

BLOCK 16

DROHOBYTSKA LICENSE

LOCATION

Drohobytzka block has an area of 140.9 km<sup>2</sup> and is located in Mostyska, Sambir and Drohobych districts of Lviv region between the settlements of Stare Selo, Bolechivtsi, Nezhukhiv, Zaluzhany.

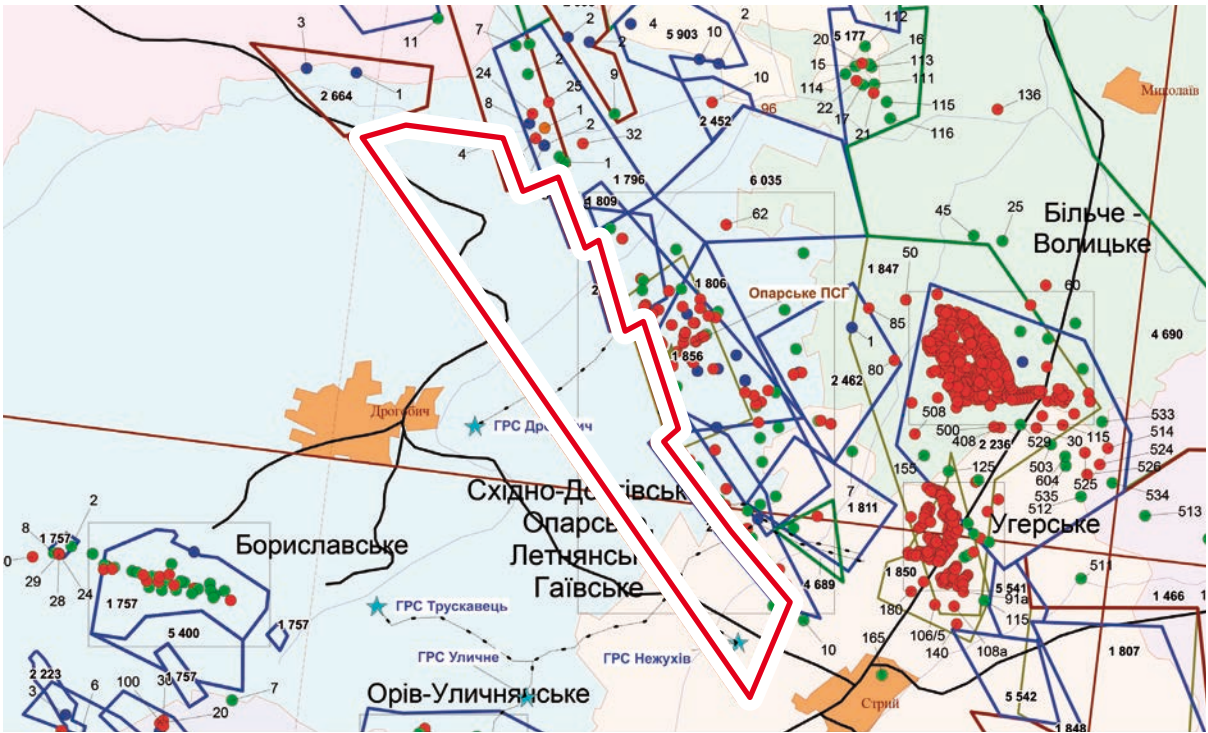
CONCESSION TYPE

Combined license for geological exploration with pilot and commercial development, and production of hydrocarbons. Duration - 20 years.

DEPOSITS DISCOVERED IN THE AREA

Oparske gas, Haivske gas condensate, Hrushivske gas condensate, Letnianske gas condensate and East-Dovhivske gas fields.

