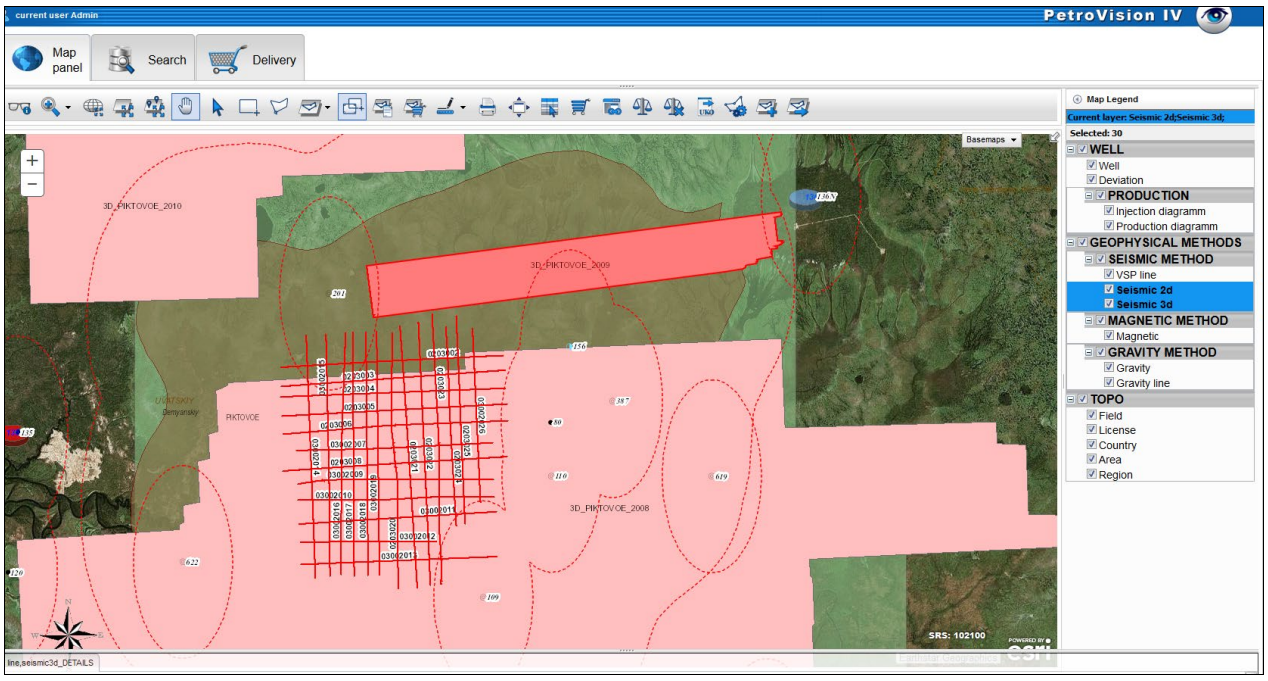
Layer for intersection

Make setting for intersection



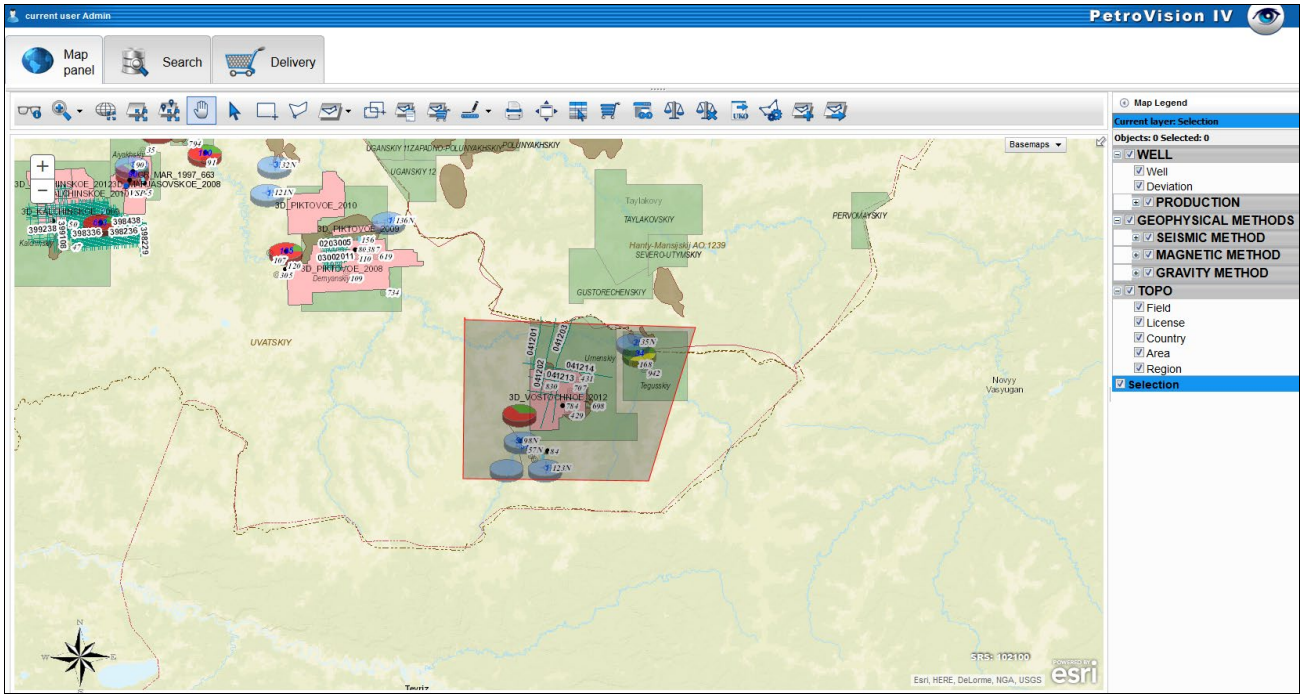
Settings for intersection

Result of intersection.

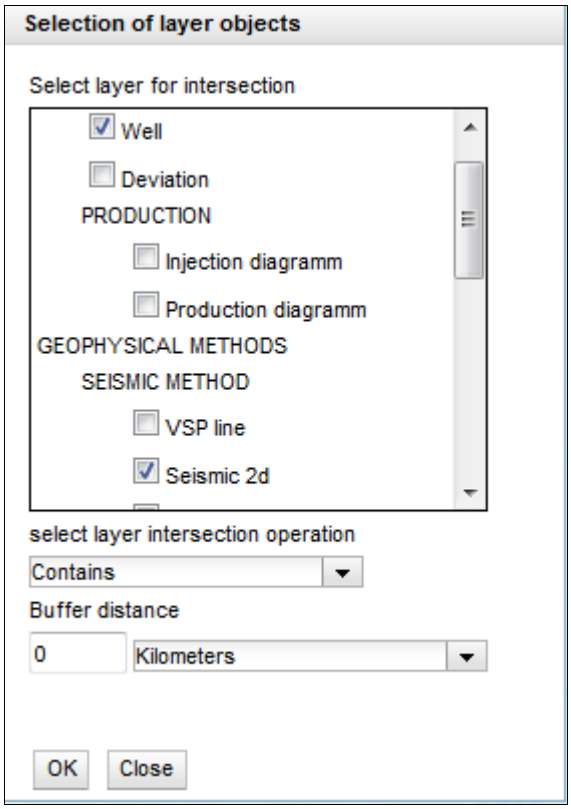


Result of intersection

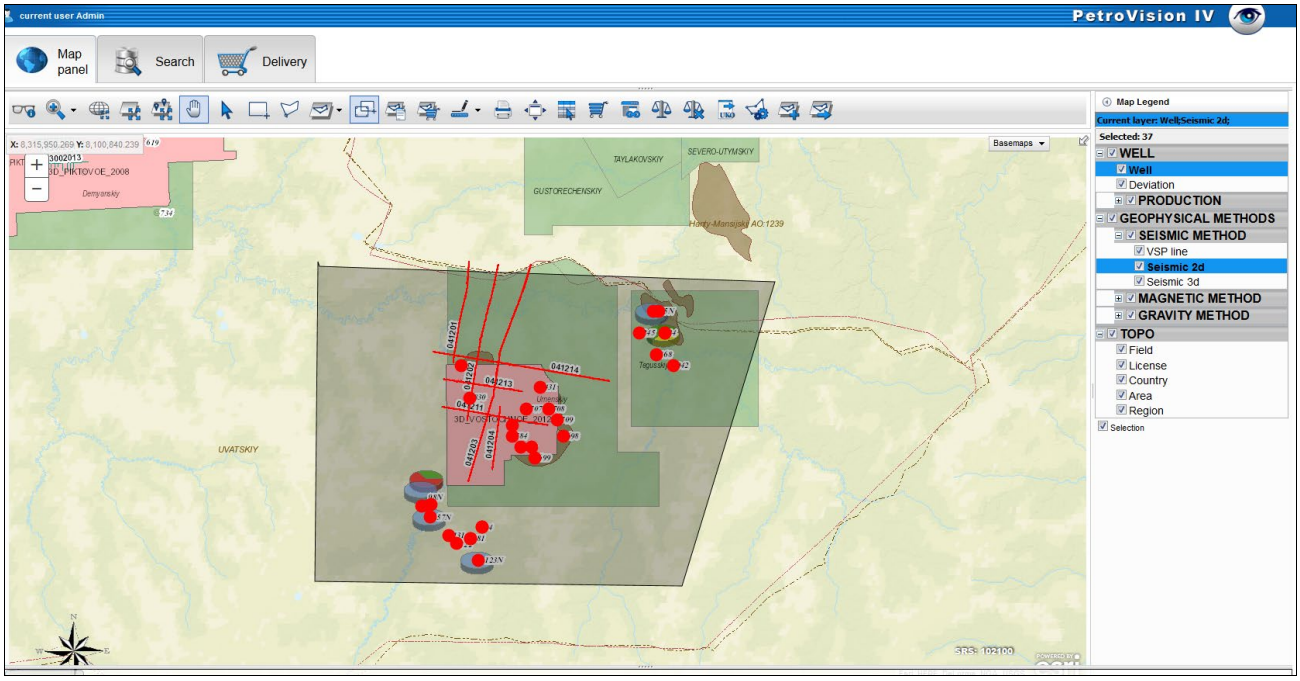
Intersection of AOI with Well and Seismic2D layers.



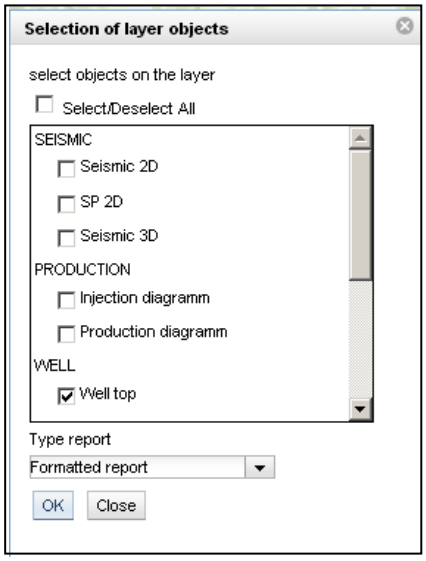
Layer for intersection



Settings for intersection



- **AOI contents report** – creation of the area of interest contents report.



Layer objects selection

```
                         --== Well log report ==--

Report on next wells: '794', '672', '256'

-------------------------------------------------------
|Field:                              SEVERNOE  |
|Well name:                               672  |
|Well alias:                              672  |
|Well class:                  exploration well |
|Well status:                 exploration well |
|Status date:                      2008-02-02  |
-------------------------------------------------------
-----------------------------------------------------------------------------------------------------------------------------------------------------
|  N  |                  Trace                          |     Top         |   Bottom     |   Trace kind    |      File name        |  Format |
-----------------------------------------------------------------------------------------------------------------------------------------------------
|  1  |                 A1,A2,AL                        |           2512  |         2824|  acoustic logs  |       672.las         |   LAS   |
-----------------------------------------------------------------------------------------------------------------------------------------------------
-------------------------------------------------------
|Field:                              SEVERNOE  |
|Well name:                               794  |
|Well alias:                              794  |
|Well class:                  exploration well |
|Well status:                 exploration well |
|Status date:                      2008-04-02  |
-------------------------------------------------------
-----------------------------------------------------------------------------------------------------------------------------------------------------
|  N  |                  Trace                          |     Top         |   Bottom     |   Trace kind    |      File name        |  Format |
-----------------------------------------------------------------------------------------------------------------------------------------------------
|  1  |               ps,GZ3,R30p00                     |         446.68  |      3803.34|  electric logs  |       794.las         |   LAS   |
-----------------------------------------------------------------------------------------------------------------------------------------------------
-------------------------------------------------------
|Field:                              SEVERNOE  |
|Well name:                               256  |
|Well alias:                              256  |
|Well class:                  exploration well |
|Well status:                 exploration well |
|Status date:                      2008-02-02  |
-------------------------------------------------------
-----------------------------------------------------------------------------------------------------------------------------------------------------
|  N  |                  Trace                          |     Top         |   Bottom     |   Trace kind    |      File name        |  Format |
-----------------------------------------------------------------------------------------------------------------------------------------------------
|  1  |      DS,NKT,PS,ps,GK,GZ3,IK,OGZ,PZ              |             80  |         2820|  standard logs  |       256.las         |   LAS   |
-----------------------------------------------------------------------------------------------------------------------------------------------------

   Generated by PetroViz
   (C) Geoleader, 2011
```

Formatted report

Well report 256

Field:	SEVERNOE
Well alias:	256
Well name:	256
Well purpose:	exploration well
Well status:	exploration well
Date:	2008-02-02

N	Log list	Top	Bottom	Log type	File name	Format
1	DS, NKT, PS, ps, GK, GZ3, IK, OGZ, PZ	80	2820	standard logs	256.las	LAS

Well report 672

Field:	SEVERNOE
Well alias:	672
Well name:	672
Well purpose:	exploration well
Well status:	exploration well
Date:	2008-02-02

N	Log list	Top	Bottom	Log type	File name	Format
1	A1, A2, AL	2512	2824	acoustic logs	672.las	LAS

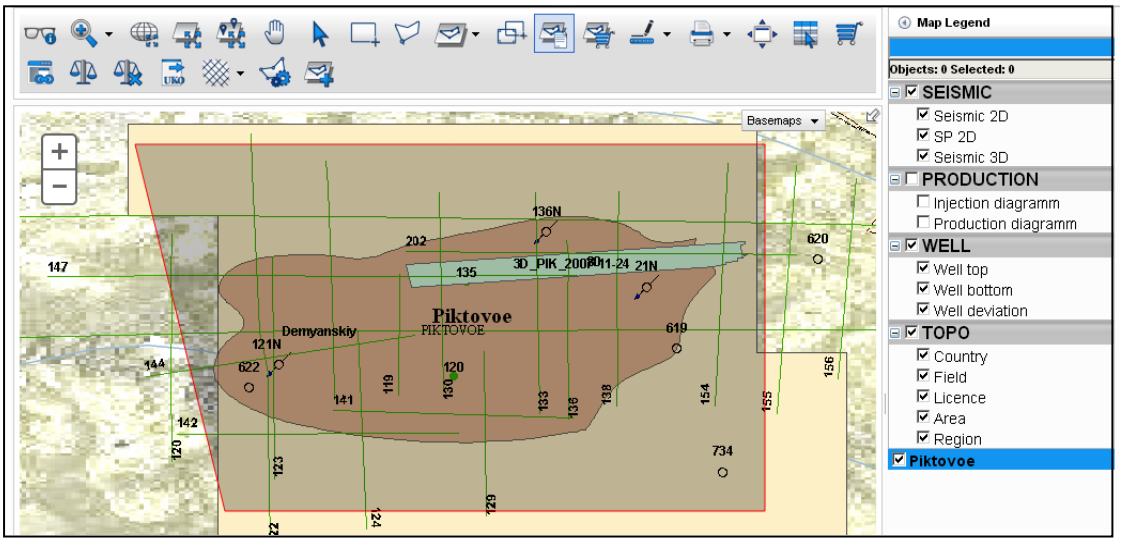
Well report 794

Field:	SEVERNOE
Well alias:	794
Well name:	794
Well purpose:	exploration well
Well status:	exploration well
Date:	2008-04-02

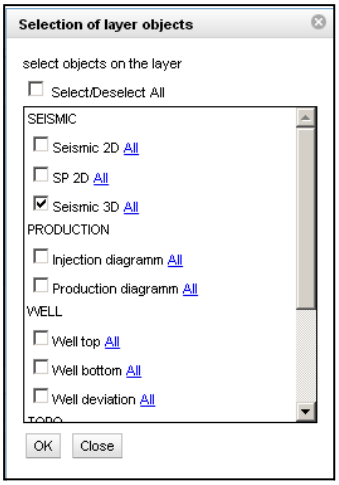
N	Log list	Top	Bottom	Log type	File name	Format
1	ps, GZ3, R30p00	446.68	3803.34	electric logs	794.las	LAS

Web page report

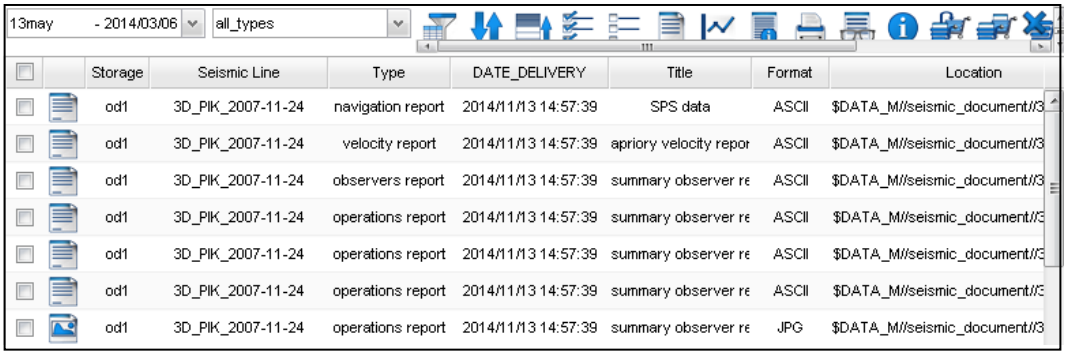
- **AOI Pick** – pick the information on objects of different layers, which is within the area of interest, to the cart.



Layer selection



Choosing a layer

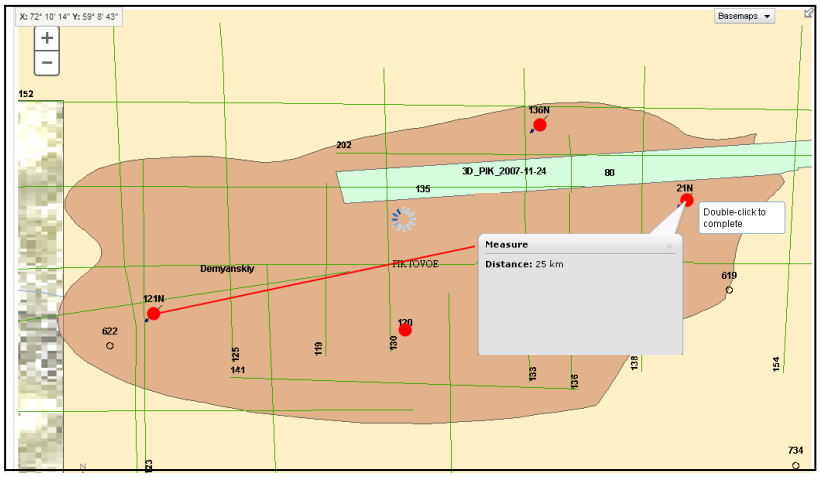


	Storage	Seismic Line	Type	DATE_DELIVERY	Title	Format	Location
	od1	3D_PIK_2007-11-24	navigation report	2014/11/13 14:57:39	SPS data	ASCII	$DATA_M//seismic_document//3
	od1	3D_PIK_2007-11-24	velocity report	2014/11/13 14:57:39	apriory velocity repor	ASCII	$DATA_M//seismic_document//3
	od1	3D_PIK_2007-11-24	observers report	2014/11/13 14:57:39	summary observer re	ASCII	$DATA_M//seismic_document//3
	od1	3D_PIK_2007-11-24	operations report	2014/11/13 14:57:39	summary observer re	ASCII	$DATA_M//seismic_document//3
	od1	3D_PIK_2007-11-24	operations report	2014/11/13 14:57:39	summary observer re	ASCII	$DATA_M//seismic_document//3
	od1	3D_PIK_2007-11-24	operations report	2014/11/13 14:57:39	summary observer re	ASCII	$DATA_M//seismic_document//3
	od1	3D_PIK_2007-11-24	operations report	2014/11/13 14:57:39	summary observer re	JPG	$DATA_M//seismic_document//3

Selected layer objects in the cart

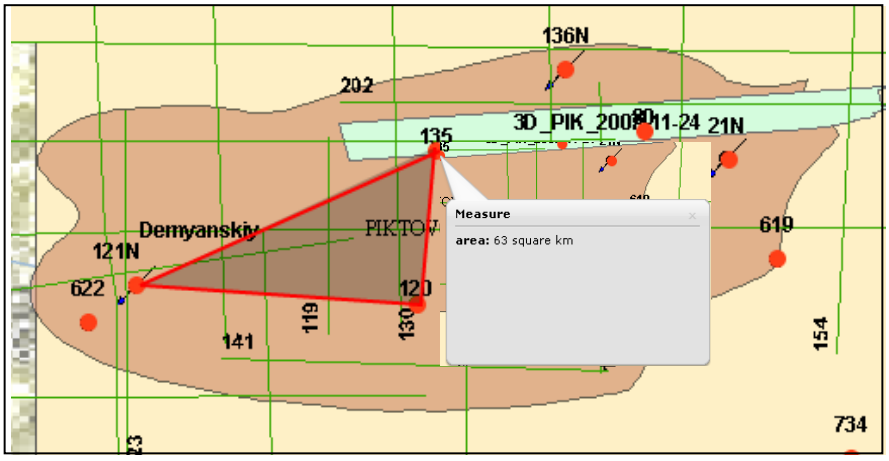
- **Measure**

Measure distance **— measure distance between points.**



Measure distance

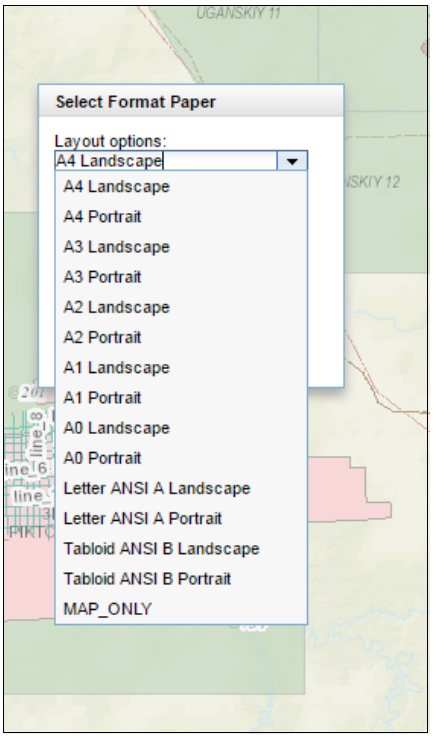
Measure area — measure area between points.



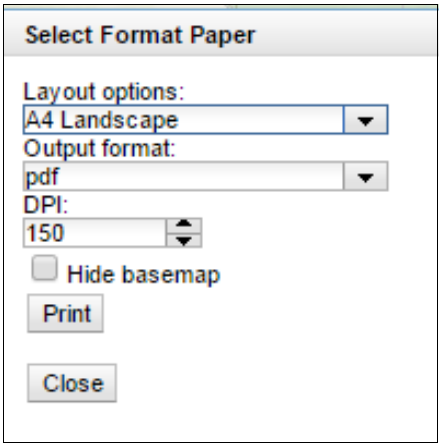
Measure area

- **Print** – print the map.

  Select option for printing – format and quality in DPI

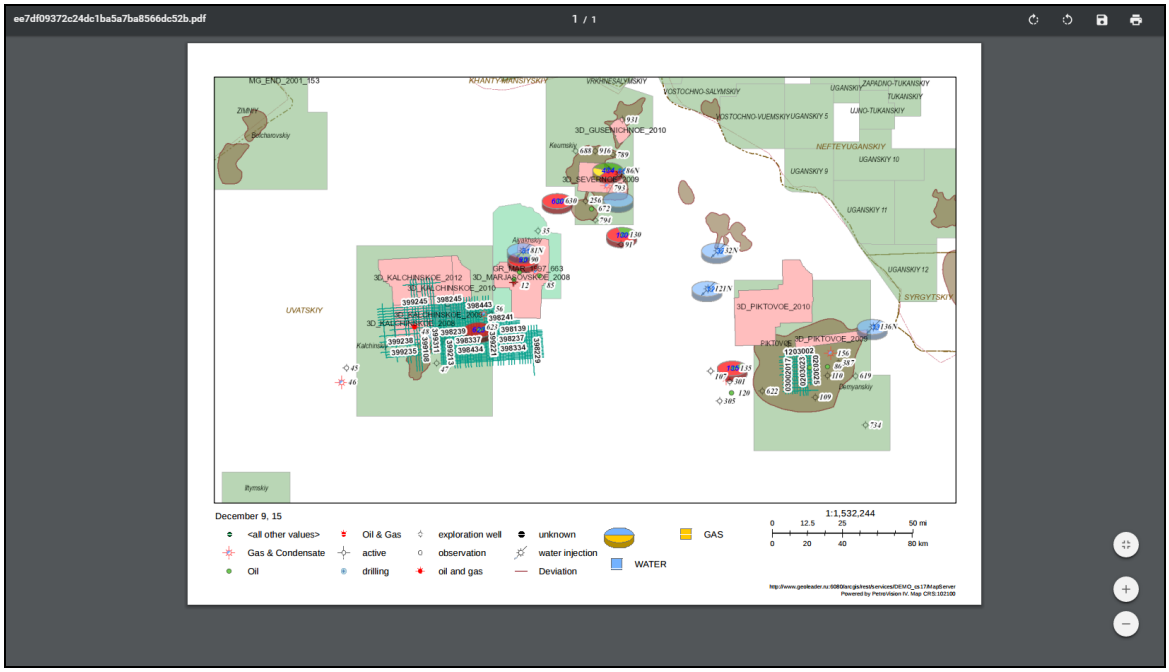


Selection of format



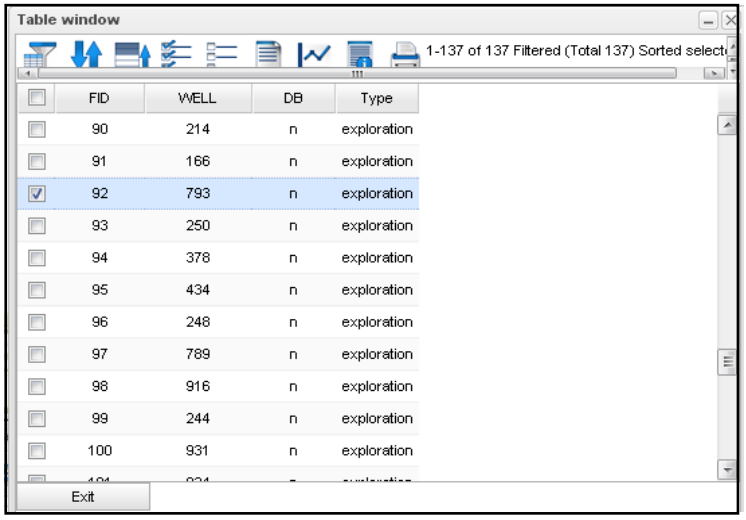
Selection of quality in DPI

Load the file and view it in your browser (depends on your settings).



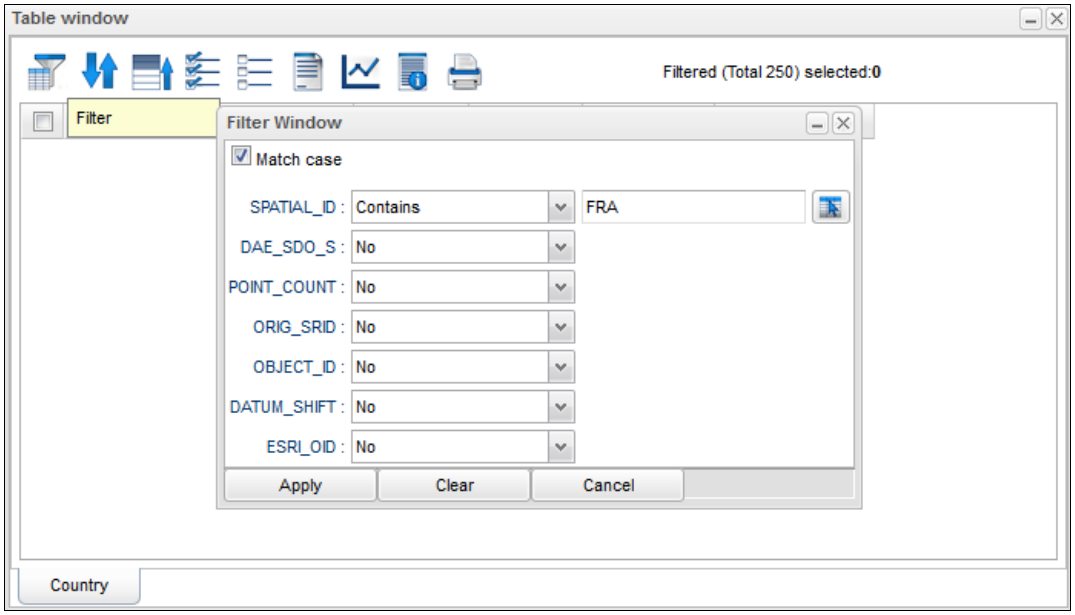
Map print

- **Full screen** - increase the map to full screen.
- **View data** – Layer attribute table, view and information selection by selected layer (the "DB" column shows whether this data is available), selected objects are highlighted.



