GROUP POISK

POISK Group

Additional exploration in producing fields

Samples of projects

СЕВАСТОПОЛЬСКИЙ ГОСУДАРСТВЕННЫЙ УНИВЕРСИТЕТ

Case Study I. Russia. Producing field

Purpose of the study

Identification and delineation of hydrocarbon anomalies associated with not drilled / discovered pools in the producing gas condensate field

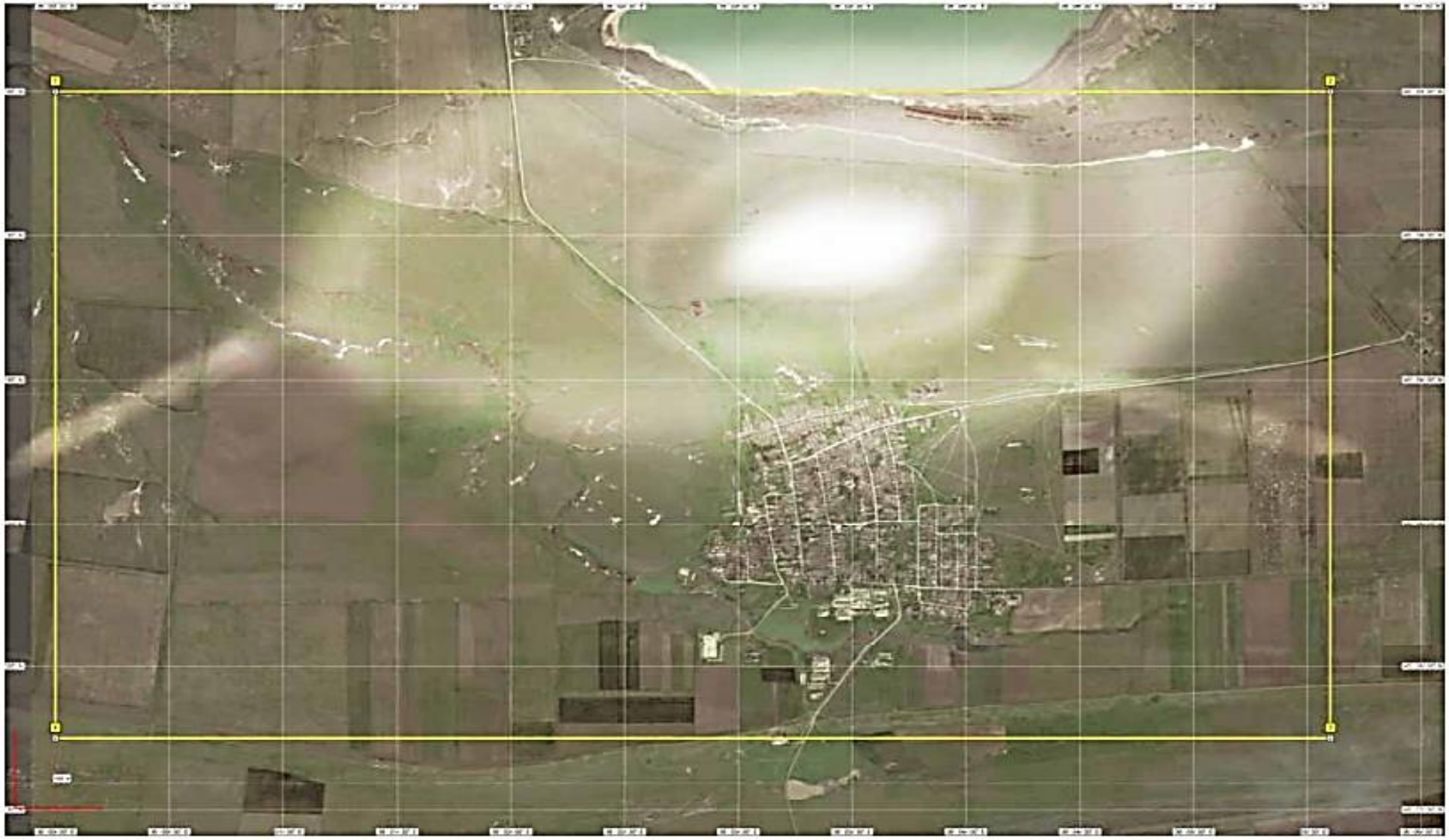
1) Determine the hydrocarbon anomalies in the surveyed area by processing satellite data (Stage I) and by detailed examination of anomalous areas using mobile resonant-test field equipment (Stage II);
2) Measure the depths of hydrocarbon reservoirs in anomalies
3) Estimate the thickness of hydrocarbon reservoirs;
4) Estimate the average thickness of the porous part of the gas-bearing formation and the gas pressure in each horizon;
5) Map the migration routes of hydrocarbons through gas-permeable rocks;
6) Determine the type of reservoir rocks of hydrocarbon horizons;
7) Construct depth profiles of hydrocarbon reservoirs on anomalies with a measurement step of no more than 500 m;
8) Estimate hydrocarbon resources in the identified anomalies.

