

**Name of project - «Drilling,
Equipment and Operation of
Degassing Wells Aimed at Gob
Methane Recovery and
Utilization (the First Stage)»**

**Puchcov L.A., Slastunov S.V. and
Karkashadze G.G.**

(Russia)

The project was developed by Moscow State Mining University during the period 01.06.2005-15.03.2006г

The customer of project is the Kuzbass branch of the State Institution on Mine Restructuring.

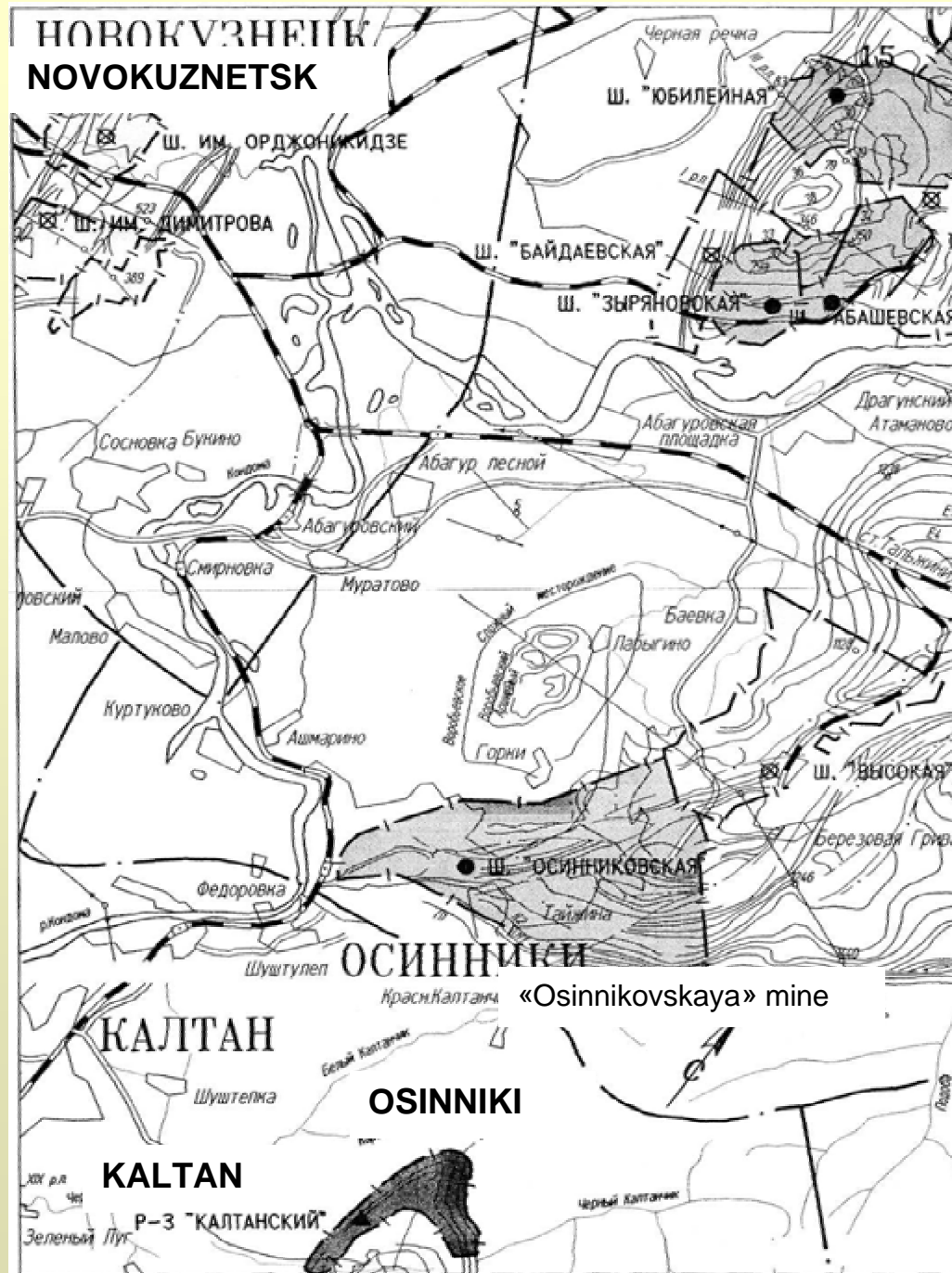
Kuznetsk Coal Basin:

“Capitalnaya ” mine – abandoned. Ownership
“Capitalnaya ” mine is Federal Agency of Power
Engineering of the Ministry of the Industry and
Power of Russian Federation.