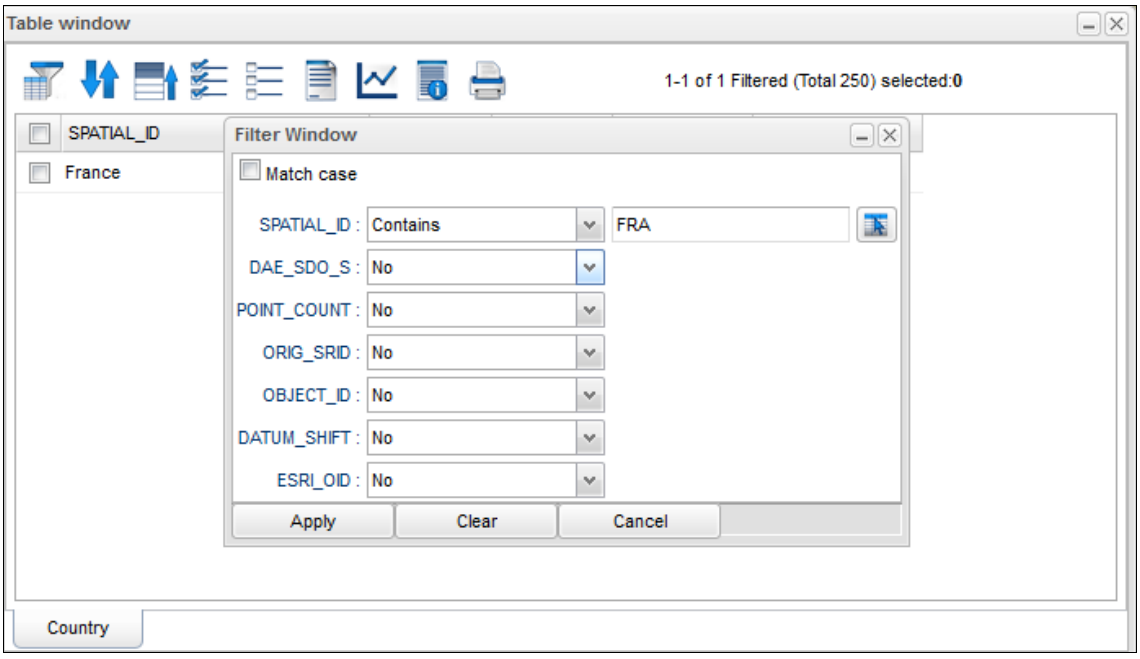
Layer attribute table

Use the function "Match case" to perform a more detailed search. You can be sure that the found text has exactly the same register of search letters.



Match case function

Or use a free search form, ignore this setting.



Ignore the Match case function

This option is available for the following components:
- All PetroVision tables, filtering options
- Search Panel
- Interactive search

When you select several layers, objects of all selected layers will be displayed in the table.

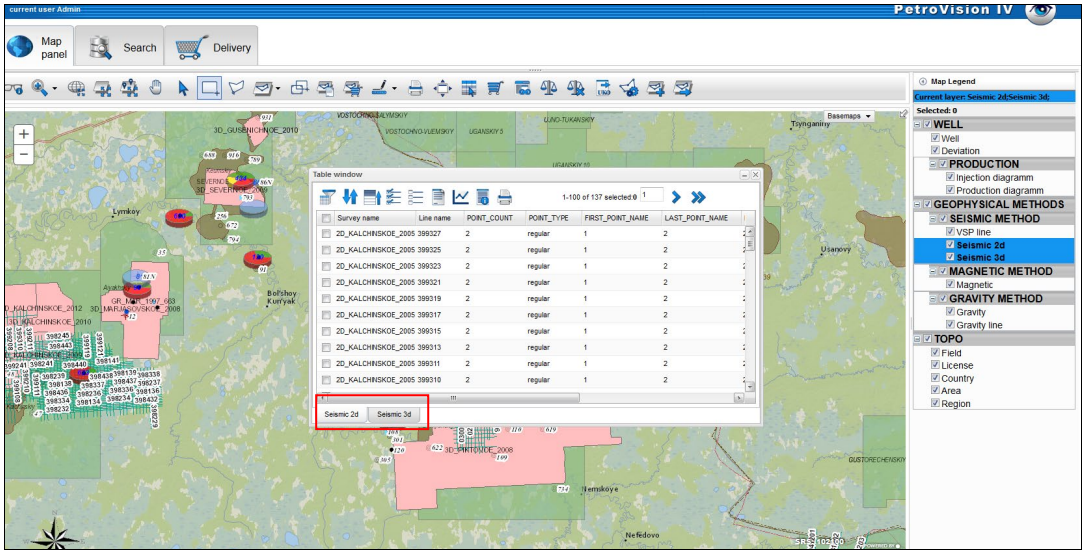
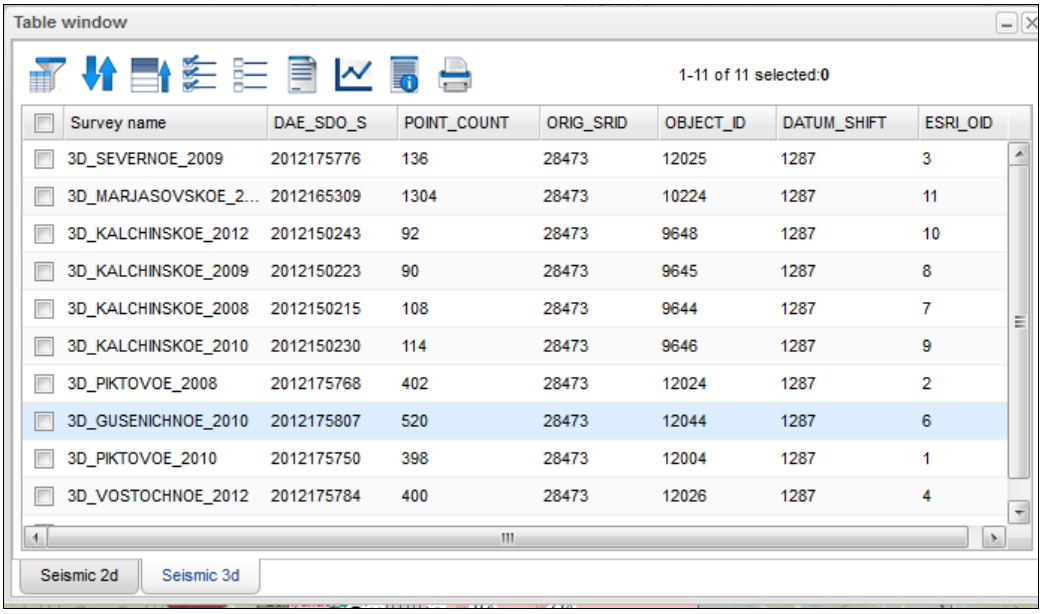


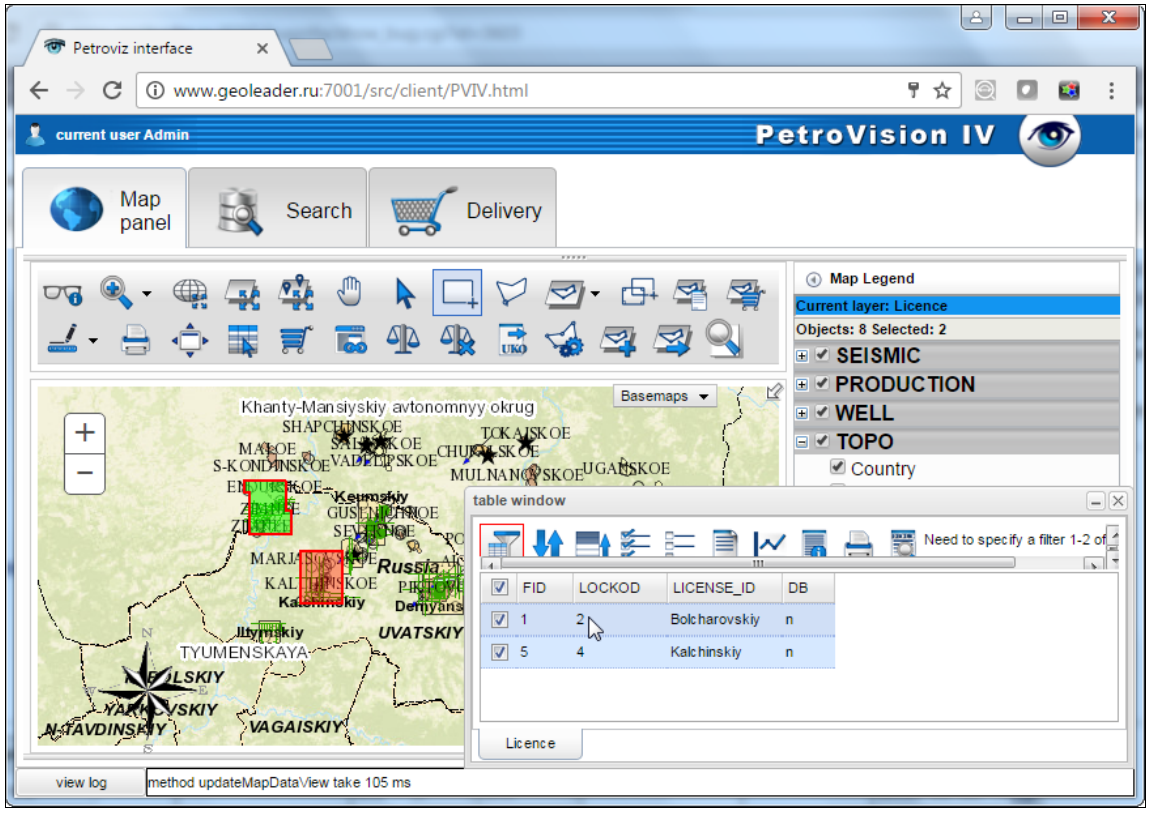
Table with tabs

Click on the tabs to see information on each layer.

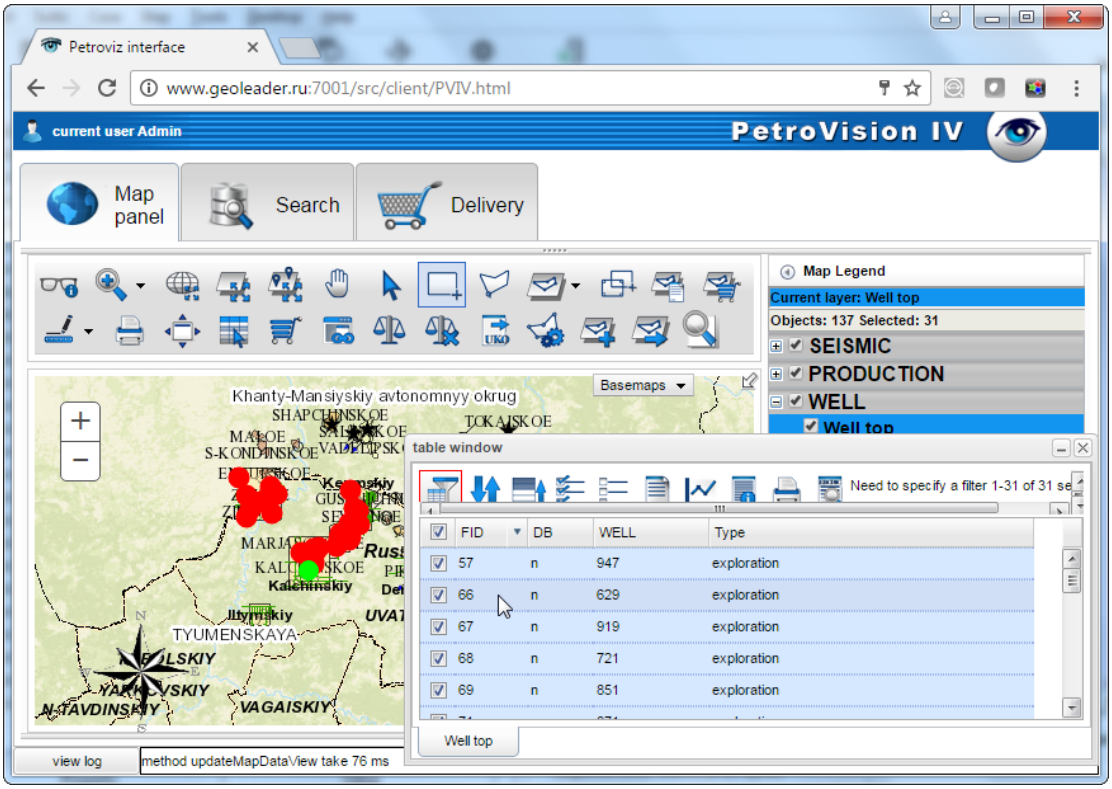


Layers in table view

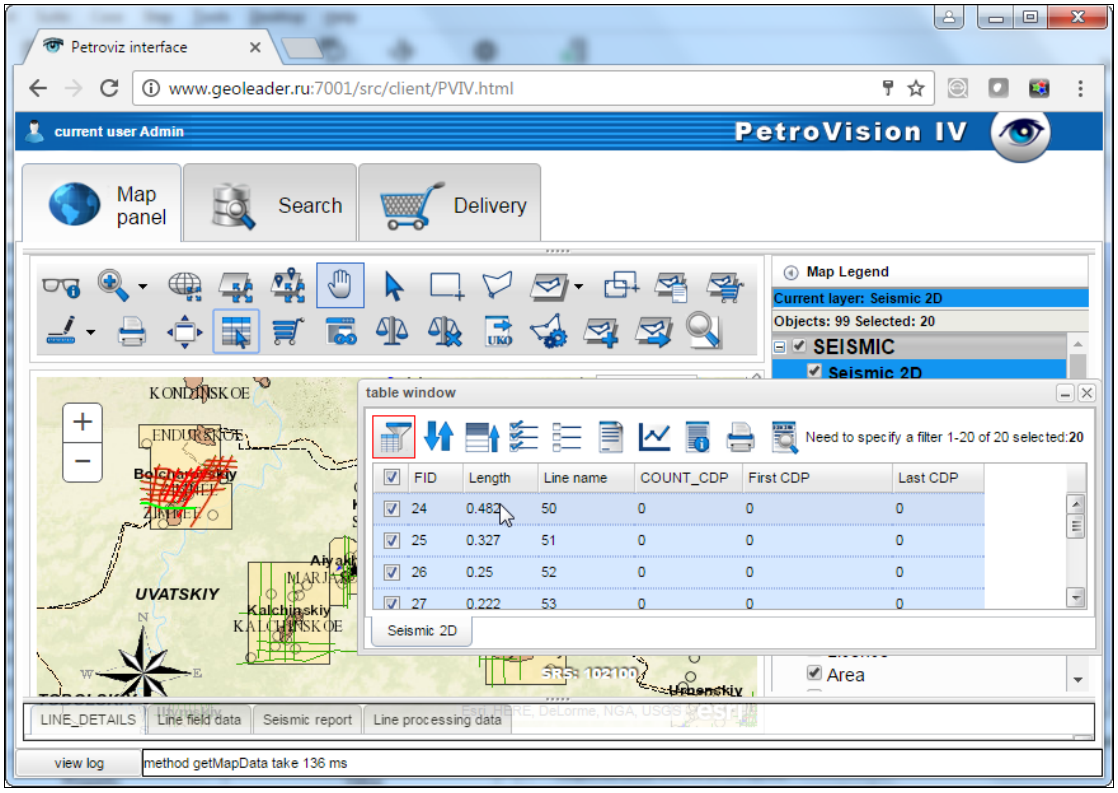
If you move mouse cursor over the selected in MapDataView object, it will be highlighted on the map for several seconds. This option allows to understand where exactly selected object is located, especially if you have many overlapped objects.



Selected objects on the map



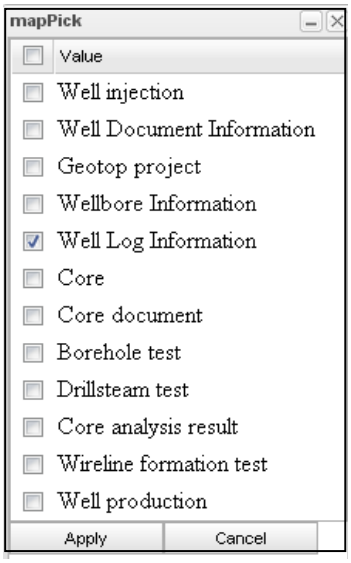
Selected objects on the map



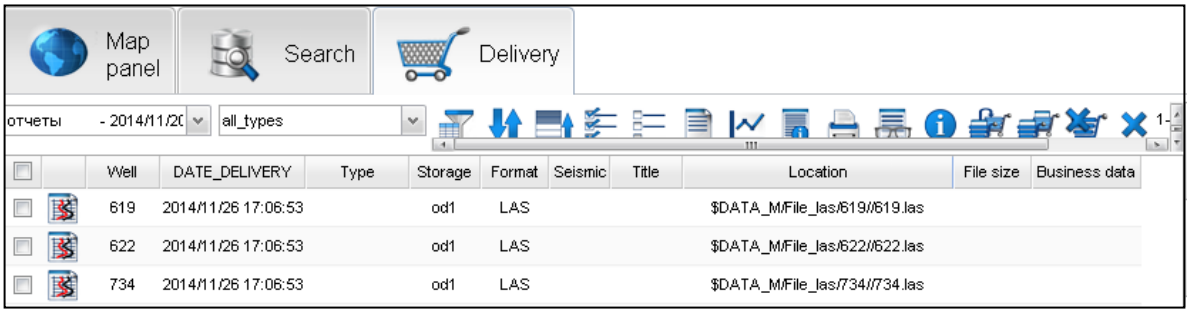
Selected objects on the map

- **Pick to cart** – pick selected data to the cart (**DELIVERY MODULE**).

Select the layer and the layer object. After clicking the ***Pick*** button, a dialog will appear where you need to select the information you want to see in your cart.

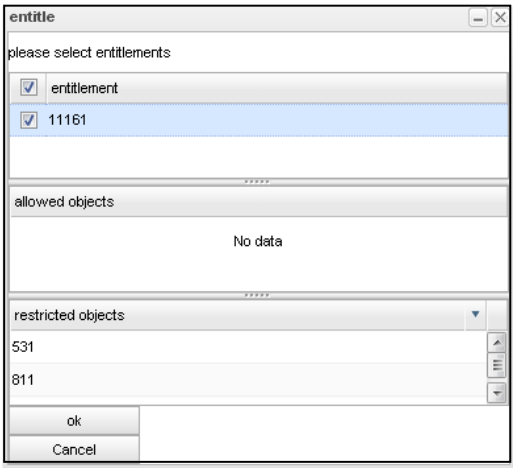


Dialog of data type selection



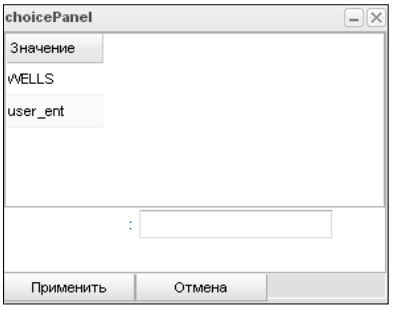
Data in the Delivery module cart

- **Quick view** – application run, which is indicated in every layer, on selected object.
- **Entitle** – granting of the right to the user.



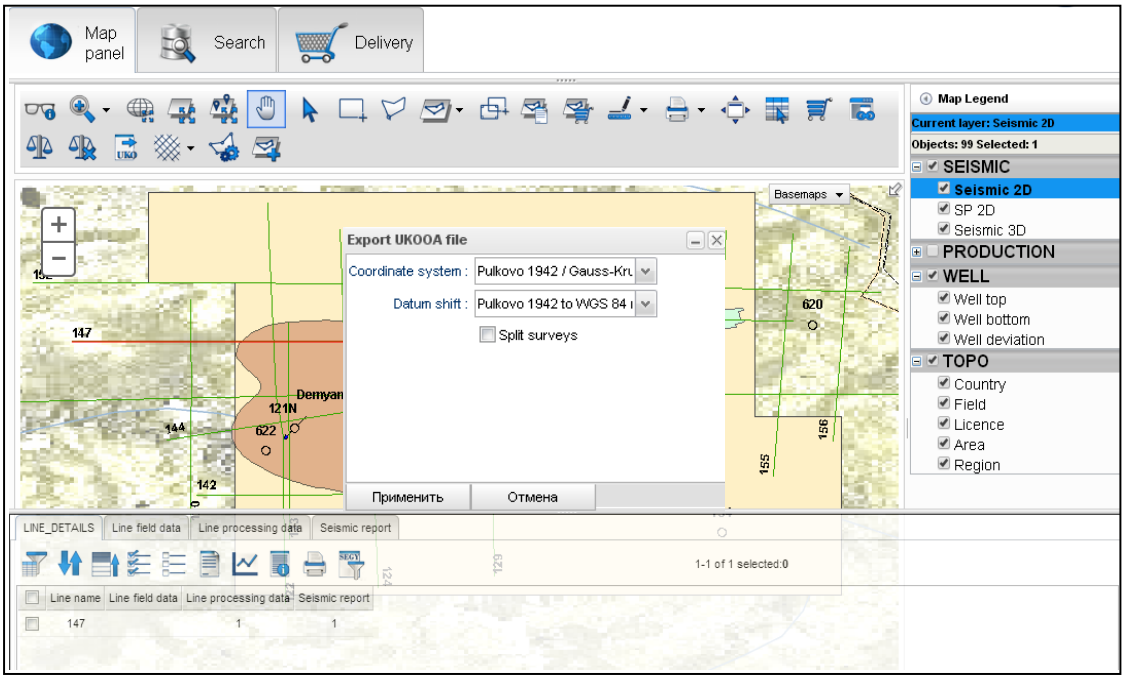
Granting of the user rights

- **Delete entitlements**

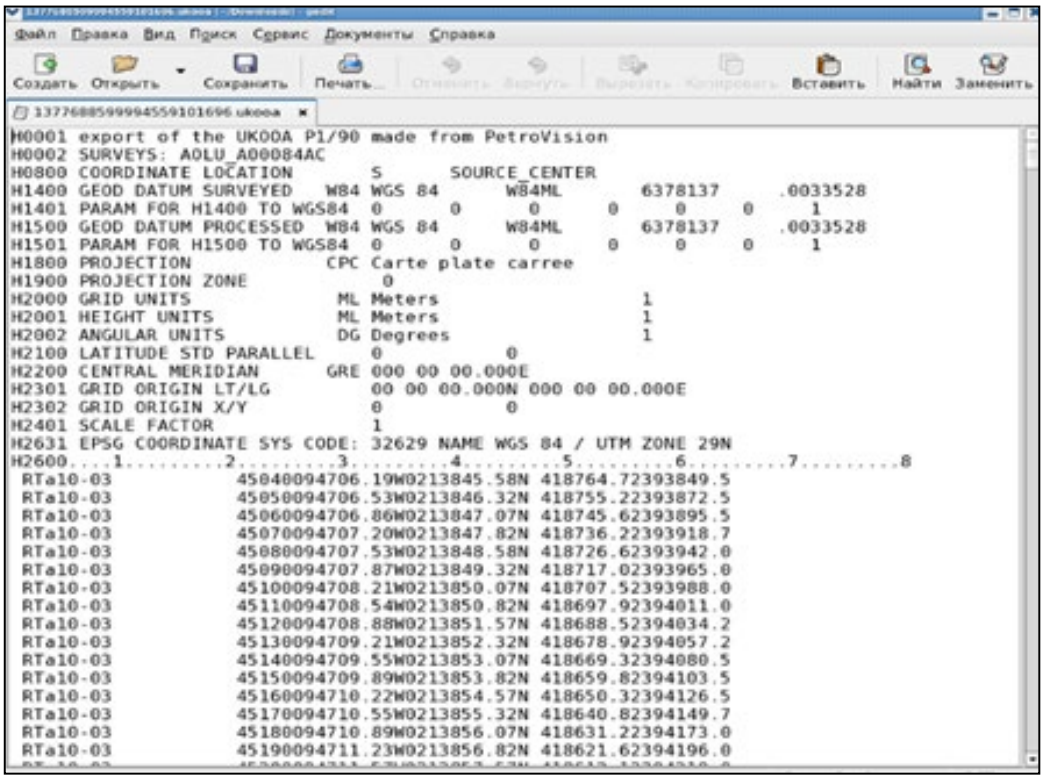


User rights deletion

- **UKOOA export** — getting the UKOOA-file on the selected projection

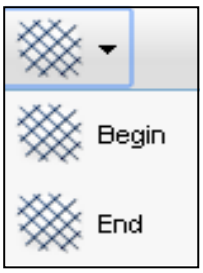


Projection selection

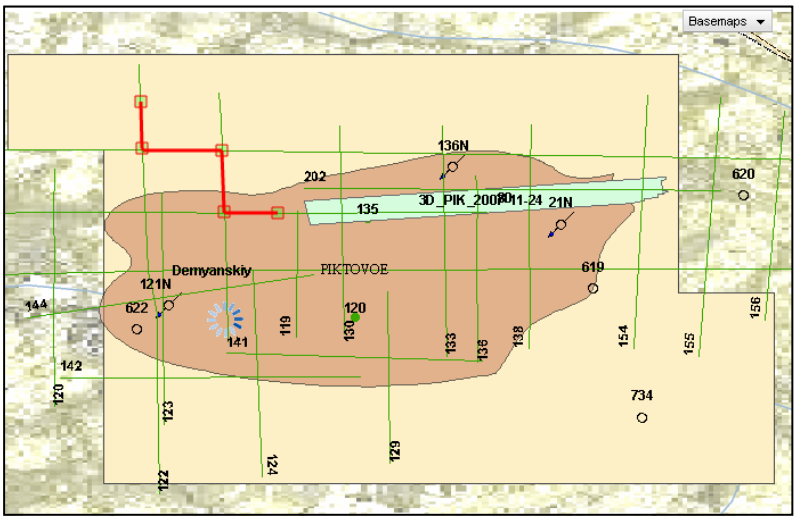


Received UKOOA-file

- **Multiprofile (seismic 2D)** – creation of the arbitrary profile. Click the ***Begin*** button to add the profile points. When all points are selected, click on the ***End*** button.

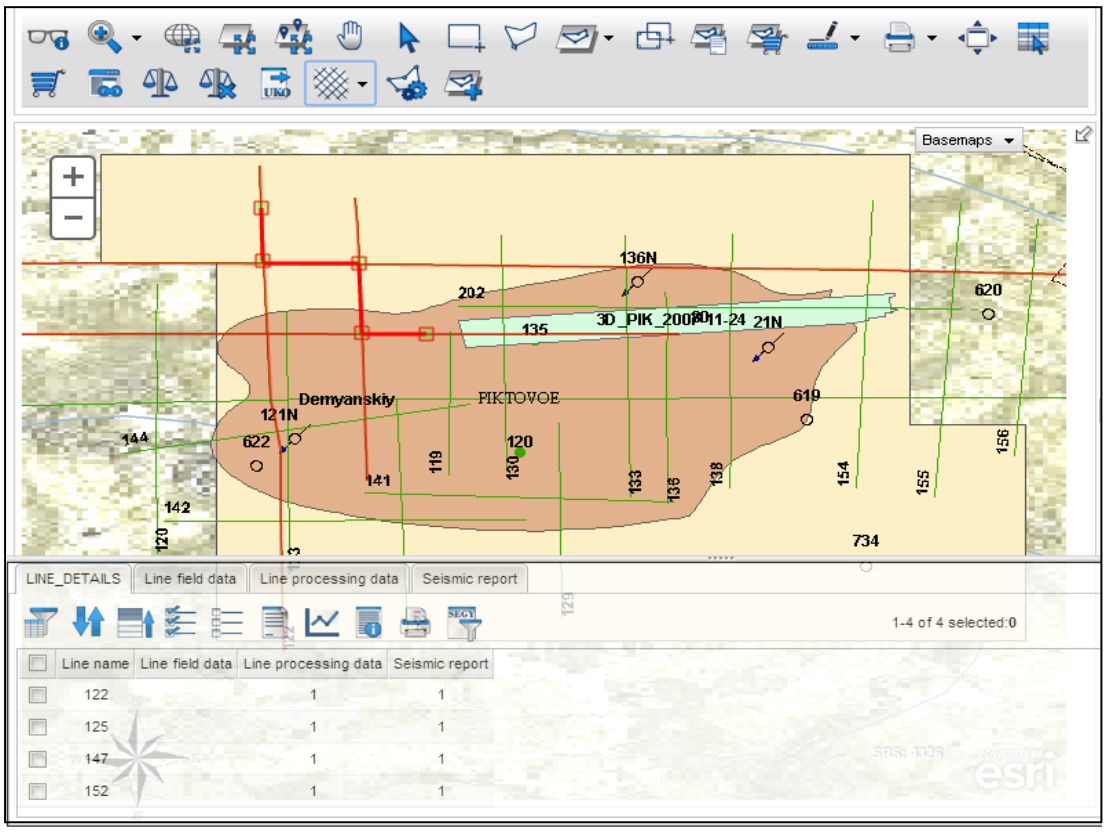


Seismic buttons



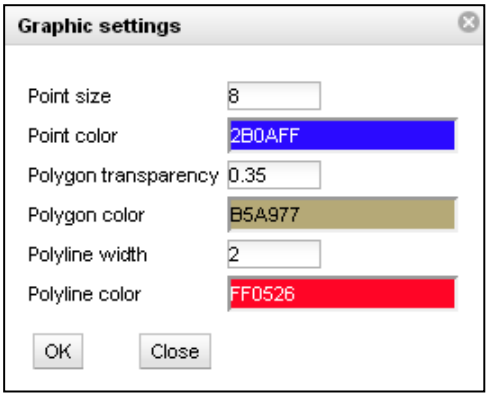
Arbitrary seismic profile

The data table will appear after clicking on the ***End*** button.

