

OIL & GAS UKRAINE

1ST
ROUND

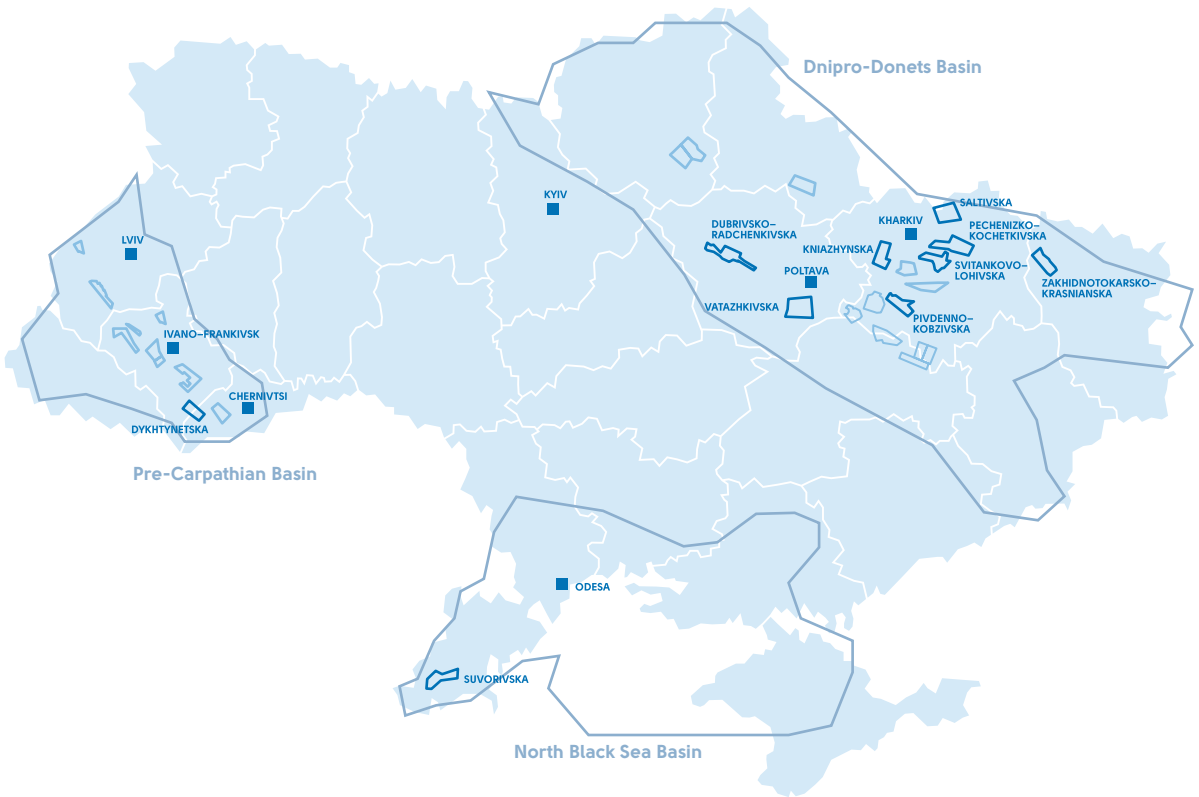
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AUCTION BLOCKS




LICENSING ROUNDS
INFORMATION AND
OPPORTUNITIES
2019

30

AUCTION BLOCKS FOR LICENSING ROUNDS



Round 1 (December 2018 - March 2019)

-  Blocks for round 1
-  Blocks for further rounds
-  Main oil and gas basins

Auction Blocks Release

No.	Block	Region	Area km ²	Application opening date	Auction date
1	Vatazhkivska	Poltava	181,80	December 2018	March 2019
2	Dubrivsko-Radchenkivska	Poltava	65,35	December 2018	March 2019
3	Svitankovo-Lohivska	Kharkiv	197,49	December 2018	March 2019
4	Pechenizko-Kochetkivska	Kharkiv	262,73	December 2018	March 2019
5	Saltivska	Kharkiv	26,16	December 2018	March 2019
6	Kniazhynska	Kharkiv	75,32	December 2018	March 2019
7	Pivdenno-Kobzivska	Kharkiv	368,08	December 2018	March 2019
8	Dykhtynetska	Chernivtsi/Ivano-Frankivsk	74,06	December 2018	March 2019
9	Zakhidnotokarsko-Krasnianska	Luhansk	91,06	December 2018	March 2019
10	Suvorivska	Odesa	462,95	December 2018	March 2019
11	Kokhivska	Dnipropetrovsk/Kharkiv	346,17	In preparation	
12	Rozdolivsko-Uspenivska 1	Dnipropetrovsk/Kharkiv	271,14	In preparation	
13	Rozdolivsko-Uspenivska 2	Dnipropetrovsk/Kharkiv	296,40	In preparation	
14	Orilsko-Brusivska	Dnipropetrovsk/Kharkiv	234,60	In preparation	
15	Yefremivsko-Olesiivska	Kharkiv	237,35	In preparation	
16	Pivnichno-Yefremivska	Kharkiv	99,50	In preparation	
17	Dobrenska	Kharkiv	122,23	In preparation	
18	Novopokrovska	Kharkiv	181,43	In preparation	
19	Tatalivska	Chernivtsi	24,10	In preparation	
20	Luchkivsko-Berezivska	Ivano-Frankivsk	73,17	In preparation	
21	Yasenska	Ivano-Frankivsk	35,35	In preparation	
22	Pivdenno-Slyvkinska	Ivano-Frankivsk	11,69	In preparation	
23	Skhidno-Kosmatska	Ivano-Frankivsk	6,91	In preparation	
24	Bolekhivsko-Smolianska	Ivano-Frankivsk	10,39	In preparation	
25	Hoshivska	Ivano-Frankivsk	49,00	In preparation	
26	Drohobytska	Lviv	140,90	In preparation	
27	Yavorivska	Lviv	43,95	In preparation	
28	Kaluzhna	Sumy	162,36	In preparation	
29	Opolonivska 1	Chernihiv	247,87	In preparation	
30	Opolonivska 2	Chernihiv	230,51	In preparation	

INTRODUCTION

1ST INTERNATIONAL OIL AND GAS LICENSING ROUND IN UKRAINE

The State Geological Service of Ukraine released 30 onshore petroleum blocks for sale in online auctions at the public trading platform Prozorro.Sale. The total acreage of blocks is 4 630 sq. km.

The concession blocks will be auctioned in a series of licensing rounds. All parcels are located in proven petroleum provinces with well-developed midstream infrastructure and widely covered by geophysical surveys.

In the first round, announced on December 6, 2018, ten blocks were offered in five regions of Ukraine, covering over 1 810 sq. km. Licenses for nine of those promising blocks are proposed for exploration and production of hydrocarbons for a period of 20 years. The remaining parcel is for a 5-year exploration period.

The undiscovered prospective resources of ten blocks are officially estimated at 86,25 billion cubic meters of natural gas and 16,29 million tons of liquids. One block holds developed proven oil and gas reserves.

The initial price of most of the licenses is not exceeded USD 0.7 million. The company which submits the highest bid in terms of cash bonus will be awarded lease rights for a specific parcel.

There are also minimum exploration program requirements for each license, for instance: processing of legacy seismic data, conducting new seismic surveys and exploration drilling.

Bidders will have ninety calendar days to decide and submit their applications. The first online auction will take place on March 6, 2019.



**Ukraine
NOW**



ROUND I

BLOCK 1

VATAZHKIVSKA LICENSE

LOCATION

Vatazhkivska block has a size of 181.8 km² and is located in Poltava district of Poltava region, 12 km south of the city of Poltava.

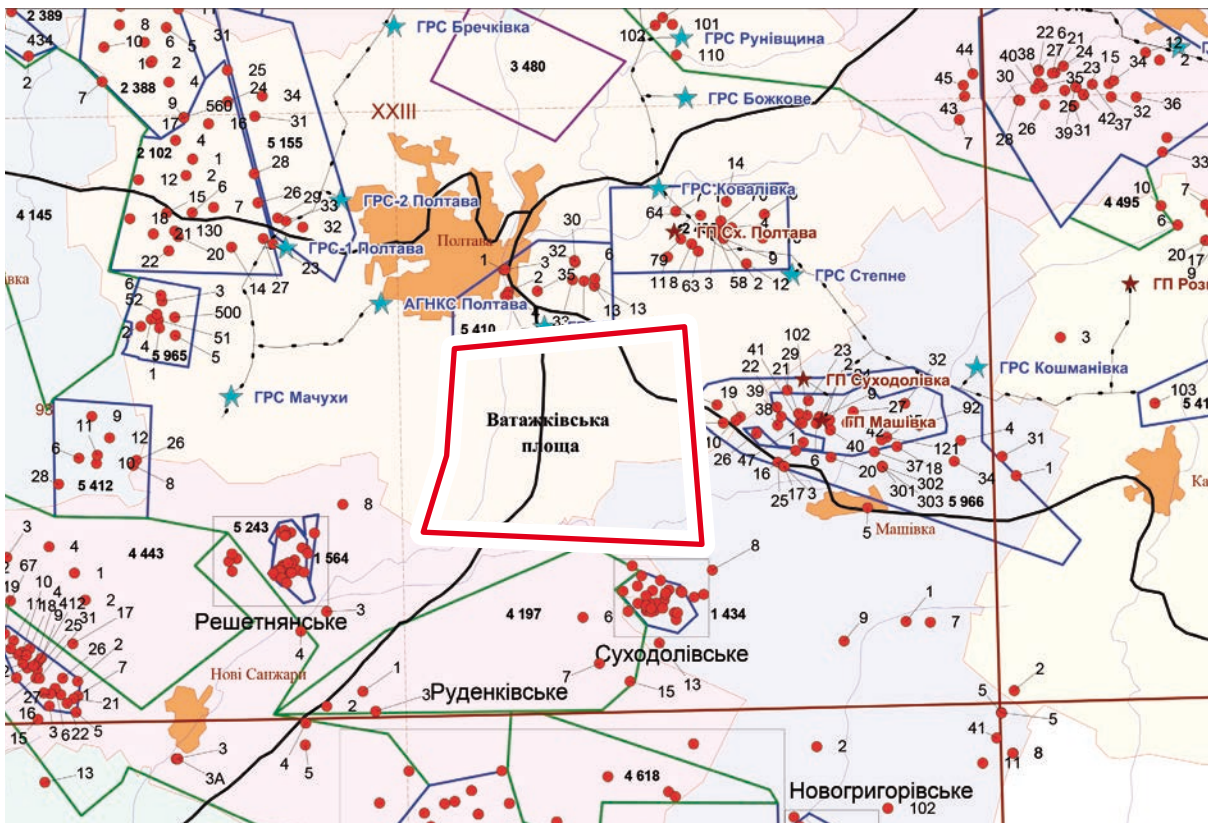
CONCESSION TYPE

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

DEPOSITS DISCOVERED IN THE AREA

East Poltava, Sukhodolivske, East-Reshetnyakivske, Reshetnyakivske, Mashivske, and Kopylivske hydrocarbons fields.

Map of Vatazhkivska 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	34	44	15.01	49	32	36.68	34	44	20.98	49	32	37.06
2	34	44	52.32	49	25	30.89	34	44	58.27	49	25	31.27
3	34	31	0.09	49	26	6.68	34	31	6.05	49	26	7.08
4	34	32	14.38	49	28	34.69	34	32	20.35	49	28	35.09
5	34	32	44.37	49	32	3.69	34	32	50.34	49	32	4.08
6	34	44	15.01	49	32	36.68	34	44	20.98	49	32	37.06

- well
- ★ gas-distribution plant
- gas pipeline
- VATAZHKIVSKA BLOCK

GEOLOGICAL CHARACTERISTICS

Vatazhkivska block belongs to the Mashivsko-Shebelynska gas province and the Rudenkivsko-Proletarske oil province. Vatazhkivska block in terms of tectonics is located in the central part of the Dnipro downthrown block. Surface of its basement is located above the northern slope of the Rudenkivsky nose. The thickness of the sedimentary mantle is 8000-10500 m. The Vatazhkivska block consists of two accumulations with total area of 20,5 km².

SURVEY INFORMATION AVAILABLE

Assessment of hydrocarbon resources (Ukrainian classification)

Vatazhkivska block has 3,091 billion m³ of prospective gas resources of C3 category, sub-category 333. The petroleum prospects of Vatazhkivska structure are associated with the deposits of the Serpukhovian, Bashkirian and Moscovian stages. Productive horizons of the structure are estimated in the Middle and Lower Carboniferous deposits in a range of 3060 to 6300 meters.

Well data

Well No.404 has been drilled, indicating the gas in the core from the Middle Carboniferous sediments on productive horizons M-7 in the range of 5230 to 5237 meters and B-4 in a range of 5475 to 5480 meters.

