



## Georgia's Oil and Gas Potential: Georgia as a Traditional Transit Country for Azeri Energy Resources

June, 2008

### Introduction

Georgia is located in a region rich with energy resources. The Caspian region ranks second in the world in terms of the amount and importance of its energy resources.<sup>1</sup> Centuries ago, oil and gas shows came up to the surface of the Earth. Sometimes, they took fire naturally and the most advanced people at that time were unable to find any sound explanation to this phenomenon. This unexplained phenomenon created grounds for fire worship, a widespread religion in Iran and the South Caspian basin until the adoption of Islam in the seventh century. In addition to Azerbaijan, in the neighborhood of Georgia oil and gas have also been extracted in Chechnya and Maykop (Krasnodar Krai in the Russian Federation).

Lately, in respect to energy resources, the Black Sea basin attracts special attention. Romania and Ukraine have already commenced extractions in the area, while Turkey has started exploration works. For this purpose it has invited the Brazilian company Petrobras, which has substantial experience in deep sea exploration and development works around Brazil's offshore deep water area.

According to different sources, oil and gas deposits exist in Georgia as well. Multiple oil and gas shows exist throughout the entire territory of the country. The period of greatest oil extraction occurred in the 1980s.<sup>2</sup> In 2007 only 55-60 thousand tons of oil were extracted, which is a very low indicator for a country that consumes 750 thousand tons of oil products annually.

Currently, three Western companies carry out exploration work on oil in Georgia: in eastern Georgia – Frontera, in central Georgia – Canargo, and in the Black Sea area – Anadarko. Large oil and gas deposits have not been discovered in the area as yet; however, according to some assumptions, substantial resources exist on Georgia's Black Sea shelf.

In Georgia, oil and gas exploration works were launched in the end of the 19<sup>th</sup> century and consist of three periods:

- From the second part of the 19<sup>th</sup> century to 1929 (this period includes among others the New Economic Policy of the Bolshevik government);
- The Soviet period – 1929-1990; and,
- From Georgia's independence to the present.

### Oil and gas exploration works from the second half of the 19<sup>th</sup> century to 1929

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<sup>1</sup> The Middle East has the largest reserves of oil and gas particularly the countries of the Persian Gulf.

<sup>2</sup> During this period maximal extraction in Georgia was three million tons.



During this period oil extraction works were carried out near the surface of the earth with primitive instruments. Of course primitive technologies and equipments made it impossible to extract oil from deep reservoirs especially those with high pressure.

The oil exploration works on the Baku-Tbilisi axis were initiated by the Siemens brothers, who were famous German industrialists. In the late 1860s, they arrived to Elizavetpol (currently, Ganja) with the intention of creating electric and telegraph systems. They drilled 180 wells on the territory of the Shiraki Valley and the adjacent territories. In some places their search was successful. By 1876 they were already producing 2.1 million liters of oil and were selling it, generally, at the local market and in Tbilisi. One of the brothers, Verner Siemens was especially interested in oil extraction. He had drilled numerous wells in Tsiteltskaro, Mirzaani, lower Khevsureti, and even lower Tusheti. Despite the fact that the Siemens brothers gained substantial financial profit in Georgia (although it was small compared to Baku revenues), they had not worked out a geological map of the deposits of Kakheti and the lower regions bordering mountains.

In 1896 two European geologists, British Townsend and German Stahl discovered oil reserves in the Rike River basin and the Krints-Klivi Gorge. This deposit was located at the depth of 75 feet and encompassed light oil. After approximately ten years, Galician geologist Muck had drilled several boreholes in the areas of Bochorma and discovered high-pressure oil reservoirs at a depth of app. 1000 feet. Over the Akhmeta region, near the territory of the village Vedzebi in the forest a sealed borehole exists to date. A Belgian group has been extracting oil here at the beginning of the Bolshevik rule. The Belgians filled the wineskins with oil and brought it to the valleys by means of mules.

Given that from the end of the 19<sup>th</sup> century to the 1930s oil was extracted only near the surface of the earth and with primitive technology, large deposits of oil could not be discovered in Georgia at that time. People and companies in possession of substantial financial resources showed little interest in extracting small amounts of resources. They preferred to invest in Baku, especially since local farmers in Georgia opposed oil extraction because of fears that the lands would be polluted and become useless for farming.