Case Study I. Russia. Producing field

Stage I (remote sensing). Layout

Case Study I. Russia. Producing field

Stage I (remote sensing). Mapped anomalies



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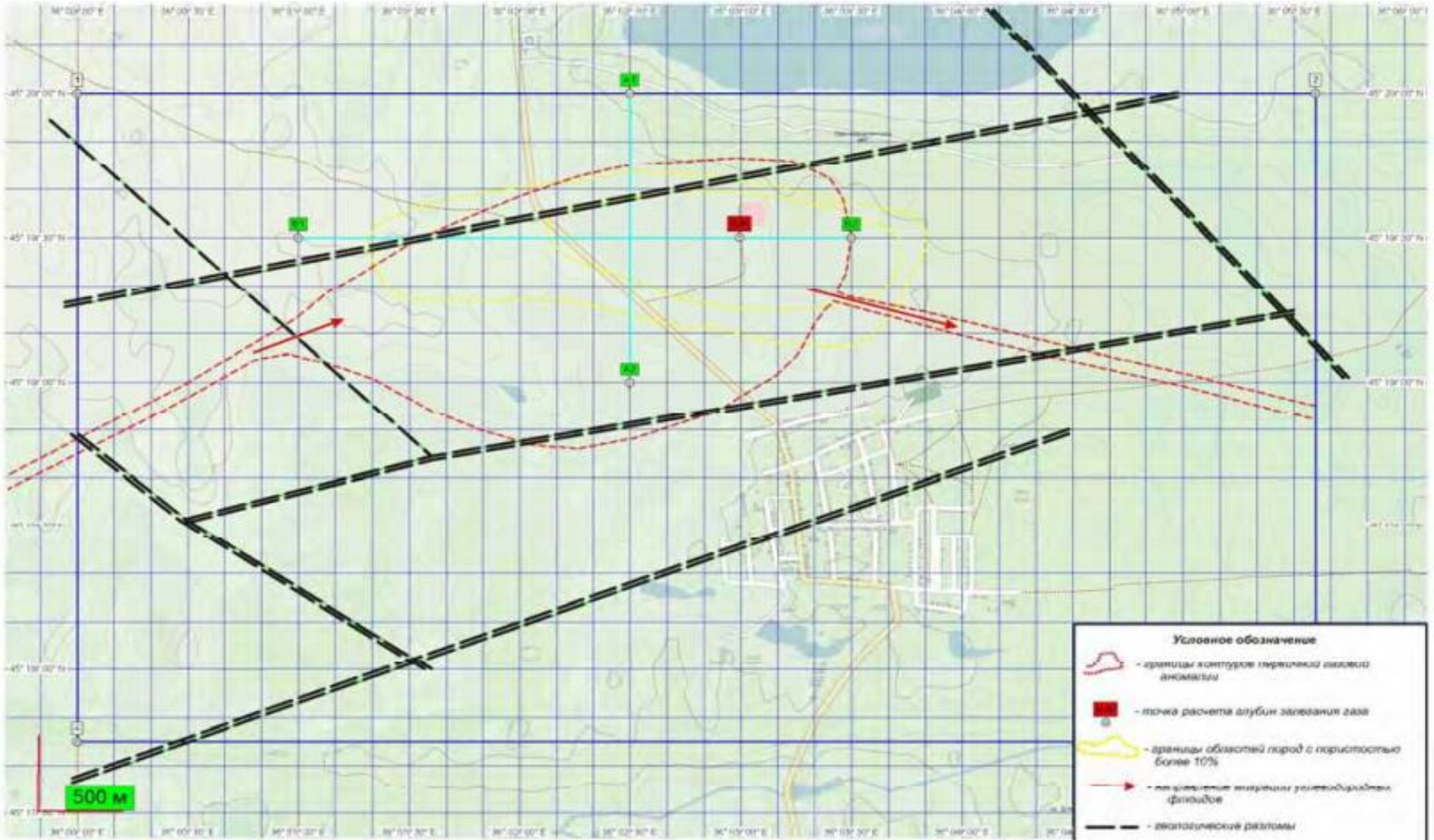
Stage I (remote sensing). Faults