Map of Drohobytska block



MAP SYMBOLS

| Point Number | USK 2000, E |      |       | USK 2000, N |      |       | SK-42, E |      |       | SK-42, N |      |       |
|--------------|-------------|------|-------|-------------|------|-------|----------|------|-------|----------|------|-------|
|              | deg.        | min. | sec.  | deg.        | min. | sec.  | deg.     | min. | sec.  | deg.     | min. | sec.  |
| 1            | 23          | 28   | 60.00 | 49          | 28   | 0.00  | 23       | 29   | 6.34  | 49       | 28   | 1.07  |
| 2            | 23          | 30   | 37.00 | 49          | 28   | 27.00 | 23       | 30   | 43.34 | 49       | 28   | 28.07 |
| 3            | 23          | 34   | 24.00 | 49          | 28   | 26.00 | 23       | 34   | 30.34 | 49       | 28   | 27.06 |
| 4            | 23          | 35   | 25.00 | 49          | 27   | 10.00 | 23       | 35   | 31.34 | 49       | 27   | 11.06 |
| 5            | 23          | 36   | 42.00 | 49          | 27   | 38.00 | 23       | 36   | 48.34 | 49       | 27   | 39.06 |
| 6            | 23          | 38   | 4.00  | 49          | 25   | 57.00 | 23       | 38   | 10.34 | 49       | 25   | 58.06 |
| 7            | 23          | 38   | 33.00 | 49          | 26   | 11.00 | 23       | 38   | 39.34 | 49       | 26   | 12.06 |
| 8            | 23          | 40   | 0.00  | 49          | 23   | 60.00 | 23       | 40   | 6.33  | 49       | 24   | 1.06  |
| 9            | 23          | 40   | 39.00 | 49          | 24   | 18.00 | 23       | 40   | 45.33 | 49       | 24   | 19.06 |
| 10           | 23          | 42   | 30.00 | 49          | 21   | 44.00 | 23       | 42   | 36.32 | 49       | 21   | 45.06 |
| 11           | 23          | 41   | 60.00 | 49          | 21   | 22.00 | 23       | 42   | 6.32  | 49       | 21   | 23.06 |
| 12           | 23          | 45   | 0.00  | 49          | 19   | 20.00 | 23       | 45   | 6.32  | 49       | 19   | 21.06 |
| 13           | 23          | 47   | 35.00 | 49          | 17   | 45.00 | 23       | 47   | 41.31 | 49       | 17   | 46.06 |
| 14           | 23          | 46   | 30.00 | 49          | 15   | 15.00 | 23       | 46   | 36.31 | 49       | 15   | 16.06 |

- well
- gas-distribution plant
- gas pipeline
- DROHOBYTSKA BLOCK

## GEOLOGICAL CHARACTERISTICS

The block is located within the Bilche-Volytska zone of the Pre-Carpathian Foredeep and the Kosiv-Uhersk subzone. The geological structures of the block involve Paleozoic, Mesozoic and Cenozoic sediments. Commercial pools of gas on the deposits in the vicinity associated with the sandy-siltstone rocks of the horizons of the Lower Dashavska Sub-Suite. Reservoir rock in Sarmatian, Carpathian parts of the section are terrigenous sandy siltstone rock.

Experimental data shows that the clay cap rocks on the neighboring Letnyanske deposit, even in the presence of microcracks, can contain gas condensate deposits with reservoir pressure of 2,4-12 MPa. The good sealing properties of the clay cap rocks is due to the presence of clay of minerals, which are capable of swelling and "healing" cracks in the rock.

Interpretation of existing seismic data shows that the northwest part of the block up for auction contains the northeast wing of the Dobrovlyanska structure.

## SURVEY INFORMATION AVAILABLE

### Assessment of hydrocarbon resources (Ukrainian classification)

not estimated.

### Well data

Within Drohobyska block, 11 wells have been drilled. None of these resulting in commercial production. Most of the wells showed gas with water.

### Seismic surveys

Within Drohobyska block 2D seismic has been conducted during 1981-1993 (85/52, 57/89, 52/91 57/91, 57/93).