Seismic surveys

Seismic surveys have been carried out by the state enterprise Ukrgeofizyka in 2003-2006 (46/03 team) and in 2010-2011 (31/10 team). The information about legacy surveys is noted below.

Seismic surveys

Year of surveys	Number of lines	Number of linear km	Fold
1977	16	151,7	12-24
1980	3	24,4	12
1983	3	44,4	12
1984	3	18,4	24
1986	21	294,7	24

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 1/4 of the block's area

Stage III (24 months) – one productive well drilling

PUBLIC AUCTIONS



TOTAL AMOUNTS OF ASSETS SOLD IS

UAH 12 BLN

BLOCK 2

DUBRIVSKO-RADCHENKIVSKA LICENSE

LOCATION

The block is located within Myrhorod and Velyka Bahachka districts of Poltava region, over 10 km east of the city of Myrhorod. There are two fields within the block: Radchenkivske gas and oil field and West-Radchenkivske gas condensate field with total area of 65.35 km².

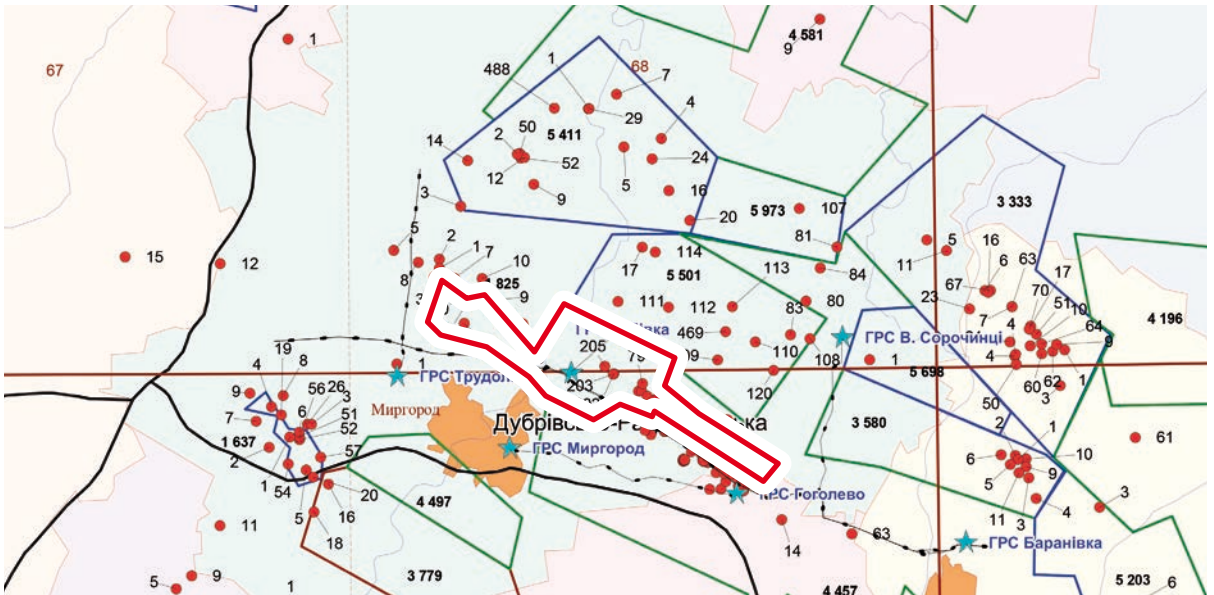
CONCESSION TYPE

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

DEPOSITS DISCOVERED IN THE AREA

Sorochynske, Vakulivske, Kaverdynske, Hoholivske hydrocarbon fields.

Map of Dubrivsko-Radchenkivska 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	33	39	34.27	50	0	24.66	33	39	40.35	50	0	25.07
2	33	41	4.27	50	1	59.66	33	41	10.35	50	2	0.08
3	33	46	34.29	50	0	10.69	33	46	40.37	50	0	11.10
4	33	46	2.29	49	59	15.69	33	46	8.36	49	59	16.10
5	33	47	44.28	49	58	19.67	33	47	50.35	49	58	20.08
6	33	51	39.29	49	56	39.66	33	51	45.36	49	56	40.07
7	33	50	54.29	49	56	4.67	33	51	0.36	49	56	5.08
8	33	45	31.29	49	58	25.68	33	45	37.36	49	58	26.09
9	33	45	24.27	49	58	14.66	33	45	30.34	49	58	15.08
10	33	43	49.26	49	58	39.68	33	43	55.34	49	58	40.10
11	33	42	29.27	49	58	9.66	33	42	35.35	49	58	10.07
12	33	40	6.78	49	58	57.53	33	40	12.86	49	58	57.95
13	33	39	18.00	49	59	35.60	33	39	24.08	49	59	36.02
14	33	37	12.28	50	0	35.67	33	37	18.37	50	0	36.09
15	33	34	54.26	50	0	59.68	33	35	0.35	50	1	0.10
16	33	34	15.27	50	1	25.67	33	34	21.36	50	1	26.09
17	33	34	59.26	50	2	47.68	33	35	5.35	50	2	48.10
18	33	36	13.28	50	2	11.68	33	36	19.37	50	2	12.10
19	33	37	7.28	50	2	18.67	33	37	13.37	50	2	19.09
20	33	39	34.27	50	0	24.66	33	39	40.35	50	0	25.07

- well
- ★ gas-distribution plant
- gas pipeline
- DUBRIVSKO-RADCHENKIVSKA BLOCK

GEOLOGICAL CHARACTERISTICS

Radchenkivske gas and oil field is limited to the arch of a large spur-shaped peak, located in the southern zone of the central graben of the Dnipro-Donets basin. Sediments of the Paleozoic, Mesozoic, and Cenozoic periods form the geological structure of the field.

West-Radchenkivske gas condensate field is an extensive western plunge of Radchenkivske high, located between the southern cut-off part with its central graben and is an integral part of Malosarochkyy-Radchenkivskyy structural spur.

SURVEY INFORMATION AVAILABLE

The expired production license No. 1438 for the development of Radchenkivske gas and oil field was issued to JSC Ukrnafta in 1998 and terminated in 2011. The expired exploration license No. 1717 for development of West-Radchenkivske gas condensate field was issued to Evrokrym LLC and terminated in 2015.

Assessment of hydrocarbon resources (Ukrainian classification)

Total crude reserves of Radchenkivske gas and oil field of category A account for 1 423 thousand tons, including booked 14 thousand tons of sub-category III. Crude reserves of the category C2 are 228 thousand tons, including booked 47 thousand tons of sub-category 122, and there is 74 thousand tons of non-appraised reserves of sub-category 332. Current reserves of associated gas of category A are 41 million m³, including booked 1 million m³ of sub-category III. Associated gas reserves of category C2 are 7 million m³, including booked 2 million m³ of sub-category 122. The reserves have been approved by minute No. 2687 of the State Commission of Ukraine on Mineral Resources in 2012.

Current gas reserves of West-Radchenkivske gas condensate field are estimated at 14 million m³ of category C1 (sub-category 221). Condensate reserves are 1 thousand tons of category C1 (sub-category 221). Prospective gas resources are 424 million m³ of category C3 (sub-category 333). Reserves and resources have been approved by the minute No.1989 of the State Commission of Ukraine on Mineral Resources in 2010.

Well data

106 wells have been drilled in Radchenkivske gas and oil field – 11 appraisal wells, 62 exploration wells, and 33 production ones. 27 wells were non-productive. Depth of productive horizons ranges from 900 to 1600 meters. Current wells stock includes 3 suspended wells and 17 idle wells. The remaining wells are abandoned, including 29 for geological reasons, 6 for technical reasons, and 45 decommissioned.

In 2002, Evrokrym LLC drilled one appraisal well No. 202 in West-Radchenkivske gas condensate field, which yielded 261.2 thousand m³ of gas per day and a condensate of 19.4 m³ per day from the B-26 deposit on the depth of 2902 to 2909 meters.

Seismic surveys

Year of surveys	Number of lines	Number of linear km	Fold
1979	3	14,9	12
1981	7	44,6	12
1982	4	42	12
1983	6	63,9	12-24
1984	3	23,7	12-24
1986	25	323,9	24-48
1989	7	110,5	24
1990	2	17,1	24
1992	1	13,1	24
2000	26	135,8	48

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 1/4 of the block's area
 Stage III (24 months) – one productive well drilling

BLOCK 2

DUBRIVSKO-RADCHENKIVSKA LICENSE

Map of geophysical surveys and seismic lines





MAP SYMBOLS

 1:25 000

 1:50 000


 1:100 000

 geophysical survey

 seismic lines



DUBRIVSKO-RADCHENKIVSKA
BLOCK

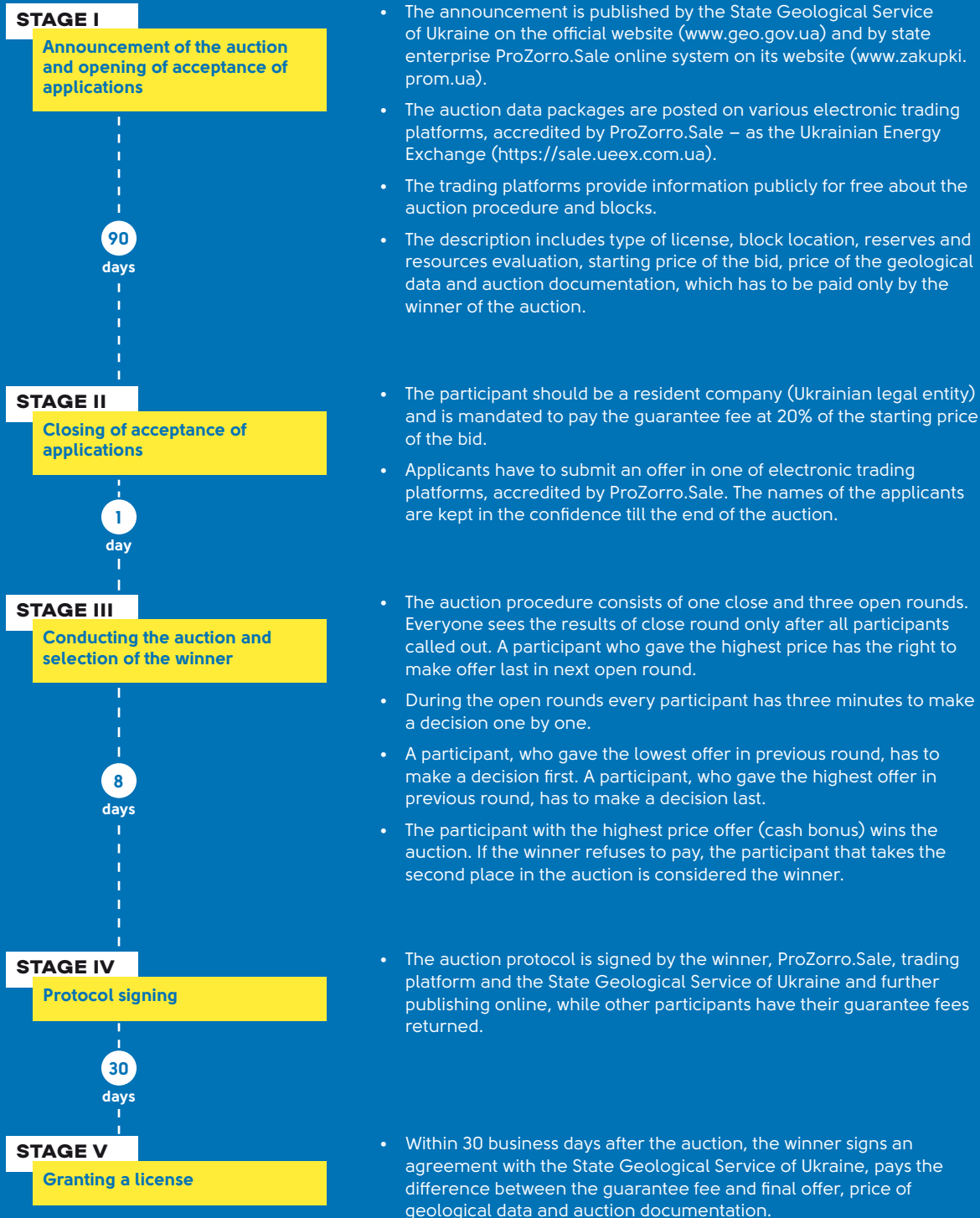
 survey with no mapping

45860 report number

Рогов А.М. author of the report

1982 year of the report

LICENSING PROCEDURE IN PROZORRO.SALE ONLINE SYSTEM



Within 40 business days the winner has to contact the State Geological Service to obtain the license.