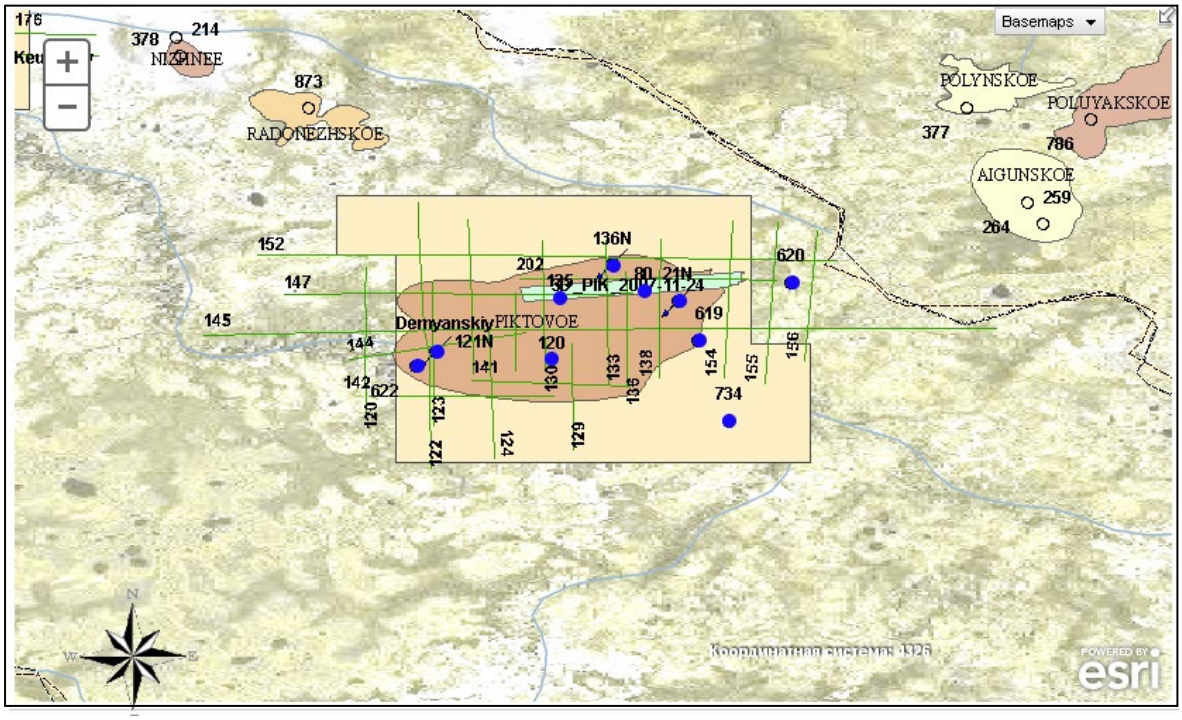


Seismic profile with data table

- **Settings –** graphic settings: arbitrary choice of size and color of points, lines, polygons.

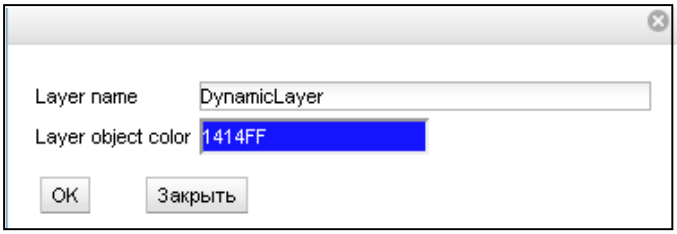


Window of graphic settings



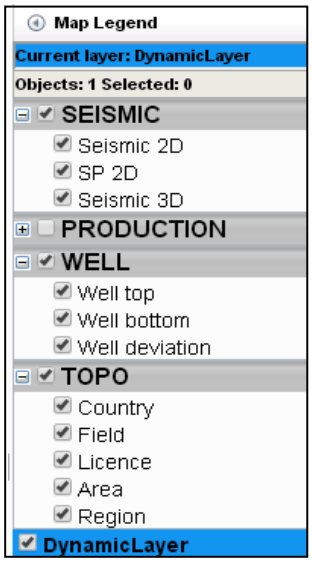
Result graphics settings

- **Create new layer –** creation of a layer with user-selected objects.



Create new layer

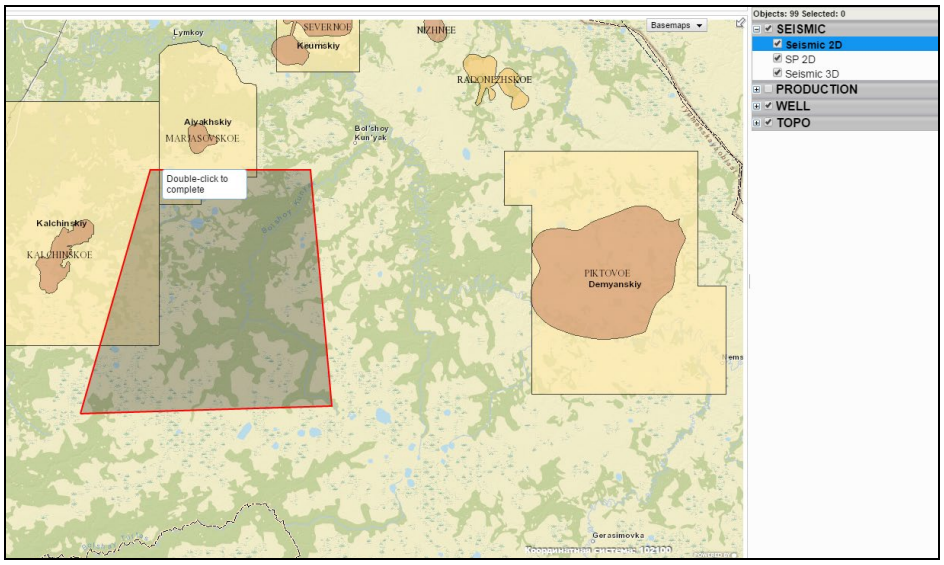
After clicking ***Ок*** a new layer is displayed in legend list



Legend list with a new layer

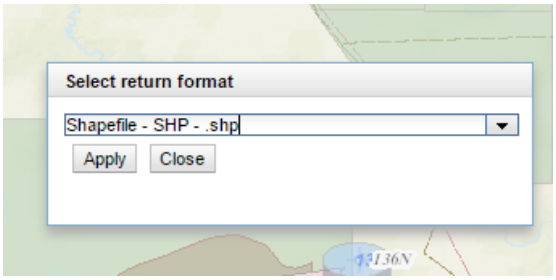
Export to shape – creation of shape-file from the PetroVision map. Select the layer for export and draw the polygon of exported area. File of ESRI Shape format will generate on the server and you can download it in your browser.

Select the necessary layer in the legend. Click the button “Export to shape” on the map toolbar. Draw the polygon of exported area.



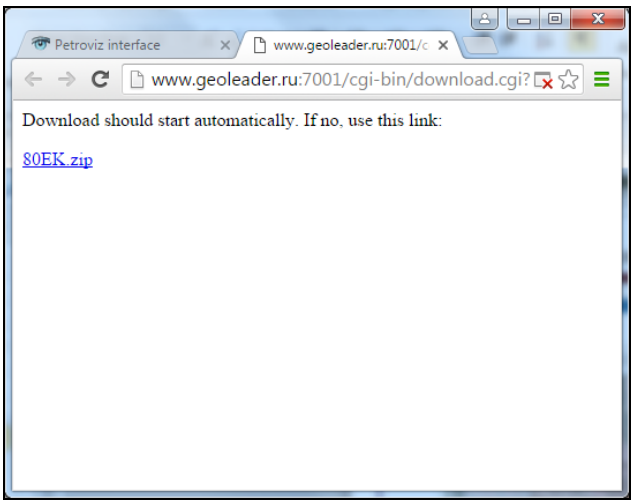
Export to shape

Select the output format (shape-file or Geodatabase)

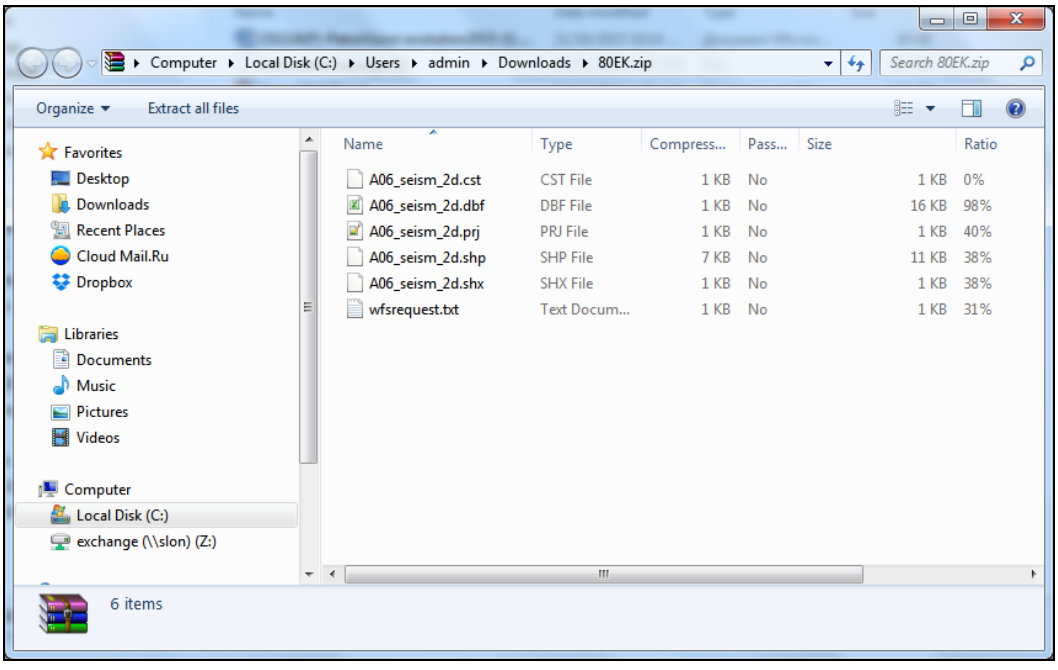


Format selection

As a result, you will receive a link to the archive containing the export result.



Loading result



Loading result

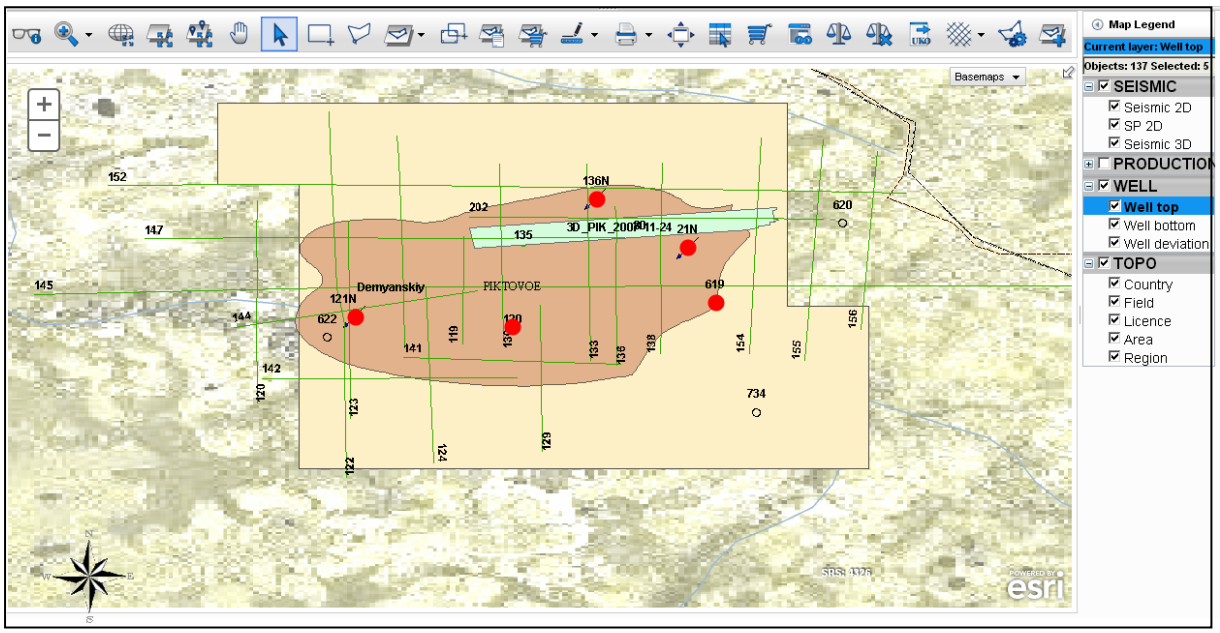
4.3 Map field

Using the mouse scroll you may zoom in or zoom out the map on the screen, in other words you may change the map ***scale***. The ***Zoom in*** button works in the same way: we select a zone which will be displayed on the whole map field. The ***Zoom out*** button works vice versa. If you want to go back for one step, click on the ***Previous size*** button, and to move one step forward – click on the ***Next size*** button.

You may view all data stored in DB by selecting one layer (it will change the color) on the map.

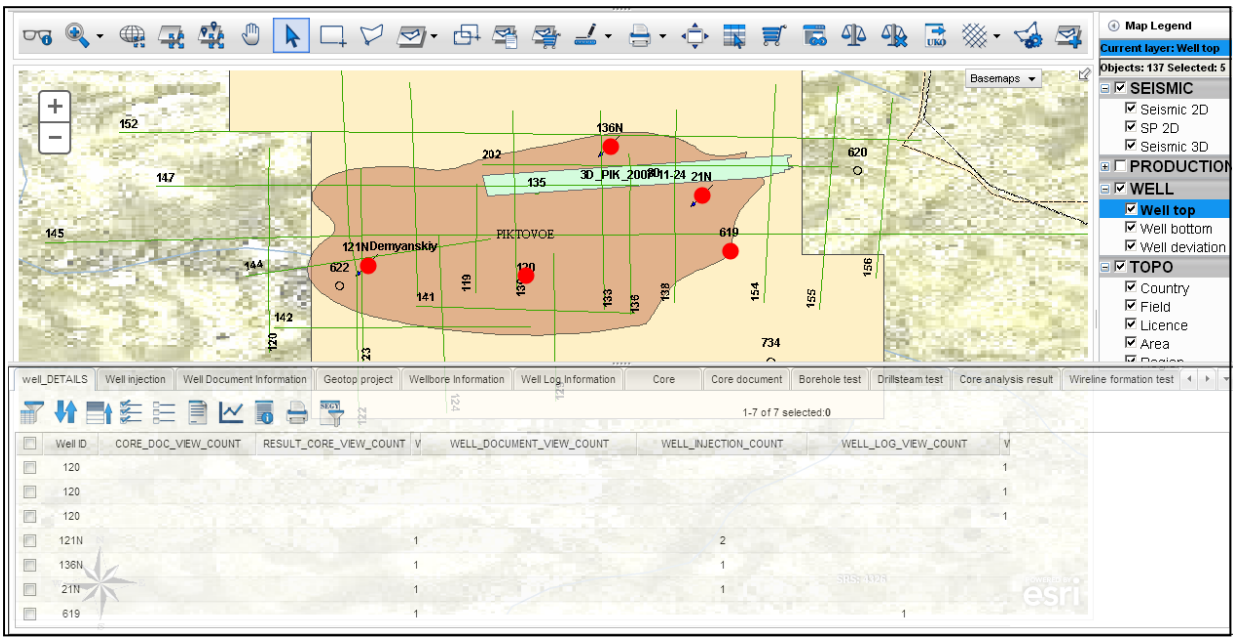
When you select a layer of interest, click on the ***Show layer*** button, and all objects of this layer will be displayed on the map. Then using the ***Select Rectangle*** or ***Select by polygon*** buttons, select the area of your interest on the map. Layer data displayed on the map will change color and a window with ***selected data table*** will appear at the bottom. You may find more information in the chapter 3 Working with data tables.

The ***Show selected objects*** button will display selected area in details on the map, click on it!



Detailed view of selected area

When you put the cursor on a splitter, the pointer will appear. When you click on it, a pop-up window will be closed and a whole map field will be available for view. In case you need to open Table window, click on the splitter at the bottom of the map again.



Map with opened pop-up window

4.3.1 Layer attribute table

The ESRI shape format allows you to get a table with attribute data of layer objects with the file of graphical objects. This table is stored in the dbf-file in the DBASE IV format. We selected the *Well top* layer and selected required area (***Select Rectangle***) on the map, zoomed it in (***Show selected objects***) and clicked on the ***View Data*** icon.

The *Data* window will open and with all data, described in the .shp file of this layer or in source table in database. The DB column shows whether this data is loaded to your DB or not.

The layers on the map can be presented not only in the ESRI shape format, but taken directly from the Data Bank. For this the object coordinates and additional information should be loaded into the Data Bank. This information will be displayed in the layer ***attribute table***. If you load the object with the pointed coordinates, the object will dynamically appear on the map.

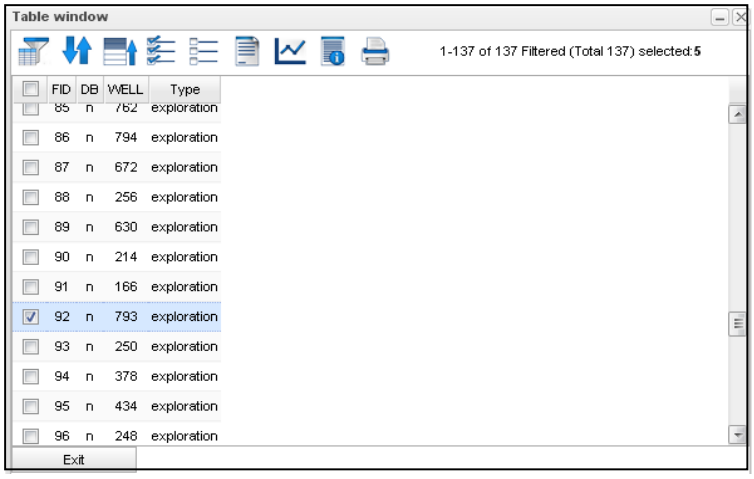


Table of the layer attributes

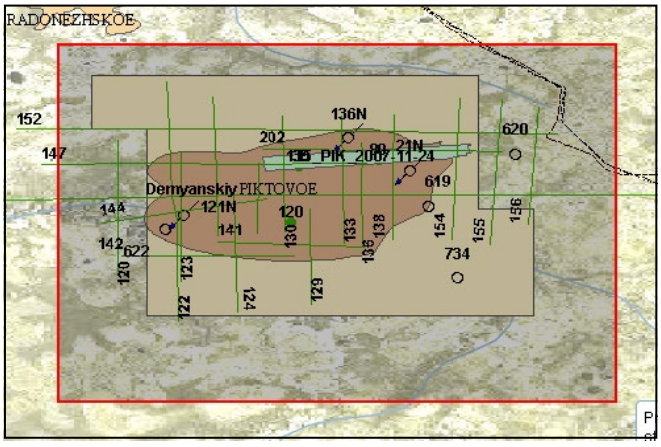
The table is dynamically linked to the map panel. This link is performed in both directions. It means that when you select a row in a table, an appropriate object is selected on the map, and vice versa. You may mark necessary data in *Data* window or refuse from some data. So tables will be updated automatically and the image will be changed in the pop-up window.

4.3.2 Layer object selection

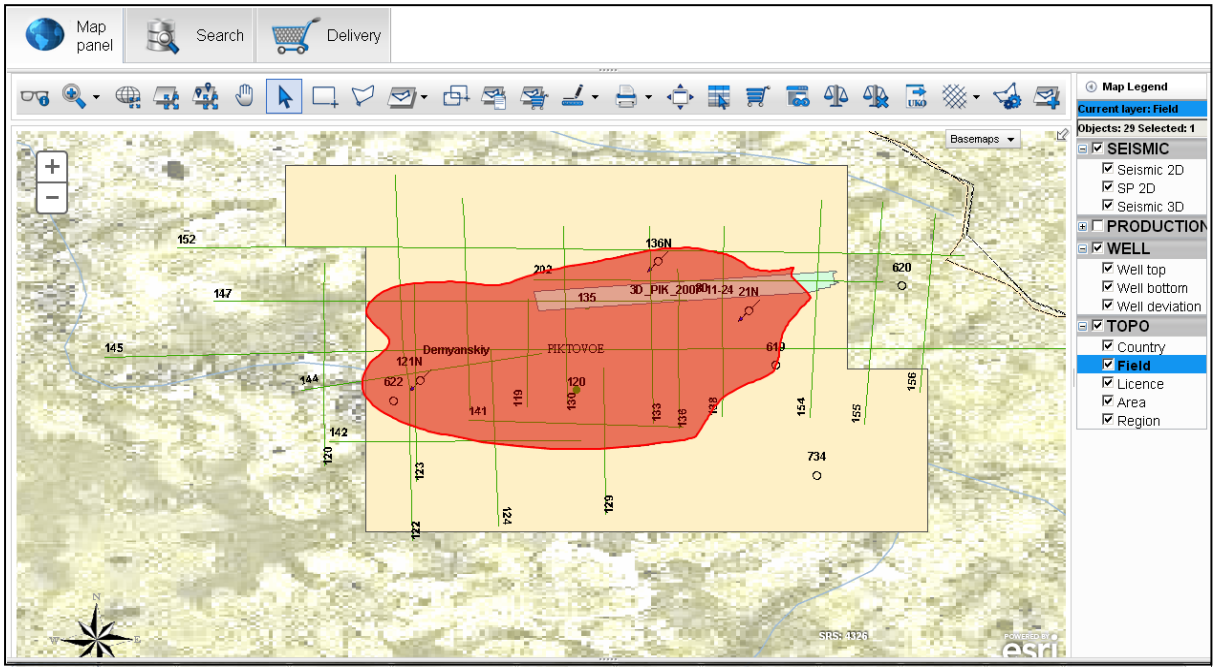
It selects one layer objects with spatial limitation relatively to another layer objects. The spatial limitation can be:

- Inside
- Outside
- Intercrosses

For example, let's select a field. It means that we should select *Field* in the Map **legend**.

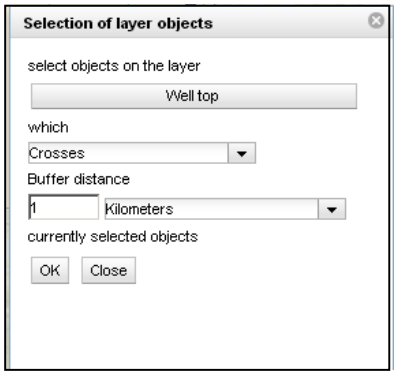


Field selection



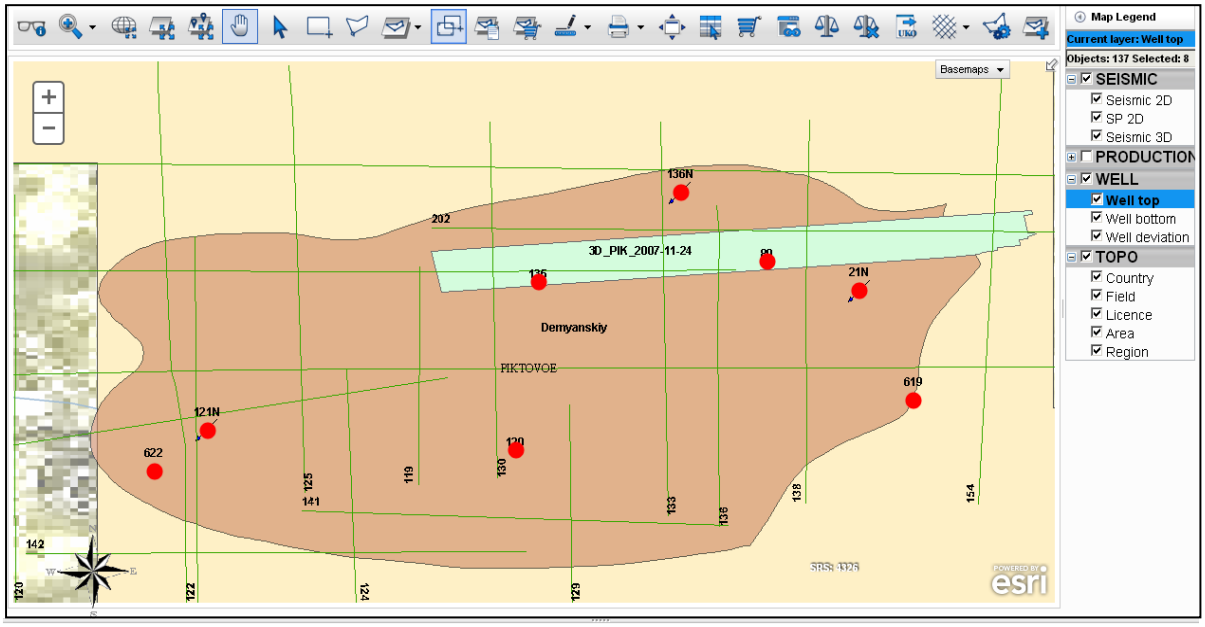
Map with selected Field layer

Now using the ***Intersect*** button we will select only those wells, which are inside the field. In the *Select objects* field on the layer, we will select *Well top*, in the "*which*" field (it includes different links between layers, it is easy to understand their meaning according to images, primary layer (in our case it is Field) is displayed in black color, secondary layer (*Well top*) – in blue color); we will select *Contains*, then we will specify the searching distance. In this case we select the *Buffer* distance equal to 1 km. Then we confirm the selected parameters and click ***OK***.



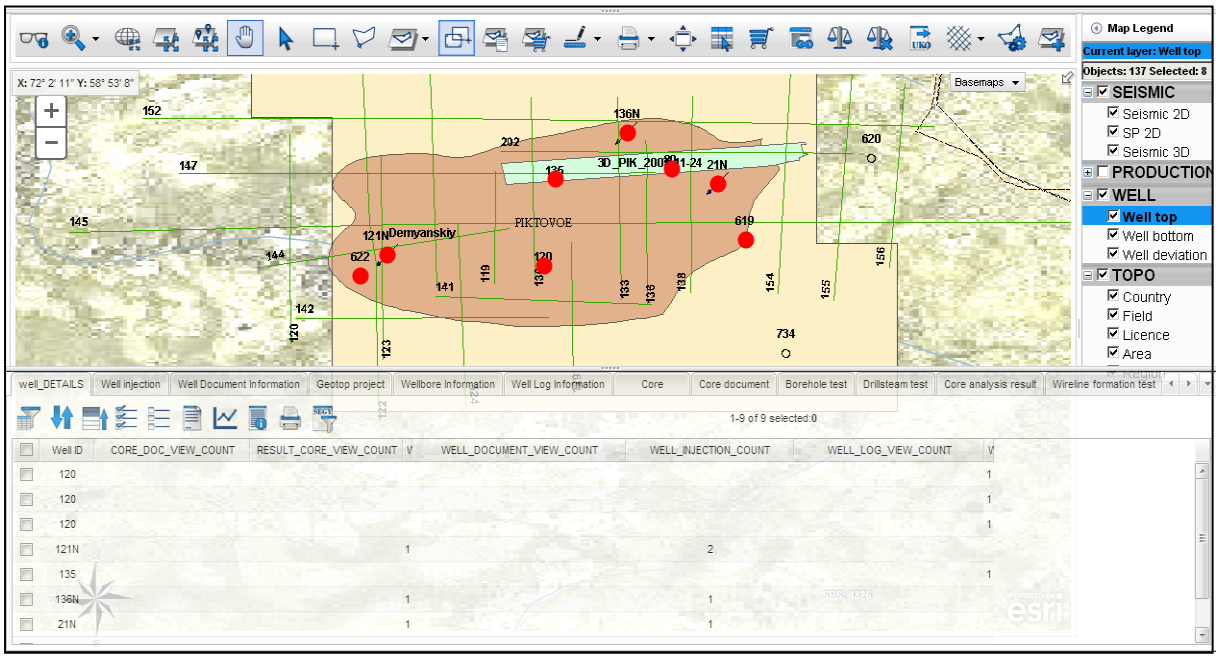
Selection of the layer objects

You can see that the wells are highlighted on the map and by clicking on the ***Show selected objects*** button, we will get selected wells only inside the selected field. Data only from these wells is shown in the table. You can relate two different layers in any available configuration. It will make a search of necessary data in the data base easier.



Selected wells only inside selected field

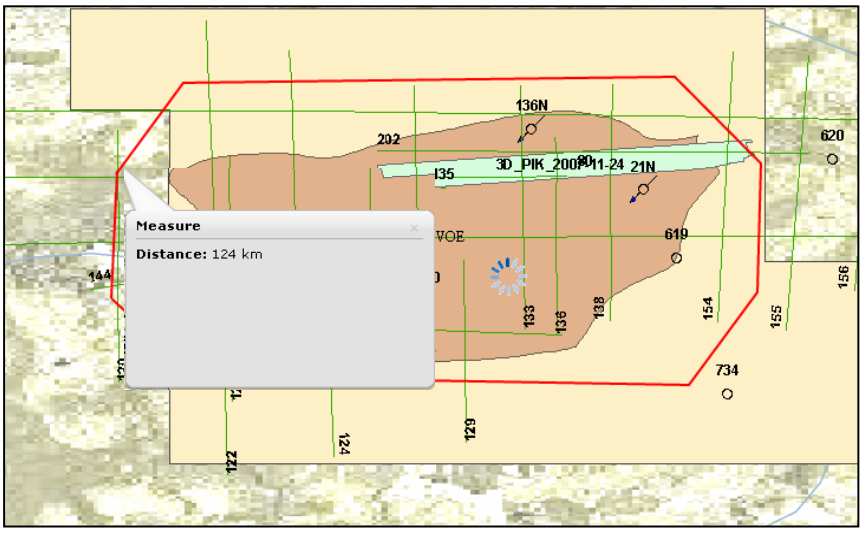
Click on the splitter and the window with tables will appear.