Such opposition did not come without reason. In 1977 the russified Orbeliani brothers,<sup>3</sup> who extracted oil in Baku, drilled a borehole from which oil flew with such power that the brothers filled up all of the reservoirs in their possession, as well as those of their neighbors. Two million hectoliters of oil covered the land and made it useless for farming. In 1881 the brothers once more discovered a high-pressure oil deposit near the surface and this time 180,000 hectoliters of oil filled a huge area within a week. In addition, a fire had damaged their extracting equipment and those of their neighbors. Such a bitter experience in the neighboring countries created serious concerns among Georgian farmers.

## **Oil and gas investigative and extraction works during the Soviet period**

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<sup>3</sup> Charles van der Leeuw, *Oil and Gas in the Caucasus and the Caspian*



Georgian geologists began exploration of Georgia's oil and gas potential during the Soviet era. During this period, more than 1,300 deep boreholes (of 3700 meters in depth) were drilled and, typically, small deposits were discovered. In the 1940s, the Mirzaani deposit was found (it is located in the Shiraki Valley and today is within the area licensed by the American company Frontera). It was processed during World War II.

Among the oil deposits discovered in Georgia, the largest is the Samgori deposit found in 1974. According to estimations, the deposit contained 105 million tons of oil. From this 27 million tons (25% of the total) has already been extracted and, accordingly, the production declined. The Samgori field's maximal output was 3 million tons per year which took place during 1980-1983. According to Georgian geologists, if the existing water-pressure regime is preserved, the deposit, although declining, will produce oil for 25 years.

### **Oil and gas investigative works from 1996 to the present<sup>4</sup>**

Currently, oil and gas exploration works are being carried out by the Georgian Oil and Gas Corporation (GOGC) and three American companies: Frontera, Canargo, and Anadarko. The main functioning deposits of the GOGC are the Iori Valley and Samgori. The GOGC also participates in production sharing agreements with foreign companies functioning in the country.

The Scottish company – Ramco (which has, in fact, created the basis for the formation of the International Consortium on the Azerbaijani deposit of Azeri-Chiragi-Giuneshli in 1990-1994) – had been engaged in the exploration works in Georgia's eastern regions that border mountains. However, Ramco was not satisfied with the results and quickly left the country.

The Indian company – Global Oil and Energy LTD – has purchased two blocks in the western part of Georgia in January 2008. A new tender has been announced on the onshore blocks and the winner will be revealed before July 14, 2008.

The companies functioning in Georgia have drilled quite deep (to a depth of 4,000 meters). They used the method of horizontal drilling and the D3 analyses of the reservoir, however, big oil deposits have not been discovered so far.

A few years ago because of low oil prices, the development of small and medium-size deposits had not been commercially attractive. Currently, however, increased prices on the international market create favorable conditions for the development of small and medium-size deposits (if such will be discovered in Georgia).

### **Frontera<sup>5</sup>**

Frontera is an American company headquartered in Houston that was founded specifically for the purpose of functioning in new markets. In 1997 Frontera purchased a Kakheti block in Georgia

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<sup>4</sup> Source: interview with the expert of the Georgian Oil and Gas Corporation – Soso Gudushauri

<sup>5</sup> The information was acquired through the webpage of the company and corroborated in an interview with the company's chief geologist Artem Sanishvili.



(this block is called the XII block). The blocks' major deposit is the Taribana deposit, which was set in operation as early as in the period of the Soviet Union (in the 1950s). Formerly, the Siemens brothers were working in the area. Nowadays, the company's main deposits are Taribana, Lake Sazare, Mtsare Gorge, Vashlovani, Pkhoveli, Algeti, and other mountain ridges.

In the Mtsare Gorge, Frontera extracts heavy oil, in Taribana – light oil, in Nazarli – medium. Extractions of the company do not exceed several thousand tons a year. Currently, the company is focused on identifying the geology of the potential deposits. The company invested 100 million USD in exploration works which has enabled it to determine the borders of the two potentially promising oil deposits. According to some estimations these deposits, located on the upper and lower parts of the Mtkvari Basin, may be commercially viable.

### **Canargo<sup>6</sup>**

Canargo is an independent oil and gas production company, the main operations of which take place in Georgia. It entered Georgia in 1997 and has been working on the deposits of Ninotsminda, Nazvrevi, Norio, Rustavi, and the XIII block. All of these deposits were discovered during the Soviet era. The main producing deposit of the company – Ninotsminda located at a depth of 2,600 meters – was discovered in 1979. The deposit has yielded 11.5 million barrels of oil and 331 million cubic meters of gas.