BLOCK 3

SVITANKOVO-LOHIVSKA LICENSE

LOCATION

Svitankovo-Lohivska block is located in the Chuhuiv, Zmiiv, and Kharkiv districts of Kharkiv region. The total area of the block is 197,49 km².

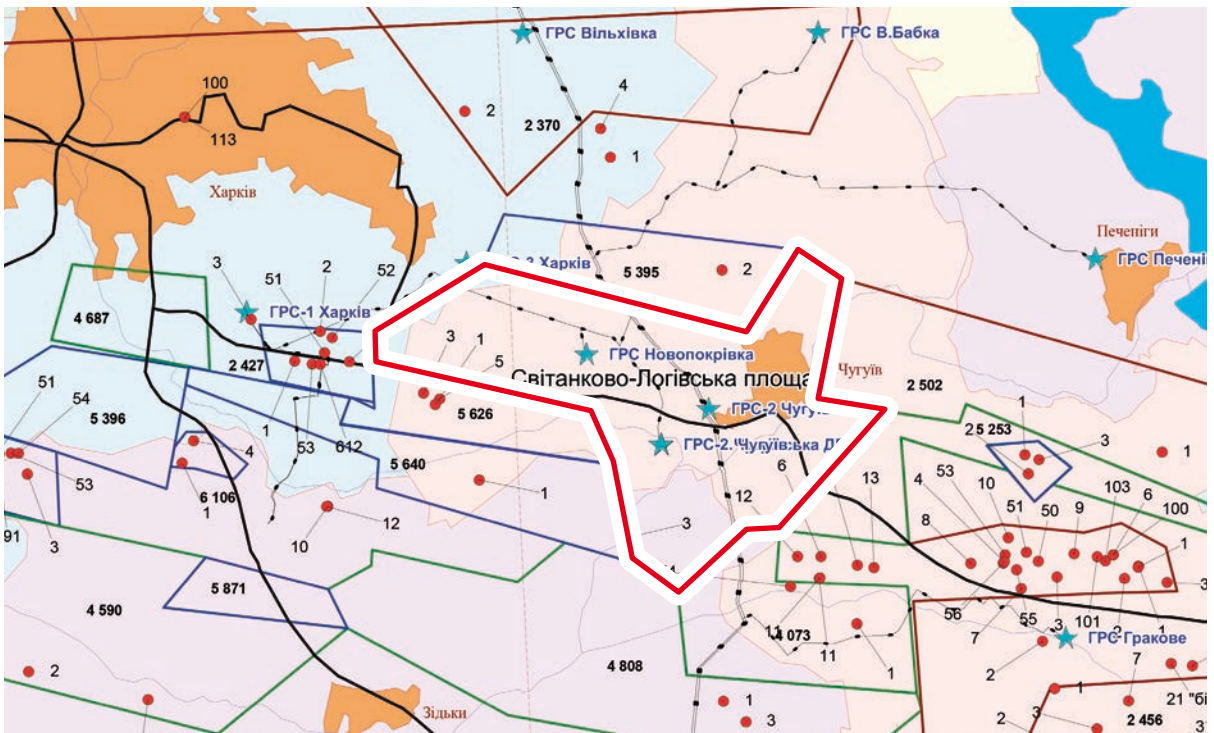
CONCESSION TYPE

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

DEPOSITS DISCOVERED IN THE AREA

Yulievske, Karavanivske, Bezlyudivske, Vasyzhivske, Denysivske, and Pivnichno-Korobochynske hydrocarbons fields.

Map of Svitankovo-Lohivska 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	36	42	4.42	49	53	29.82	36	42	10.34	49	53	30.06
2	36	43	50.42	49	52	38.82	36	43	56.34	49	52	39.06
3	36	42	36.43	49	49	25.81	36	42	42.34	49	49	26.06
4	36	45	22.43	49	49	2.81	36	45	28.34	49	49	3.06
5	36	40	42.43	49	45	58.81	36	40	48.34	49	45	59.06
6	36	39	20.43	49	45	58.81	36	39	26.34	49	45	59.06
7	36	36	22.44	49	44	21.80	36	36	28.34	49	44	22.06
8	36	34	30.43	49	45	20.80	36	34	36.34	49	45	21.06
9	36	33	54.43	49	47	59.80	36	34	0.34	49	48	0.06
10	36	33	4.42	49	49	23.80	36	33	10.34	49	49	24.06
11	36	24	10.41	49	50	59.80	36	24	16.34	49	51	0.06
12	36	24	11.41	49	51	49.80	36	24	17.34	49	51	50.06
13	36	28	54.41	49	53	29.81	36	29	0.34	49	53	30.06
14	36	39	44.42	49	51	19.81	36	39	50.34	49	51	20.06
15	36	42	4.42	49	53	29.82	36	42	10.34	49	53	30.06

- well
- ★ gas-distribution plant
- gas pipeline
- SVITANKOVO-LOHIVSKA BLOCK

GEOLOGICAL CHARACTERISTICS

Svitankovo-Lohivska block belongs to the Yulivsko-Bezludivska structural and tectonic zone and it is located within the central part of the northern edge of the Dnipro-Donets basin. There are Khmarivska, Svitankova and Lohivska structures within the block, which have been explored in the past.

SURVEY INFORMATION AVAILABLE

The Khmarivska structure was discovered in 1980 in the Lower Carboniferous deposits on reflecting horizon V_{B3-n}. Exploration license No. 2826 for the Khmarivsk structure belonged to JSC Plast from 2006 to 2016.

The Svitankova structure was discovered due to carried out seismic in 1981-2006 on Lower Carboniferous deposits. The Visian Stage and the weathering mantle of the crystalline basement are estimated as further exploration targets at the structure.

The Lohivska structure was discovered due to carried out seismic during 1981-2006 on the main reflecting horizon V_{B3-n} and is a restricted anticlinal fold, which is limited to the west and the north by the tectonic faults of amplitude 25-50 m.

Assessment of hydrocarbon resources (Ukrainian classification)

The prospective hydrocarbons resources at the Lohivska structure account for 42 thousand tons of oil and 950 million m³ of gas. The inferred gas resources of the Khmarivska structure of category D1 are estimated at 850 million m³. The Svitankova structure has prospective resources of the C3 category, estimated at 1.76 billion m³ of gas and 796 thousand tons of crude.

Well data

Exploration well No.7 was drilled in the Khmarivska structure in 2008-2009 and brought pure initial production.

Seismic surveys

Year of surveys	Number of lines	Number of linear km	Fold
1980	6	96,6	12
1987	2	31,3	24
1988	14	224,2	24
1990	1	7,2	24
1992	1	9,0	48
2004	6	71,9	24-48
2005	21	241,3	24-48

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 1/4 of the block's area

Stage III (24 months) – one productive well drilling

BLOCK 3

SVITANKOVO-LOHIVSKA LICENSE

Map of geophysical surveys and seismic lines



MAP SYMBOLS

1:25 000

1:50 000

1:100 000

geophysical survey

seismic lines



SVITANKOVO-LOHIVSKA
BLOCK

● survey with no mapping

45860 report number

Рогов А.М. author of the report

1982 year of the report

DISPOSAL PROCEDURE OF STATE-OWNED INITIAL GEOLOGICAL DATA

STAGE I

Application to State Geological Service of Ukraine

10

days

- The applicant should apply directly to the State Geological Service of Ukraine (www.geo.gov.ua)
- The application includes the purpose of obtaining data, area or location of mineral deposits, identification of the data according to the Geological Catalogue (as if), form of provision of the data.

STAGE II

Draft service agreement for evaluation of the initial geological data for execution

15

days

- The State Geological Service of Ukraine checks the application and sends to the applicant a signed draft of agreement for the provision of services for the evaluation of the initial geological data.
- The applicant should sign the relevant agreement and send it back to the State Geological Service of Ukraine.

STAGE III

Sale and purchase agreement and invoice with the price of initial geological data

30

days

- The State Geological Service of Ukraine provides the applicant with a signed sale and purchase agreement and invoice with the price of geological data for execution.

STAGE IV

Payment for geological data

10

days

- The applicant executes the sale and purchase agreement and pays for the initial geological data.

STAGE V

Providing geological data

- Within 10 days after payment the initial geological data has to be provided to the applicant.

BLOCK 4

PECHENIZKO-KOCHETKIVSKA LICENSE

LOCATION

Pechenizko-Kochetkivska block is located within Kharkiv, Chuhuev, Vovchansk and Pechenizhsk districts of Kharkiv region. The area of the block is 262,73 km².

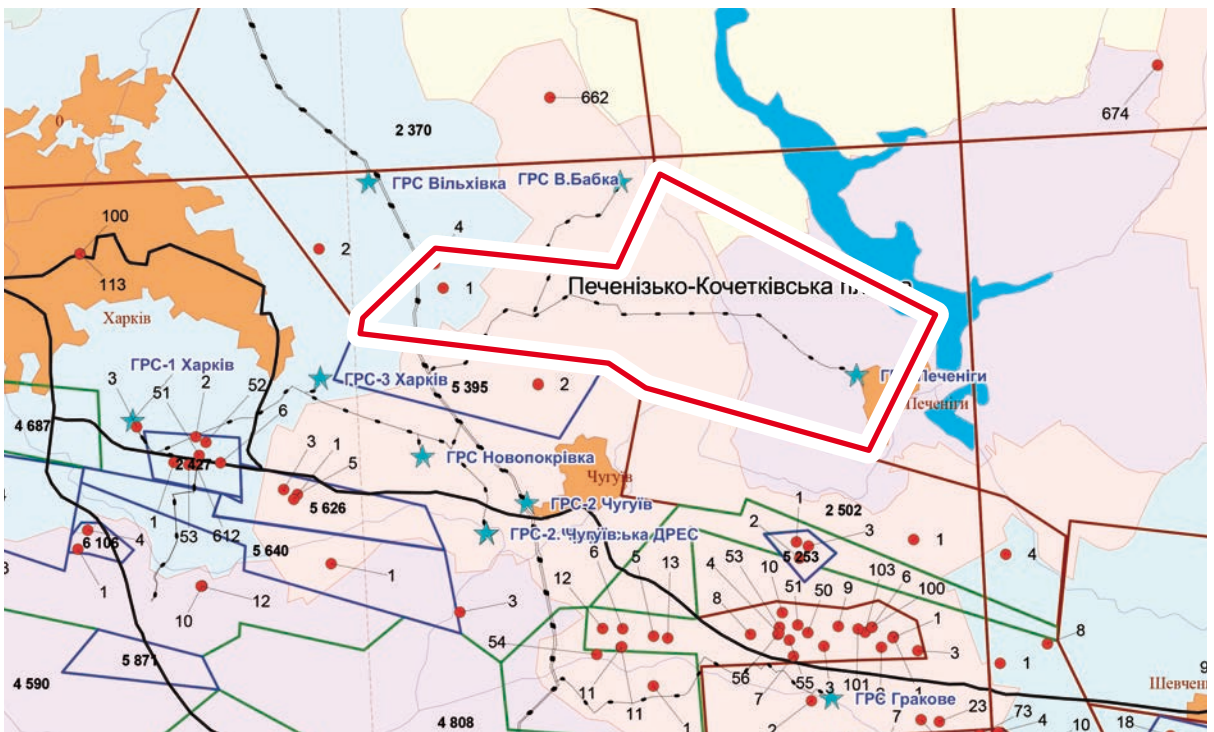
CONCESSION TYPE

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

DEPOSITS DISCOVERED IN THE AREA

Yulievske, Karavanivske, Naryzhnianske, Skvortsivske, Ostroverkhivske, Bezlyudivske, Plativske, Bilohirsk and Korobochynske hydrocarbons fields.

Map of Pechenizko-Kochetkivska 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	36	45	4.41	49	59	29.82	36	45	10.35	49	59	30.06
2	36	58	17.92	49	54	31.58	36	58	23.83	49	54	31.81
3	36	54	39.88	49	50	16.88	36	54	45.79	49	50	17.11
4	36	43	50.42	49	52	38.82	36	43	56.34	49	52	39.06
5	36	42	4.42	49	53	29.82	36	42	10.34	49	53	30.06
6	36	29	54.41	49	54	49.81	36	30	0.35	49	54	50.06
7	36	30	4.41	49	55	19.81	36	30	10.35	49	55	20.06
8	36	33	49.41	49	57	27.81	36	33	55.35	49	57	28.06
9	36	42	44.42	49	56	34.82	36	42	50.35	49	56	35.06
10	36	45	4.41	49	59	29.82	36	45	10.35	49	59	30.06

- well
- ★ gas-distribution plant
- gas pipeline
- PECHENIZKO-KOCHETKIVSKA BLOCK

GEOLOGICAL CHARACTERISTICS

The block is located within the central part of the northern edge of the Dnipro-Donets basin. The geological structure of the block includes Archean-Proterozoic rocks, Devonian saliferous rocks, Carboniferous and Permian formations of the Paleozoic, Triassic, Jurassic and Cretaceous deposits of the Mesozoic and Cenozoic.