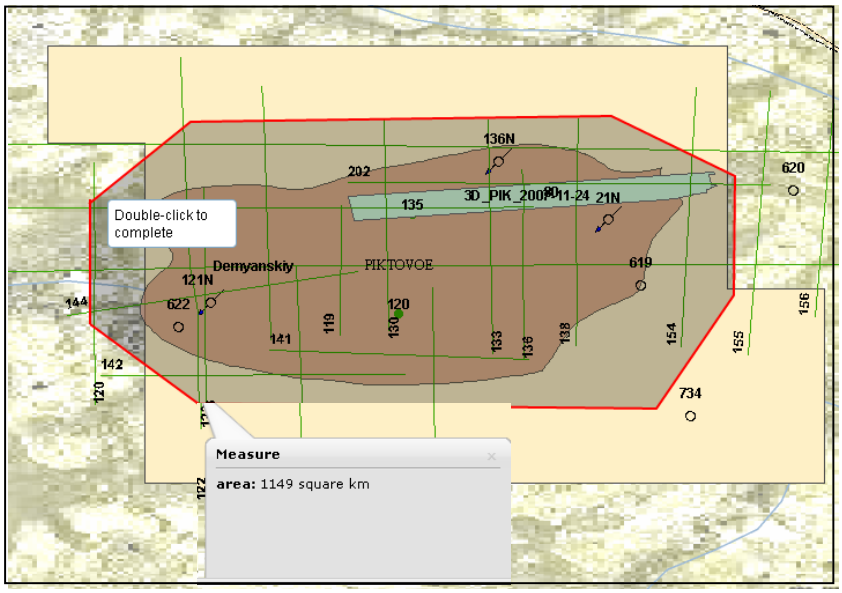
Selected wells only inside selected field with the table

4.3.3 Measure Distance and area

If you want to know the real distance between points or objects on the map, use the ***Measure Distance*** button. To do this, click on the point and then move to the next point you need, double-click and you will see the result on the map. You can measure distance of the broken line in the same way, and after double-click you will get the result. It will be visualized on the map until you click on again.



Distance measurement

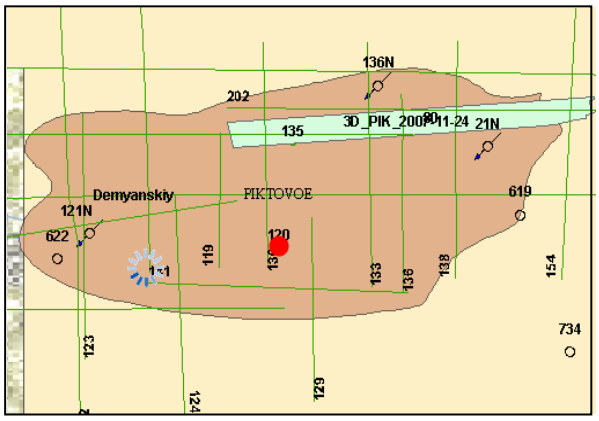


Area measurement

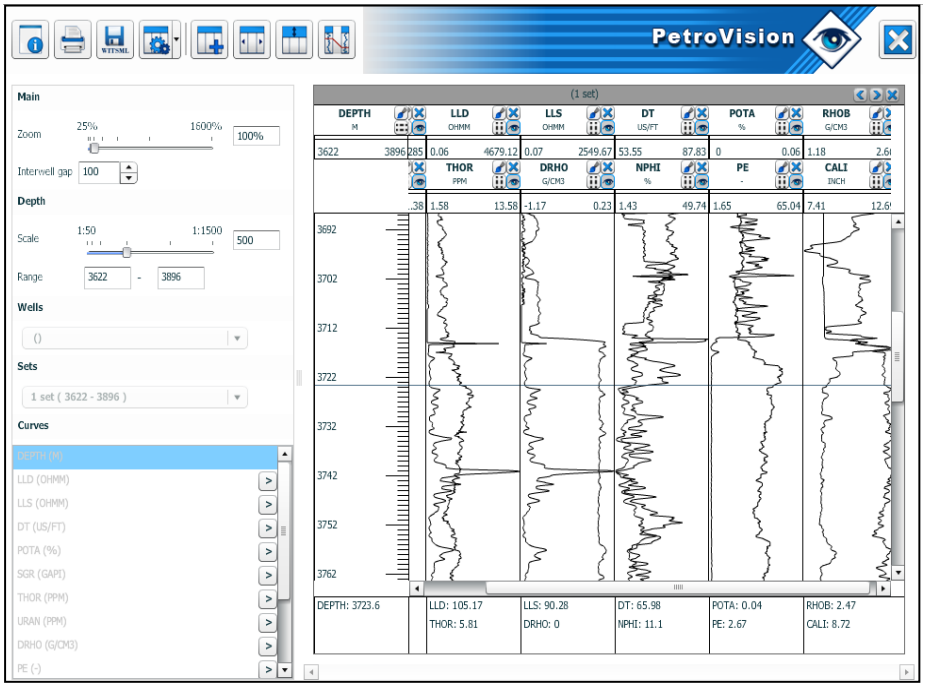
4.3.4 Quick view

The ***Quick view*** button allows you to get a quick access to any data type directly from the map. When you click on this button, program switches to the special mode. Working in this mode, there is a constant tracing of which object is selected at this time, and using a value from the specific column of the layer attribute table, program runs the script. The script and column name are specified on the *Layer Properties* panel.

Example: a user may click on any well on the map to run a program for viewing well logging curves (if the layer table contains a column with the file name and full path to it).



Well selection



Quick view of the files

5 WORKING WITH THE "SEARCH" DATA BROWSER

To open the ***"Search" Data Browser***, click on the **SEARCH** tab. The general rules of working with the ***Data Browser*** were given in the chapter 2: General working rules in PetroVision IV. Working with the ***Data Browser*** and specific functions are described in more details in this chapter.

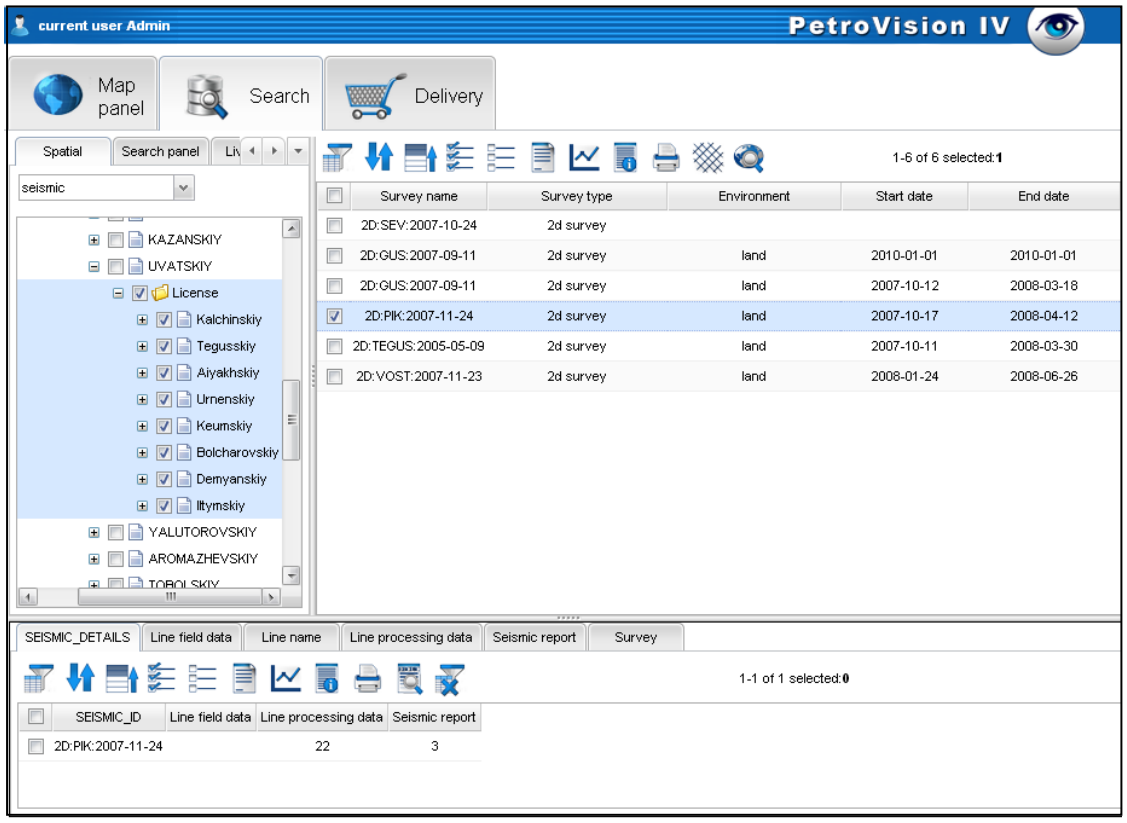
Note. Demonstration data was used for the screenshots in this chapter. In your real environment the content of Data Browser can vary.

5.1 Territory selection in the Tree tab

To view data by the objects which are within one or several spatial objects such as country, field, blocks, etc. it is recommended to start with the spatial tree. If you work in PetroVision IV for the first time, spatial tree will be folded.

You should select one or several territory objects in the spatial tree. To unfold a tree node, click on "+". To fold it, click on "-".

If a tree node has the icon in form of paper sheet, it means that you can select it.



"Search" Data Browser

To select several nodes, click on them one by one. You can also select all nodes of the same level if you click on their parent node with the folder icon.

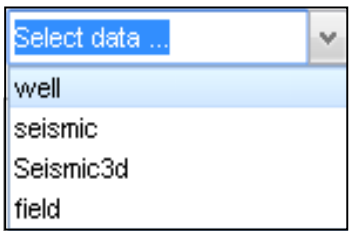
Note. Next time when you open ***Data Browser***, the spatial tree will be unfolded at the object you selected before closing the window or program.

You can see selected objects on the map by clicking on the ***Show on the map*** button. When you move to the **MAP** tab, the correspondent layer is highlighted in the legend and the selected objects are zoomed.

There is one more important function of the ***Data Browser***. It is a dynamic link between the ***spatial tree*** and ***object panel***. If you change sampling in the tree, the list of objects will be automatically updated without necessity to reselect chapter manually.

5.2 Chapter selection

When you finished with the spatial sampling, you can select the chapter. The *Chapter* is a part of the PetroVision IV data bank, which includes data, related to any subject domain. For example, there are the following chapters in the PetroVision IV configuration: Well, Seismic, Seismic 2D, Seismic 3D, Field. This list can be extended depending on the data bank characteristics.



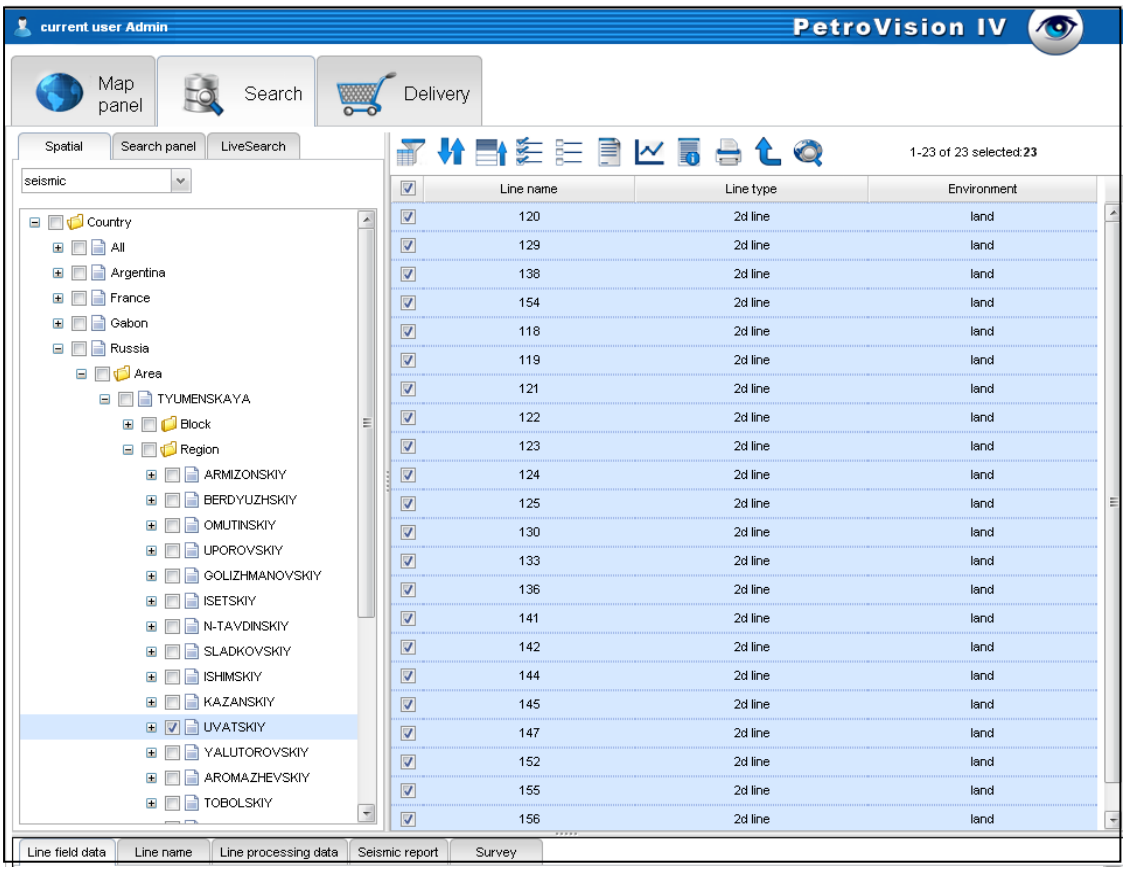
Chapter selection

As soon as you select the chapter, the list of objects – wells, seismic surveys, etc. will appear on the ***object panel***. Suppose that you selected *2D Seismic Processing*. A list of seismic data processing, held on this territory, will appear on the ***object panel***.

5.3 Special buttons for seismic data

5.3.1 Seismic profiles or Related survey/processing

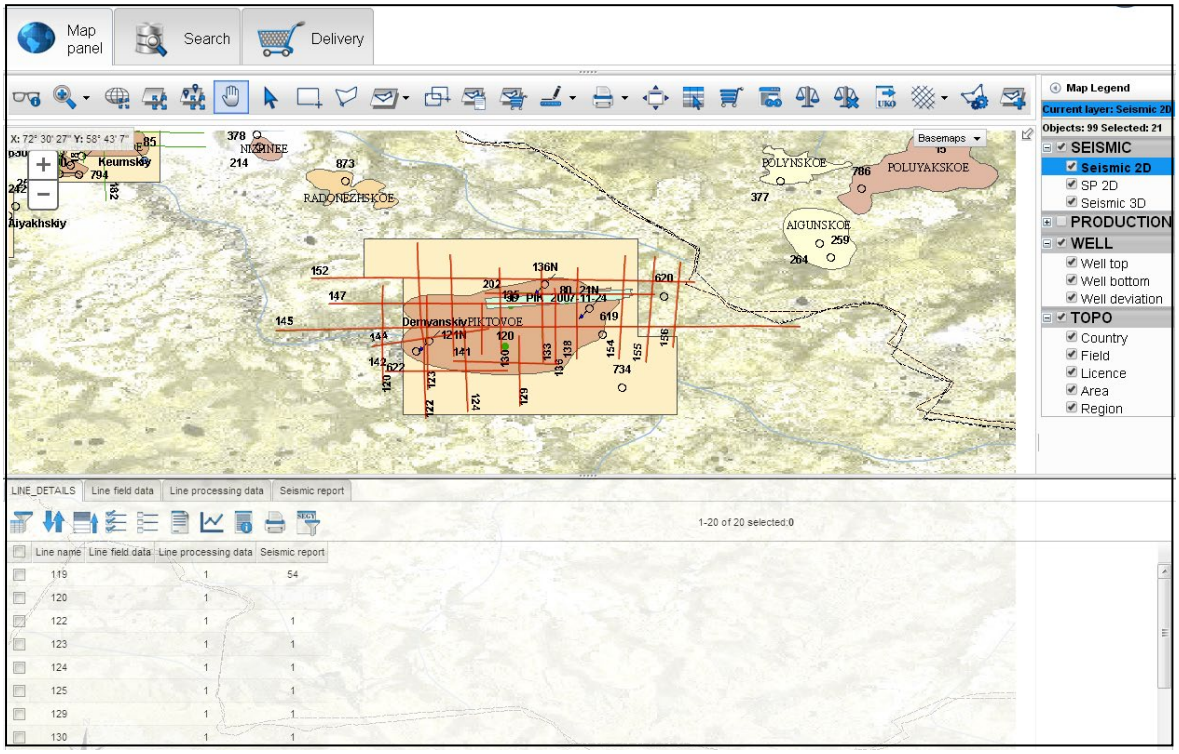
As you can see, there is a new button on the ***toolbar***, this is ***Seismic profiles***  . This button can be used only for the seismic objects such as seismic survey or seismic processing. Suppose that you chose seismic processing named *2D:PIK:2007-11-24* and clicked on this button. Using this button you go "inside" the seismic survey or processing and get the list of seismic profiles, related to them. Here you can select several or all lines as shown on the figure below.



Seismic profiles list

Now by selecting the necessary profiles, you will get all loaded data in tables and if you want to see them on the Map, click on the ***Show on the map*** button and go to the **MAP** tab. The selected information will be automatically color-marked and zoomed on the Map and this layer will be highlighted in the **legend**. Then you can work according to chapter 4 "Working with Map".

So you may select any objects in the spatial tree and look at their location on the map.



Selected objects on the map

5.4 Data search in the “Search panel” tab

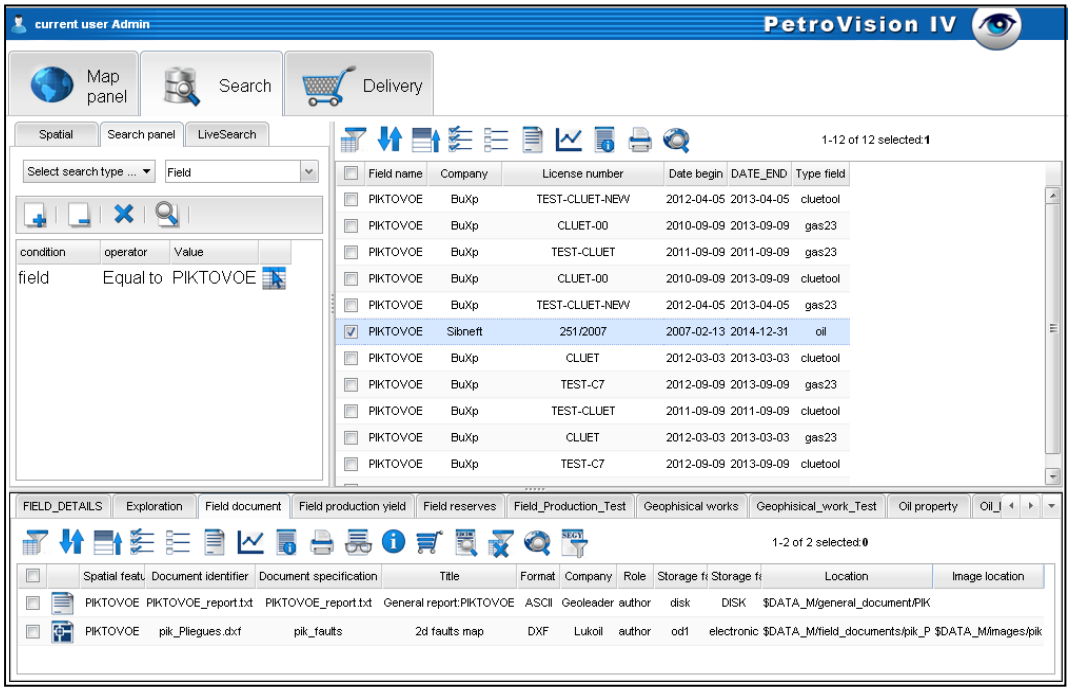
Data Search in the ***Search Panel*** tab provides a user with a possibility to search objects not only by spatial criteria as in the ***Data Browser Tree*** or in the **MAP**, but by any other criteria, for example by flow rate, well logging curve, etc. The ***Data Search*** module window, as ***Tree***, consists of three panels. They are the ***panel of criteria definition***, ***object panel*** and ***view panel***.

To open the ***Data Search*** module, select the **SEARCH** tab and then the ***Search Panel*** tab.

Let’s consider all standard steps while working with the **SEARCH** module.

Note: figures, shown below in this chapter, are taken from PetroVision IV with demonstration data. In your real environment, the Data Search module contents can vary from that one.

Select the search type from the list. The ***search type*** is a named criteria set; for each of them you can assign a condition or leave it indefinite.



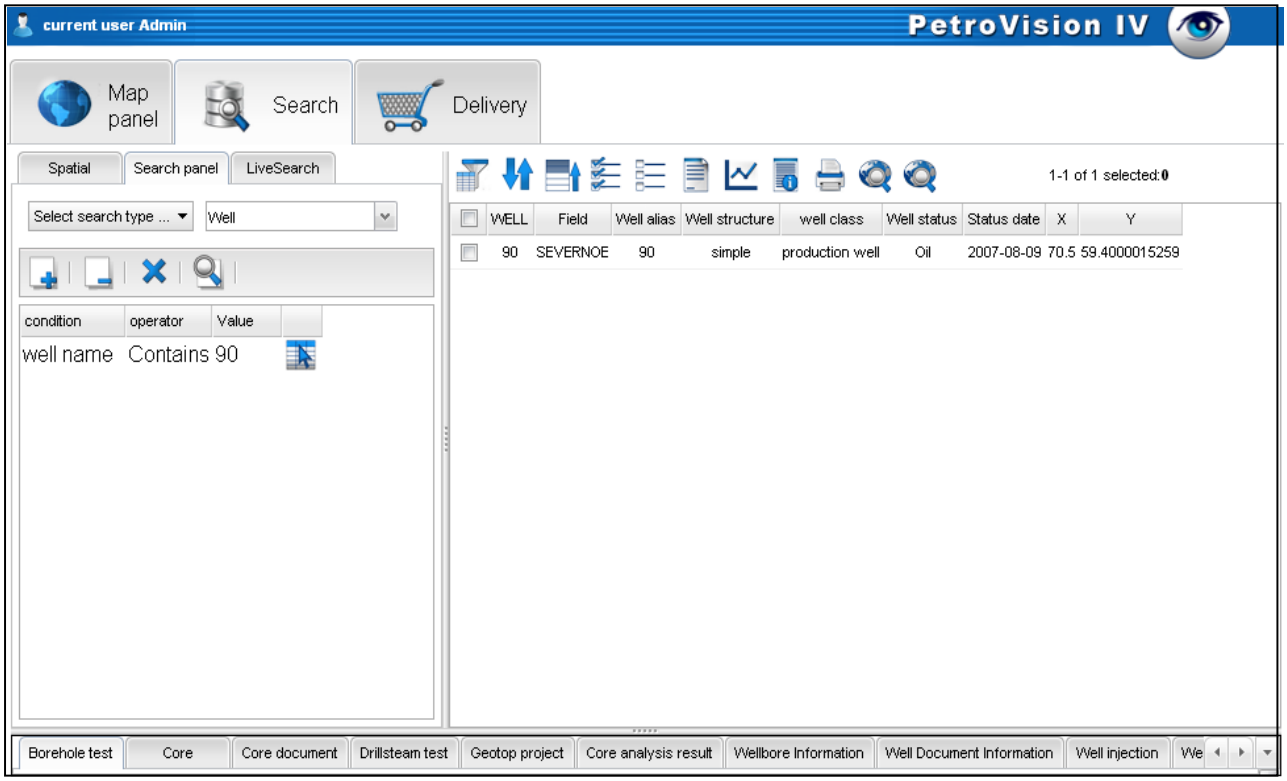
Search panel

Select *Well search.* A criteria list will appear on the ***panel of criteria definition***. To cancel criteria, click on the ***Clear*** button on the toolbar.

5.4.1 Searching run

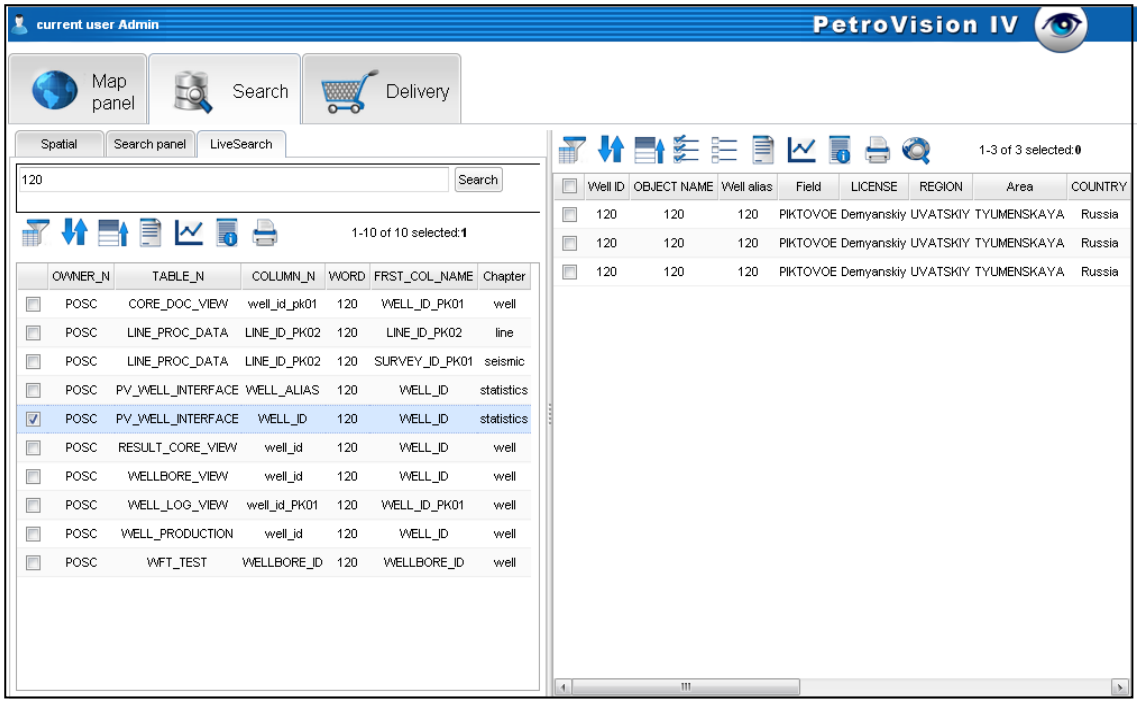
To run the search, click on the ***Search*** button. PetroVision IV will start searching and display the result on the object panel. In our case the **SEARCH** module found all wells, matching the specified criterion of "well name contains 12".

As soon as you get search results, you can work with them in the same way as in the ***Data Browser***. You can get more information by clicking on the well and selecting the name from the list on the view panel.



Search result

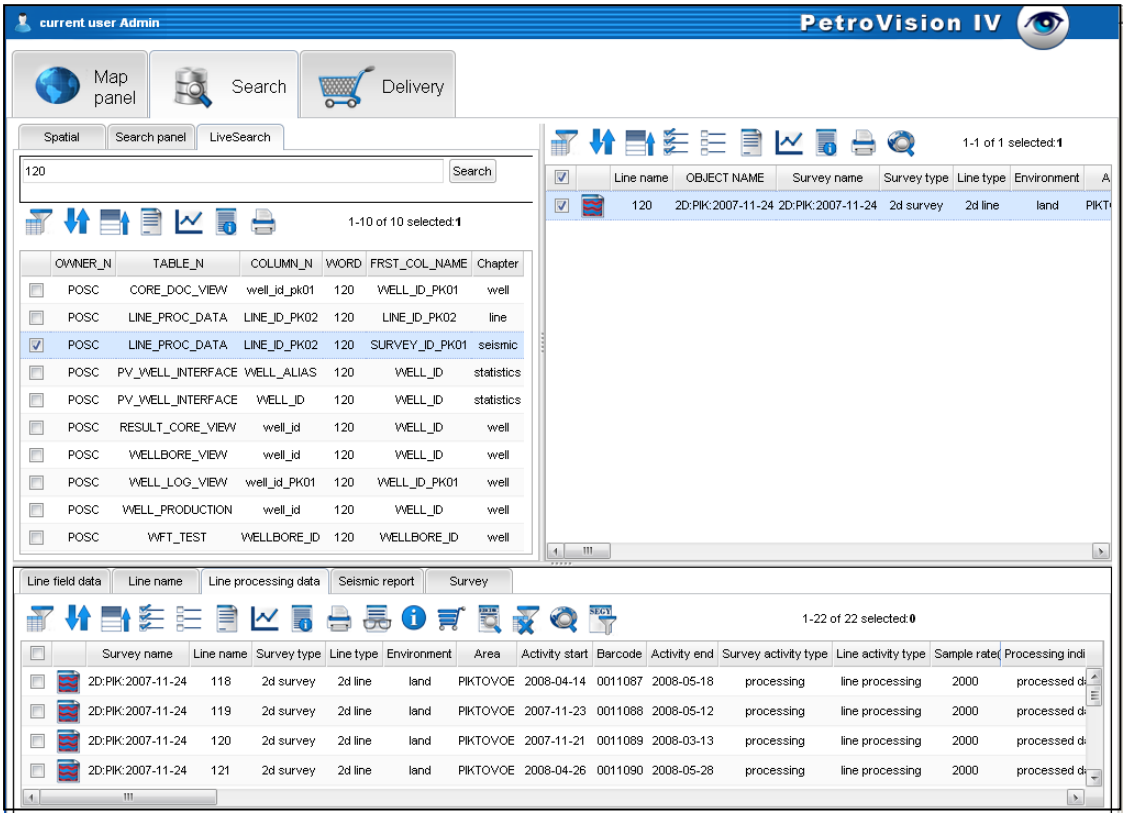
5.5 Online search



Online search

If you want to find the necessary object by the key word or its part, write some symbols of a key word in the search line; you may also write some partial requests with spaces between, then click on the ***Search*** button. The ***Online search*** processes a text, typed in the search line, makes a request, which you meant and on a real-time mode produces a result into the table below the search line.