Seismic surveys

| Year of surveys | Number of lines | Number of linear km | Fold  |
|-----------------|-----------------|---------------------|-------|
| 1985            | 14              | 114,3               | 12-24 |
| 1989            | 16              | 140,258             | 12-24 |
| 1991            | 14              | 166,373             | 12-24 |
| 1993            | 3               | 19,186              | 12    |

## EXPLORATION WORK PROGRAM REQUIREMENTS

Stage I (12 months) - processing and reinterpretation of 2D archival seismic data;

Stage II (12 months) – acquisition of 2D or 3D seismic data on 1/4 of the block's area;

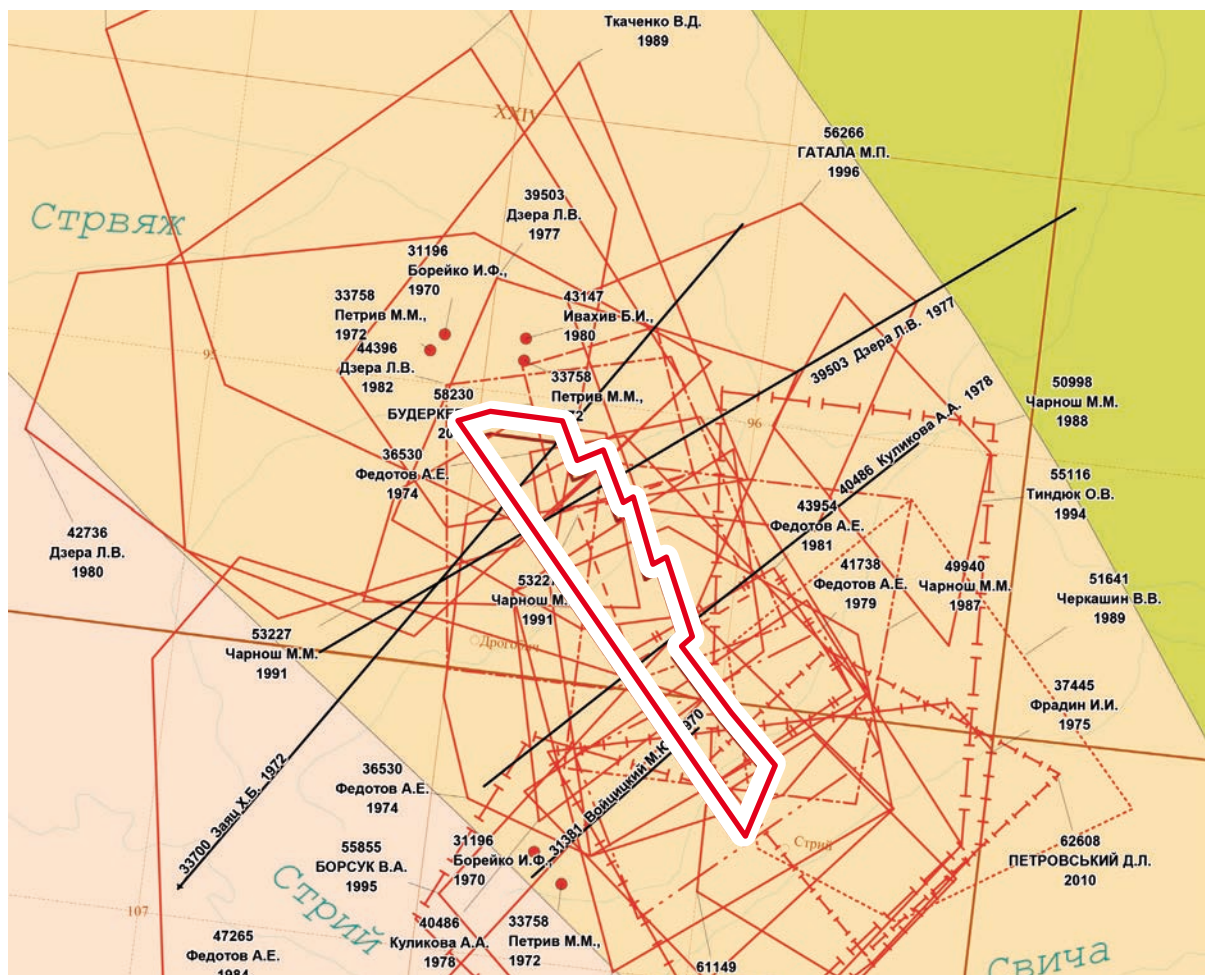
Stage III (24 months) – one productive well drilling.