«Osinnikovskaya» mine -still in operation.
Ownership «Osinnikovskaya» mine is private
and belongs to Joint Coal Company

" Ugkuzbasugol"

Kemerovo Region



Status of mine

“Capitalnaya ” mine - the begun its operation in 1938; and was abandoned in 1998.

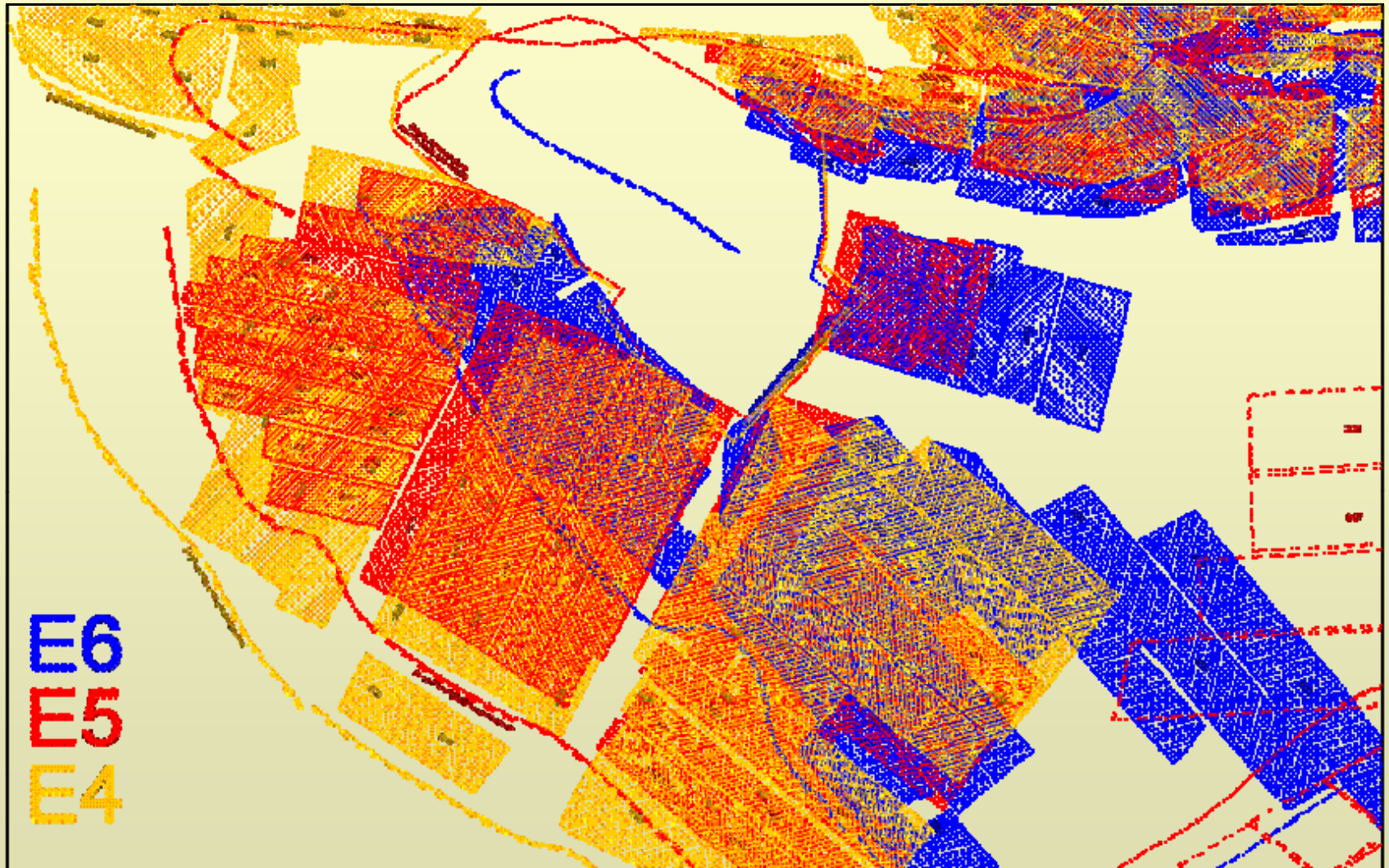
«Osinnikovskaya» mine- begun its operation in 1945.

After “Capitalnaya” mine liquidation (by dry method) and isolation of worked-out upper levels mining operations of this field were resumed by “Osynnikovsckaya” mine.