Due to the ***Online search*** users have a smart and quick technology which is the effective way to find data. When you select what you looked for in the table, the object of your interest will appear at the ***object panel***. After that, you select this object and all tables with documents, stored in the Bank, are displayed in the ***view panel***.



Selected objects in the online search

If you are interested to which territory these objects belong click on the ***Show on the map*** button, and the objects according to the selection criterion will be displayed on the ***map panel***.

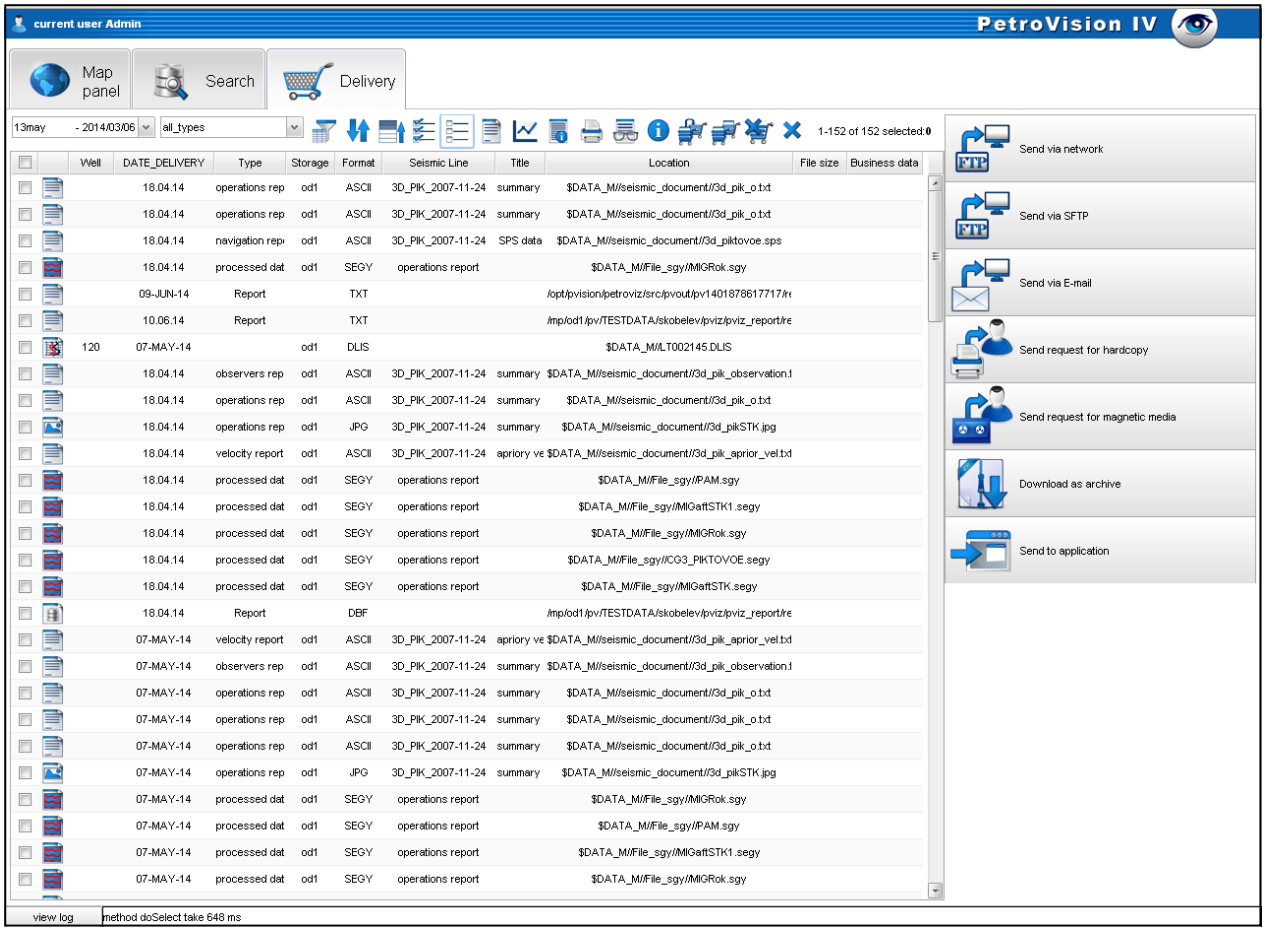
6 DELIVERY MODULE: WORKING WITH CARTS

DELIVERY MODULE is used for working with carts and files, contained in these carts.

To open the **DELIVERY MODULE**, click on the Delivery module tab.

Note. Figures, shown below in this chapter, are taken from PetroVision IV with demonstration data. But in your real environment the Delivery module content can be different to this one.

The *Delivery* window consists of two panels – the ***cart panel***, where a file list is displayed, and the ***delivery methods panel***. The ***Cart panel*** includes the upper part of cart list, created by the current user, list of selection types inside the cart, and the toolbar with a set of common and special buttons. The ***delivery methods panel*** includes five buttons. Each button runs its own delivery method.



Delivery module

We have already mentioned that you can create as many carts as you wish. In fact, a cart contains only attribute data of the file and its location in the file storage. When a user transfers file to the cart, there is no physical transfer.

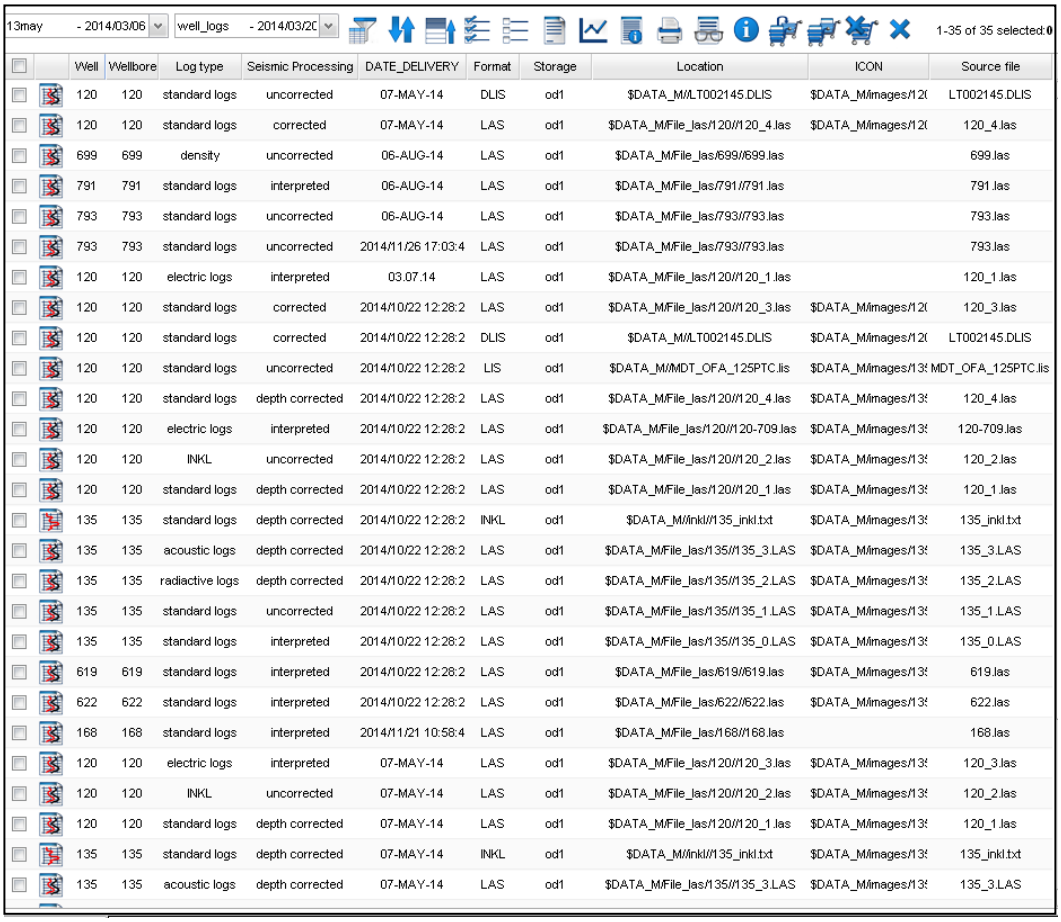
In the next chapter we will describe the ways how to work with carts and their contents in the *Delivery* window. The files delivery audit will be also described.

6.1 Working with cart content

Open the *Delivery* window, select the cart that you need to work with (in this case - 13may -2014/03/06) and then select a pick-type (in this case all_types).

Cart panel

In the figure below we selected the *13may* cart and the *well_logs* pick-type. Near the cart and pick-type names, their creation dates are displayed. To understand it better imagine that a pick-type is a cart section. A definite file type, specified by a set of attributes, is stored in every section. You cannot mix two different file types in one section. In our example there are three files with well logs in the section well_logs.



Well	Wellbore	Log type	Seismic Processing	DATE_DELIVERY	Format	Storage	Location	ICON	Source file
120	120	standard logs	uncorrected	07-MAY-14	DLIS	od1	$DATA_M/LT002145.DLIS	$DATA_M/images/12(	LT002145.DLIS
120	120	standard logs	corrected	07-MAY-14	LAS	od1	$DATA_M/File_las/120//120_4.las	$DATA_M/images/12(	120_4.las
699	699	density	uncorrected	06-AUG-14	LAS	od1	$DATA_M/File_las/699//699.las		699.las
791	791	standard logs	interpreted	06-AUG-14	LAS	od1	$DATA_M/File_las/791//791.las		791.las
793	793	standard logs	uncorrected	06-AUG-14	LAS	od1	$DATA_M/File_las/793//793.las		793.las
793	793	standard logs	uncorrected	2014/11/26 17:03:4	LAS	od1	$DATA_M/File_las/793//793.las		793.las
120	120	electric logs	interpreted	03.07.14	LAS	od1	$DATA_M/File_las/120//120_1.las		120_1.las
120	120	standard logs	corrected	2014/10/22 12:28:2	LAS	od1	$DATA_M/File_las/120//120_3.las	$DATA_M/images/12(	120_3.las
120	120	standard logs	corrected	2014/10/22 12:28:2	DLIS	od1	$DATA_M/LT002145.DLIS	$DATA_M/images/12(	LT002145.DLIS
120	120	standard logs	uncorrected	2014/10/22 12:28:2	LIS	od1	$DATA_M/MDT_OFA_125PTC.lis	$DATA_M/images/13	MDT_OFA_125PTC.lis
120	120	standard logs	depth corrected	2014/10/22 12:28:2	LAS	od1	$DATA_M/File_las/120//120_4.las	$DATA_M/images/13	120_4.las
120	120	electric logs	interpreted	2014/10/22 12:28:2	LAS	od1	$DATA_M/File_las/120//120-709.las	$DATA_M/images/13	120-709.las
120	120	INKL	uncorrected	2014/10/22 12:28:2	LAS	od1	$DATA_M/File_las/120//120_2.las	$DATA_M/images/13	120_2.las
120	120	standard logs	depth corrected	2014/10/22 12:28:2	LAS	od1	$DATA_M/File_las/120//120_1.las	$DATA_M/images/13	120_1.las
135	135	standard logs	depth corrected	2014/10/22 12:28:2	INKL	od1	$DATA_M//inkl//135_inkl.txt	$DATA_M/images/13	135_inkl.txt
135	135	acoustic logs	depth corrected	2014/10/22 12:28:2	LAS	od1	$DATA_M/File_las/135//135_3.LAS	$DATA_M/images/13	135_3.LAS
135	135	radiactive logs	depth corrected	2014/10/22 12:28:2	LAS	od1	$DATA_M/File_las/135//135_2.LAS	$DATA_M/images/13	135_2.LAS
135	135	standard logs	uncorrected	2014/10/22 12:28:2	LAS	od1	$DATA_M/File_las/135//135_1.LAS	$DATA_M/images/13	135_1.LAS
135	135	standard logs	interpreted	2014/10/22 12:28:2	LAS	od1	$DATA_M/File_las/135//135_0.LAS	$DATA_M/images/13	135_0.LAS
619	619	standard logs	interpreted	2014/10/22 12:28:2	LAS	od1	$DATA_M/File_las/619//619.las	$DATA_M/images/13	619.las
622	622	standard logs	interpreted	2014/10/22 12:28:2	LAS	od1	$DATA_M/File_las/622//622.las	$DATA_M/images/13	622.las
168	168	standard logs	interpreted	2014/11/21 10:58:4	LAS	od1	$DATA_M/File_las/168//168.las		168.las
120	120	electric logs	interpreted	07-MAY-14	LAS	od1	$DATA_M/File_las/120//120_3.las	$DATA_M/images/13	120_3.las
120	120	INKL	uncorrected	07-MAY-14	LAS	od1	$DATA_M/File_las/120//120_2.las	$DATA_M/images/13	120_2.las
120	120	standard logs	depth corrected	07-MAY-14	LAS	od1	$DATA_M/File_las/120//120_1.las	$DATA_M/images/13	120_1.las
135	135	standard logs	depth corrected	07-MAY-14	INKL	od1	$DATA_M//inkl//135_inkl.txt	$DATA_M/images/13	135_inkl.txt
135	135	acoustic logs	depth corrected	07-MAY-14	LAS	od1	$DATA_M/File_las/135//135_3.LAS	$DATA_M/images/13	135_3.LAS

Cart content

The ***Data table*** shows file attributes such as well name, wellbore, date of the file moving to the cart, format, location etc. The Data table toolbar consists of two button sets – the common (filtering, columns, search, sorting, selection up, report, view, data) and the particular for the cart. The Common buttons are described in the chapter 3 "Working with Data tables" and chapter 5 "Working with the "Search" Data Browser". Transfer file, Copy file, Delete file, Delete cart are considered to be the cart special buttons.

 Transfer file

 Copy file

 Delete file

 Delete cart

- **Transfer file**

To transfer file(s) from the current cart to another cart, select file(s) in data table and click on the ***Transfer*** button. Dialog window of the last cart selection will be opened. Select a cart from the list and click on the ***Apply*** button or create a new cart by entering its name into editing window and click on the ***Apply*** button. Selected file(s) will be transferred to the necessary cart.

- **Copy file**

To copy file(s) to another cart, select file(s) in the data table and click on the ***Copy*** button. Dialog window of the last cart selection will be opened. Select a cart from the list and click on the ***Apply*** button or create a new cart by entering its name into the editing window and click on the ***Apply*** button. Selected file(s) will be copied to the necessary cart

- **Delete file**

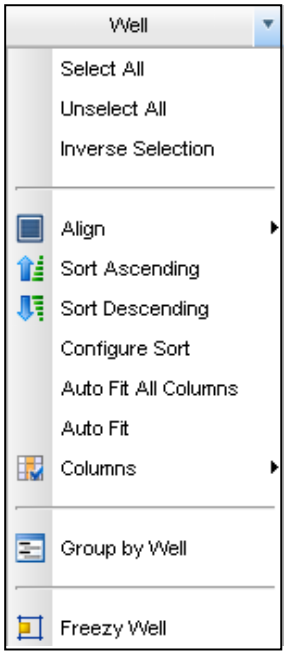
To delete file(s) from the cart, select file(s) in data table and click on the ***Delete*** button.

Note. This option deletes only record from the cart, but the file is not removed physically from the storage.

- **Delete cart**

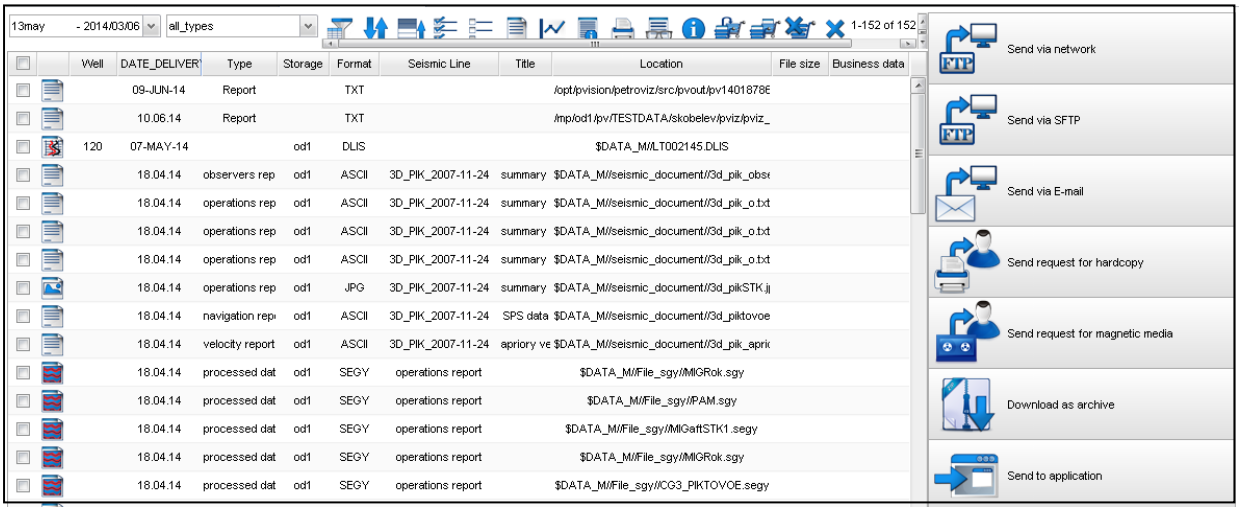
To delete a cart with all files in it, click on the ***Delete cart*** button.

Some buttons are duplicated in the pop-up menu, which appears by clicking the right mouse button on the table column header.



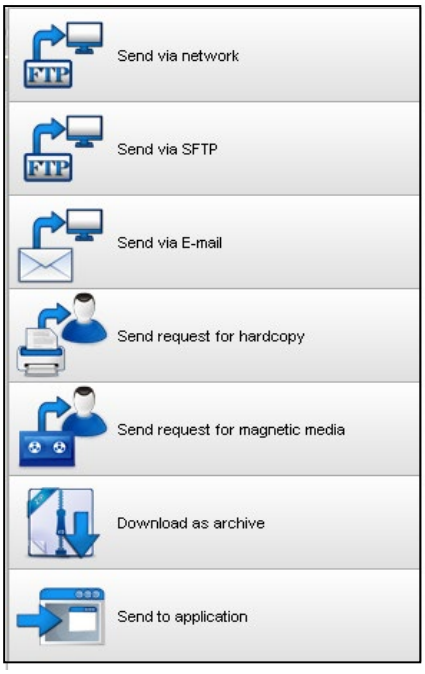
Popup menu

6.2 Files delivery



Files delivery

There is a vertical menu in the right-hand side. Below you can see where selected files can be sent.

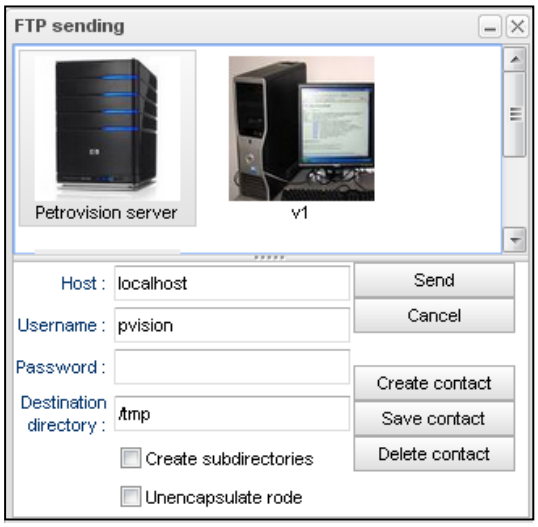


Vertical menu in the delivery module

According to the assigned privileges you can get files from the cart using the automatic file delivery or via operator. Automatic methods mean sending files via e-mail or network. The delivery methods by the operator mean sending request for hard copy print or request for coping to the magnetic media such as CD-ROM, DVD, etc. Another delivery method is to send files to

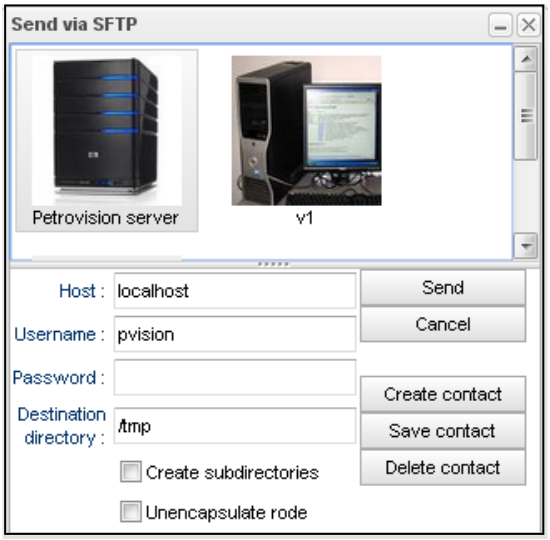
the input of the other applications such as shell-scripts, which create a tar-file or to the export utility, which loads files to other data base or convert them to another format.

- **Send by network** – data transmission by the 21 port in the opened (unencrypted) form.



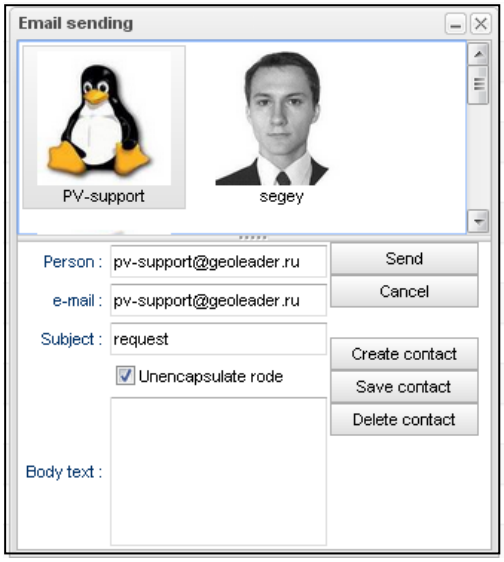
Data transmission by FTP

- **Send by SFTP** - data transmission with encryption on SSH protocol.



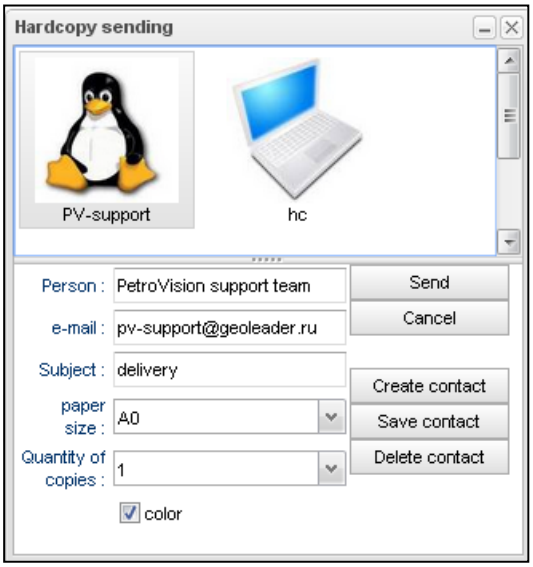
Data transmission by SFTP

- **Send by e-mail** - data transmission by e-mail



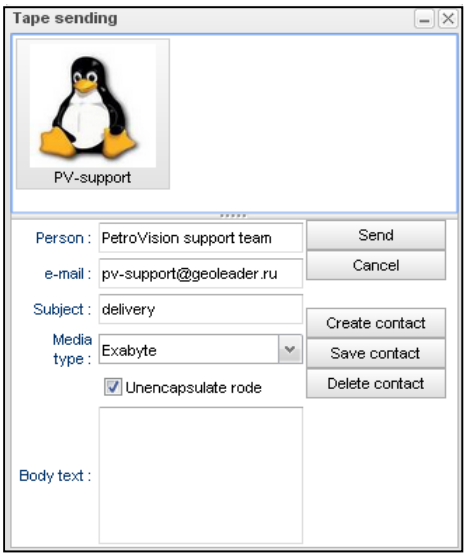
Data transmission by E-mail

- **Send request for hardcopy** — data transmission for writing to the hard copy



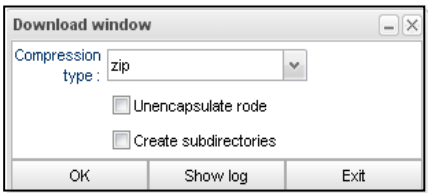
Sending request for hard copy

- **Send request for magnetic data** - data transmission to the magnetic data

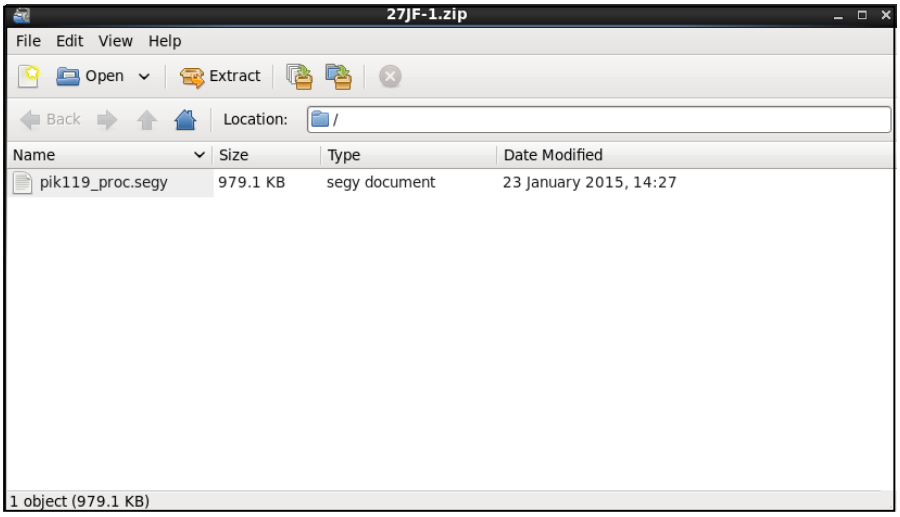


Sending request for magnetic data

- **Download in the archive form**



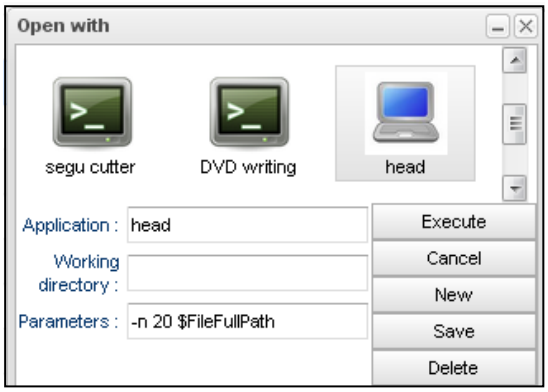
Archive downloading



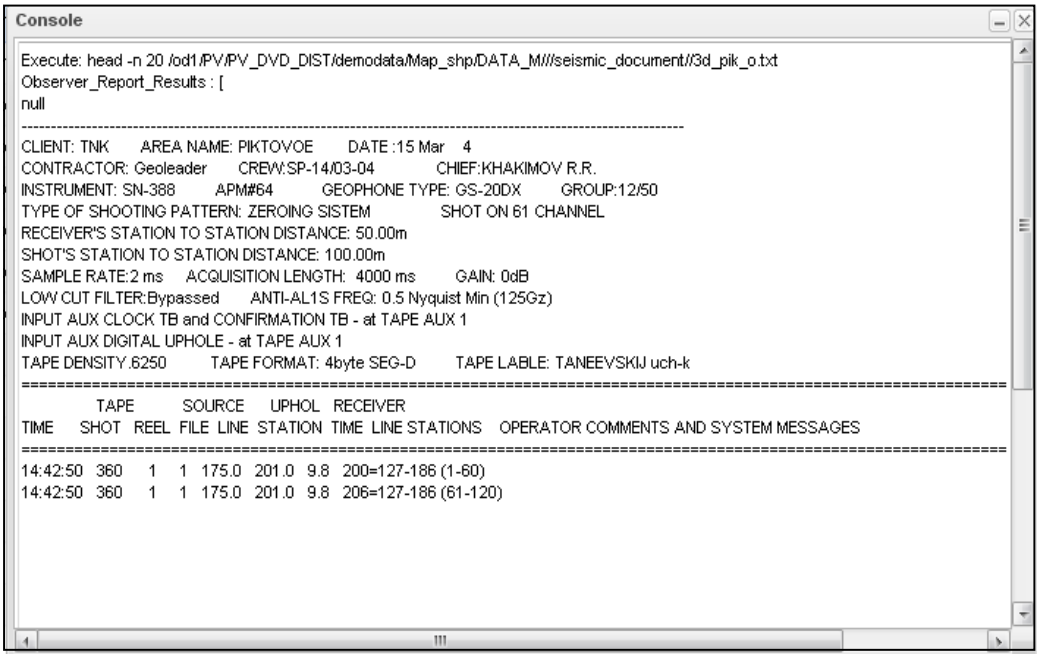
Downloaded archive

- **Open in an application**

You can send the cart content to the input of another application or shell-script. This will help you easily organize the data flow between the PetroVision file storage and other applications running in your environment.