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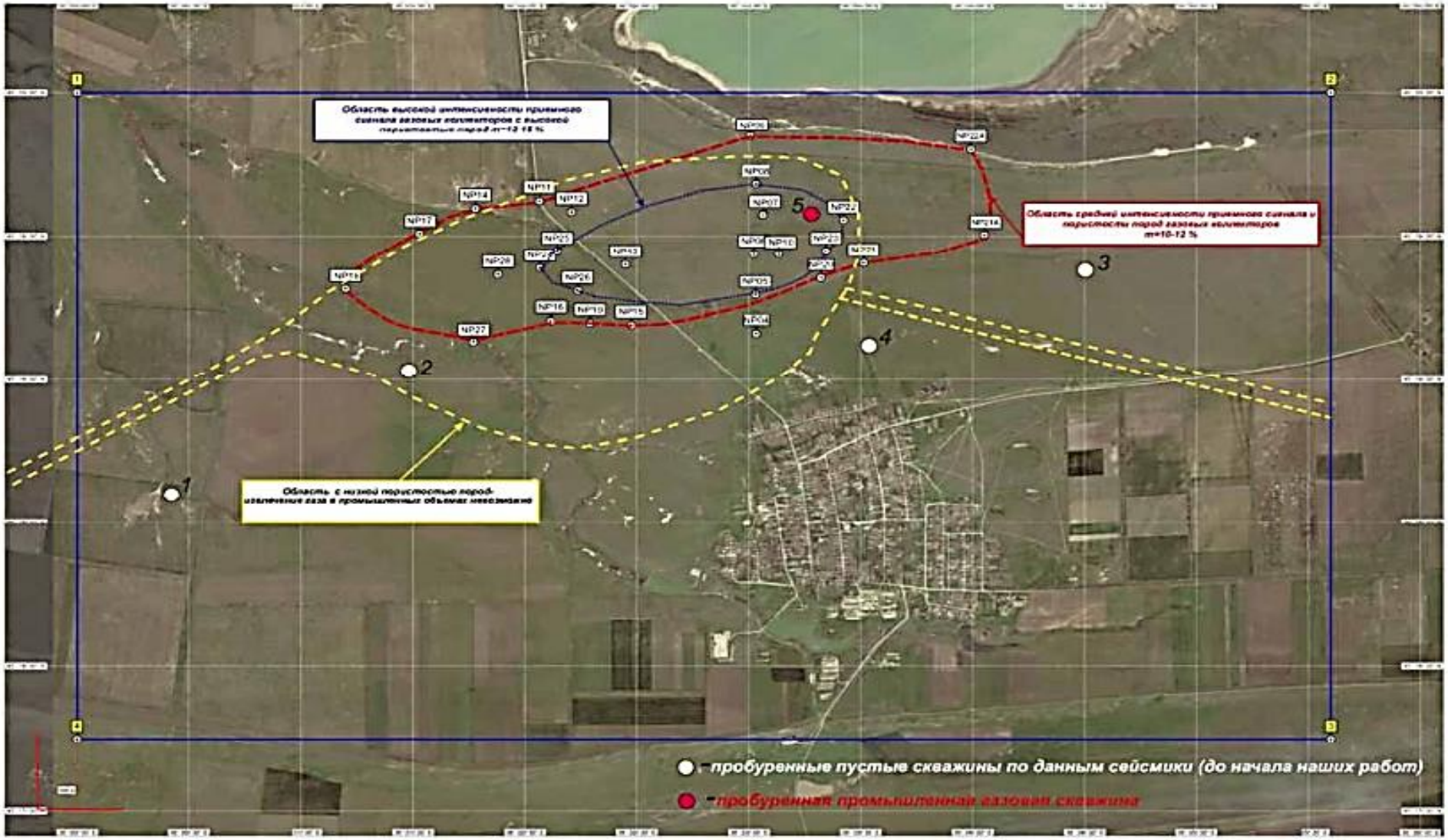
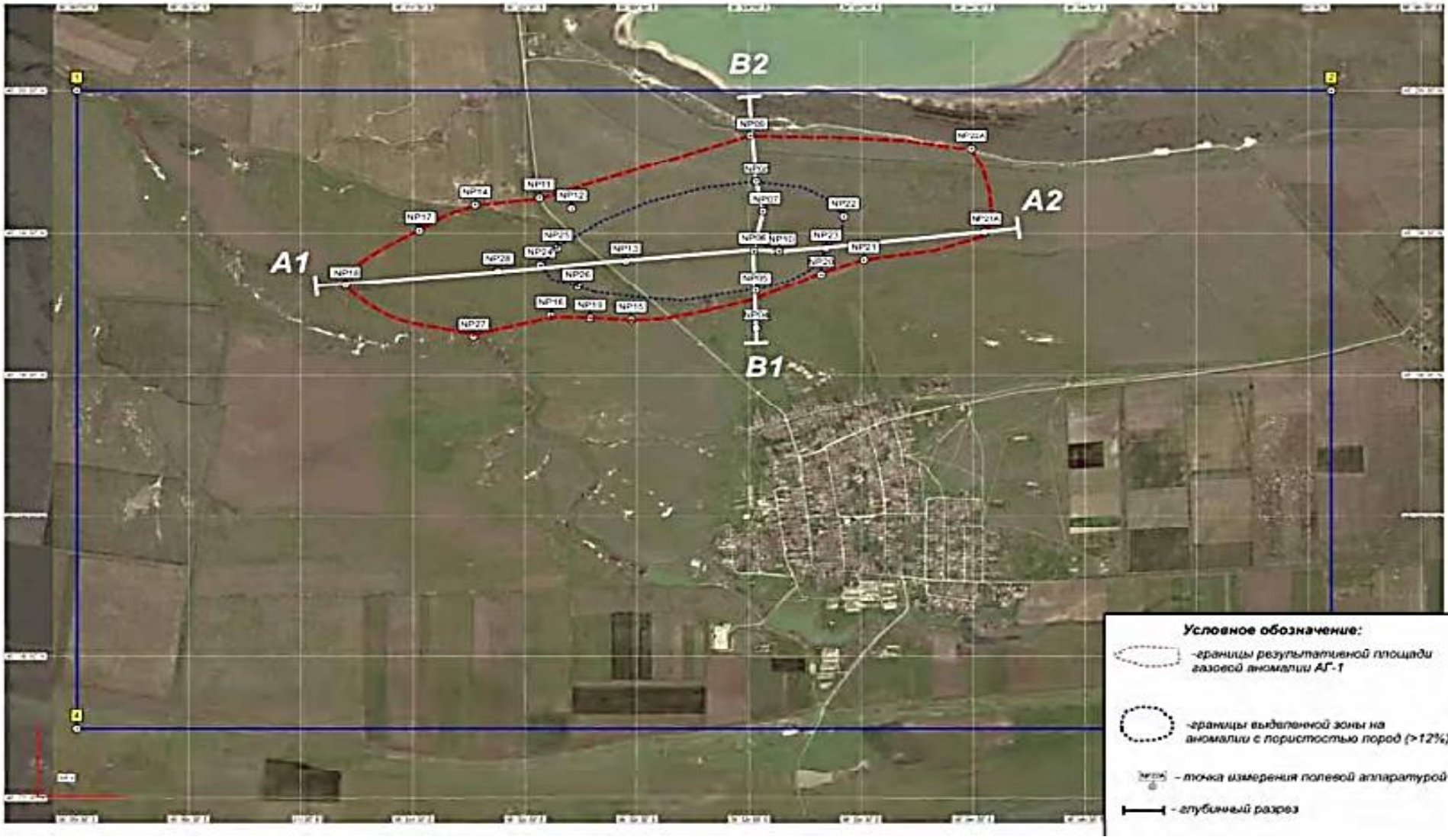
Stage II (field survey). Confirmed anomalies