SURVEY INFORMATION AVAILABLE

There are three structures, which have been explored within the block on the Lower and Middle Visean Stage of the Lower Carboniferous period: Pechenizka (C1v1), Kochetivska (C1v2) and Kytsivska (C1v2).

Assessment of hydrocarbon resources (Ukrainian classification)

Prospective resources of natural gas are accounted in Pechenizka structure in the amount of 1.83 billion m³.

Well data

There has been no oil and gas drilling in the block.

Seismic surveys

Year of surveys	Number of lines	Number of linear km	Fold
1988	3	46,7	24
1990	26	323,87	24
1992	7	90,8	24
1993	6	42,67	24
1994	10	97,03	24
1995	7	63,62	24
1996	12	110,56	24
2001	1	7,5	24
2002	2	19,2	24
2003	5	45	24-48
2004	1	7,3	24
2005	5	40,7	24-48

EXPLORATION WORK PROGRAM REQUIREMENTS

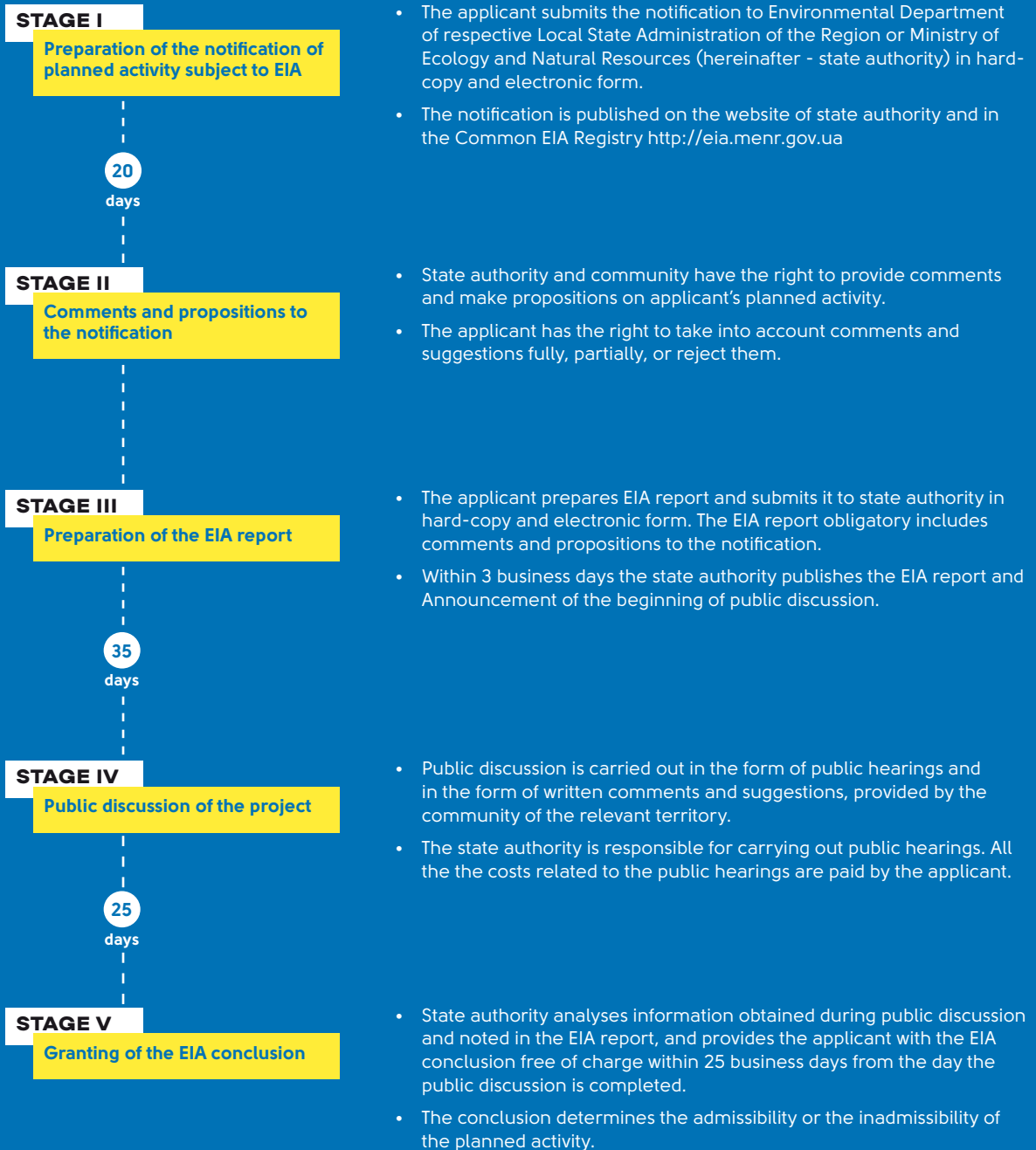
Stage I (12 months) - processing and reinterpretation of 2D seismic data

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

Stage III (24 months) – one productive well drilling

ENVIRONMENTAL IMPACT ASSESSMENT PROCEDURE

Within one year after obtaining the license the company is obliged to conduct an Environmental Impact Assessment (EIA). If this obligation is not met the license is annulled by the State Geological Service of Ukraine with no return of payed cash bonus.



BLOCK 5

SALTIVSKA LICENSE

LOCATION

Saltivska block is located in Vovchansk and Kharkiv districts of Kharkiv region, 27 km from the city of Kharkiv. The area of the block is 26.16 km².

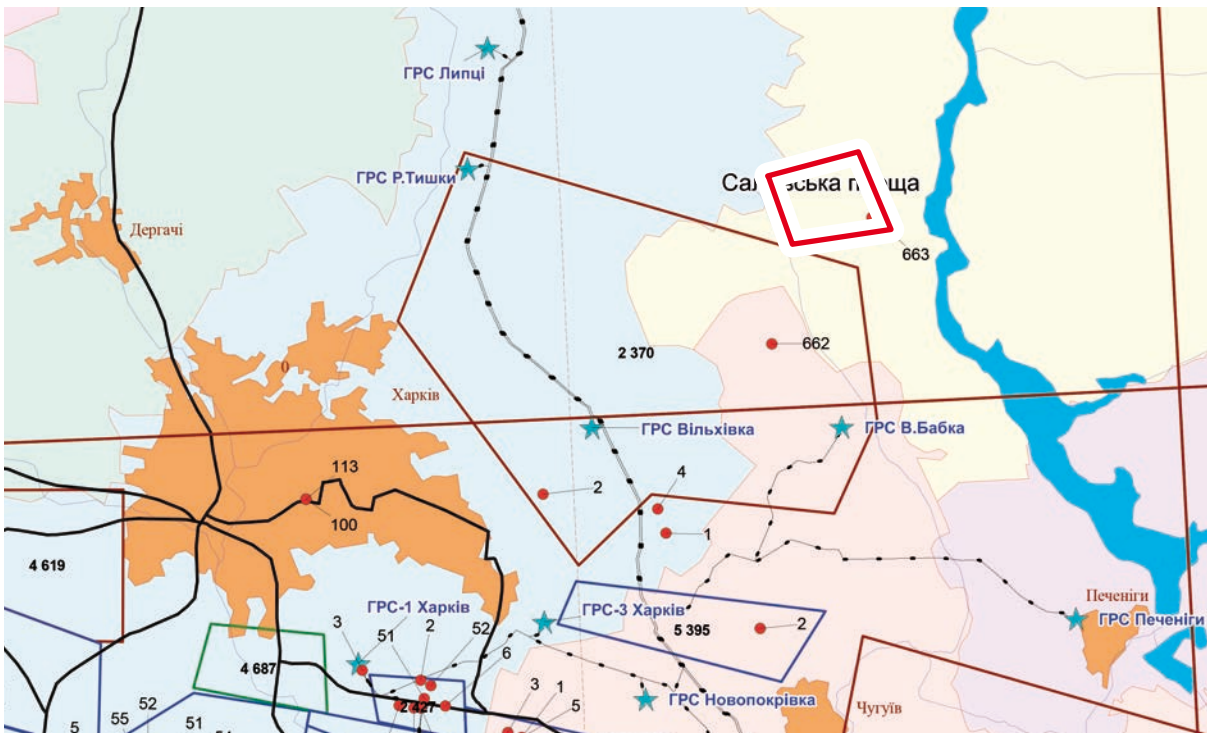
CONCESSION TYPE

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

DEPOSITS DISCOVERED IN THE AREA

Bezlyudivske, Vasyzhivske, Pivnichno-Korobochkynske, Skvortsivske and Yuliivske hydrocarbons fields.

Map of Saltivska 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	36	44	39.02	50	8	4.23	36	44	44.97	50	8	4.46
2	36	46	4.19	50	5	32.10	36	46	10.13	50	5	32.32
3	36	41	9.19	50	5	13.17	36	41	15.14	50	5	13.40
4	36	40	7.28	50	7	25.73	36	40	13.24	50	7	25.96
5	36	40	5.45	50	7	26.40	36	40	11.41	50	7	26.63
6	36	44	39.02	50	8	4.23	36	44	44.97	50	8	4.46

- well
- ★ gas-distribution plant
- gas pipeline
- SALTIVSKA BLOCK

GEOLOGICAL CHARACTERISTICS

Saltivska block is located within the central part of the northern edge of the Dnipro-Donets basin. The production from the neighboring fields in operation is associated with the deposits of Middle and Lower Carboniferous and the Precambrian crystalline basement rocks. The Saltivska structure is an anticlinal fold of the northeast strike, developed over a horseshoe-shaped tectonic block of the basement, limited by faults with amplitudes from 20 to 100 meters.

SURVEY INFORMATION AVAILABLE

Gravimetric surveys in the area of Saltivska block were conducted during 1988-2011. Seismic surveys were carried out in 2005-2011, which discovered the geological structure on the reflecting horizon VB2-n in the Lower and Middle Carboniferous and Upper Jurassic deposits.

Assessment of hydrocarbon resources (Ukrainian classification)

Prospective gas resources are estimated at 5.33 million m³ of C3 category.

Seismic surveys

294.2 km of seismic lines have been carried out for exploring the area in close vicinity of the block.

Well data

Test drilling of the Molodovska-663 well identified the gas in the Visean and Serpukhovian deposits of the Lower Carboniferous and diluted rocks of the basement in the range of 1000 to 1350 meters.

EXPLORATION WORK PROGRAM REQUIREMENTS

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

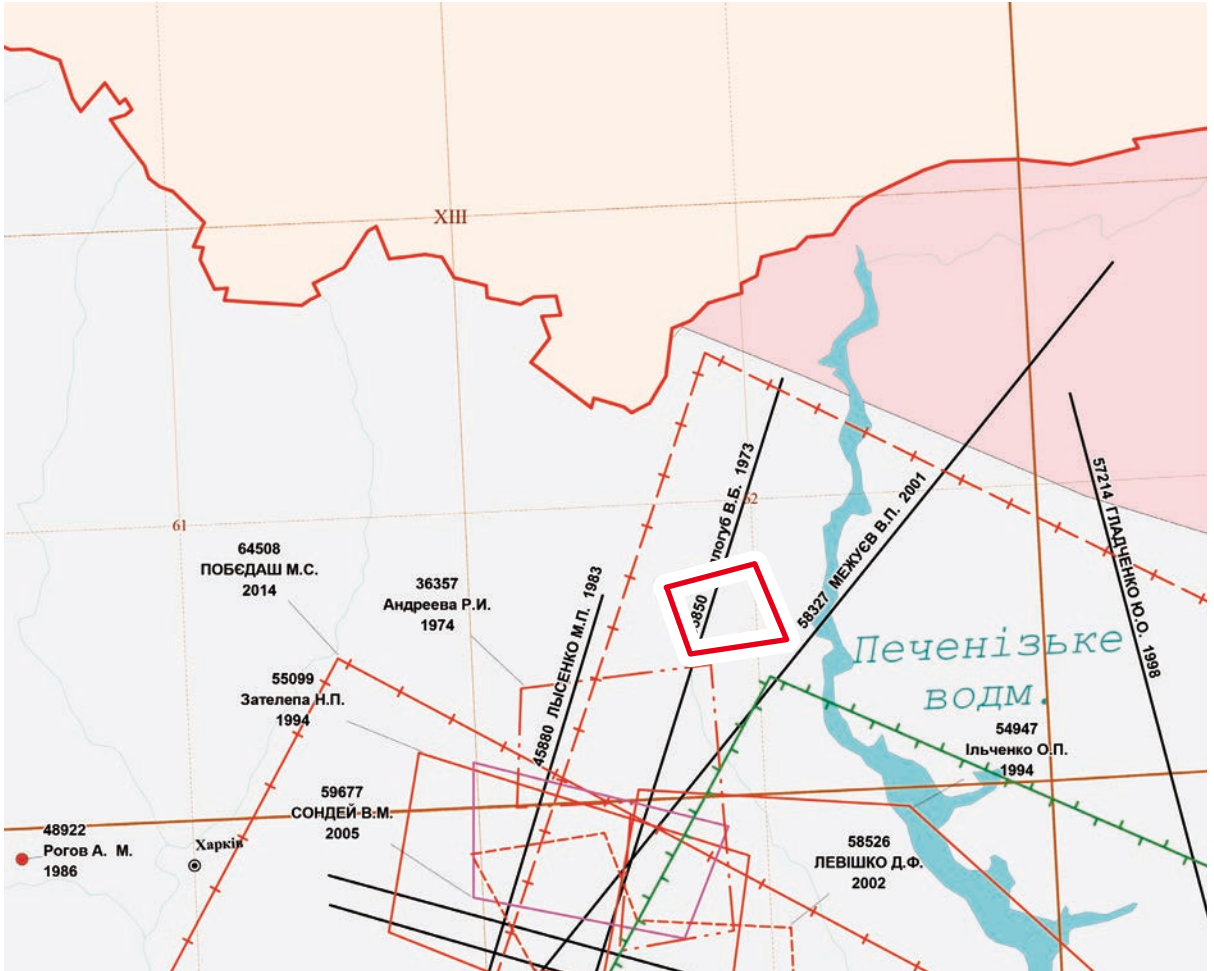
Stage II (12 months) – acquisition of 2D or 3D seismic data on 1/4 of the block's area