Opening in the application



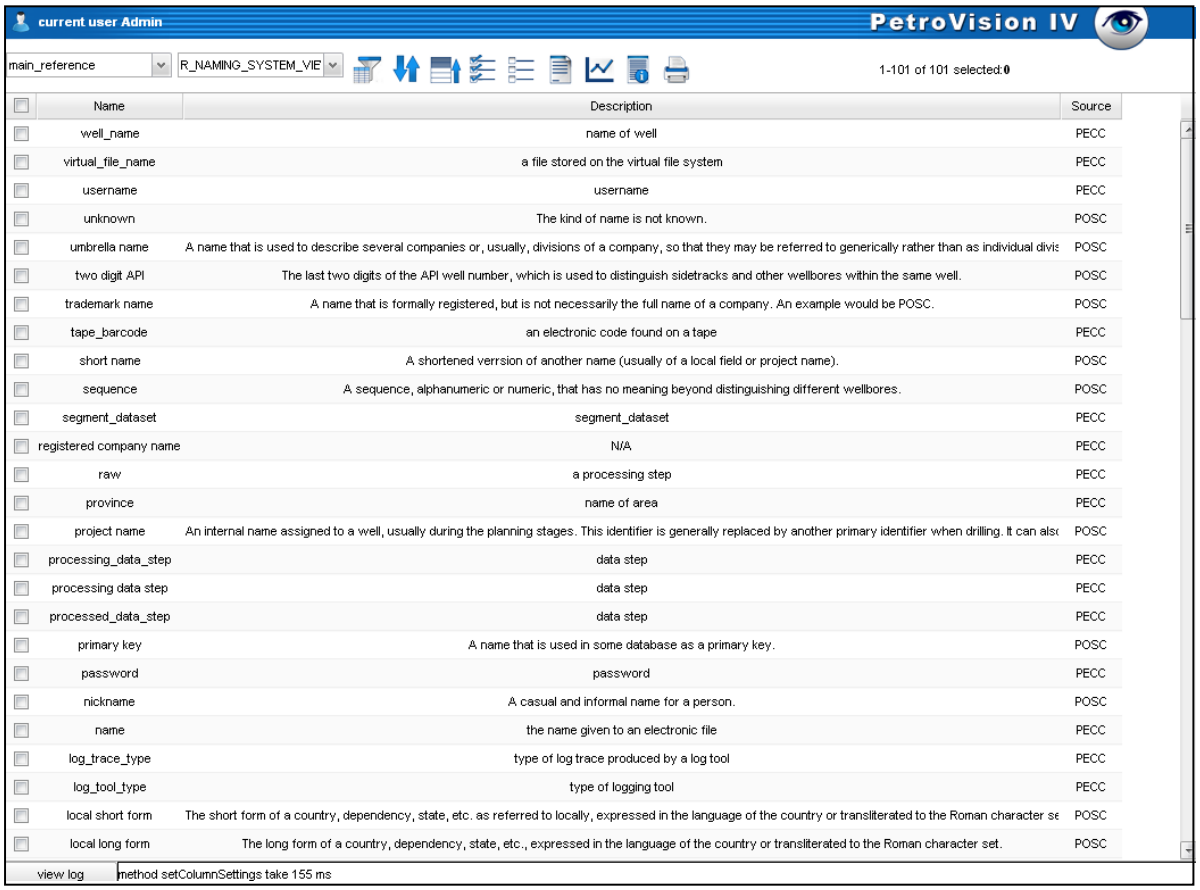
Opening in the Head application

Note. All actions for delivering files are logged. The administrator can monitor the files transmission from any cart by any user.

7 WORKING WITH MENU

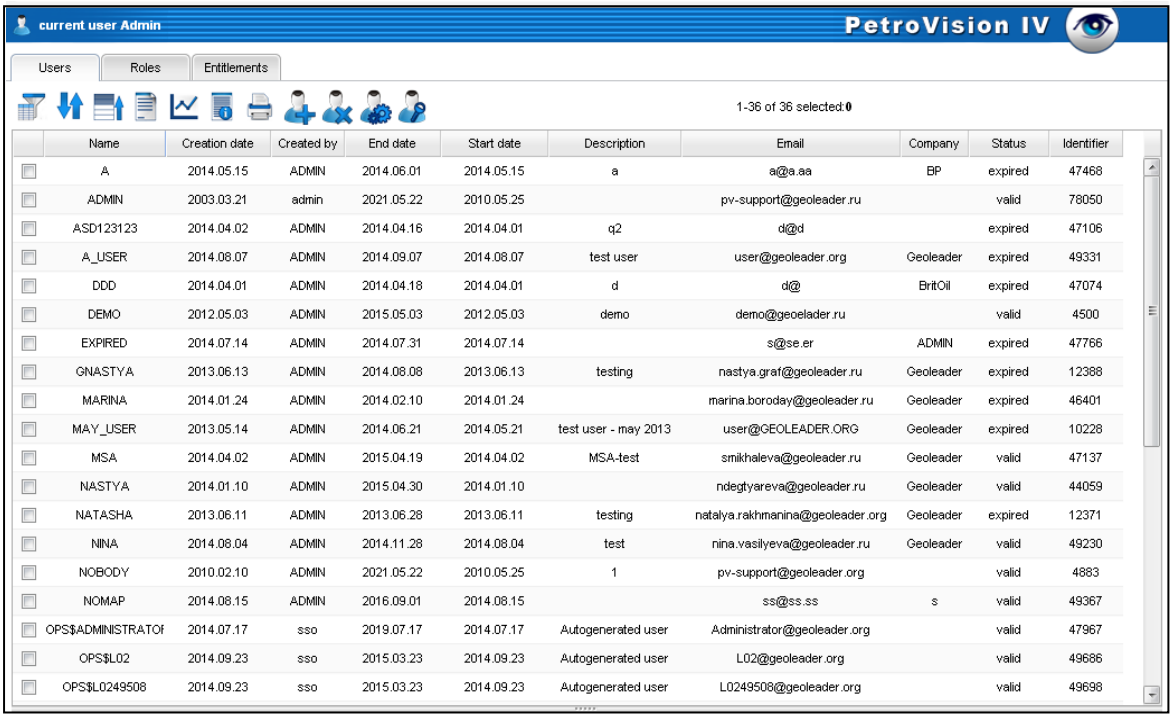
7.1 Reference

Reference module provides access to information that is common to entire data bank, for example, reference tables, log data, statistics, etc.



Reference module

7.2 User Management



Name	Creation date	Created by	End date	Start date	Description	Email	Company	Status	Identifier
A	2014.05.15	ADMIN	2014.06.01	2014.05.15	a	a@a.aa	BP	expired	47468
ADMIN	2003.03.21	admin	2021.05.22	2010.05.25		pv-support@geoleader.ru		valid	78050
ASD123123	2014.04.02	ADMIN	2014.04.16	2014.04.01	q2	d@d		expired	47106
A_USER	2014.08.07	ADMIN	2014.09.07	2014.08.07	test user	user@geoleader.org	Geoleader	expired	49331
DDD	2014.04.01	ADMIN	2014.04.18	2014.04.01	d	d@	BritOil	expired	47074
DEMO	2012.05.03	ADMIN	2015.05.03	2012.05.03	demo	demo@geoelader.ru		valid	4500
EXPIRED	2014.07.14	ADMIN	2014.07.31	2014.07.14		s@se.er	ADMIN	expired	47766
GNASTYA	2013.06.13	ADMIN	2014.08.08	2013.06.13	testing	nastya.graf@geoleader.ru	Geoleader	expired	12388
MARINA	2014.01.24	ADMIN	2014.02.10	2014.01.24		marina.boroday@geoleader.ru	Geoleader	expired	46401
MAY_USER	2013.05.14	ADMIN	2014.06.21	2014.05.21	test user - may 2013	user@GEOLEADER.ORG	Geoleader	expired	10228
MSA	2014.04.02	ADMIN	2015.04.19	2014.04.02	MSA-test	smikhaleva@geoleader.ru	Geoleader	valid	47137
NASTYA	2014.01.10	ADMIN	2015.04.30	2014.01.10		ndegtyareva@geoleader.ru	Geoleader	valid	44059
NATASHA	2013.06.11	ADMIN	2013.06.28	2013.06.11	testing	natalya.rakhmanina@geoleader.org	Geoleader	expired	12371
NINA	2014.08.04	ADMIN	2014.11.28	2014.08.04	test	nina.vasilyeva@geoleader.ru	Geoleader	valid	49230
NOBODY	2010.02.10	ADMIN	2021.05.22	2010.05.25	1	pv-support@geoleader.org		valid	4883
NOMAP	2014.08.15	ADMIN	2016.09.01	2014.08.15		ss@ss.ss	s	valid	49367
OPS$ADMINISTRATOI	2014.07.17	sso	2019.07.17	2014.07.17	Autogenerated user	Administrator@geoleader.org		valid	47967
OPS$L02	2014.09.23	sso	2015.03.23	2014.09.23	Autogenerated user	L02@geoleader.org		valid	49686
OPS$L0249508	2014.09.23	sso	2015.03.23	2014.09.23	Autogenerated user	L0249508@geoleader.org		valid	49698

User management

As data bank system shall provide access to information, which is valuable for the company, PetroVision IV ensures integrated security system control. Security system of data bank has three levels: the operating system level, Oracle DBMS level and PetroVision IV internal security level. The first two levels are under authority of the system administrator and data base administrator. PetroVision IV security system is a multidiscipline system, based on the Role-User model. This allows PetroVision IV administrator create roles and users, then define a set of accessible functional capabilities for a single role (to read Oracle tables, view files, select files to cart, etc.), and data set with which a role can deal, limited categories (well data, seismic data, etc.) and territories (country, field, etc.). There are also other access limitations that can be defined by an administrator. Every user account has a password, which is stored in Oracle, and validity period within which a user can work in PetroVision IV. Administrator uses **User management module** to manage users and roles

Each user must have at least one role. Role is the named set of privileges. The PetroVision privileges are divided into several categories: **spatial, modules, views, map layers, reports, delivery module and access rights.**

The Spatial privileges give users access to data objects located in a particular area. For example, the SCOTT user can work with objects arranged in a certain block or field.

The modules privileges allow users to work with a specific PetroVision module or section within the module and perform certain actions in it. For example, the PHIL user can work with Data Browser, but cannot work with the Map module.

The view privileges provide users access to certain views. For example, the ANNE user may access the PV_WELL_LOGS view and no other.

The map layers privileges provide users access to a specific layer or layers of a specific map. For example, the BILL user can see the Seismic 2D layer on the World map and cannot see the Well top layer on the same map.

The reports privileges provide users access to specific reports. For example, the ANNE user can access the well_log.rpt report.

The delivery module privileges provide users access to specific methods of data delivery. For example, the SCOTT user can retrieve data by sending them to an e-mail.

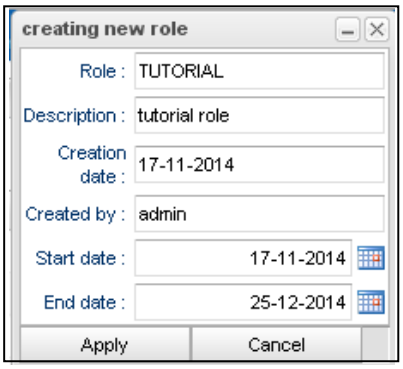
The access right privileges allow users specific access rights to data.

Privileges are only available for the roles. Then, the role may be provided to one or more users.

7.2.1 Role management

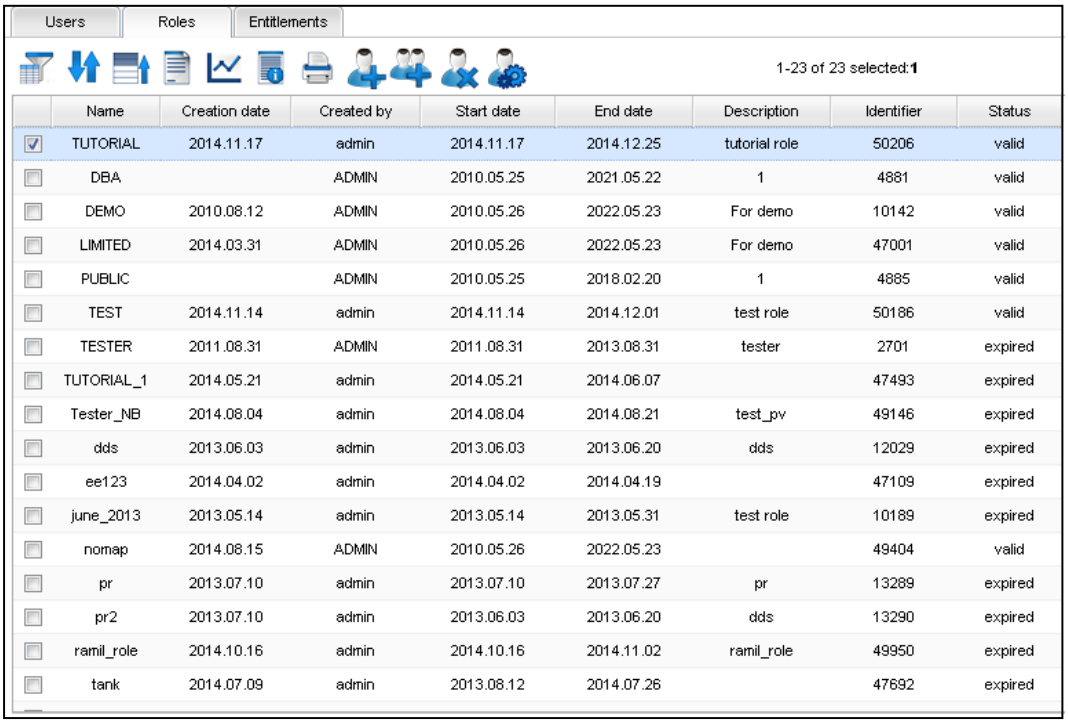
Role creation

To create the role, go to the ***Roles*** tab on the toolbar, click on the ***New role*** button. In the appeared window, enter the name for the new role, duration and description of the role. For example, we create a *TUTORIAL* role, which will be valid for the period from 20-05-2014 to 20-06-2014. During the role creation, the program also stores information about who created the role and when. This information cannot be changed. When you are finished, click on the ***Apply*** button.



Role creation

After this PetroVision creates the role and we can see it in the list of roles.



Name	Creation date	Created by	Start date	End date	Description	Identifier	Status
TUTORIAL	2014.11.17	admin	2014.11.17	2014.12.25	tutorial role	50206	valid
DBA		ADMIN	2010.05.25	2021.05.22	1	4881	valid
DEMO	2010.08.12	ADMIN	2010.05.26	2022.05.23	For demo	10142	valid
LIMITED	2014.03.31	ADMIN	2010.05.26	2022.05.23	For demo	47001	valid
PUBLIC		ADMIN	2010.05.25	2018.02.20	1	4885	valid
TEST	2014.11.14	admin	2014.11.14	2014.12.01	test role	50186	valid
TESTER	2011.08.31	ADMIN	2011.08.31	2013.08.31	tester	2701	expired
TUTORIAL_1	2014.05.21	admin	2014.05.21	2014.06.07		47493	expired
Tester_NB	2014.08.04	admin	2014.08.04	2014.08.21	test_pv	49146	expired
dds	2013.06.03	admin	2013.06.03	2013.06.20	dds	12029	expired
ee123	2014.04.02	admin	2014.04.02	2014.04.19		47109	expired
june_2013	2013.05.14	admin	2013.05.14	2013.05.31	test role	10189	expired
nomap	2014.08.15	ADMIN	2010.05.26	2022.05.23		49404	valid
pr	2013.07.10	admin	2013.07.10	2013.07.27	pr	13289	expired
pr2	2013.07.10	admin	2013.06.03	2013.06.20	dds	13290	expired
ramil_role	2014.10.16	admin	2014.10.16	2014.11.02	ramil_role	49950	expired
tank	2014.07.09	admin	2013.08.12	2014.07.26		47692	expired

List of roles

In future duration and description of the role can be changed. Use the ***Edit role*** button to change the information. To remove role, use the ***Delete role*** button.

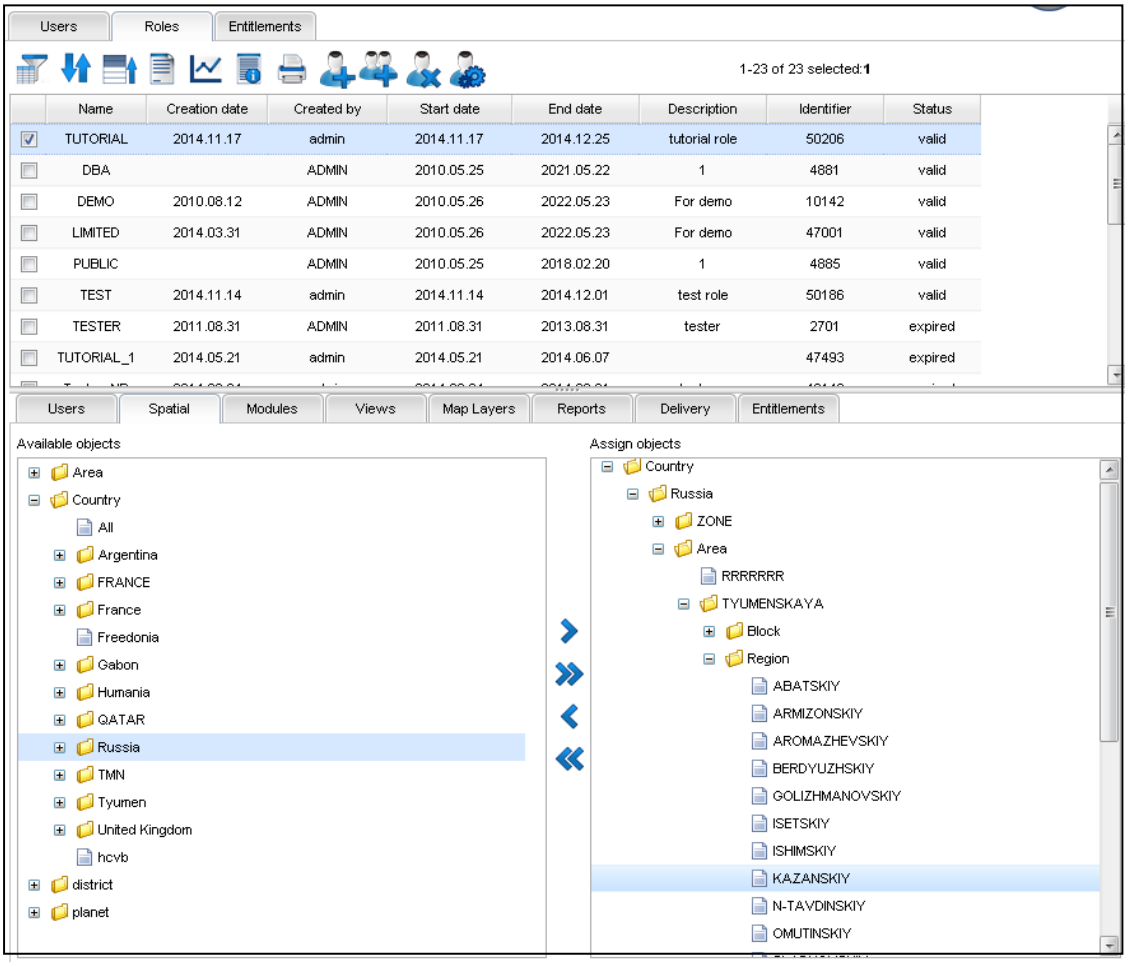
Note: A role cannot be deleted until there is at least one user with this role.

You will learn how to provide and cancel roles from the user in this chapter below.

Spatial privileges assignment for role

To provide access to the role of spatial objects, select the role in the Roles list and click on the ***Select Objects*** tab. The tab includes two hierarchical lists: one with all the available objects and the second with the designated spatial objects. Initially, the second list is empty. Use the buttons to form the right list. When you are finished, click on the ***Apply*** button.

In the figure below, the *TUTORIAL* role was given access to objects in the area of Russia.



Object selection for the role

The modules privileges assignment for role

As you know, PetroVision has 5 modules, which you can access: **Data Browser, MAP MODULE, DELIVERY MODULE, Reference** and **User Management**.

For each module, to which the user has access, you can define a set of actions that a user can perform when working with a module or section within the module. PetroVision has five types of actions:

• **View** - allows user to click on the ***View*** button on the toolbar in the data table.

• **Pick to Cart** - allows user to click on the ***Pick to Cart*** button on the toolbar in the data table.

• **Configuration** - allows user to change and save the settings of some modules.

• **Reading** - this is the minimum required basic action. Allows user to see the information in the data table.

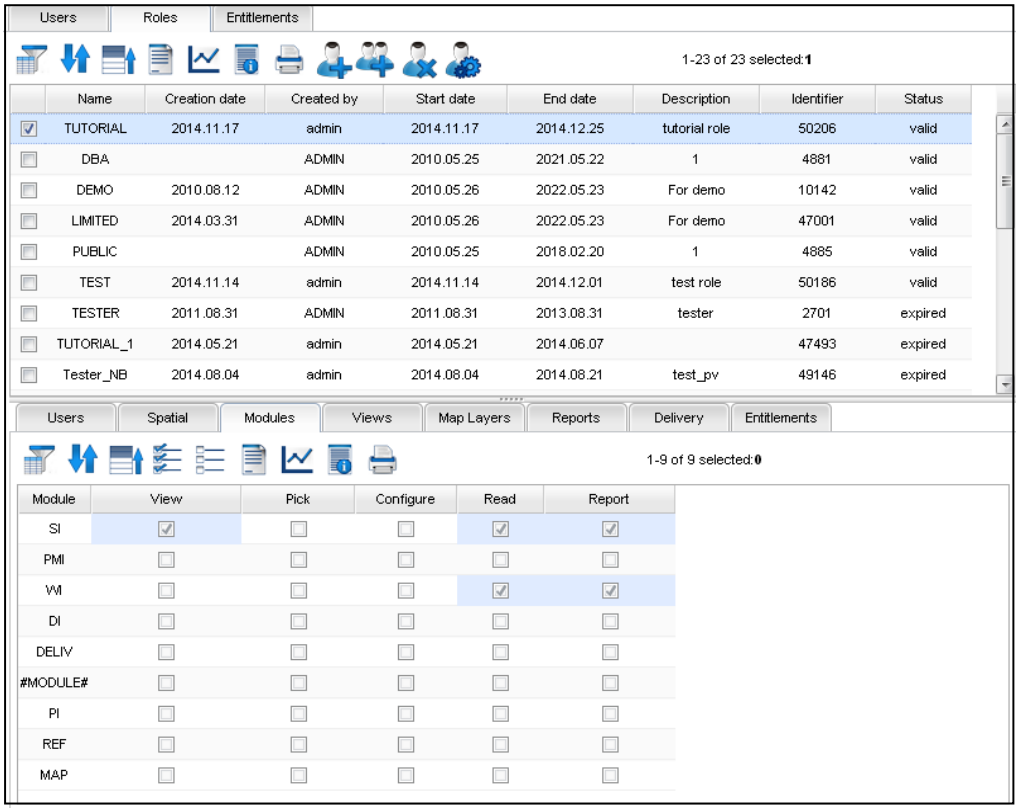
• **Report** - allows user to click on the ***Report*** button on the toolbar in the data table.

To access the module, select the role in the Roles list and click the ***Modules*** tab. It contains a table where each row corresponds to one module (given the abbreviated internal name, see below), and the columns of the table represent actions. To enable the module, you need to click in the appropriate cell of the table. The **Search Data** Module has common section with the **Data Browser**, so all privileges associated with the **Data Browser** sections, automatically assigned to the **Search Data**.

Table 1 Modules

Short name	Full name of the module and section in Data Browser
PMI	“User Management” module
MAP	“Map” module
DELIV	“Delivery” module
SI	Seismic section of “Data Browser” module
WI	Well section of “Data Browser” module
DI	Documentation section of “Data Browser” module
PI	Projects section of “Data Browser” module
REF	“Reference” module

The *TUTORIAL* role was given access to the *Seismic* (SI) and *Well* (WI) sections in the Data Browser (see figure below). Other modules are not available for this role.



Access to modules

Note. Not all actions are acceptable for each module. See Table 2 Access to modules

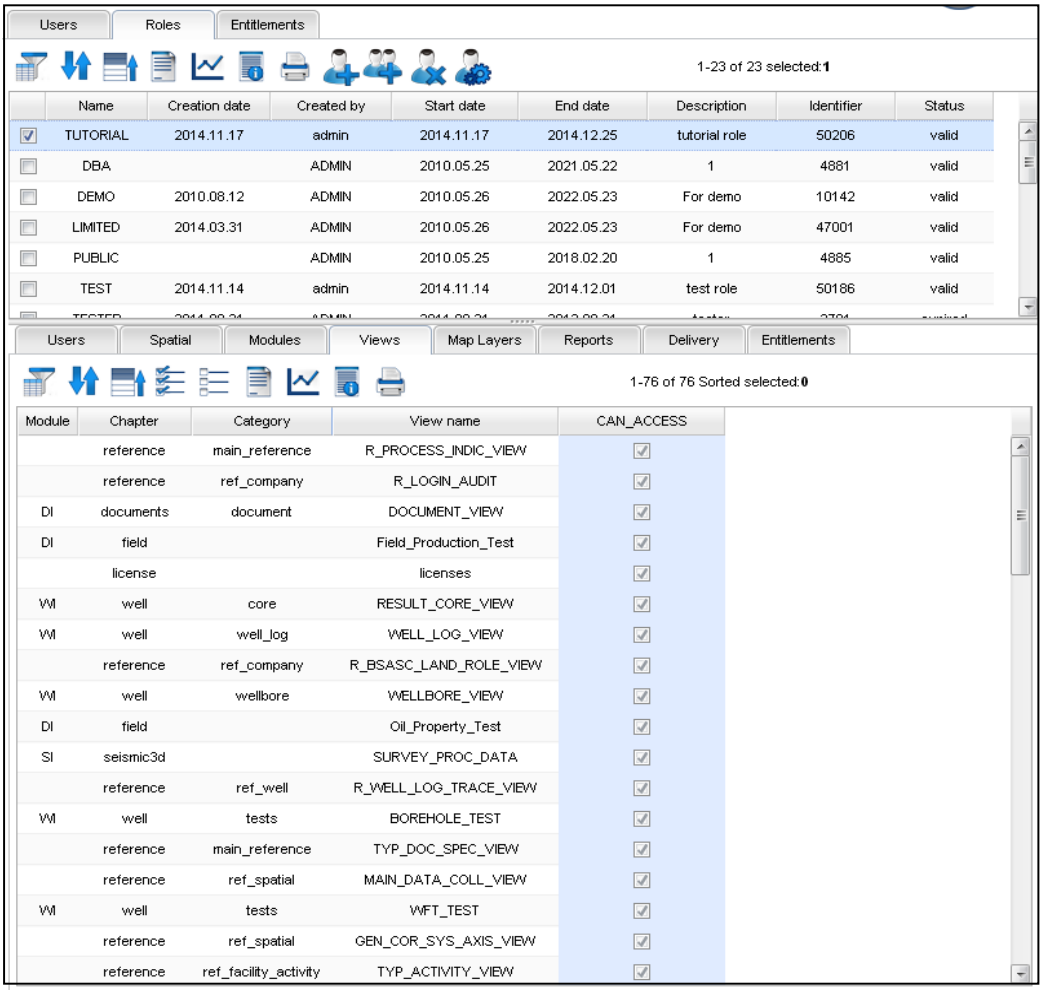
Table 2 Access to modules

	Short name	Read	Report	View	Put to cart	Set
"User Management" module	PMI		N/A	N/A	N/A	N/A
"Map" module	MAP					
"Delivery" module	DELIV				N/A	
Data Browser / Seismic	SI					N/A
Data Browser / Well	WI					N/A
Data Browser / Documents	DI					N/A
Data Browser / Projects	PI					N/A
"Reference" module	REF			N/A	N/A	N/A

View privileges assignment for role

To provide role access to the view, select the role in the Roles list and click on the ***Views*** tab. The tab is presented in tabular form, which is indicating available views with respect to the modules assigned to the role. This list is taken from the *UTILS.R_DDQ_VIEWS* table. To access the view, click on the *Access* column. To assign all views, click on the right mouse button in the *Access* column header and select the *Select all* in the pop-up menu.

In the figure below, the role *TUTORIAL* is granted access to all tables and views.