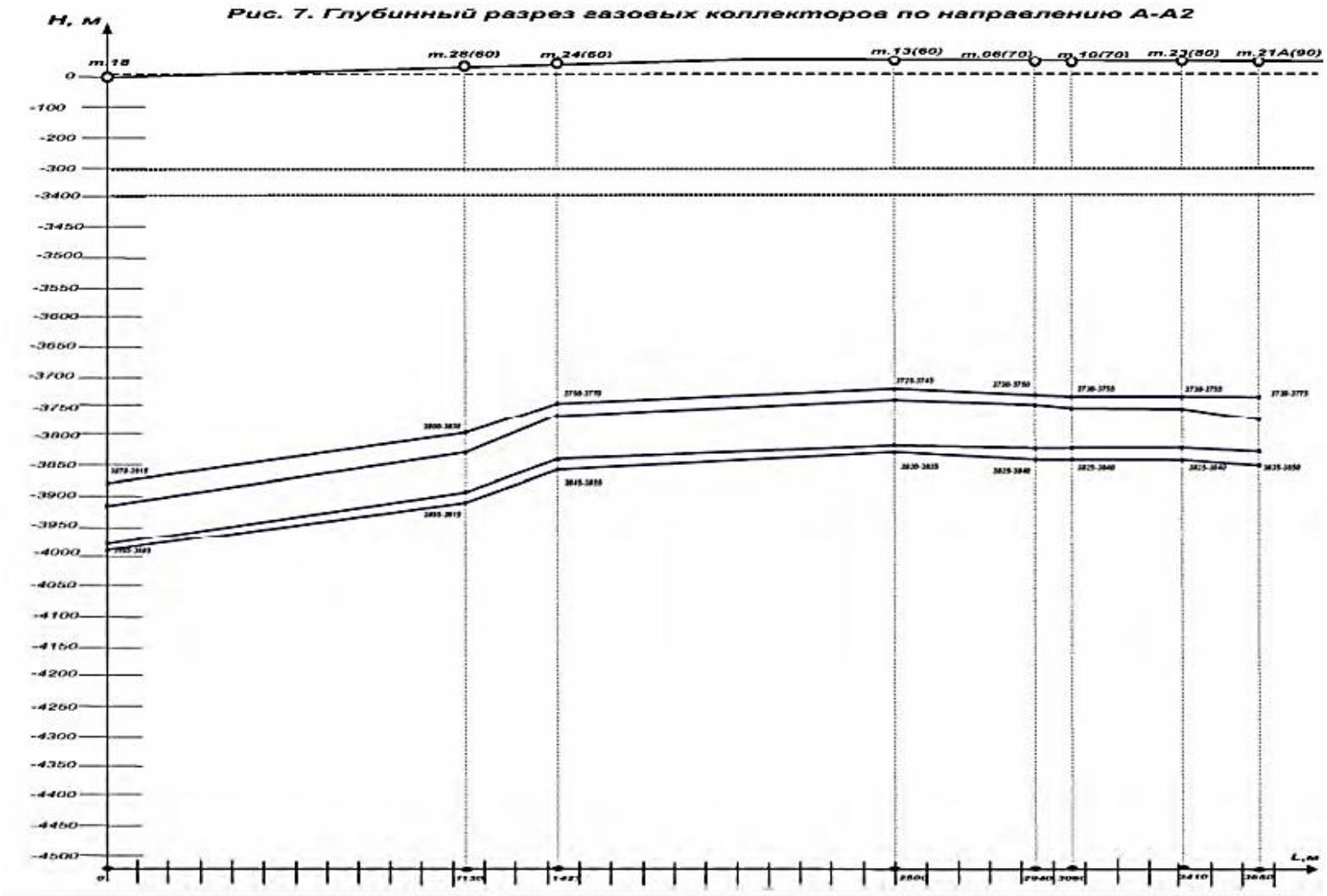
Case Study I. Russia. Producing field

Stage II (field survey). Depth estimation lines



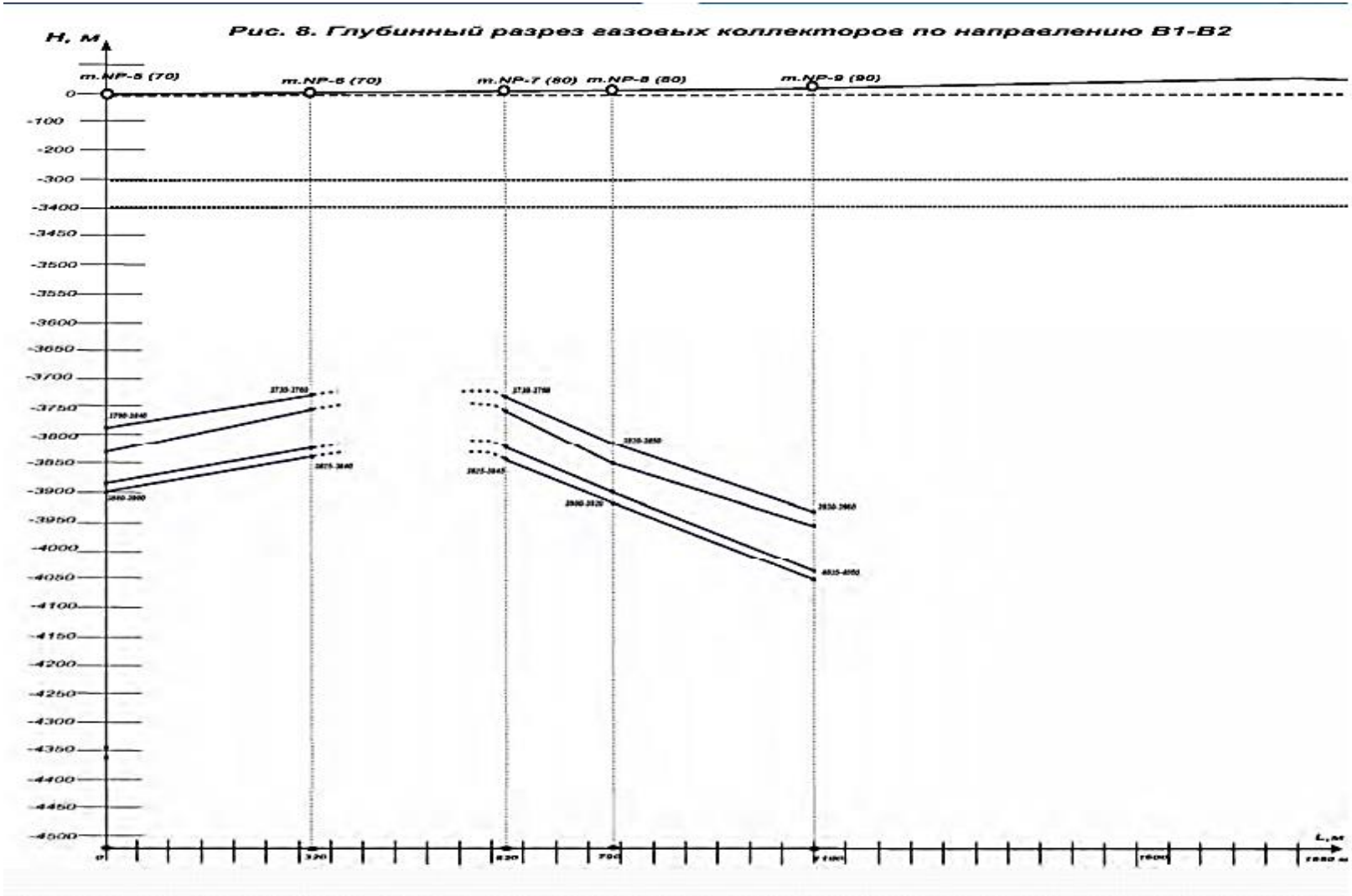
Case Study I. Russia. Producing field

Stage II (field survey). Depth estimation



Case Study I. Russia. Producing field

Stage II (field survey). Depth estimation



Case Study I. Russia. Producing field

Stage II (field survey). Reservoir properties

Location	Lat, N Long, E	Signal features	Altitude above sea level (m)	Gas reservoirs depth $-H_1$, $-H_2$ (m)	Rock types. Pressure (P, MPa)	Gas reservoir thickness, Δh (m)
1	2	3	4	5	6	7
NP04	45°19'9,7" 36°3'2,0"	The "gas" signal, the background values of the signal. Of no commercial value	70	-	-	-
NP05	45°19'17,7" 36°3'1,8"	Gas. The southern tip of the productive anomaly. Maximum signal intensity. Measurement of gas reservoir occurrence parameters.	70	(I) -3790÷3830; (II) -3880÷3900.	Porous sandstone, P_1=50; P_2=55	30 10
NP06	45°19'26,2" 36°3'1,4"	Gas. The maximum amplitude of the signal. Measurement of gas reservoir occurrence parameters.	70	(I) -3730÷3760; (II) -3825÷3840.	Porous sandstone, P_1=50; P_2=55	25 10
NP07	45°19'34,4" 36°3'3,8"	Gas. The maximum amplitude of the signal. Measurement of gas reservoir occurrence parameters.	80	(I) -3730÷3750; (II) -3825÷3845.	Porous sandstone, P_1=50; P_2=55	25 10
NP08	45°19'40,7" 36°3'2,0"	The boundary of the intense signal at the northern part of the anomaly.	80	(I) -3820÷3850; (II) -3930÷3950.	Porous sandstone, P_1=50; P_2=55	25 10