## REPORTS

The search and preparation of oil and gas prospecting objects in the Bilko-Volytsky zone of the PreCarpathian Foredeep. "Report on the results of the seismic surveys of the common depth point shooting in Turynska (team No.52/89), Khymchinska and Putylska (team No.53/89), Dobrotovsky (team No./89), Grynivska (No.56/89), Tvirzhska and Dobrylyanska (team No.57/89) areas and vertical seismic profiling in deep wells (team No. 60/89), carried out in 1989-1991 by Yanyshyn Y.I., 1991. Report on the results of seismic exploration works on the Dobryansko-Chernivtsi-Kiblyarska area of the Carpathian region carried out in 1993-1995 by the teams 51/93, 52/93, 53/93, 54/93, 56/93, 57/93, 59/93, 60/93. Borsuk V.A., Charnosh M.M. 1995.

## DROHOBYTSKA LICENSE

### Map of geophysical surveys and seismic lines



## MAP SYMBOLS

1:25 000

1:50 000

1:100 000

geophysical survey

survey with no mapping

seismic lines

**51238** report number

**Павлюк В.А.** author of the report

**1988** year of the report

### Data on wells drilled within Drohobyska block

| Name and No. of the well         | Altitude, m | Depression, m (horizon) | Testing result  |
|----------------------------------|-------------|-------------------------|---|
| 1-Dorozhiv                       | 284,2       | 4310 (N1stb)            | -   |
| 1-Roliv                          | 293,5       | 4611(ГA)                | 3734-3513 m (HД-16) reservoir water with clay solution  |
| 13-Hrushiv                       | 268,8       | 2377 (J)                | 2240-2215 m (N1s) gas and water 2005-1980 m (N1s) water   |
| 14-Hrushiv                       | 272,2       | 3882 (N1s)              | 3100-2820 м (N1s) – water   |
| 1-Mykhaylevychi                  | 275,6       | 3050                    | -   |
| 2-East Dovhivska                 | 269,1       | 2054 (N1s HД-13)        | 1863-1896 m (HPД-12) water with the release of combustible gas<br>1914-1950 m (HД-12)<br>Qr – 6,4 ths.m³/d, aerated water; 1945-2000 м (HД-12,13) Qr- 4,08 ths.m³/d; 2016-2024 m (HД-12,13) water |
| 4-East Dovhivska                 | 282,7       | 1950 (N1s)              | 1718-1766 m (HД-13)<br>Qr – 1,3 ths.m³/d,<br>1558-1530 m (HД-12)<br>Qr – 1,76 ths.m³/d, 1456-1453 m (HД-11)<br>Qв – 37,2 m³/d   |
| 6-East Dovhivska                 | 279,0       | 1950 (N1s)              | 1733-1781 m (HД-12) water with gas<br>1795-1848 m (HД-12) gas flare<br>1896-1911 m (HД-13) water with gas   |
| 2-South Opary                    | 282,2       | 3137 (J)                | 3040-3014 m (J) dry<br>2450-2415 m (N1s) gas was released<br>2380-2307 m (N1s) water with gas<br>2252-2242 m (N1s) water with gas<br>2220-2180 m (N1s)water<br>2190-2180 m (N1s) water with gas   |
| 3- South Opary                   | 312,8       | 3229 (N1s HД-16)        | well is flooded   |
| 1- Nezhukhivska prospecting well | 310,4       | 2080 (J3)               | 2042,5-2080 m (J3) reservoir water  |