Stage III (24 months) – one productive well drilling

BLOCK 5

SALTIVSKA LICENSE

Map of geophysical surveys and seismic lines



MAP SYMBOLS

1:25 000

1:50 000

1:100 000

geophysical survey

seismic lines



SALTIVSKA BLOCK



survey with no mapping

45860 report number

Рогов А.М. author of the report

1982 year of the report



BLOCK 6

KNIAZHYNKA LICENSE

LOCATION

Kniazhynska block is located in Nova Vodolaga district of Kharkiv region, in Mashivka-Shebelynka petroleum province of the Dnipro-Donets basin. The area of the block is 75.32 km².

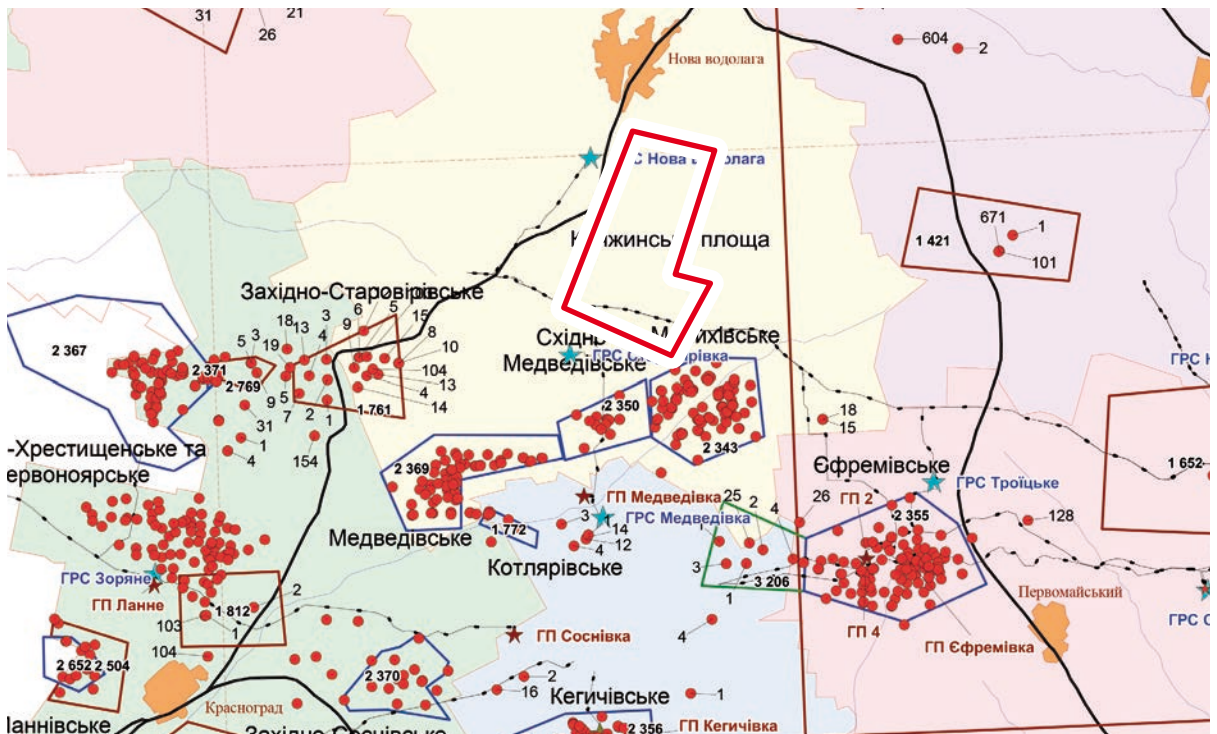
CONCESSION TYPE

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

DEPOSITS DISCOVERED IN THE AREA

Melykhivske, Kehichivske, West-Starovirivske, Efremivske, Bezpaliivske, Shuryivske, Ryabukhivsko-North Golubivske hydrocarbons fields.

Map of Kniazhynska 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	35	52	11.30	49	40	38.09	35	52	17.23	49	40	38.40
2	35	56	20.41	49	39	53.77	35	56	26.34	49	39	54.07
3	35	54	5.42	49	35	51.76	35	54	11.34	49	35	52.07
4	35	55	51.77	49	35	31.36	35	55	57.69	49	35	31.66
5	35	53	43.85	49	33	11.28	35	53	49.76	49	33	11.59
6	35	48	21.46	49	34	53.96	35	48	27.38	49	34	54.27
7	35	52	11.30	49	40	38.09	35	52	17.23	49	40	38.40

- well
- ★ gas-distribution plant
- gas pipeline
- KNIAZHYNKA BLOCK

GEOLOGICAL CHARACTERISTICS

Production horizons are expected in the deposits of the Lower Permian, Upper Carboniferous and Moscovian Stage of the Middle Carboniferous period in the range of 3400 to 5800 meters.

Reservoir rock of the Mykytivska and Slavic suits are predominantly limestones and dolomites. Slavic suite gas is mainly associated with carbonate reservoir rock. The porosity varies from 6.0% to 19.0%. The saturation of gas varies widely from 60% to 95%.

Reservoir rocks of the Cartamysh suite of the Lower Permian and the Araucarite suite of the Upper Carboniferous are represented by irregular beds of sandstones and siltstones separated by layers of clay. The effective thickness of gas-saturated layers varies from 0.6 to 10.0-20.0 meters. The porosity of reservoir layers varies from 12.0% to 18.0%, the saturation of gas varies from 45-50% to 80-85%.

SURVEY INFORMATION AVAILABLE

Assessment of hydrocarbon resources (Ukrainian classification)

Prospective resources of hydrocarbons are 80.478 million tons of oil equivalent, including 62.158 billion m³ of natural gas, 14.6 million tons of crude oil, and 3.72 million tons of gas condensate.

Within the block a considerable volume of geological surveys have been carried out, due to the exploration of the geological structure of the south-eastern part of the Dnipro-Donets basin.

Well data

There has been no drilling in the block.

Seismic surveys

Year of surveys	Number of lines	Number of linear km	Fold
1975	7	86,1	12
1977	2	13,9	12
1978	3	29,7	12
1979	2	10,8	12
1985	7	93	24
1990	1	6,2	24
1994	3	25,6	48
2015	6		

EXPLORATION WORK PROGRAM REQUIREMENTS

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

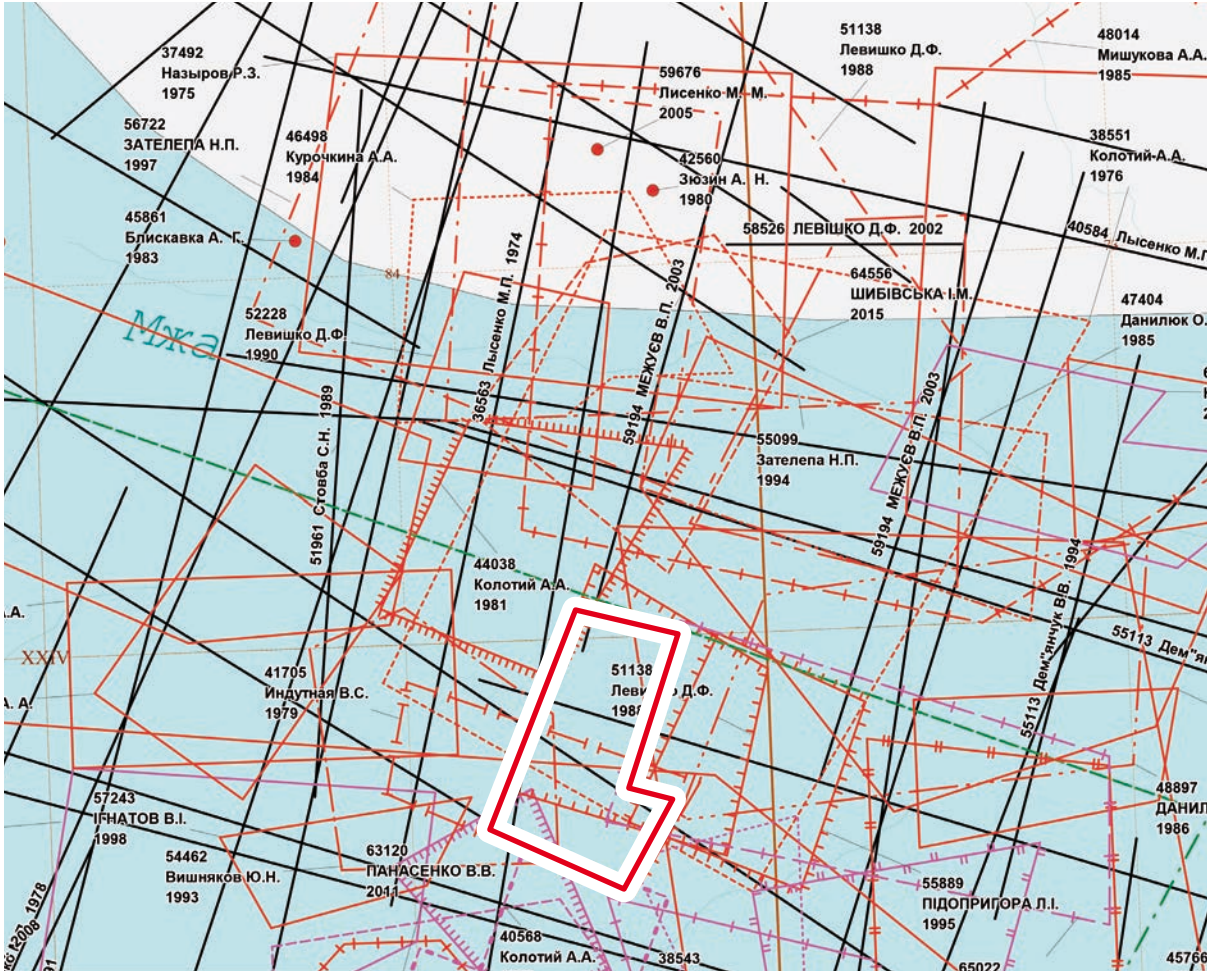
Stage II (12 months) – acquisition of 2D or 3D seismic data on 1/4 of the block's area

Stage III (24 months) – one productive well drilling

BLOCK 6

KNIAZHYNKA LICENSE

Map of geophysical surveys and seismic lines



MAP SYMBOLS

1:25 000

1:50 000

1:100 000

geophysical survey

seismic lines



KNIAZHYNKA BLOCK



survey with no mapping

45860 report number

Рогов А.М. author of the report

1982 year of the report



BLOCK 7

PIVDENNO-KOBZIVSKA LICENSE

LOCATION

Pivdenno-Kobzivska block is located in Kehychivka, Krasnohrad, Sakhnovshchyna and Zachepylivka districts of Kharkiv region. The area of the block is 368,08 km².