NP09	45°19'51" 36°03'00"	Gas. Average signal intensity. The northern part of the anomaly. Measurement of gas reservoir occurrence parameters.	90	(I) -3930÷3960; (II) -4035÷4050.	-//-	25 10
NP10	45°19'25,9" 36°03'7,1"	Gas. Maximum signal intensity. Measurement of gas reservoir occurrence parameters.	70	(I) -3730÷3755; (II) -3825÷3840.	-//-	25 10

Case Study I. Russia. Producing field

Stage II (field survey). Depth and reservoir data

№	Location	Altitude above sea level (m)	The depth of occurrence of gas reservoirs from the sea level	Effective thickness of the gas reservoirs (m)
1	P-18	50	3870-3915 3965-3985	30 10
2	P-28	60	3800-3830 3895-3915	25 8
3	P-24	60	3750-3770 3845-3855	25 10
4	P-13	60	3725-3745 3820-3835	20 10
5	P-06	70	3730-3750 3825-3840	20 8
6	P-10	70	3730-3755 3825-3840	25 9
7	P-23	80	3730-3755 3825-3840	25 10
8	P-21A	90	37503775 38353850	20 8

Case Study I. Russia. Producing field

Stage II (field survey). Resources estimation

Horizon	Gas reservoir size			Depth, H (м)			Average effective thickness h (м)	Porosity m (%)	Water saturation, %	Pressure P (МПа)	Resources ($\cdot 10^6$ м^3)	
	Width (м)	Length (м)	Area S(м^2)	Min	Average	Max					In-place	Recoverable
I	1,3	3,8	$3,2 \cdot 10^6$	3725	3820	3930	20	12÷15	30	50	582,4	416,0
II	1,3	3,8	$3,2 \cdot 10^6$	3820	3930	4048	10	10÷12	40	55	147,84	105,6
Total:			$6,4 \cdot 10^6$								730,24	521,6

Recoverable volumes:

$$V_{rec} = S \cdot \Delta h \cdot P \cdot \eta_{CP};$$

where η_{CP} –the integral factor of porosity, temperature, water saturation, gas recovery

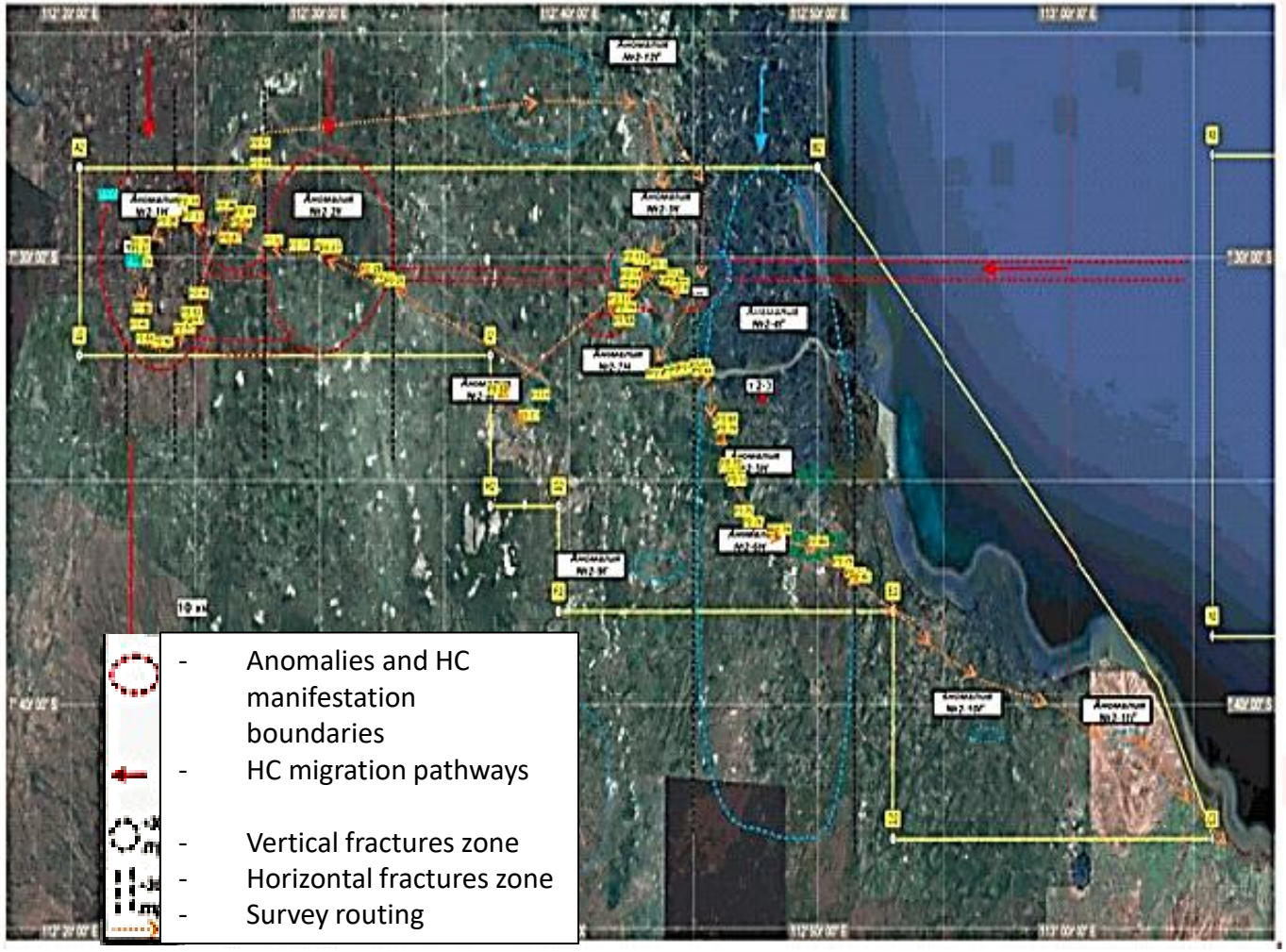
- η_{CP} – for the horizon I – 0,13
- η_{CP} – for the horizon II– 0,06