Last year, Canargo extracted 21,000 tons of oil. The company extracted the greatest amount in 2003 (92,000 tons). Subsequently, the extraction has been substantially decreased.

On the Ninotsminda deposit the gas cap still exists. It amounts to approximately 430 million cubic meters. Canargo is also engaged in extracting gas (70-80 thousand cubic meters annually).<sup>7</sup> This gas is supplied to the population of Sagarejo through the pipeline for 25 USD per 1,000 cubic meters, which is an unrealistic price. The company plans to increase the price for the population before the end of the year.

Canargo had heavily relied on the Kumisi deposit, from which the company expected to extract a substantial amount of gas. In 2006 the company even signed a contract with the government of Georgia to sell the gas extracted from this deposit for 43 USD per 1000 cubic meter. Simultaneously, the construction of the gas pipeline from Kumisi to the Gardabani gas generation blocks has been decided. In 2006 a borehole was dug at Kumisi, but has not achieved noteworthy results. However to get comprehensive and viable data from one exploration well is unrealistic if not impossible.

Canargo has not completed exploration works on the Manavi block so far. According to the existing assumption, the Manavi block could be described as a medium size deposit.

### **Anadarko and the sea shelf of Georgia<sup>8</sup>**

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<sup>6</sup> The information was acquired through the webpage of the company.

<sup>7</sup> Source: Georgian Oil and Gas Corporation

<sup>8</sup> Source: interview with the expert of the Georgian Oil and Gas Corporation – Soso Gudushauri



Information about the existence of the oil and gas deposits on the Black Sea shelf of Georgia has existed since the Soviet era. Currently, Ukraine and Turkey are extracting gas in the Black Sea basin. Recently a dispute arose between Russia and Ukraine regarding a reservoir located near Kerch, east of the Crimean peninsula.<sup>9</sup> Russia believes that Ukraine carries out exploration works in the area illegally.<sup>1011</sup>

On the territory of Georgia the American company Anadarko has been engaged in the exploration of three reservoirs located in the offshore area near Batumi-Guria region. In 2005 a consortium was created with the participation of Anadarko (USA), BP (Great Britain), TPAO (Turkey), Chevron (USA), and JKC (Great Britain).<sup>12</sup> According to some sources, the data provided by the newly drilled exploration well has been understood incorrectly, which has created a kind of confusion and skepticism regarding its potential. Soon, BP left the Consortium, which had a negative impact on the works of the consortium.<sup>13</sup>

Turkey has invited an experienced Brazilian company Petrobras to be a partner in the exploration of its Black Sea offshore area. Petrobras has extensive experience in carrying out exploratory and developments deep water offshore areas. Soon after The Deepwater Platform Club was created in the Black Sea basin. Its members use the deep water platform on a rotating basis. For the moment, Anadarko is not a member of this club, though it may become a member in the future. This will enable the consortium to better explore the Georgian shelf by using a deepwater platform.

According to Georgian geologists, the Gudauta-Ochamchire reservoir located onshore and offshore the Black Sea shelf is extremely promising. The water is not deep there which makes it extremely interesting and promising from the point of view of exploration and development. Unfortunately the conflict in Abkhazia blocks any exploration works in the area.

### **Georgia: Ancient transit country**

As it was mentioned above the existence of abundant oil and gas resources a hundred kilometers away from Georgia in Baku made the development of modest Georgian oil and gas reserves uneconomical and thus unattractive. However, beginning from the middle ages Georgia has been a transit route for the Azerbaijani resources to regional and later to world markets<sup>14</sup>.

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<sup>9</sup> According to the latest information of the EU energy press release (Bulletin de l'Industrie Pétrolière) Ukrainian company and Gazprom have agreed to carry out joint investigative works in the area.

<sup>10</sup> Ibid.

<sup>11</sup> Some time ago Russia and Ukraine agreed to explore the disputed area jointly. (LJ)

<sup>12</sup> Webpage of TPAO.

<sup>13</sup> According to BP the works on the block are hampered given that the investigative works in the Black Sea basin are not conducted in a sustainable way. Hiring the platform for working in deep waters would be very expensive for only one company.

<sup>14</sup> Arab sources are most important in this regard (LJ.)