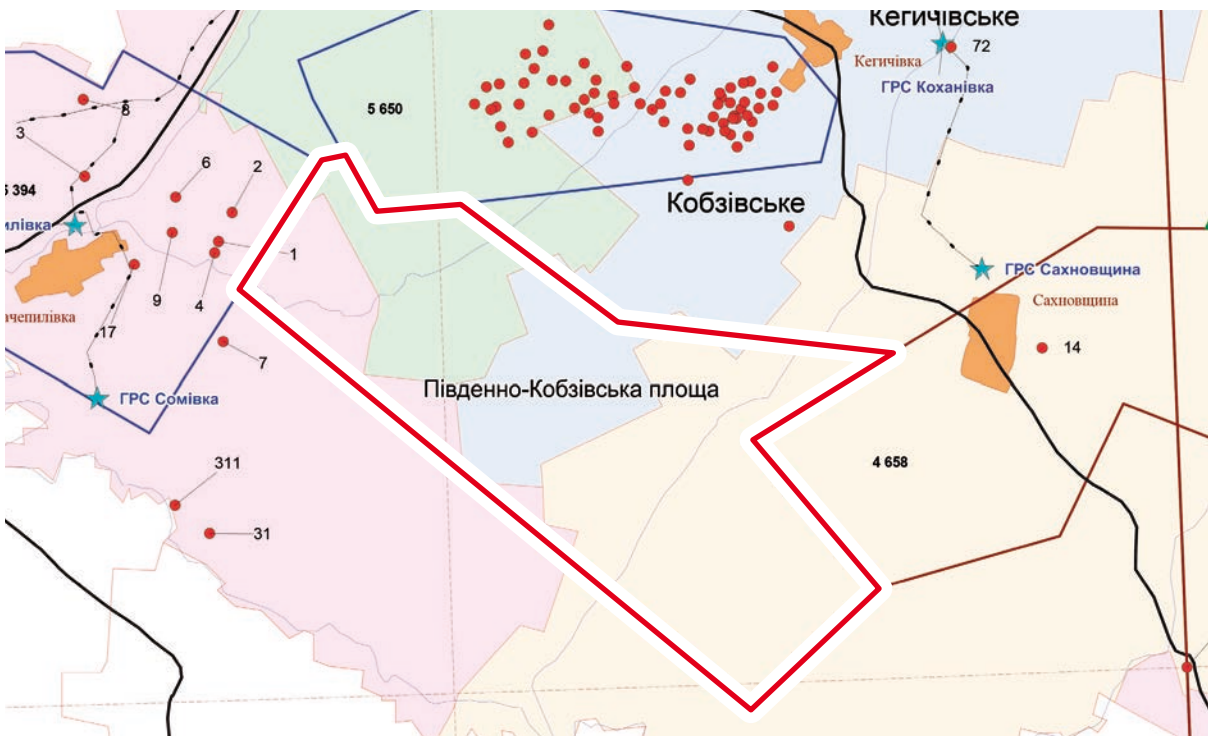
CONCESSION TYPE

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

DEPOSITS DISCOVERED IN THE AREA

Oktiabrskе hydrocarbons field.

Map of Pivdenno-Kobzivska 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	35	26	15.48	49	14	30.62	35	26	21.37	49	14	30.97
2	35	27	27.44	49	12	58.72	35	27	33.33	49	12	59.07
3	35	30	53.14	49	13	5.37	35	30	59.03	49	13	5.72
4	35	37	8.00	49	9	48.09	35	37	13.87	49	9	48.43
5	35	48	18.53	49	8	42.63	35	48	24.39	49	8	42.97
6	35	42	27.47	49	6	31.73	35	42	33.33	49	6	32.07
7	35	47	22.48	49	2	25.73	35	47	28.33	49	2	26.07
8	35	41	59.48	48	59	18.72	35	42	5.33	48	59	19.07
9	35	21	44.45	49	11	0.71	35	21	50.33	49	11	1.07
10	35	25	16.44	49	14	23.72	35	25	22.33	49	14	24.07
11	35	26	15.48	49	14	30.62	35	26	21.37	49	14	30.97

- well
- ★ gas-distribution plant
- gas pipeline
- PIVDENNO-KOBZIVSKA BLOCK

GEOLOGICAL CHARACTERISTICS

Pivdenno-Kobzivska block is located in the central zone of the Dnipro-Donets basin, within the Rudenkivsko-Proletarsky petroleum region.

SURVEY INFORMATION AVAILABLE

The block borders on the Rosumivske field, which produces commercial gas from the Middle Carbonaceous (M-1, B-12 horizons) and Upper Serypukhovian (C-4 horizon) deposits. In the Oktyabrsk concession, which borders the Pivdenno-Kobzivska block to the northwest, six wells have been drilled at a depth of 3000 meters, and discovered the section of the Lower Permian, Upper Carboniferous, part of the Moscovian Stage.

Assessment of hydrocarbon resources (Ukrainian classification)

The block is located within two promising zones with a density of undiscovered prospective and interfered resources of the C3 and D categories estimated from 20-30 thousand tons per km² and up to 30-50 thousand tons per km², respectively.

Well data

There has been no drilling in the block.

Seismic surveys

Year of surveys	Number of lines	Number of linear km	Fold
1976	11	132,7	12
1977	4	60,9	12
1979	1	13,62	12
1981	7	110,04	12
1983	11	202,23	12
1984	4	50,9	12
1986	18	307,6	12-24
1988	1	27,9	48
1990	3	35,9	24
1992	1	30,5	48

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 1/4 of the block's area

Stage III (24 months) – one productive well drilling



**OFFICIAL ELECTRONIC
TRADING PLATFORM
FOR THE SALE
OF OIL AND GAS LICENSES
IN UKRAINE**

BLOCK 8

DYKHTYNETSKA LICENSE

LOCATION

Dykhtynetska block is located in Chernivtsi and Ivano-Frankivsk regions. The area of the concession is 74.06 km².

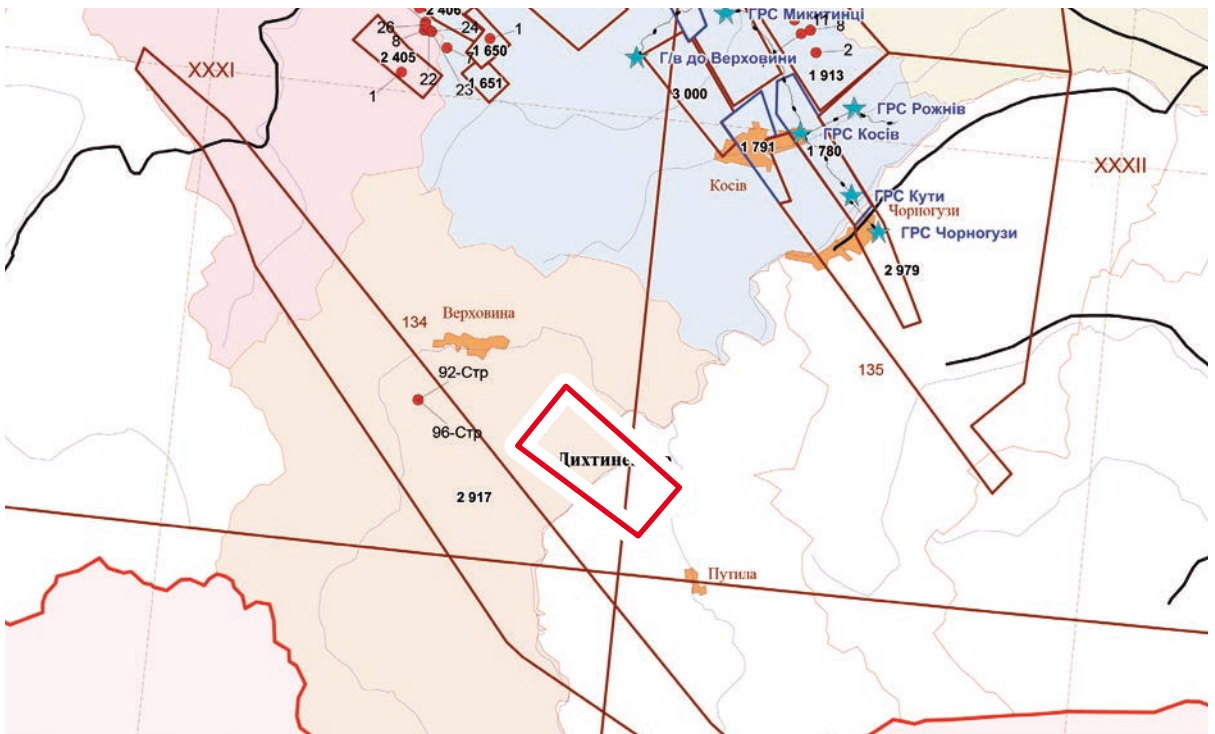
CONCESSION TYPE

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

DEPOSITS DISCOVERED IN THE AREA

Putyvlska petroleum field.

Map of Dykhtynetska 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	24	55	22.28	48	7	55.75	24	55	28.40	48	7	56.79
2	25	3	39.50	48	3	56.06	25	3	45.60	48	3	57.09
3	25	1	14.11	48	1	34.74	25	1	20.21	48	1	35.78
4	24	52	34.99	48	5	2.32	24	52	41.11	48	5	3.36
5	24	55	22.28	48	7	55.75	24	55	28.40	48	7	56.79

- well
- ★ gas-distribution plant
- gas pipeline
- DYKHTYNETSKA BLOCK

GEOLOGICAL CHARACTERISTICS

The block is located within the Bilche-Volytska zone of the PreCarpathian Foreland. Dykhtynetska high is a large brachyanticline of Carpathian strike. The sides of the structure are almost symmetrical. The angle of the dip of the north-eastern side is 10 °, while the north-west is 8 °. The Dichtynetska structure is divided by longitudinal faults into separate blocks. The amplitude of these faults varies from 50-200 meters.

There is a number of promising petroleum accumulations near the block. The south-western periclinal of the Khotkevitska structure locates in the northwest direction from the Dykhtynetska high. Yablunytsia anticline was discovered near the settlement Yablunytsia. Usterikske high is located in a north-eastern direction from Dykhtynetska brachyanticline.

Appraisal well No. 1-Ploska on the neighboring Putyla block found the gas on the depth of 2491 meters. Hydrocarbons content in the produced gas in the Paleogene sediments reached 25-50%, and in Cretaceous sediments 80-100%. The gas deposits are associated with the sandstone layers in the autochthonous deposits of the Paleogene and Cretaceous.

SURVEY INFORMATION AVAILABLE

Assessment of hydrocarbon resources (Ukrainian classification)

The block is located in a promising petroleum region with a density of undiscovered prospective and inferred hydrocarbon resources estimated to be from 30 to 50 thousand tons per km².

Well data

There has been no drilling in the block.

Seismic surveys

Year of surveys	Number of lines	Number of linear km	Fold
1984	3	24	2-6
1988	8	71,5	6
1989	11	91	6