Case Study I. Russia. Producing field

Conclusions

- As a result of the study of the licensed area using RS-NMR Technology and processing space images using the POISK equipment (Stage I), gas anomalies were identified and mapped.
- Approximate depths of occurrence of gas reservoirs were estimated.
- The types of reservoir rocks of gas horizons were identified, and the characteristic spectra of resonant electromagnetic fields above the anomaly were recorded by which the effective thicknesses of the porous part of gas-saturated reservoirs are determined.
- Some reservoir properties were predicted and gas resources were estimated
- Wells drilled at the recommended locations produced gas inflow which proved the reliability of the method

Case Study II. Indonesia. Producing field



License block in Indonesia

Productive wells are sitting within the areas outlined marked with red color

Case II. Indonesia. Testimonial

Russ Techno
Tel: +62 8170 228877 FAX: +62 21 84306196

CV RussTechno Indonesia
Ruko Permata Boulevard Blok BA, No.1
Jl Pos Pengumben Raya Jakarta Barat 11550 – INDONESIA

Date : 1 June, 2012 r.

Re: SBRDSS report reference

In accordance Contract No.1, 28.11.2011 between RussTechno Indonesia and Sevastopol State University, Sevastopol's specialists (head of team - Ph.D. Kovalev N.I.) were involved with a set of equipment "Poisk" for remote search for oil and gas with identification its depth and deposit on Brantas Block in Java, Indonesia total area 3050 km2. Off-shore – 2 blocks and On-shore – 3 blocks.

Previously, these areas were studied by traditional seismic methods and have more then 30 wells.

The study was performed in February 2012. Based on the results of study on Brantas Block by using remote method SBRDSS Sevastopol specialists discovered total 31 hydrocarbon anomalies.

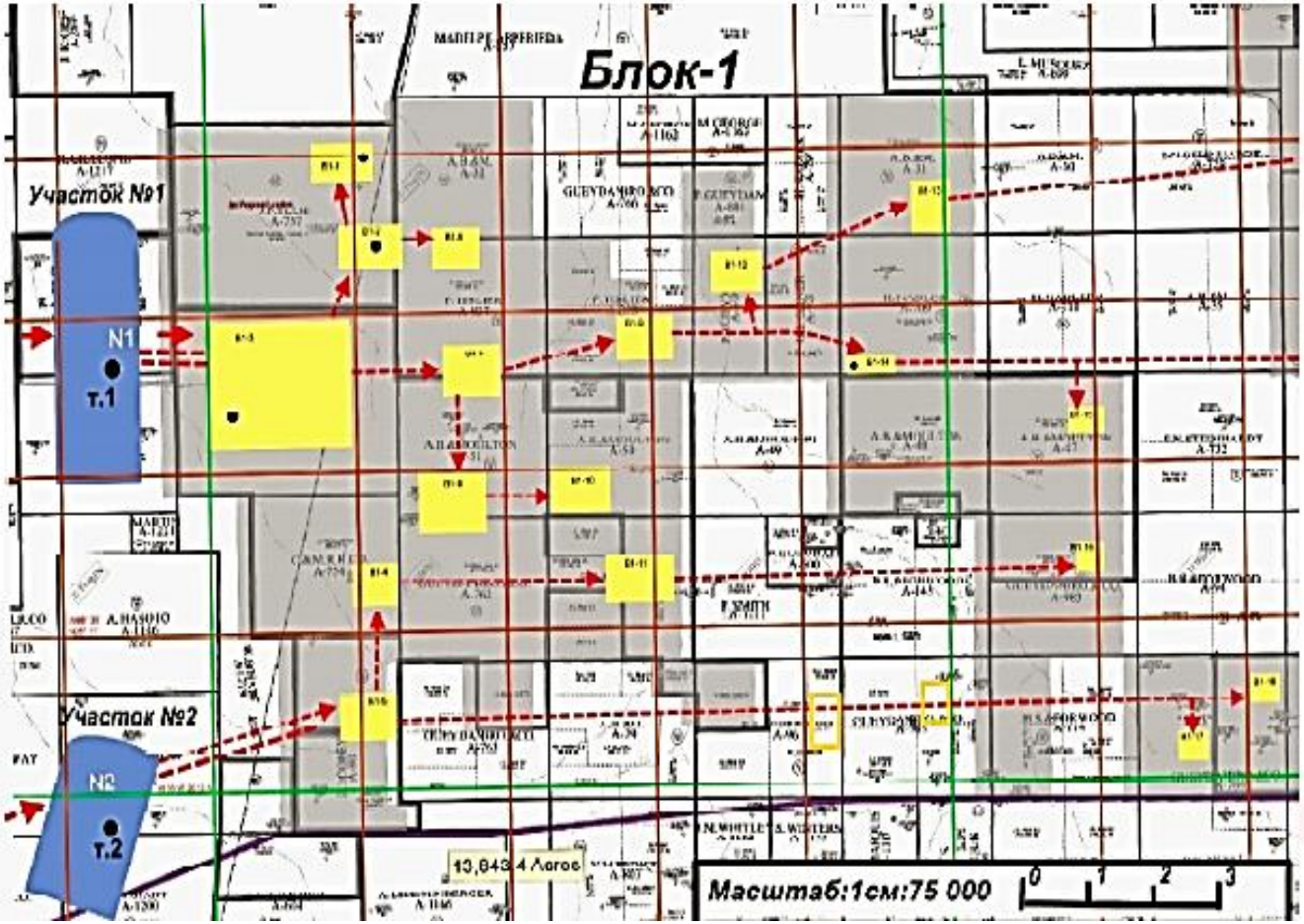
SBDRSS remote method was proven by compare with seismic date available in Lapindo Brantas company. This method is cost effective and very accurate in depth and deposit result.