Coal mine information about “Capitalnaya ” mine

7.1 Number of coal seams mined	21
7.2 Coal seam(s) name(s)	K1 B+H, K1a, K2, K3, K3-4, K4, K5, E1, E2, E3, E4, E5, E5a, E6, E7, E8, E8a, E9, E9a, E10, E11, E12.
7.3 Depth of coal seams (meters from surface)	870 meters from surface
7.4 Thickness of coal seams (meters)	30.3 meters
7.5 Mining method (longwall, room-and-pillar, etc)	longwall
Average coal production of mine in period 1980...1998 was 1...3.5 mln. tonnes/year)	

The abandoned sites on coal seams E4, E5, E6



- At a moment of mine “Capitalnaya” liquidation coal reserves amounted to approximately 600 million tones of economically expedient and 150 million tones potential reserves.
- Rank of coal mined - Rich and cooking coal quality

Drainage system

- The drainage of “Capitalnaya” mine is provided due to work of drainage system of «Osinnikovskaya» mine.
- The produced space of “Capitalnaya” mine is without water (dry).
- This situation will be supported during all term of operation «Osinnikovskaya» mine (at least 10-15 years).
- After liquidation «Osinnikovskaya» mine flooding by water the produced space of both mines will be made.

**The data on water-inflows of the Perm adjournment of
“Capitalnaya” mine**

Year	1993	1994	1995	1996	1997
Water-inflow, m ³ /hour					
Mid-annual	655	485	455	484	546
Maximal	1140	810	840	650	1230
Minimal	360	360	330	370	370
Factor of quantity of water, m ³ /per tone	3,4	2,5	2,4	2,8	4

8.1 Current annual emissions of methane from the mine (million cubic meters per year)

“Capitalnaya ”mine					«Osinnikovskaya» mine			
YEAR	1995	1996	1997	1998	1999	2000	2001	2002
AMOUNT VENTILATED	67.49	60.19	54.3	50.2	-	-	-	-
AMOUNT DRAINED	2.91	2.7	0.87	0.22	-	-	-	-
TOTAL CH ₄ LIBERATED	70.4	62.9	55.7	50.9	47.6	47.9	52.6	54.2.6

8.2 Total volume of ventilation air released from mine (m ³ /min, average)	22080 m ³ /min, Average at «Capitalnaya» mine
8.3 Volume of pure methane in ventilation air (average m ³ /min)	110.4 m ³ /min, Average at «Capitalnaya» mine

Utilized of ventilating methane are not present!

8.13 Coal in situ gas content (m³/tonne)	Methane-bearing capacity of coal seams varies from 7÷14 m³/t (level – 100 m) to 16÷25 m³/t (level – 600 m)
8.5 Relative emissions (m³/tonne of coal mined)	Relative emissions at «Capitalnaya» mine in 1998 was equal 42.7 m³/tonne of coal

- The total volumes of methane within worked out mining blocks are about 115 million. m³.
- The expected volume of methane from five holes (under the project) is within the limits of 13.1-21.0 Million m³ /per year with concentration of methane from 60 % up to 80 %.

Support of the project

- Osinnikovskaya » mine owner Joint Coal Company "Ugkuzbasugol" gives the technical resources, gives transport,, people.
- Gives mine boiler-house for re-equipment. Carries out installation of the pipeline.
- The developer of project MSMU gives intellectual resources (consultations, training of the personnel, research works)

Investors support

- Federal Agency of Power Engineering of the Russian Federation:
- \$1.0 mln in 2006 (it is allocated under the project)
- \$1.1 mln in 2007 (it is necessary under the project)

Other supports

Joint Coal Company "Ugkuzbasugol" agree to consider the problem on individual share in realization of the Project and assignment for performance.

Project lifetime

- Duration of the project depends on the achieved actual amount of methane.
- 5-7 years of recovery from five holes are supposed.
- In case of achievement of design gas project lifetime is not limited.

Property rights, including licenses and rights to use the methane

- The license for development of minerals (including gas, CMM) to receive it is not authorized to the foreign companies.
- CMM belongs to mine according to the license agreement on a coal mining.
- CMM in Russia it is not recognized yet as a natural resource, therefore the law on its licensing still is not present.

The conclusion

- The project of recovery CMM from a unique, richest site of the “Capitalnaya ” mine – abandoned is developed.
- In case of positive experience of extraction CMM this experience will be distributed on other mines.
- At the same time the development of this project encounters resistance.
- We see a problem, that the developer of project MSMU can be discharged of practical realization of this project.
- It would be very important, that this project would be supported from Methane to Market Partnership.