EXPLORATION WORK PROGRAM REQUIREMENTS

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

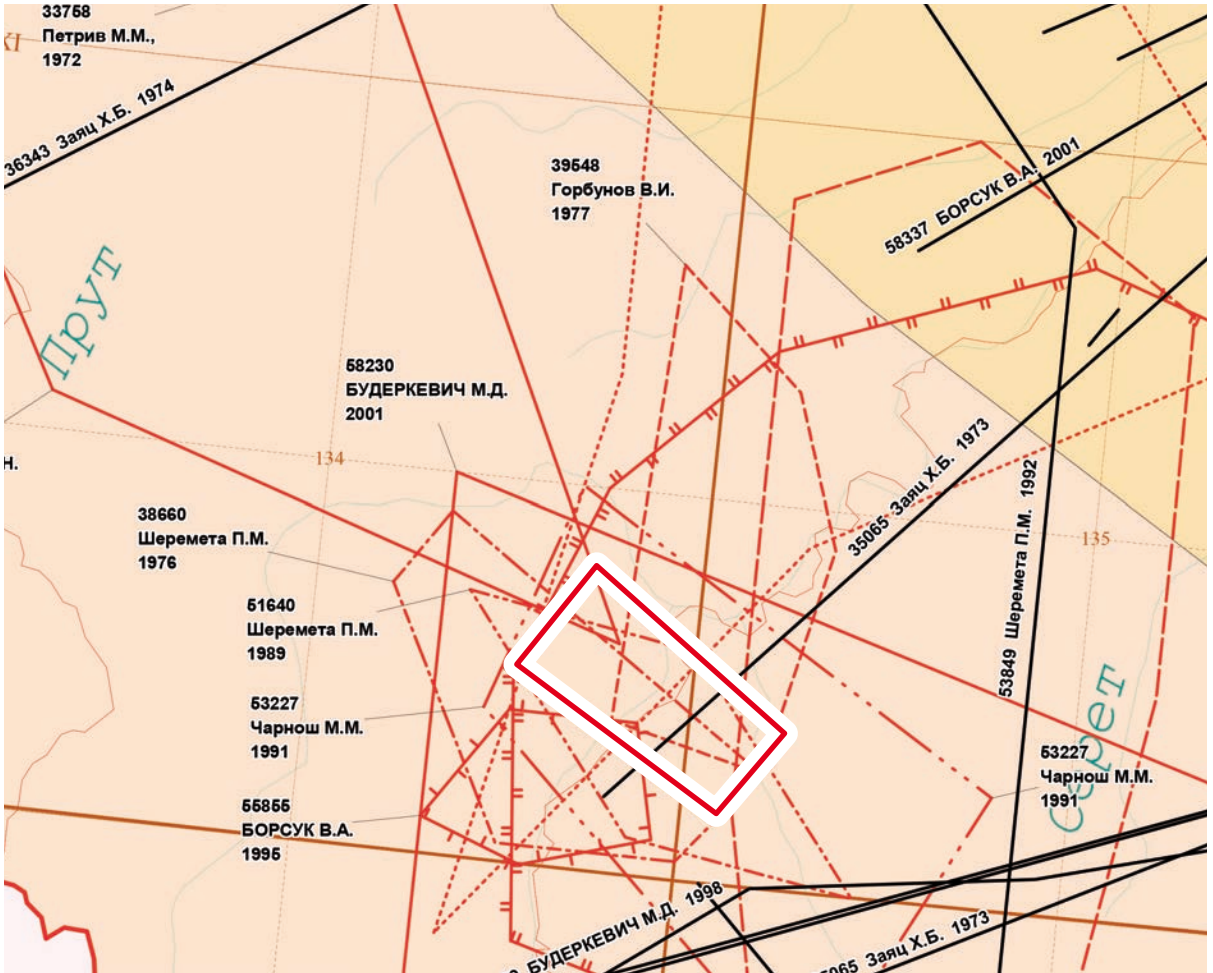
Stage II (12 months) – acquisition of 2D or 3D seismic data on 1/4 of the block's area

Stage III (24 months) – one productive well drilling

BLOCK 8

DYKHYNETSKA LICENSE

Map of geophysical surveys and seismic lines



MAP SYMBOLS

1:25 000

1:50 000

1:100 000

geophysical survey

seismic lines



DYKHYNETSKA BLOCK



survey with no mapping

45860 report number

Рогов А.М. author of the report

1982 year of the report



BLOCK 9

ZAKHIDNOTOKARSKO-KRASNIANSKA LICENSE

LOCATION

Zakhidnotokarsko-Krasnianska block is located in Svatove district of Luhansk region, 2 km west of Svatove district center. The area of the block is 91,06 km².

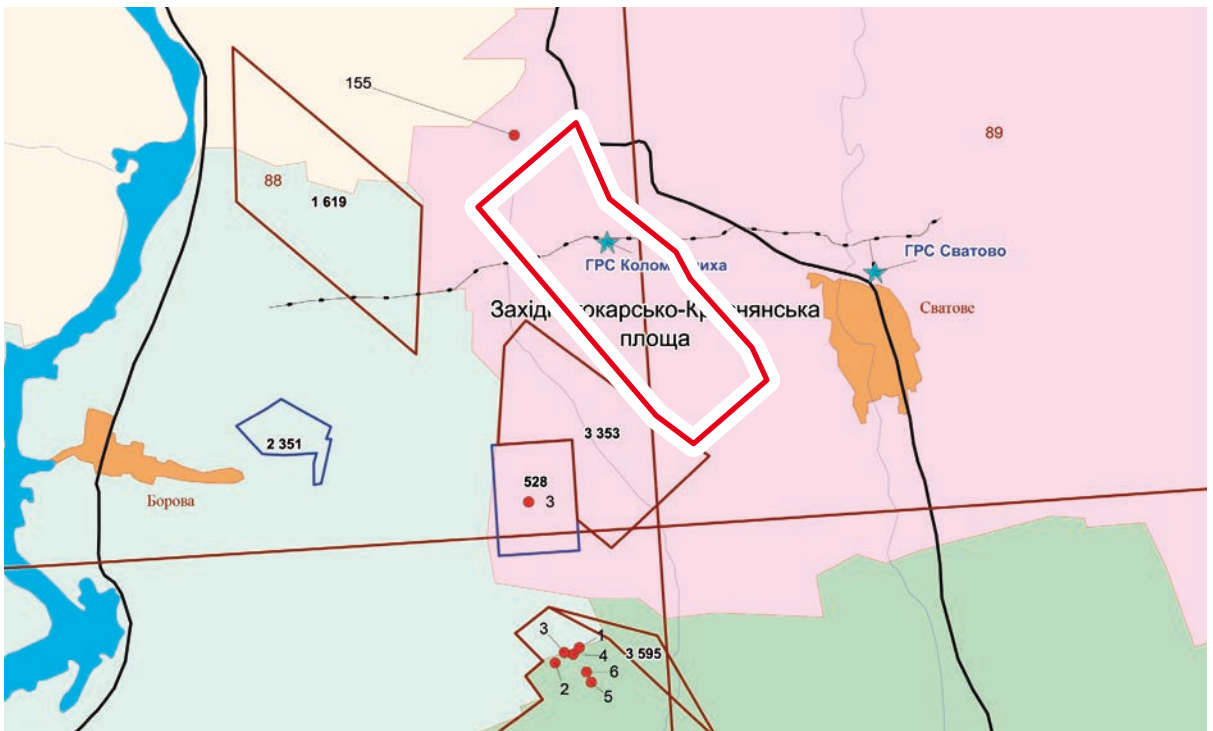
CONCESSION TYPE

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

DEPOSITS DISCOVERED IN THE AREA

Druzhelyubivske and Zaytsevske hydrocarbons fields.

Map of Zakhidnotokarsko-Krasnianska 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	37	53	16.52	49	28	54.85	37	53	22.33	49	28	55.04
2	37	57	32.52	49	30	59.86	37	57	38.33	49	31	0.05
3	37	58	42.53	49	28	53.86	37	58	48.33	49	28	54.05
4	38	1	17.53	49	27	21.86	38	1	23.33	49	27	22.04
5	38	1	48.54	49	26	36.86	38	1	54.33	49	26	37.04
6	38	4	9.54	49	24	39.86	38	4	15.32	49	24	40.04
7	38	4	40.54	49	23	45.85	38	4	46.32	49	23	46.04
8	38	1	29.54	49	22	11.85	38	1	35.33	49	22	12.04
9	38	0	1.54	49	23	0.85	38	0	7.32	49	23	1.04
10	37	53	16.52	49	28	54.85	37	53	22.33	49	28	55.04

- well
- ★ gas-distribution plant
- gas pipeline
- ZAKHIDNOTOKARSKO-KRASNIANSKA BLOCK

GEOLOGICAL CHARACTERISTICS

The block covers the area of the northern edge and the cut-off part of the Dnipro-Donets basin. The edge of these structural and tectonic elements is the northern fault. To the south of the edge faulting, the crystalline basement gradually submerges to the centre of the depression in the system of faults of the northwest strike. Depth of the basement bedding is 2.5-3.2 km.

SURVEY INFORMATION AVAILABLE

The number of structures within Zakhidnotokarsko-Krasnianska block was discovered in the Upper Visean Stage due to the performance of the seismic by the state enterprise Ukrgeofizyka during 1980-1982. The traprocks of oil and gas accumulation in the structure in the Moscovian Stage are observed on the horizons M-2, M-3, M-5, M-6; in the Bashkirian Stage they are discovered on the horizons B-2, B-3, B-4.

Assessment of hydrocarbon resources (Ukrainian classification)

The inferred natural gas resources are estimated at 900 million m³.

Well data

The geological structure of Zakhidnotokarsko-Krasnianska block includes rocks of the crystalline basement, which are discovered by the extension wells Kolomyychikinska-1, Nezhurinska-1 and Nezhurinska-2, at depths, respectively, 2418 m, 2463 m, 3150 m, and are represented by breccia and cracked granite gneisses.

Seismic surveys

Year of surveys	Number of lines	Number of linear km	Fold
1979	7	72,63	12
1980	16	133,6	12
1981	17	90,94	12
1988	2	20,7	24
1990	3	31,5	24
1991	2	16,4	24
1994	3	30,7	24
1995	2	14,7	24
1996	2	17	24
2000	11	100,77	30-45
2002	2	16,95	24

EXPLORATION WORK PROGRAM REQUIREMENTS

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

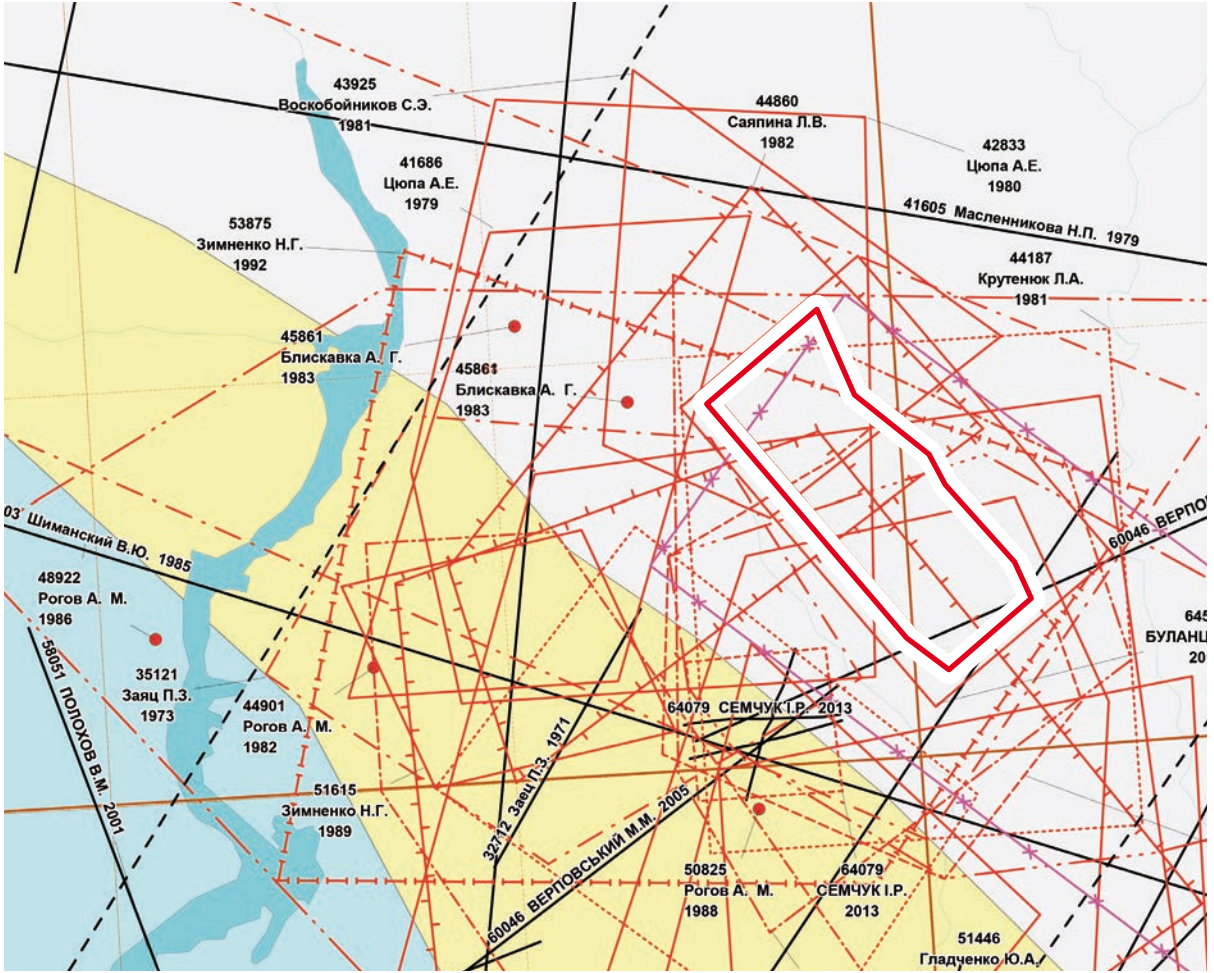
Stage II (12 months) – acquisition of 2D or 3D seismic data on 1/4 of the block's area

Stage III (24 months) – one productive well drilling

BLOCK 9

ZAKHIDNOTOKARSKO-KRASNIANSKA LICENSE

Map of geophysical surveys and seismic lines





MAP SYMBOLS

 1:25 000

 1:50 000


 1:100 000

 geophysical survey

 seismic lines



ZAKHIDNOTOKARSKO-KRASNIANSKA BLOCK

 survey with no mapping

45860 report number

Рогов А.М. author of the report

1982 year of the report

Ukraine

NOW



BLOCK 10

SUVORIVSKA LICENSE

LOCATION

Suvorivska block is located in Reni, Izmail and Bolhrad districts of Odesa region. The area of the block is 462.95 km².