The oldest western source mentioning Georgia a transit road for Baku oil belongs to the era of the Queen Elizabeth I of Great Britain. In 1580 an Englishman Jeffrey Decket<sup>15</sup> set up a company in Baku with financial aid from British chamber of commerce and the political support from the Queen Elizabeth herself. In 1590, when Baku was placed under the authority of the Ottoman Empire, Decket's business was exposed to great danger. However, he managed to receive a license from the sultan to transport the Baku oil to Tbilisi, subsequently, to the South – to the Euphrates River and, finally, down to Basra on the Persian Gulf. Oil was transported in wineskins carried by a caravan of mules and camels. In 1600 British missionary John Cartwright describes how he encountered a convoy of 300-400 mules, which carried the oil down to the Gulf. Jeffrey Decket is the first independent entrepreneur in the history of the world to become rich through the oil business.

As today, transportation of oil from Baku to the Mediterranean Sea and the Persian Gulf at that time also depended upon the political stability of the region and the security of the transit routes.

### **Georgia's Transit function under Tsarist Russia**

The Nobel Brothers, who appeared in Baku in 1860, usually carried their oil to Astrakhan through the Caspian Sea. From there, it was transported to Europe on the Russian railroad. A breakthrough in the direction of Georgia took place with the Russian-Turkish War of 1878, after which Russia annexed Batumi and Kars. Tsarist Russia declared Batumi a free economic zone. This allowed for the transportation of the Baku oil by a much shorter route to Batumi.

Exporting the Baku oil to European and international markets through Georgia is connected with three financial groups (the Swedish Nobel brothers, the European railway and finance entrepreneur Rotshield, and British industrialist Markus Samuel, who had a trade company in South-East Asia). These groups managed the production, transportation, and commercialization of the Baku oil.

The Rotshields entered the Caucasus in 1879 and built the Transcaucasian railroad. The railway was put into service in 1883<sup>16</sup> and was loaded with oil immediately. In Batumi the Rotshields founded the oil trade company BNITO. In response, the Nobels created a Black Sea steam navigation and trade company in Batumi as well. These companies exported Baku oil in the beginning to the European and later on to the Bombay markets. Later on, the markets of Europe and Asia were divided between these two groups.

The British entrepreneur Markus Samuel signed a secret agreement with the Rotshield trade company on the export of oil from Batumi to South-East Asia. In spite of the limitations on navigation existing in the Suez Canal, with the support of his friends at the British Court, he gained the privilege to transport the oil by tankers through this canal and ordered the first double-hulled ocean tanker. In the Batumi port, the first such tanker appeared in 1892. It was called Murex. Until that time, only the oil of the American oil magnate Rockefeller was being sold in Southeast Asia.

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<sup>15</sup> Charles van der Leeuw, *Oil and Gas in the Caucasus and the Caspian*, p.35

<sup>16</sup> Charles van der Leeuw, *Oil and Gas in the Caucasus and the Caspian*



Hence, the Nobels, the Rotshields, and Markus Samuel became Rockefeller's competitors on the markets of Europe and Asia, where he had been the sole leader.<sup>17</sup>

The opening of the transit routes contributed to the increase of oil extraction in Baku. In 1901 in Baku 11.7 million tons of oil was produced, which left Rockefeller's company, which produced only 9.5 million tons, far behind. At the time, 60% of the oil and oil products produced in Baku were exported to Europe and Southeast Asia through the Transcaucasian railway and the Batumi port. The remaining 40% was sold in Russia and Iran.<sup>18</sup>

After the end of World War II, NATO, a Western military-political alliance, was created for the purpose of containing the Soviet Union. Turkey joined the alliance in 1952. Turkey was located in just a few hundred kilometers from the main energy center of the Soviet Union – Baku. The Soviet government decided that such proximity would be very dangerous if there were a conflict between the parties. For this reason, oil extraction shifted first to the Volga-Ural region and, next, to the West Siberian lowlands. With the loss of the importance of the Baku oil, Georgia lost its transit function as well, although, the oil streams coming from the Soviet Union were still exported through the straits of the Black Sea from the Russian Black Sea port Novorossiysk.

Georgia has become again a transit country after the dissolution of the Soviet Union, when Azerbaijan and the other Caspian Sea region onshore and offshore resources became an attraction for international oil business again.

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<sup>17</sup> Charles van der Leeuw, *Oil and Gas in the Caucasus and the Caspian*

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