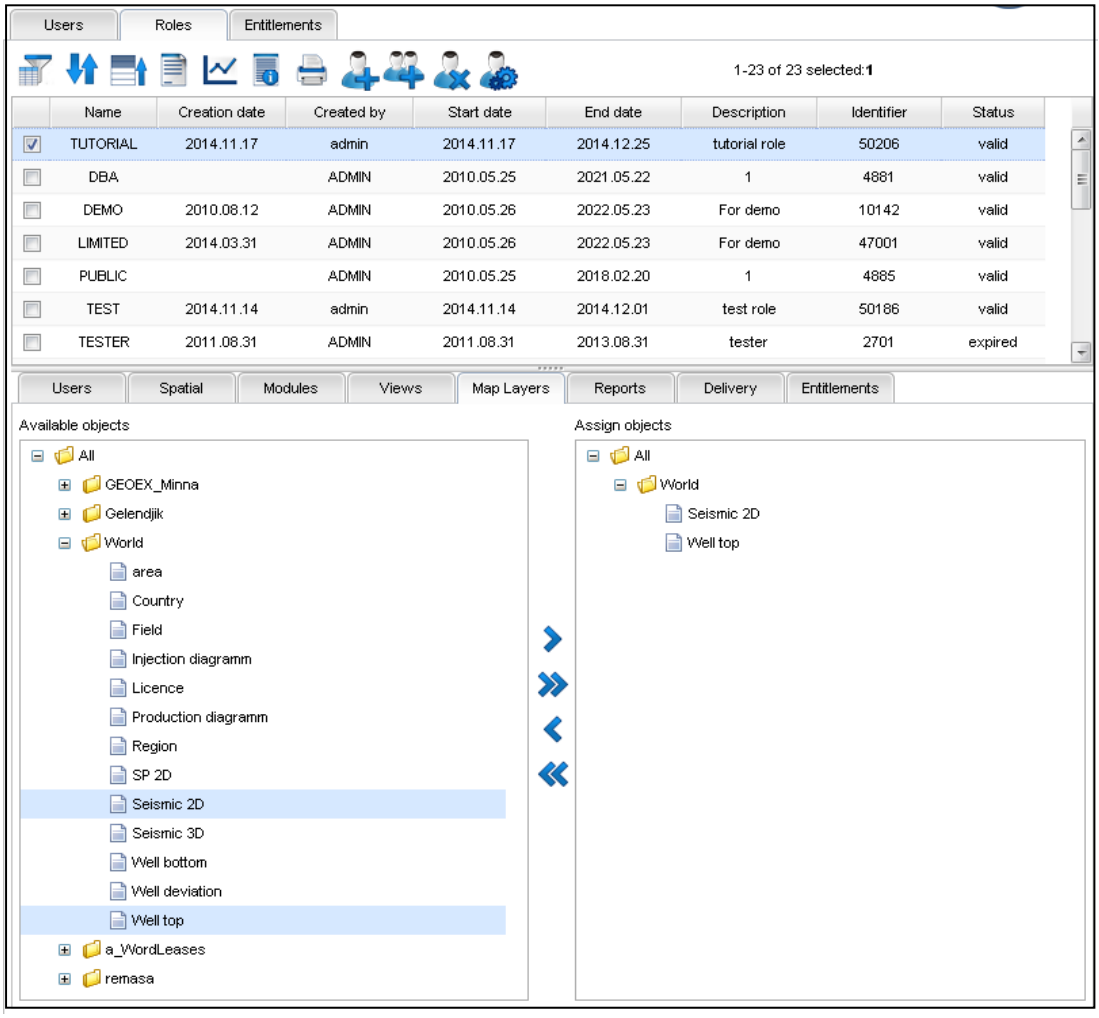


Access to views

Map layers privileges assignment for role

To provide role access to the map and all or several of its layers, select the role in the Roles list and click on the ***Map Layers*** tab. The tab includes two hierarchical lists: one with available maps and their layers and the second with the designated maps and layers. Initially, the second list is empty. Use the buttons to form the second list.

In the figure below, the *TUTORIAL* role is granted access to two layers: *Seismic 2D* and *Well top* of the *World* map.

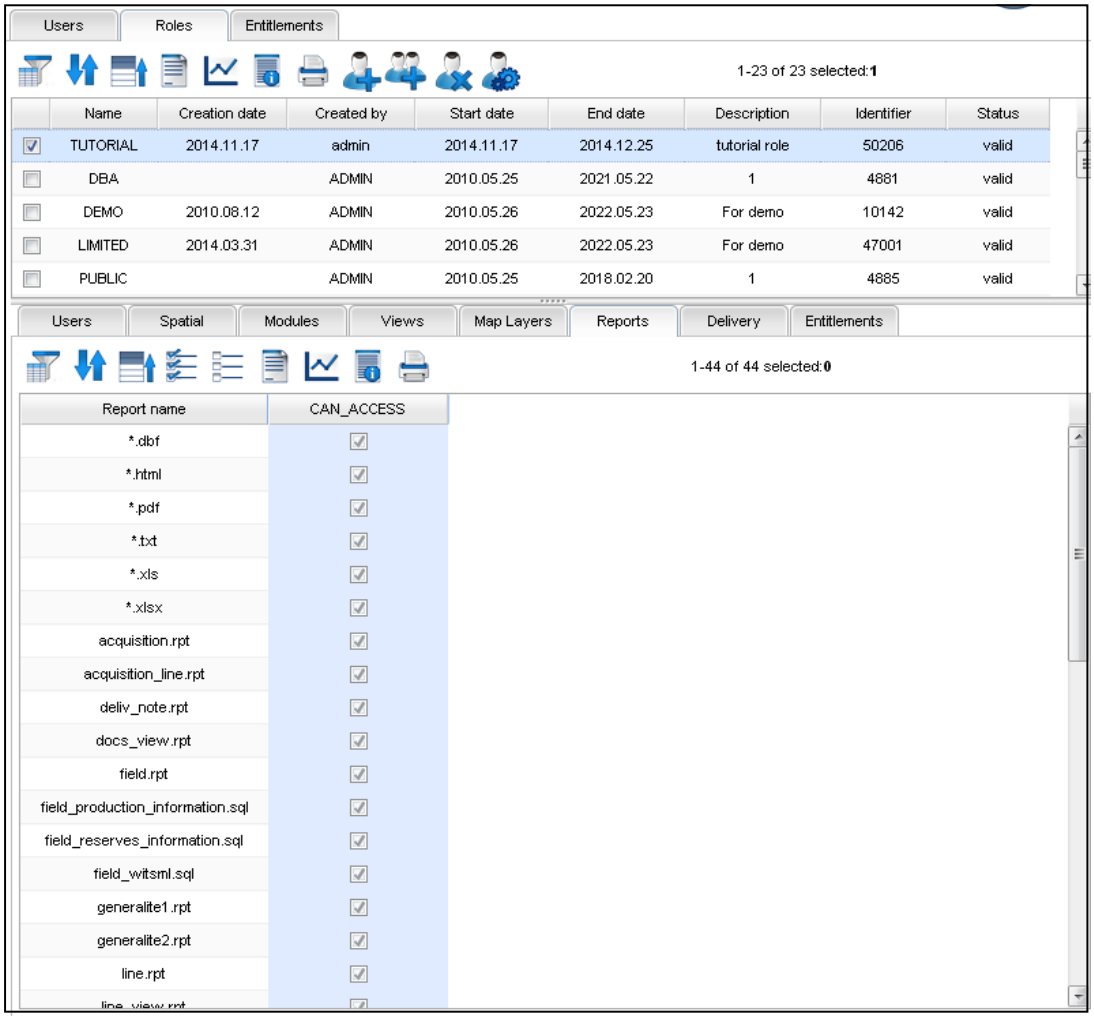


Access to map layers

Reports privileges assignment for role

To provide role access to the reports, select the role in the Roles list and click on the ***Reports*** tab. The tab is presented in the form of available reports list. To access the report, click on the *Access* column. To assign all reports, click on the right mouse button in the *Access* column header and select the *Select all* in the pop-up menu.

In the figure below, the *TUTORIAL* role is granted access to all tables and views.

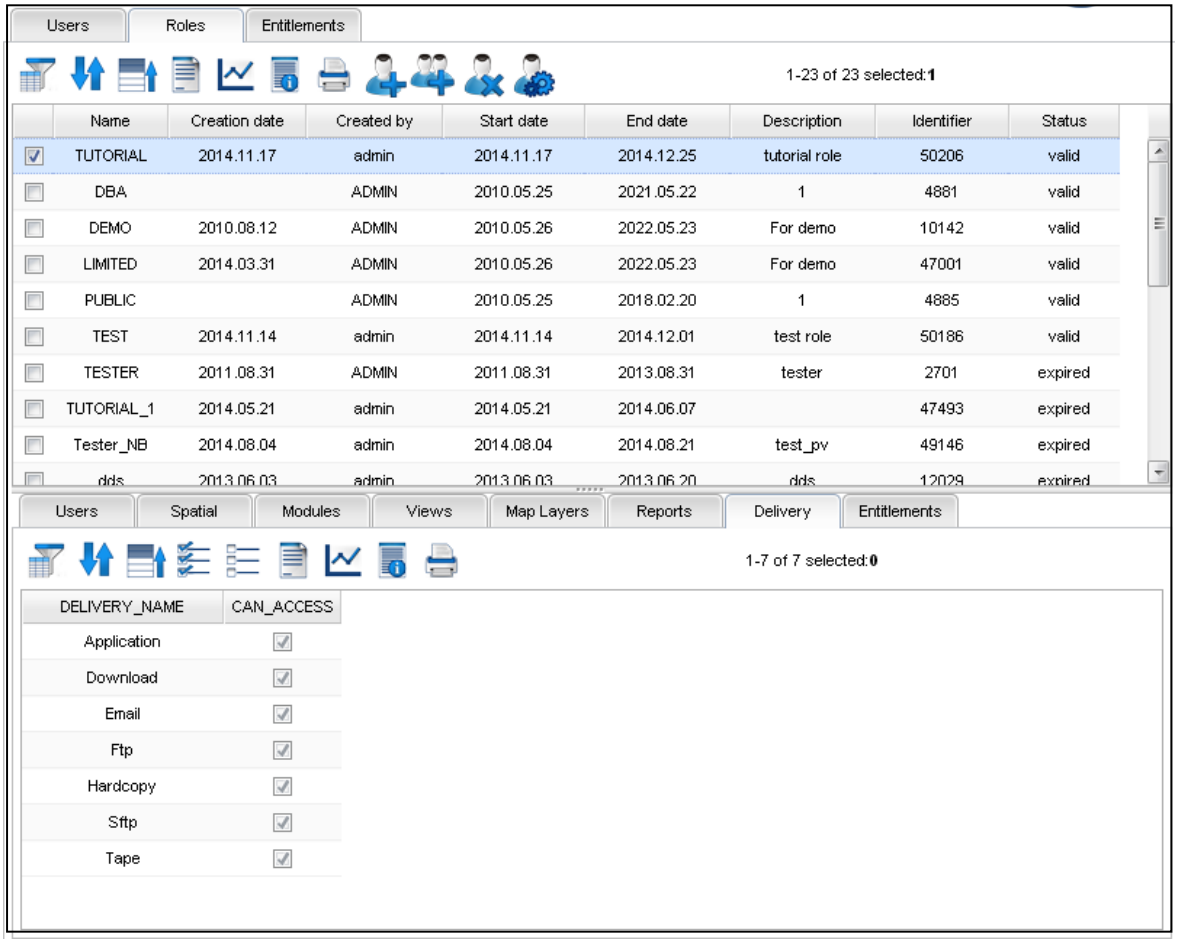


Access to reports

Delivery module privileges assignment for role

To provide role access to the delivery methods, select the role in the Roles list and click on the ***Delivery module*** tab. The tab is presented in the form of available delivery methods list. To access the delivery methods, click on the *Access* column. To assign all delivery methods, click on the right mouse button in the *Access* column header and select the *Select all* in the pop-up menu.

In the figure below, the *TUTORIAL* role is granted access to all delivery methods.

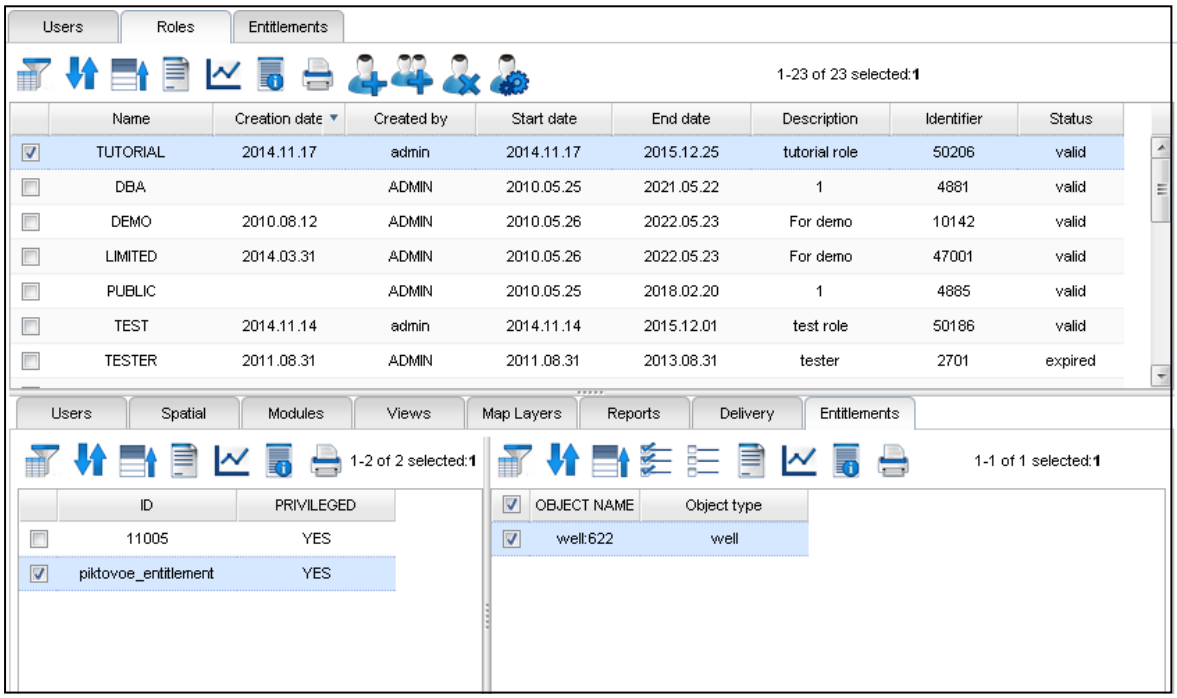


Access to delivery methods

Access right privileges assignment for role

To provide role to the access right, select the role in the Roles list and click on the ***Access right*** tab. The tab is presented in the form of list. Click on one of the values in the list and the window with objects for current access rights will appear in the right side. Select the objects to access.

In the figure below, the *TUTORIAL* role is granted access to all access right objects of *piktovoe_entitlement*.

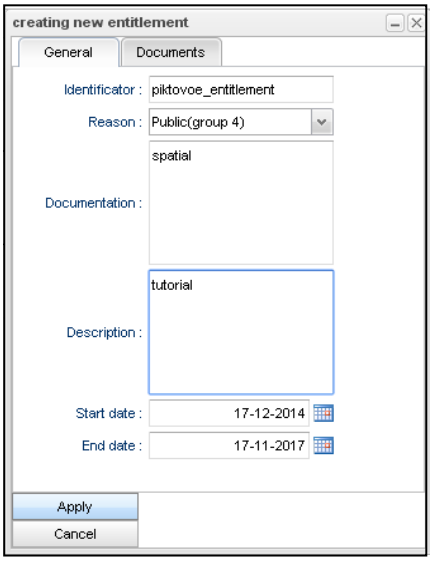


Access rights

7.2.2 Access rights management

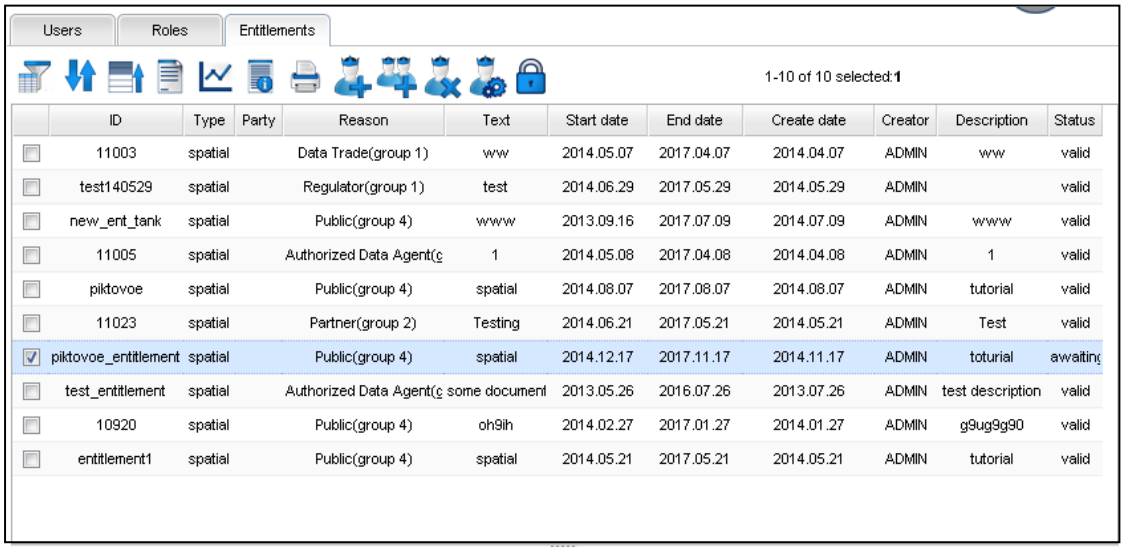
Access right creation

To create access right move to the ***Access right*** tab and click on the ***Add access right*** button on the toolbar. In the appeared window enter the name for the new access rights, period of validity and description. For example, we create the *piktovoe_entitlement* access right, which will be valid from 21-06-2014 to 21-05-2017. Click ***Apply*** in the end.



Access right creation

After this PetroVision creates the access right and we can see it in the list of access rights.



	ID	Type	Party	Reason	Text	Start date	End date	Create date	Creator	Description	Status
☐	11003	spatial		Data Trade(group 1)	ww	2014.05.07	2017.04.07	2014.04.07	ADMIN	ww	valid
☐	test140529	spatial		Regulator(group 1)	test	2014.06.29	2017.05.29	2014.05.29	ADMIN		valid
☐	new_ent_tank	spatial		Public(group 4)	www	2013.09.16	2017.07.09	2014.07.09	ADMIN	www	valid
☐	11005	spatial		Authorized Data Agent(g	1	2014.05.08	2017.04.08	2014.04.08	ADMIN	1	valid
☐	piktovoe	spatial		Public(group 4)	spatial	2014.08.07	2017.08.07	2014.08.07	ADMIN	tutorial	valid
☐	11023	spatial		Partner(group 2)	Testing	2014.06.21	2017.05.21	2014.05.21	ADMIN	Test	valid
☑	piktovoe_entitlement	spatial		Public(group 4)	spatial	2014.12.17	2017.11.17	2014.11.17	ADMIN	toturial	awaiting
☐	test_entitlement	spatial		Authorized Data Agent(g	some document	2013.05.26	2016.07.26	2013.07.26	ADMIN	test description	valid
☐	10920	spatial		Public(group 4)	oh9ih	2014.02.27	2017.01.27	2014.01.27	ADMIN	g9ug9g90	valid
☐	entitlement1	spatial		Public(group 4)	spatial	2014.05.21	2017.05.21	2014.05.21	ADMIN	tutorial	valid

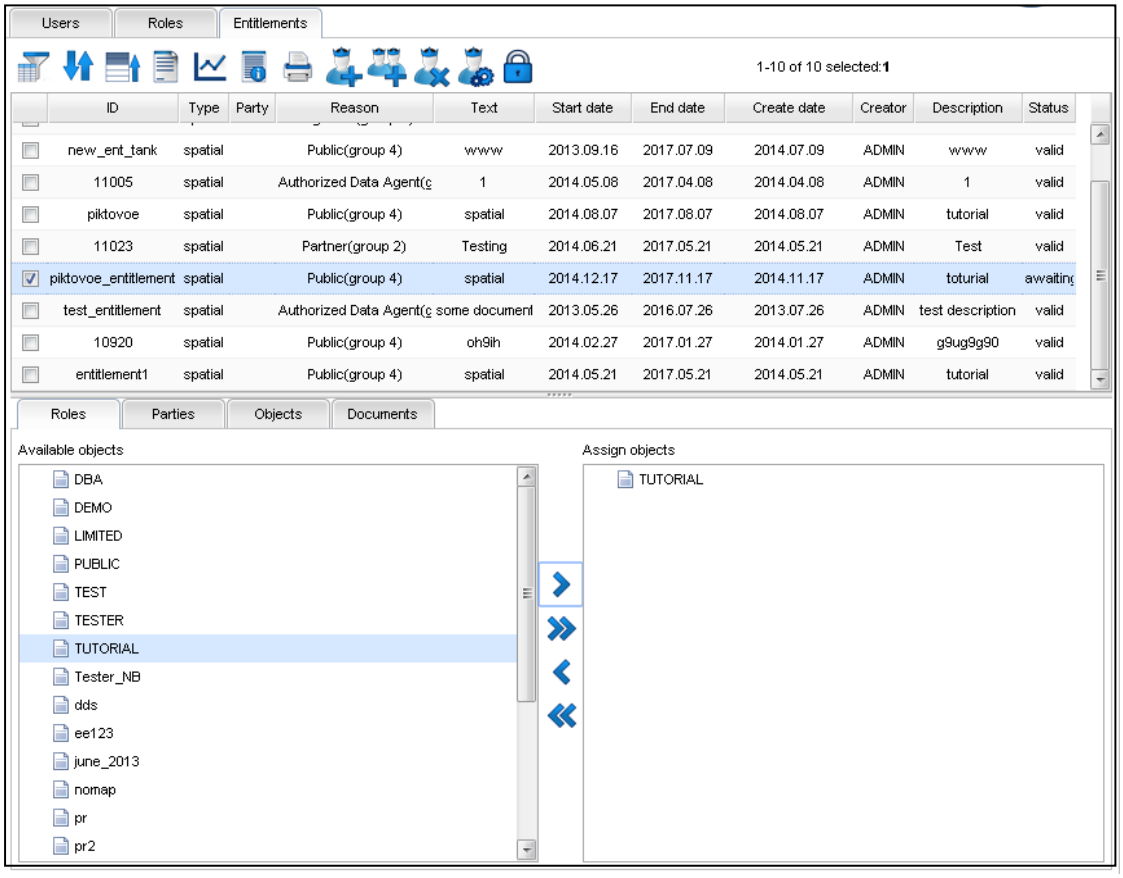
Access rights list

In the future, the period of validity and description of access rights can be changed. Use the ***Edit access rights*** button to change the information. To remove access right, use the ***Delete access right*** button.

Role assignment for access rights

To assign the role for the access right, select the access right in the list and click on the ***Role*** tab. The tab includes two hierarchical lists: one with available roles and the second with the designated roles. Initially, the second list is empty. Use the buttons to form the right list. Click ***Apply*** in the end.

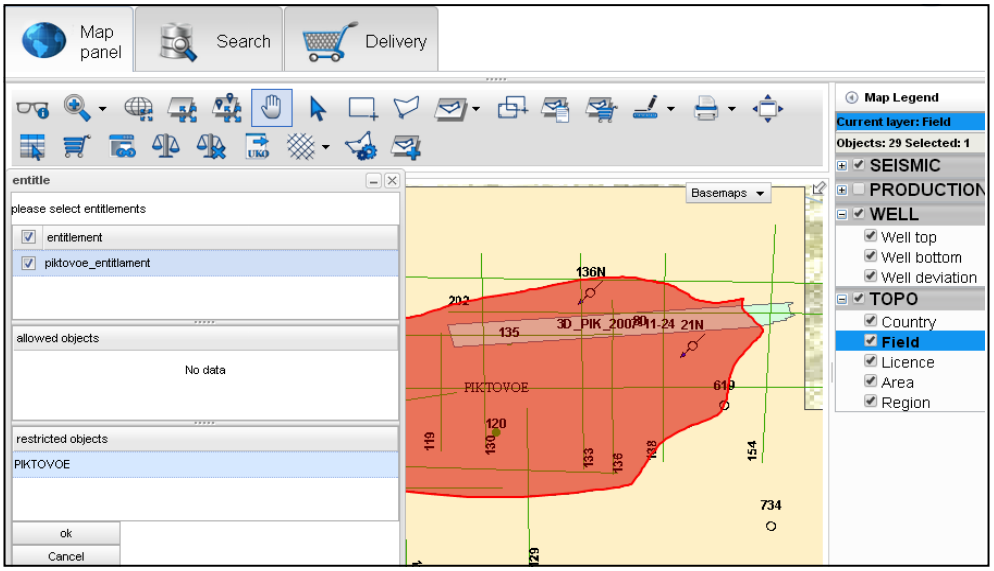
In the figure below, the *piktovoee_entitlement* access right is assigned the *TUTORIAL* role (created previously).



Role for access right

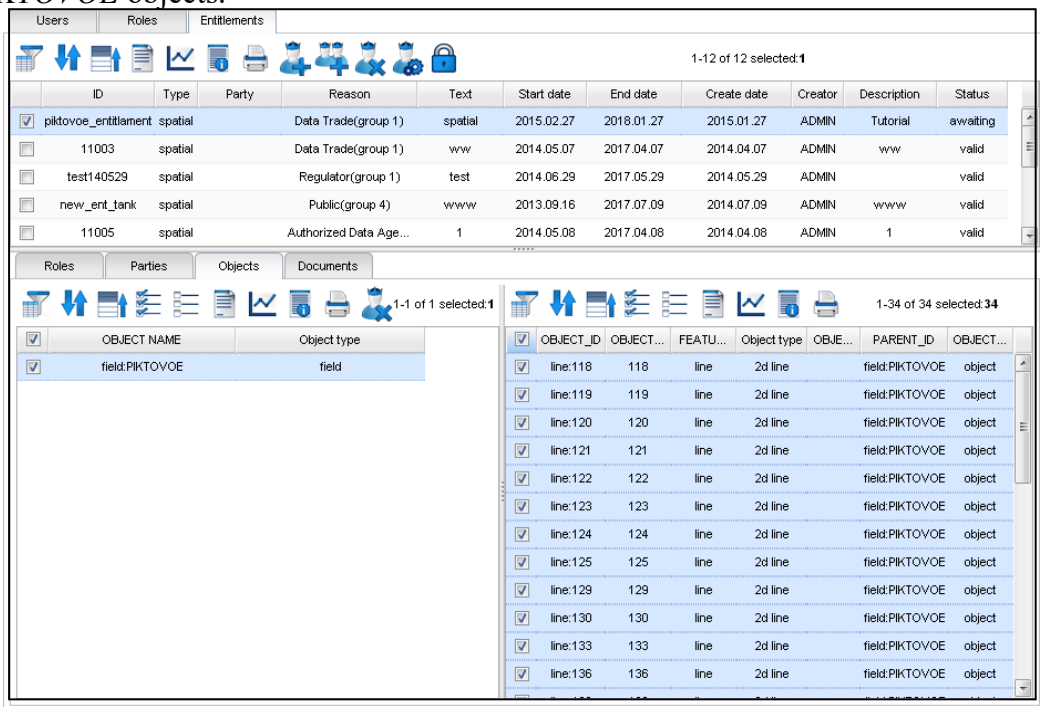
Object assignment for access rights

To assign the objects, select the access right in the list and click on the ***Object*** tab. The tab is presented in the form of list. Click on one of the values in the list and the window with objects for current access rights will appear in the right side. Select the objects to access. The objects are defined in the **MAP MODULE** by using the ***Entitle*** button .



Select the objects to access

In the figure below, the *piktovoe_entitlement* access right is granted access to all *field:PIKTOVOE* objects.

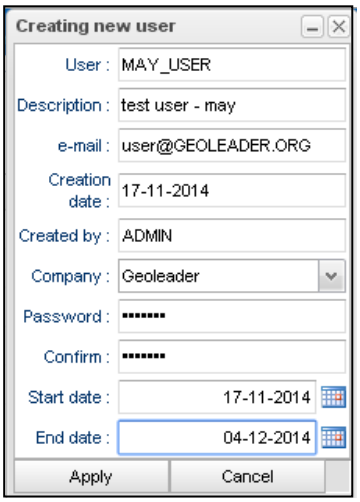


Objects for access right

7.2.3 User Management

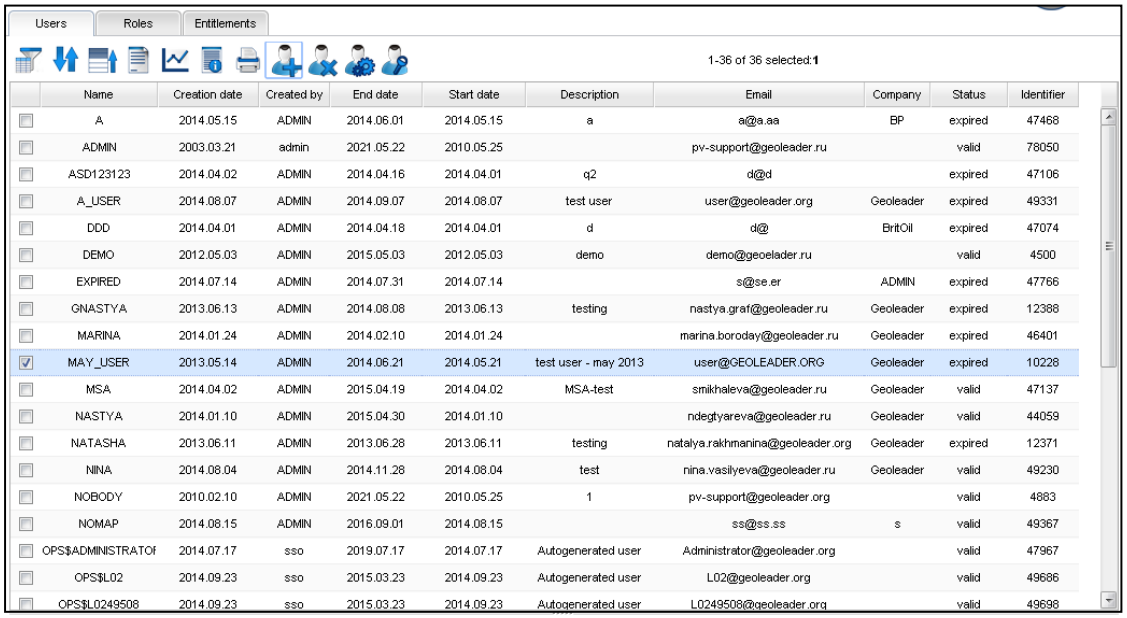
New user creation

To create a new user, go to the ***User*** tab on the toolbar, click the ***New User*** button. In the appeared window, enter the name, password, e-mail expiration date and a brief description of new user. For example, we create the *MAY_USER* user, which will be valid for the period from 21-05-2014 to 21-06-2014. When you are finished, click ***Apply***.