Regards,

Thanigasalam
President Director

CV RUSSTECHNO INDONESIA

Case Study III. USA. Gas producing field



License block in Texas, USA

Well N-1 penetrated shale oil formation as indicated by the corresponding anomaly

Case III. USA. Testimonial

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Founded in 2007

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Outgoing # 11/10-03 15.11. 2010

Conclusion

on the results of prospecting works performed by specialists of the «Sevastopol National University of Nuclear Energy and Industry» in the territory of Texas, USA

Commissioned by the Institute of Geophysics and Problems of the Earth (Kiev, Ukraine) in 2010 specialists (Ph.D. Goh V.A., Ph.D. Kovalev N.I., Doctor of Geological and Mineralogical Sciences Filippov E.M., etc.) performed a search and exploration of natural gas deposits on the territory of Texas, USA using the equipment of the remote complex "Search". At the same time, remote search facilities were used to study the territory in the south of Texas, with an area of about 500 km2.

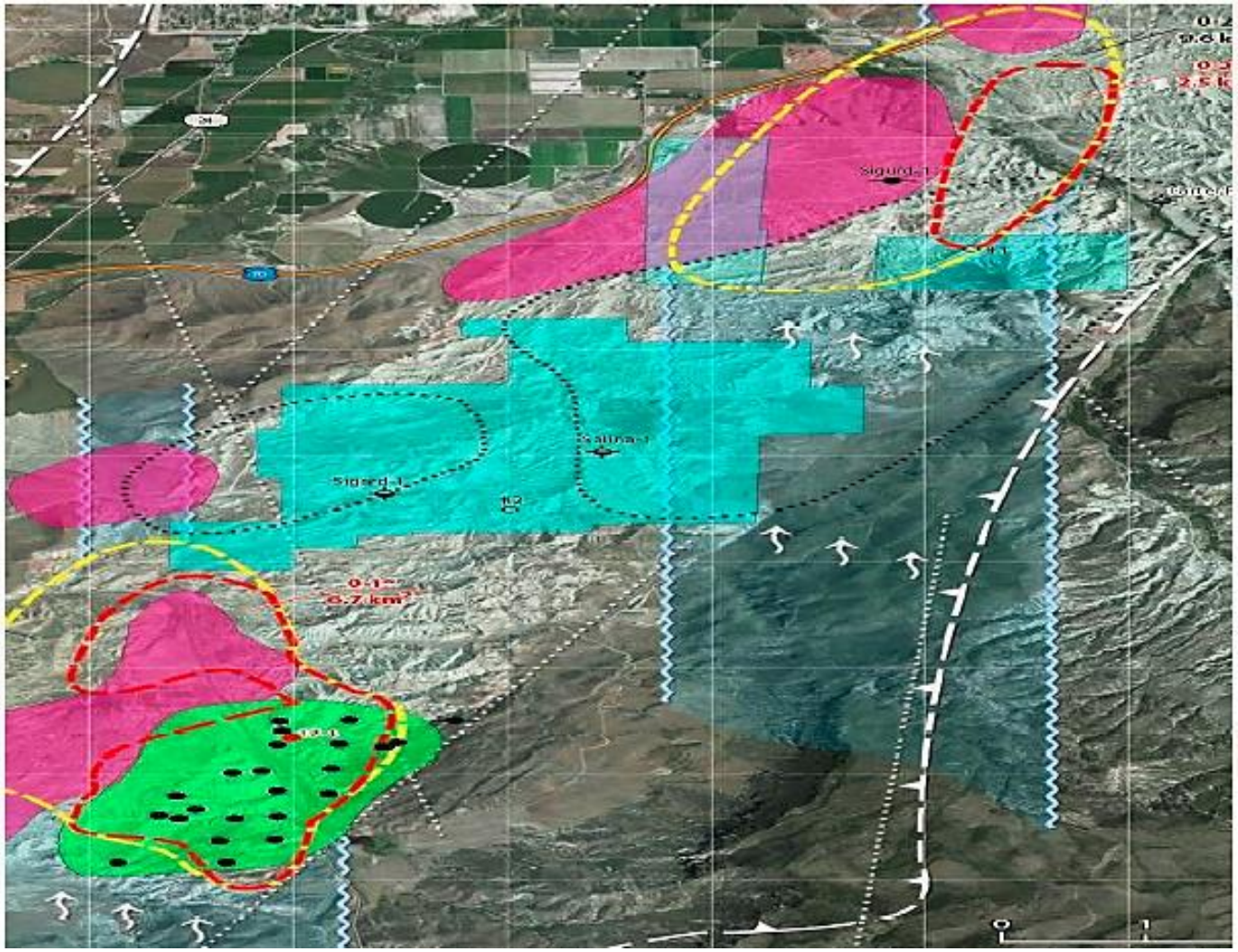
Based on the results of work on a given territory, underground natural gas accumulations were discovered having industrial significance, 3 points for drilling industrial wells were selected and surveyed.

The results of drilling a well at one of the proposed points confirmed the presence of a natural gas reservoir. The gas pressure in the deposit proved to be abnormally high, 620 atm., in accordance with the survey data.

