BLOCK 21 ORILSKO-BRUSIVSKA LICENSE

LOCATION

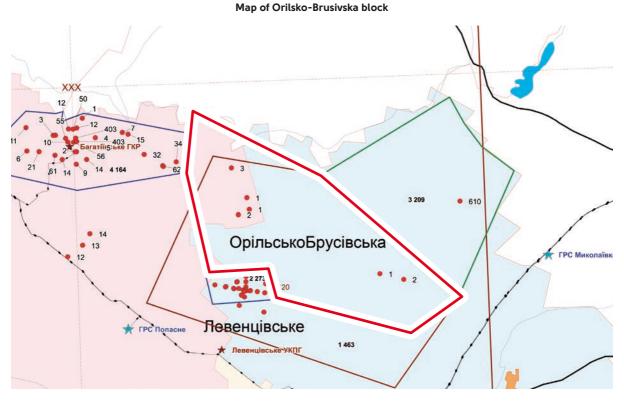
Orilsko-Brusivska block is located in Yuryivka, Novomoskovsk districts of Dnipro region and Sakhnovshchyna district of Kharkiv region. .Acreage of the block is 234.61 sq. km.

CONCESSION

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

DEPOSITS DISCOVERED IN THE AREA

Leventsivske, Bohatoyske fields.



MAP SYMBOLS

| Point | USK 2000, E | | | USK 2000, N | | | SK-42 , E | | | SK-42 , N | | |
|--------|-------------|------|-------|-------------|------|-------|-----------|------|-------|-----------|------|-------|
| Number | deg. | min. | sec. | deg. | min. | sec. | deg. | min. | sec. | deg. | min. | sec. |
| 1 | 35 | 38 | 26.15 | 48 | 58 | 34.69 | 35 | 38 | 32.00 | 48 | 58 | 35.04 |
| 2 | 35 | 47 | 39.49 | 48 | 55 | 13.72 | 35 | 47 | 45.32 | 48 | 55 | 14.07 |
| 3 | 35 | 57 | 38.51 | 48 | 49 | 7.73 | 35 | 57 | 44.32 | 48 | 49 | 8.07 |
| 4 | 35 | 53 | 48.62 | 48 | 47 | 28.01 | 35 | 53 | 54.43 | 48 | 47 | 28.36 |
| 5 | 35 | 44 | 4.50 | 48 | 49 | 24.71 | 35 | 44 | 10.32 | 48 | 49 | 25.07 |
| 6 | 35 | 43 | 33.49 | 48 | 50 | 49.71 | 35 | 43 | 39.32 | 48 | 50 | 50.07 |
| 7 | 35 | 39 | 14.49 | 48 | 50 | 45.71 | 35 | 39 | 20.32 | 48 | 50 | 46.07 |
| 8 | 35 | 37 | 49.33 | 48 | 55 | 35.06 | 35 | 37 | 55.18 | 48 | 55 | 35.42 |





GEOLOGICAL CHARACTERISTICS

The block belongs to the southern cutoff part of the Dnipro-Donets depression. Orilsko-Brusivska block is located in the Rudenkivsko-Proletarskyi oil and gas region, where explored productivity of the wide stratigraphic range from the Devonian to the Bashkirian sediments. For example, at Leventsivske field, the commercial gas content is discovered at the Bashkirian and Serpukhovian stages of the Carboniferous.

Orilsko-Novosandrivska structure was explored within the block by the seismic surveys at the Tournai stage. It is predicted that hydrocarbon traps can be combined, tectonically and lithologically screened. By analogy with the neighboring Bohatoyske and Leventsivke fields, gas deposits are expected at a depth of 3.0-5.0 km in the sandy horizons of the Bashkirian and Serpukhovian stages, as well as at carbonate deposits (B-24-26, T-1-2).

The Brusivska structure on the lower Visean deposits is partly located within the boundaries of the block. The structure is a low-amplitude anticline. By analogy with the Leventsivske field, gas deposits are expected in the terrigenous horizons of the Bashkirian (B-13), Serpukhovian (C-2-7, C-14-21) stages at depths of 2000-3000 m.

SURVEY INFORMATION AVAILABLE

Assessment of hydrocarbon resources (Ukrainian classification)

The Brusivska structure on the lower Carboniferous has undiscovered inferred resources of natural gas (category DI) 2.53 million m3. The density of undiscovered inferred resources (categories C3-D) in the block are 30-50 thousand tons of hydrocarbons per sq.km.

Well data

Information about wells drilled is available at the repositoty.

| Year of surveys | Number of lines | Number of linear km | Fold |
|-----------------|-----------------|---------------------|-------|
| 1974 | 7 | 109,24 | 12 |
| 1976 | 1 | 11,0 | 12 |
| 1979 | 2 | 21,48 | 12 |
| 1980 | 2 | 22,8 | 12 |
| 1984 | 16 | 195,81 | 12 |
| 1986 | 7 | 116,46 | 12-24 |
| 1988 | 1 | 20,6 | 48 |
| 1992 | 1 | 23,52 | 24 |
| 1998 | 5 | 82,0 | 24-48 |
| 2002 | 12 | 170,9 | 24-48 |
| 2003 | 23 | 335,48 | 24-48 |
| 2006 | 16 | 198,15 | 48 |
| 2007 | 3 | 48,87 | 48 |

Seismic surveys

EXPLORATION WORK PROGRAM REQUIREMENTS

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

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

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

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108 797 1980 107 38623 Rocerno M.I. 1978 61119 МЕРШІЙ В.В. U'M. 40558 Mancouid B.IO. 1975 Лысенко М.П. Бабиченко А.Г. 2008 1978 U'U XOUNDE 45868 ВОВК В.Г. 198 43742 Ruconno M. T. 1983 48896 III 42603 BOBK B.F. 1986 56383 6 НОЧВАЙ М.В. 5 ⁴⁸⁶⁸⁰ 199 47193 4735 BOBK B.F. Игнатов В.И. 1984 ель 1982 42733 Герасимович Р.В. 51607 1980 Удовицкий Ю.Г. 39481 1989 Бабиченко А.Г. 60205 MEXXEB B/П. 2006 1977 ЦЬКИЙ Ю.Г. 1997 7458 ченко А 36538 375 Бабиченко.А.Г. 99> 55113 1974 orza valoanumor 119 38 6579 MERCE BILINE 5 61925 61925 /61183 МЕЖУЄВ В.П. МЕЖУЄВ В.П. s Лысени 2009 2008 45850 45850 O МАНЮТА М 42603 38544 1983 56723 абиченко А.Г. Б 4 УДОВИЦЬКИЙ Ю.Г. a 1976 1997 MAP SYMBOLS 1:25 000 ORILSKO-BRUSIVSKA 45860 report number BLOCK 1:50 000 Рогов А.М. author of the report 1:100 000 1982 year of the report geophysical survey survey with no mapping seismic lines

Map of geophysical surveys and seismic lines