New user creation

After this PetroVision creates a new user and you can see it in the list of users.



Name	Creation date	Created by	End date	Start date	Description	Email	Company	Status	Identifier
A	2014.05.15	ADMIN	2014.06.01	2014.05.15	a	a@a.aa	BP	expired	47468
ADMIN	2003.03.21	admin	2021.05.22	2010.05.25		pv-support@geoleader.ru		valid	78050
ASD123123	2014.04.02	ADMIN	2014.04.16	2014.04.01	q2	d@d		expired	47106
A_USER	2014.08.07	ADMIN	2014.09.07	2014.08.07	test user	user@geoleader.org	Geoleader	expired	49331
DDD	2014.04.01	ADMIN	2014.04.18	2014.04.01	d	d@	BritOil	expired	47074
DEMO	2012.05.03	ADMIN	2015.05.03	2012.05.03	demo	demo@geoelader.ru		valid	4500
EXPIRED	2014.07.14	ADMIN	2014.07.31	2014.07.14		s@se.er	ADMIN	expired	47766
GNASTYA	2013.06.13	ADMIN	2014.08.08	2013.06.13	testing	nastya.graf@geoleader.ru	Geoleader	expired	12388
MARINA	2014.01.24	ADMIN	2014.02.10	2014.01.24		marina.boroday@geoleader.ru	Geoleader	expired	46401
MAY_USER	2013.05.14	ADMIN	2014.06.21	2014.05.21	test user - may 2013	user@GEOLEADER.ORG	Geoleader	expired	10228
MSA	2014.04.02	ADMIN	2015.04.19	2014.04.02	MSA-test	smikhaleva@geoleader.ru	Geoleader	valid	47137
NASTYA	2014.01.10	ADMIN	2015.04.30	2014.01.10		ndegtyareva@geoleader.ru	Geoleader	valid	44059
NATASHA	2013.06.11	ADMIN	2013.06.28	2013.06.11	testing	natalya.rakhmanina@geoleader.org	Geoleader	expired	12371
NINA	2014.08.04	ADMIN	2014.11.28	2014.08.04	test	nina.vasilyeva@geoleader.ru	Geoleader	valid	49230
NOBODY	2010.02.10	ADMIN	2021.05.22	2010.05.25	1	pv-support@geoleader.org		valid	4883
NOMAP	2014.08.15	ADMIN	2016.09.01	2014.08.15		ss@ss.ss	s	valid	49367
OPS$ADMINISTRATOI	2014.07.17	sso	2019.07.17	2014.07.17	Autogenerated user	Administrator@geoleader.org		valid	47967
OPS$L02	2014.09.23	sso	2015.03.23	2014.09.23	Autogenerated user	L02@geoleader.org		valid	49686
OPS$L0249508	2014.09.23	sso	2015.03.23	2014.09.23	Autogenerated user	L0249508@geoleader.org		valid	49698

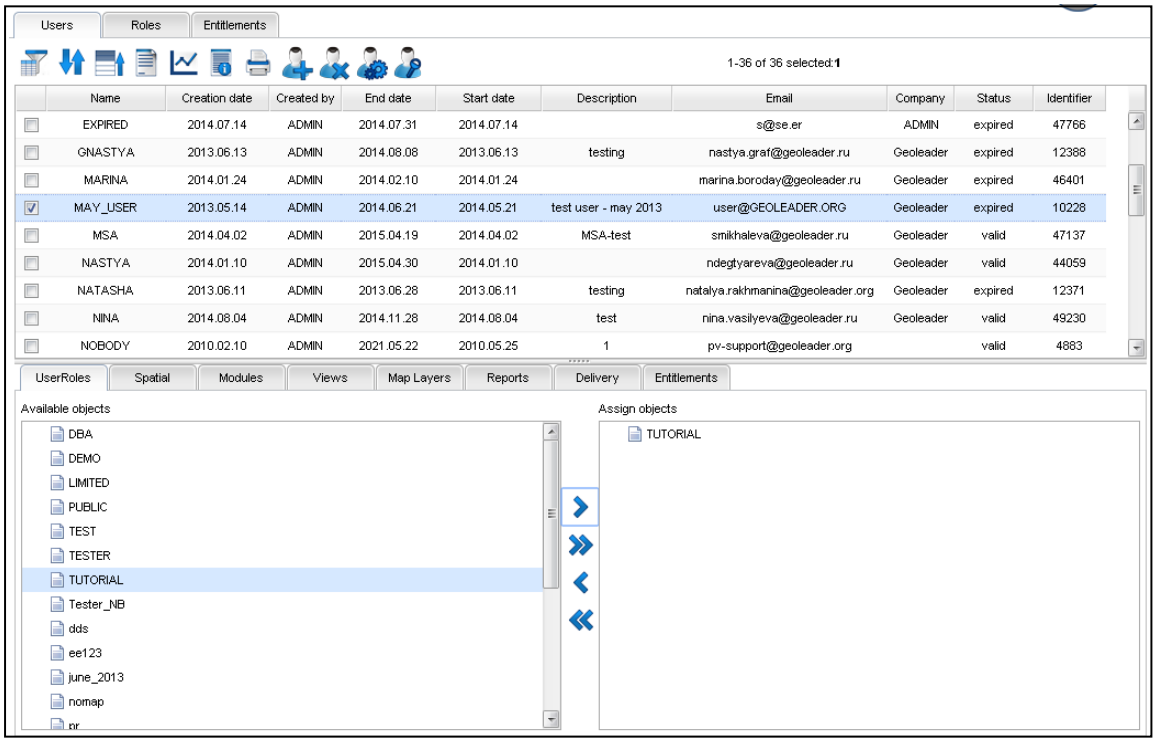
List of users

In future the expiration date, description of the user, e-mail, company and password can be changed. Use the ***Edit properties*** button to change the information. To remove user, use the ***Delete User*** button. To change the password, use the ***Change Password*** button.

User Role assignment

To assign a role, you should select the user in the list and go to the ***Roles*** tab. The tab includes two hierarchical lists: one with all available roles and the other with the assigned roles. Initially, the second list is empty. Use the buttons to form the right list.

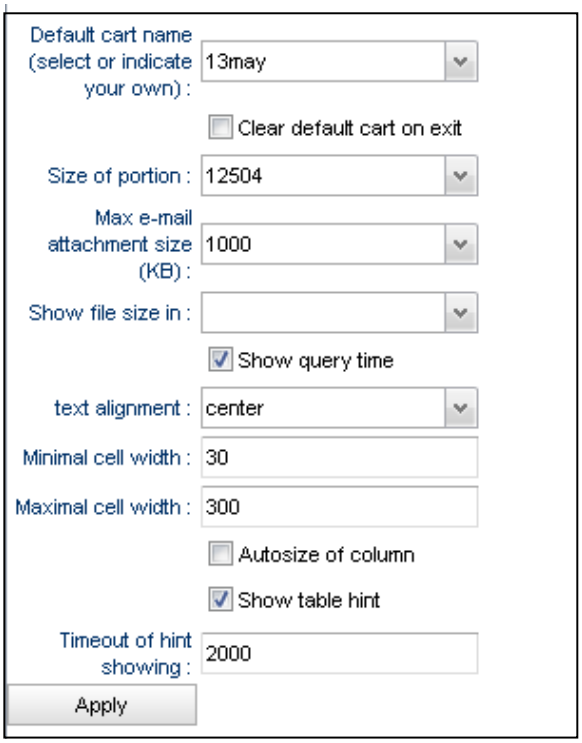
In the figure below, the *MAY_USER* user has been assigned the *TUTORIAL* role that was created earlier.



List of users

7.3 Settings

Each user can change the program settings for his\her own session. Select the *Settings* line in the **Menu**. In this window you can set the cart name, portion sizes to display tables, pop-up tables, etc. Do not forget to click on the ***Apply*** button to save your settings.



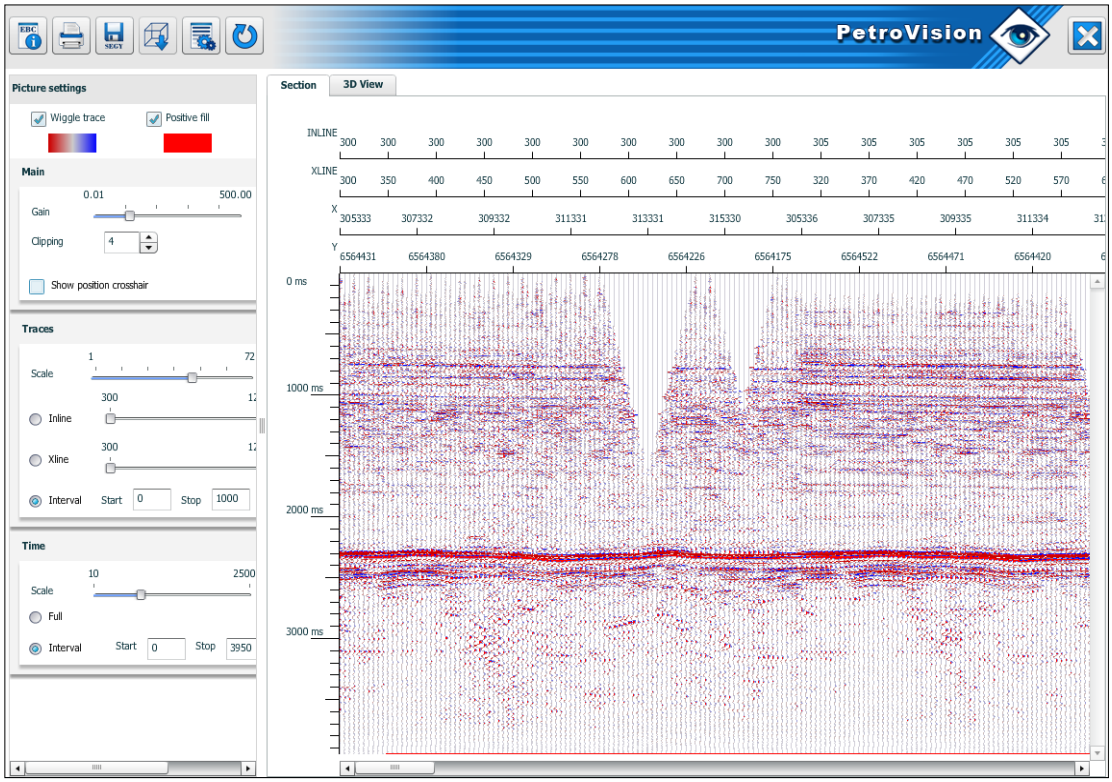
Settings window

8 APPLICATIONS – FILE VIEWER

PetroVision IV software allows you to view file content of various types using relevant viewers.

8.1 SEGY Viewer

The program SEGY Viewer is running to view the SEGY-files. This program allows you to view files interactively changing the scale, color palette, and annotations.



SEGY viewer

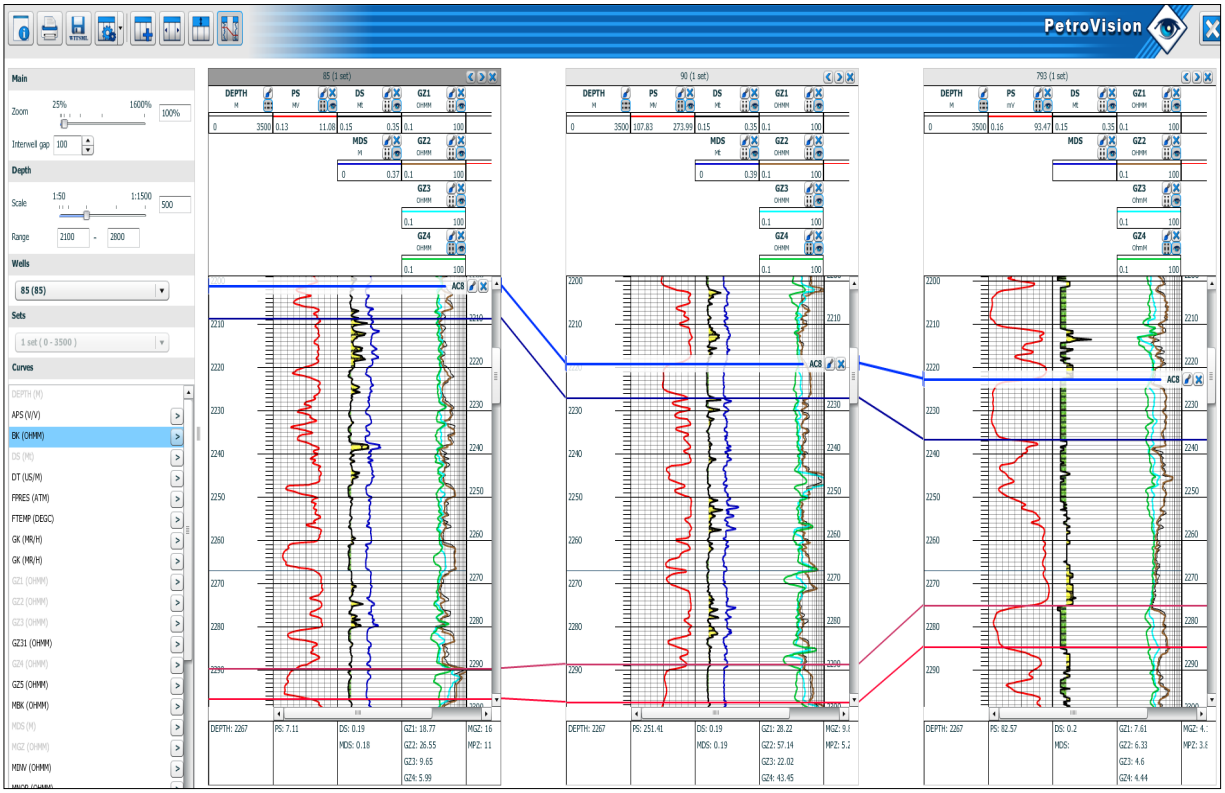
We can change the scale by time and traces; view the header by clicking on the ***Header*** button and save SEGY-file. You can also change the colors in the image settings and save this color scheme instead of the *default* one. Later you can select your own color scheme while viewing the SEGY-files.

Important! Always press the ***Close X*** button after task completion.

8.2 Log Viewer

The program is designed to illustrate data of geophysical research results, presented in the following formats: LAS, LIS, DLIS.

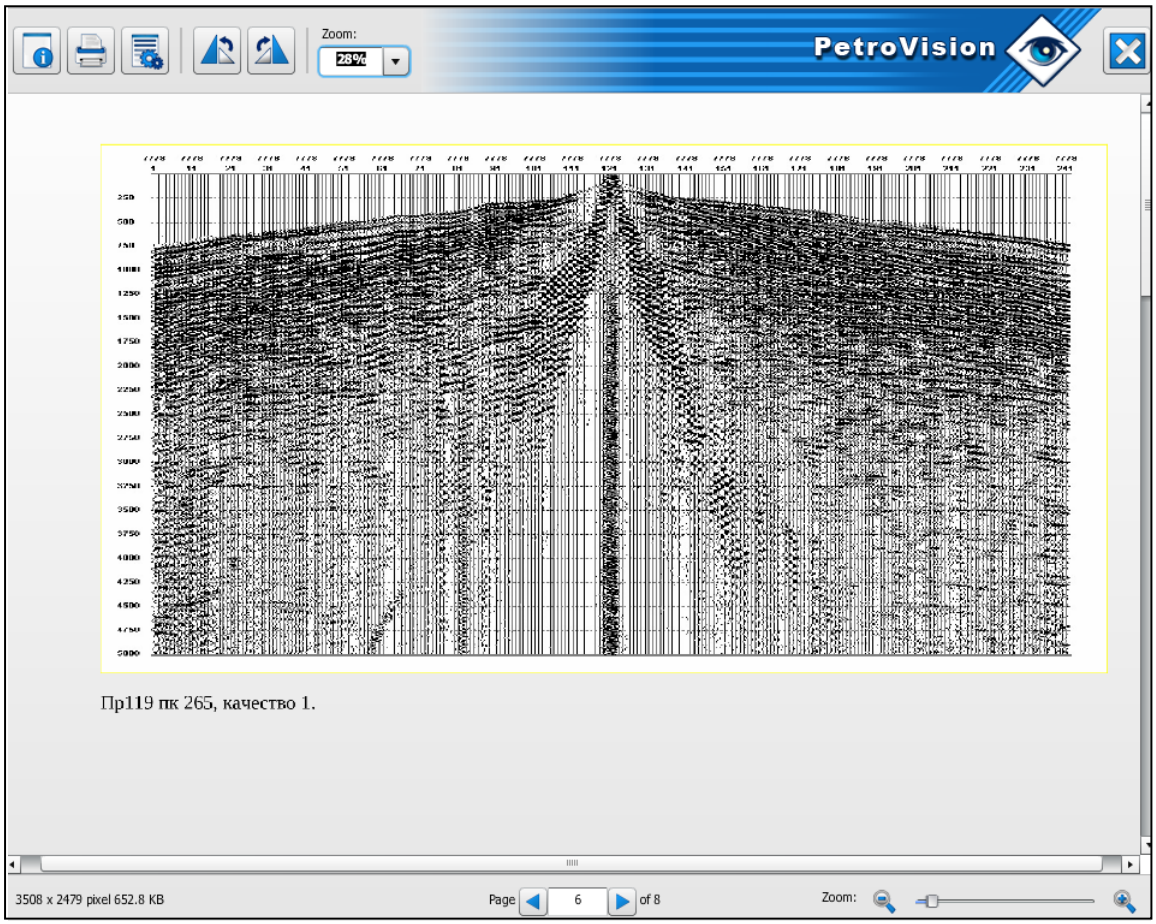
Program to view well logging allows you to select one, several, or all of the curves that are stored in the selected file and display them. Then you can perform various manipulations with selected curves, e.g. change the size and the color of curves, add vertical and horizontal grid. You can paint the tracks as you wish using the buttons and save the scheme for further use.



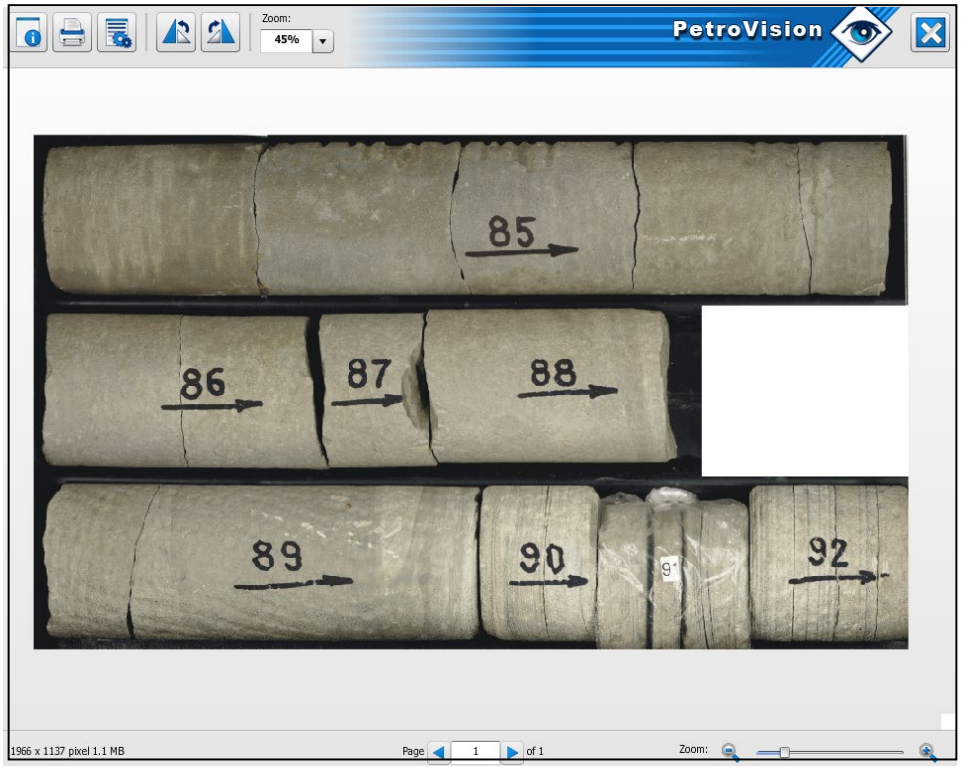
LAS viewer

8.3 Image Viewer

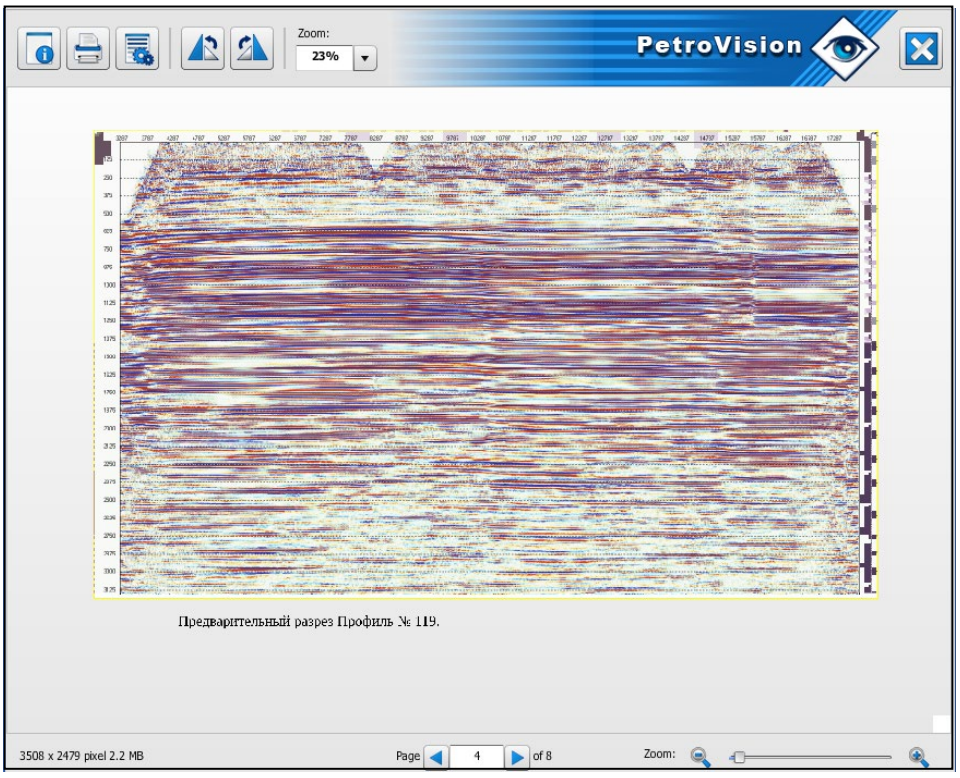
The Image Viewer program is designed for viewing files in various formats such as PDF, TIFF, DOC, ASCII, GIF, JPEG, etc.



PDF viewer



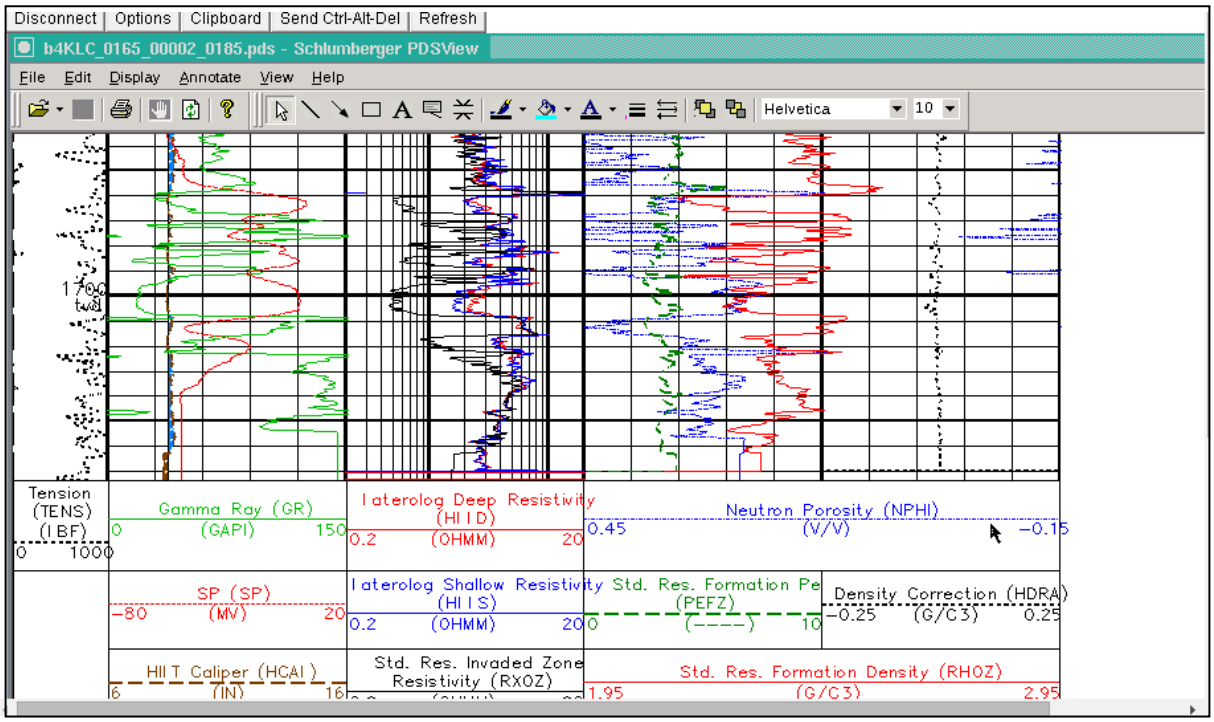
TIFF viewer



DOC viewer

8.4 VNC Viewer

"VNC Viwer" displays proprietary formats: CGM, DWG, PPS, etc. using available viewers or with commercial software purchased by contractor.



CGM viewer

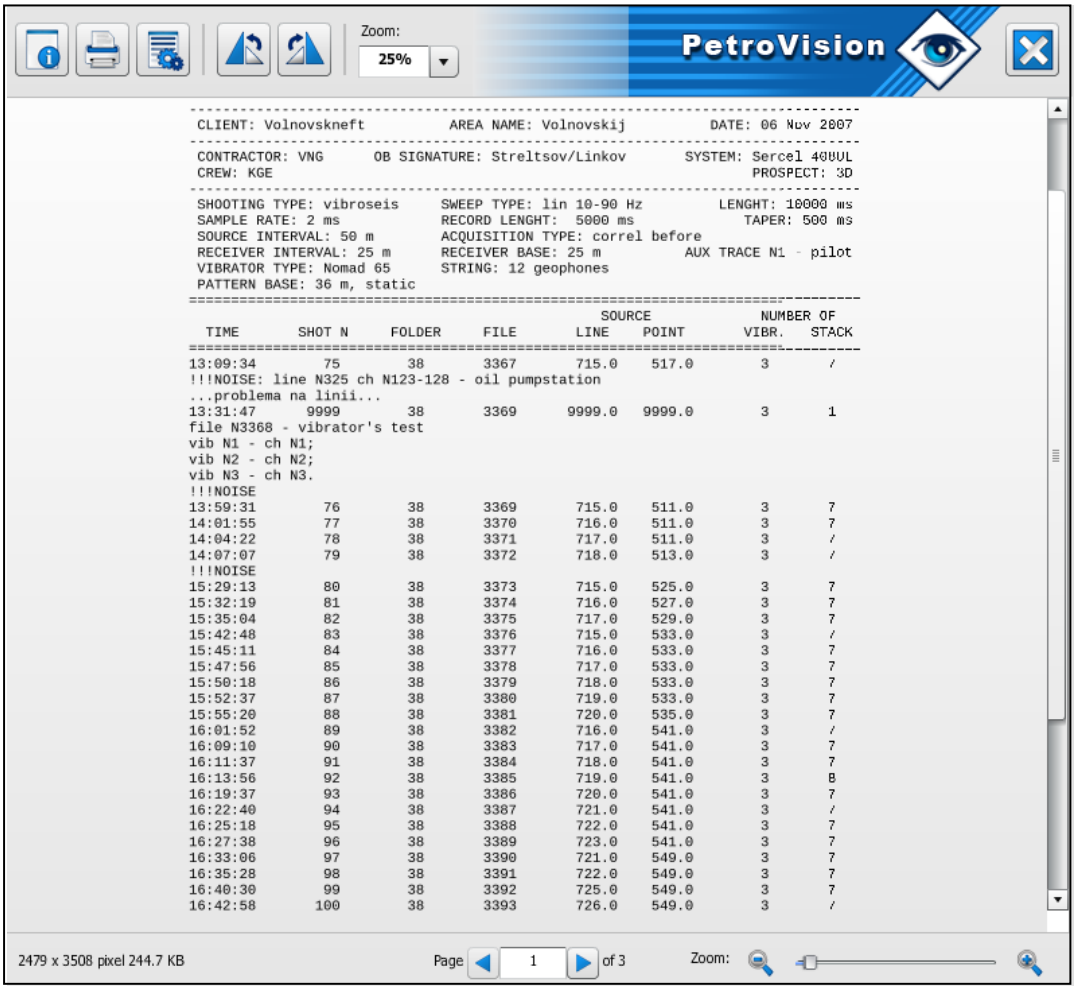
8.6 Video Viewer

You can also view video files of different formats eg. SWF, FLV and etc. in Petrovision IV.

SWF viewer

8.6 View of archive files and directories

View of file directories and archive files, ZIP, TGZ, RAR formats, etc.



View of archive files