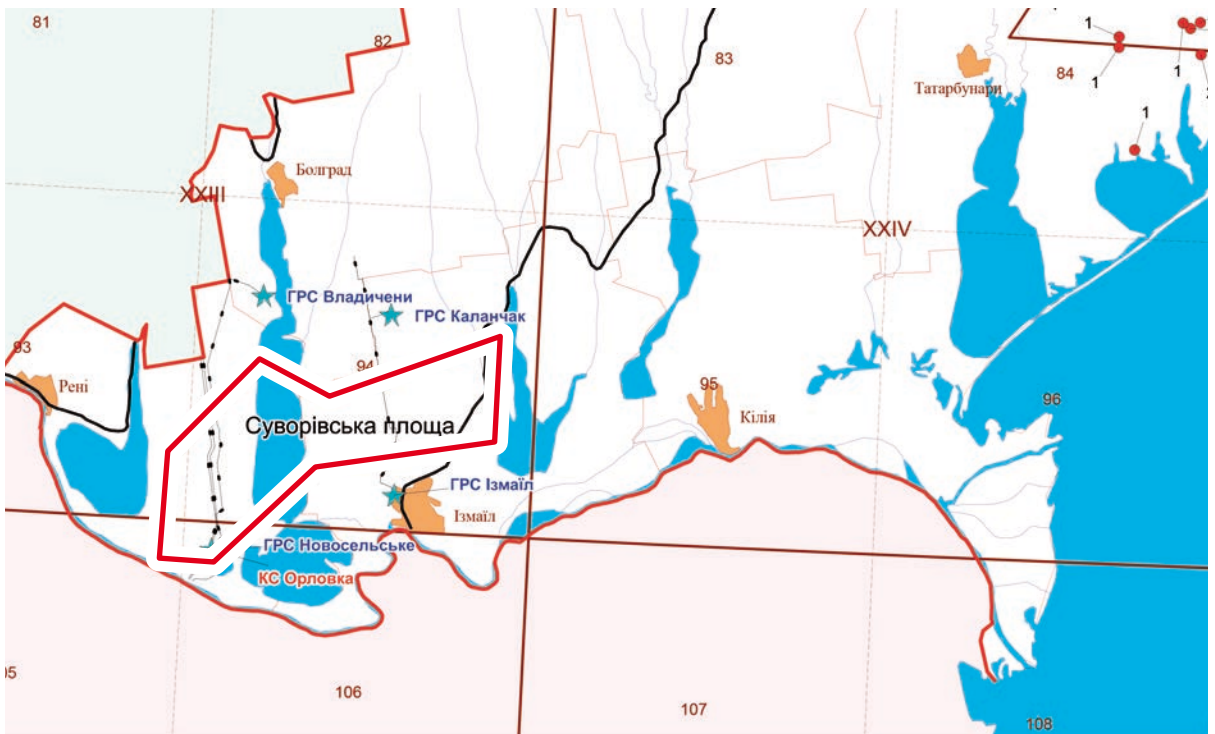
CONCESSION TYPE

License for geological exploration with pilot development of hydrocarbons. Duration - 5 years.

DEPOSITS DISCOVERED IN THE AREA

On the northwest of the city of Reni, on the territory of Moldova is located Valenske oil field in the deposits of the Middle Sarmatian Stage.

Map of Suvorivska 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	28	56	36.59	45	25	46.23	28	56	42.17	45	25	47.16
2	28	41	11.59	45	23	40.21	28	41	17.18	45	23	41.16
3	28	32	50.60	45	17	31.20	28	32	56.17	45	17	32.16
4	28	28	7.59	45	17	34.20	28	28	13.17	45	17	35.17
5	28	28	20.58	45	24	9.20	28	28	26.18	45	24	10.17
6	28	35	50.58	45	30	6.21	28	35	56.18	45	30	7.16
7	28	42	5.59	45	28	3.22	28	42	11.18	45	28	4.16
8	28	56	38.59	45	32	15.23	28	56	44.18	45	32	16.16
9	28	56	36.59	45	25	46.23	28	56	42.17	45	25	47.16

- well
- ★ gas-distribution plant
- gas pipeline
- SUVORIVSKA BLOCK

GEOLOGICAL CHARACTERISTICS

Suvorivska block belongs to the south-western edge of the Moldavian Jurassic depression. In the geological structure of the sedimentary cover, in addition to the Vendian formations, deposits of the Triassic, Jurassic, Paleogene and Neogene periods are also presented. The deposits of the Jurassic and Triassic period on the depths of 2000 - 4500 meters are exploration target on Suvorivska block.

SURVEY INFORMATION AVAILABLE

Gravity and magnetics, geological mapping of scale 1: 200,000 and 1:50 000 have been carried out at different times on the area of the block and in the vicinity. In the southwestern part of Odesa region, oil and gas prospecting structures have been discovered by seismic exploration in sedimentation masses: Loshynivska, Izmailska, Utkonosivska, Kyslytska, Kamyshovska and others. Drilling operations have been carried out on the territory of the block in 1967-1972 in order to identify the geological conditions for the underground gas storage construction. Upper Jurassic deposits were the objects of investigation.

Assessment of hydrocarbon resources: not estimated

Seismic surveys

Seismic surveys have been carried out on the eastern part of Suvorivska block in 1982-1984. The results of the work are set out in a series of reports. In particular, in the report of the Safianivska seismic crew No. 244/84 as of 1985. It was concluded that a number of discovered structures, including the Loshynivske high in Jurassic sediments, could be drilled.

Well data

There has been no oil and gas drilling in the block.

EXPLORATION WORK PROGRAM REQUIREMENTS

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

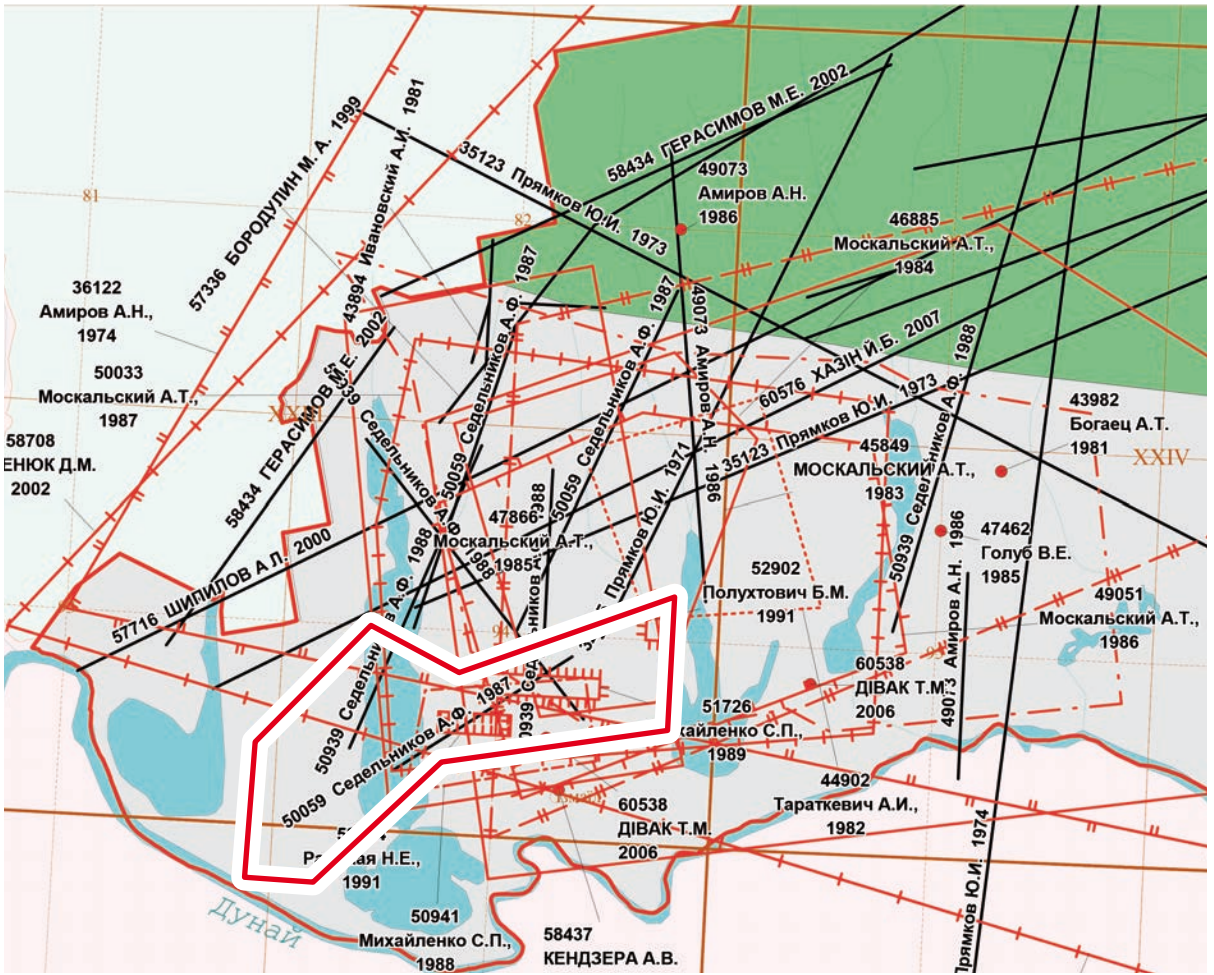
Stage II (12 months) – acquisition of 2D or 3D seismic data on 1/4 of the block's area

Stage III (24 months) – one productive well drilling









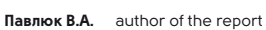
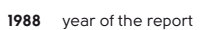
BLOCK 10

SUVORIVSKA LICENSE

Map of geophysical surveys and seismic lines



MAP SYMBOLS

-  1:25 000
-  1:50 000
-  1:100 000
-  geophysical survey
-  seismic lines
-  SUVORIVSKA BLOCK
-  survey with no mapping
-  51238 report number
-  Павлюк В.А. author of the report
-  1988 year of the report

Contacts for obtaining information

Type of Data	Description	Contacts
Coordination	Organization of the auctions and coordination of state geological data disposal	State Geological Service of Ukraine Head of Permitting and International Relations Department +38 044 536-13-20 dozvilnadra@ukr.net Head of the Auction Department +38 044 456-60-56 auction@geo.gov.ua
Seismic surveys	Review of the reports is free of charge at the state enterprise Ukrgeofizyka. Acquisition of the right to use of data is possible upon request to the State Geological Service of Ukraine. Cost shall be determined after evaluating the amount of data requested.	Ukrgeofizyka Chief geologist +38 044 453-38-02 info@ukrgeofizyka.com.ua
Well data	Review of the reports is free of charge at the state enterprise Geoinform of Ukraine. Public register of oil and gas wells is at the link below: http://geoinf.kiev.ua/wp/sverdlovini.php Logging data is provided by the Ukrainian State Geological Prospecting Institute upon the request. Acquisition of the right to use of data is possible upon request to the State Geological Service of Ukraine. Cost shall be determined after evaluating the amount of data requested.	Geoinform of Ukraine Chief geologist +38 044 456-21-84 geoinf@geomail.kiev.ua Ukrainian State Geological Prospecting Institute Deputy director +38 044 430-70-26 gv@ukrdgri.gov.ua
Geological reports	Review of the reports is free of charge at the state enterprise Geoinform of Ukraine.	Geoinform of Ukraine Chief geologist +38 044 456-21-84 geoinf@geomail.kiev.ua
Licensed blocks data	Public map of licensed blocks is on the links below: www.geoinf.kiev.ua/wp/interaktyvni-karty-spetsdozvoliv.htm www.minerals-ua.info/mapviewer/goruchi.php	Geoinform of Ukraine Chief geologist +38 044 456-21-84 geoinf@geomail.kiev.ua
Land tracts	Public land tracts map is on the link below: www.map.land.gov.ua/kadastrova-karta	State Service of Ukraine for Geodesy, Cartography and Cadastre +38 044 244-82-47 land@land.gov.ua
Environmental Impact Assessment	It is necessary to conduct an EIA within a year after awarding a petroleum license	Ministry of Ecology, EIA Department +38 044 206-20-89 m.shimkus@menr.gov.ua

Useful contacts



+38 044 536 536 4
+38 097 536 536 4
office@agpu.org.ua
www.agpu.org.ua



+38 044 498 77 75
office@nicouncil.org.ua



+38 044 256 78 32
howcanwehelp@ukraineinvest.com



www.prozorro.sale



+ 38 044 337 77 65
www.sale.ueex.com.ua

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