Director of
Institute of Geophysics and
Problems of the Earth
Pavel Ivashchenko

Україна
«ІНСТИТУТ ГЕОФІЗИКИ ТА ПРОБЛЕМ ЗЕМЛІ»

Case Study IV. USA. Oil producing field



License block in Utah, USA

The oil accumulations and wells locations have proved the delineated anomalies. Recommendations were made to drill new wells at the identified anomalies to the north-east.

Case IV. USA. Testimonial

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FINAL REPORT
On Presentation-Demonstration of "Deep Vision" Model

"CARPATHIA", LLC, represented by Vasyl Lyubarets, as a party representing "Deep Vision" Model of discovering natural resources that being tested, and Kelly Alvey, as a party participating in the test, have executed this Final Report concerning final results of testing unique Model "Deep Vision".

Results of inspection of objects, located on the territory of the state of Utah, USA **Dated** 25 **of February 2009**

Object #	Kelly Alvey's data	"Deep Vision" data	Comparison %	CONCLUSION
X "0"	Nothing	Nothing	100 %	Matching results
X 1	Nothing	Nothing	100 %	Matching results
X 9/1	6380	6150-6450	100 %	Matching results
X 9/2	6380	6150-6420	100 %	Matching results
X 9/3	6500; 9500-10000	6040-6420; 9450-9750	98 %	Matching results

Director of "Institute of Geophysics and Problems of the Earth"
Technical Director of "Benif International" Corporation — Pavlo N. Ivashchenko

Inventor of "Deep Vision" Model
Professor — Vitaly A. Gokh

Inventor of "Deep Vision" Model
Professor — Mykola I. Kovalyov

Signatures of Witnesses:

Vasyl O. Lyubarets, Leader-President of "CARPATHIA", LLC

Kelly Alvey

Rex W Hardy, Lawyer

Roy Moore, Wolverine Gas and Oil Company of Utah, LLC. Landman

Ray Beckham, BYU Professor

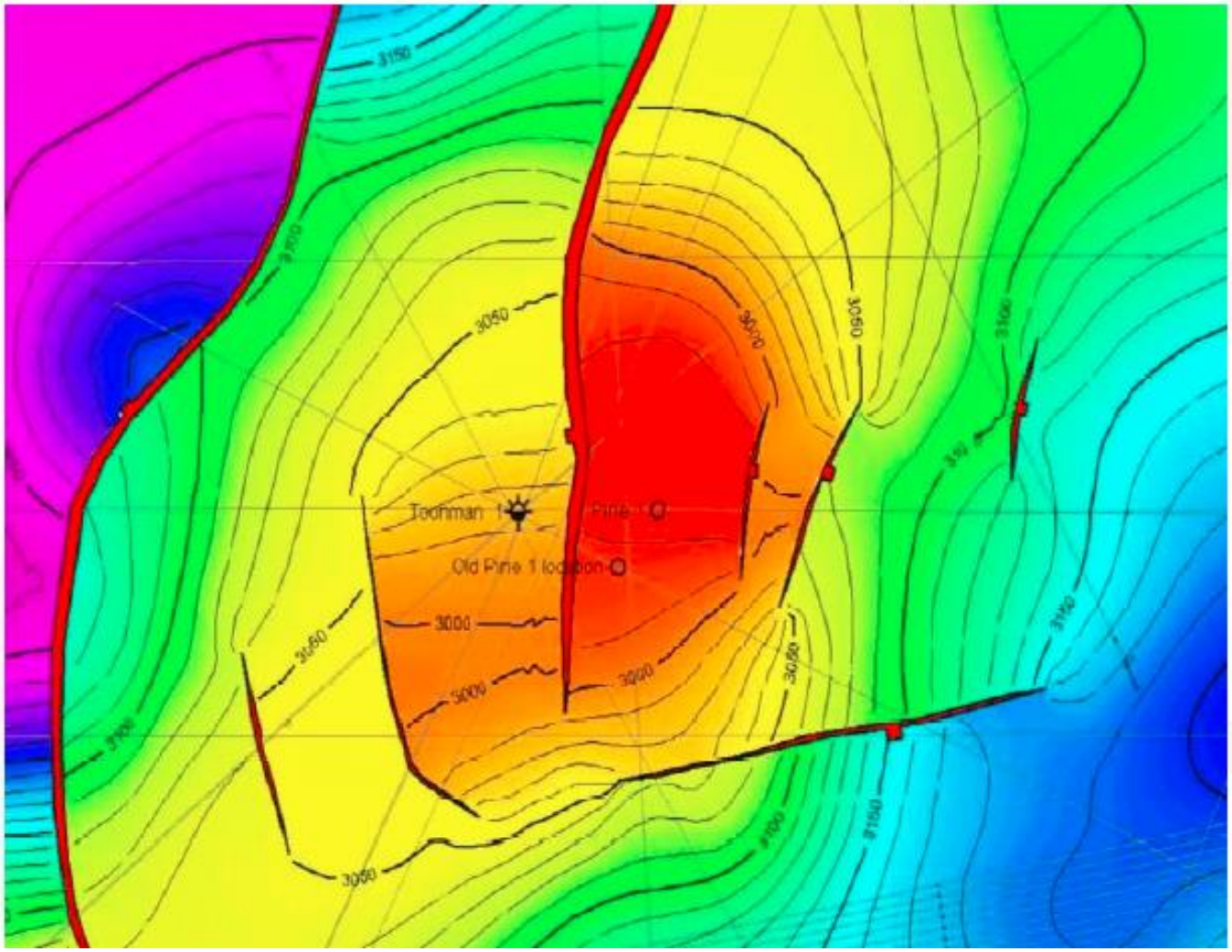
Jeffrey F. Chivers, "ENDEAVOR" Capital Group, LLC

Brad Whittaker, CEDO Executive Director

Edward W. Fall, P.G.UT Government Department of Natural Resources

Arbitrator — Elizabeth Goryunova, Director of International Relations Salt Lake Chamber of Commerce

Case Study V. Australia. Oil producing field



License block Pel-105 in Australia

Well Pine-1 location was changed as suggested the identified anomaly. The well has been drilled and proved to be productive.

RSS NMR

THE SIMPLE WAY OF EXPLORATION

СЕВАСТОПОЛЬСКИЙ ГОСУДАРСТВЕННЫЙ УНИВЕРСИТЕТ

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