Edited dy LEILA ALIEVA

THE BAKU OIL AND LOCAL COMMUNITIES: A HISTORY

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Contents

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INTRODUCTION

The aim of this book is to shed light on parts of the history of the oil industry which are usually neglected, namely, the lives and faith of the communities living in oil-bearing areas. Scholarly literature on the subject suggests that the "paradox of plenty" makes areas rich in hydrocarbon resources prone to poverty and conflict, with the Niger Delta in Nigeria, Africa, offering an outstanding example of this. Although the case study of Baku villages focuses on the historical impact of oil development, given that half a century ago oil production had moved away from this area to the sea, the region nevertheless matters from the point of view of the consequences which many centuries of oil production has had on local communities.

The Absheron peninsula is the oldest oil-producing area in the world. Historical sources refer to the extraction of oil here centuries before its industrial production. The Baku villages of Sabunchi, Balakhani, Ramani and Surakhani witnessed conflicts, oil-field fires, strikes as well as poverty and inequality at the end of the 19th-early 20th century, when the area was the centre of international commercial oil production. The population of this area benefited from developments in this sphere in terms of access to jobs and the land, but at the same time they suffered discrimination, resource pressure, poverty and environmental degradation. The main focus of this research is the transformation of the life of the communities of the Absheron peninsula in the context of the history of oil.

The study tries to focus attention on the historical importance of these villages - both in the area of artifacts and the ethnography of these communities. It also highlights an asset or tool to develop this former world centre of oil production - its industrial heritage - which can be utilized for tourism purposes or as a way of attracting investors. The other no less important objective of the study is to highlight certain

ways in which oil extraction influenced the communities living in the areas where these oil resources were located. Thus, the documents in this book reflect the diversity of these objectives - some are more descriptive and factual, while others analyze the mechanisms of the effects and consequences of industrial oil production on the population.

After onshore oil supplies were exhausted under Soviet rule, largely because of outdated technologies and over-exploitation of the Absheron fields, the industry moved offshore into the waters of the Caspian in the 1940s. This move left the villages and communities on these lands, which had been environmentally polluted by years of oil extraction, facing the problem of underinvestment.

The social conditions of the local communities on these former oil-producing areas became highly dependent on the state. However, the state did not come up with special programmes for the development or environmental improvement of the region, particularly when Moscow switched investment from Baku to the Siberian oil industry.

The Soviet system provided for infrastructure and utilities such as gas and electricity, but this system almost totally collapsed after the disintegration of the Soviet Union. The post-Soviet conditions of the Baku villages in terms of infrastructure were reminiscent of pre-Soviet times, when these communities lacked fuel for lighting and heating, rather than the period prior to the industrial production of oil.

This book is based on research which was initiated by the CNIS in 2004 and it was realized with the support of the Embassy of Norway.

The interest to the topic was caused by the stark contrast between the wealth which these lands produced over the last two centuries and the modern conditions faced by the heirs of those who owned these lands, the local villagers. The study concluded with a proposal to cre-

ate an Open Air Oil History Museum on the territory of three Absheron villages.

The suggestion to create such a museum was put forward to attract investment and as a means of promoting the prosperity and development of an area which, for centuries, has made an enormous contribution to the world energy market and yet nowadays suffers from underinvestment, social contrasts and centuries of oil waste.

The book covers all aspects of the unique importance of these regions and reveals previously unknown facts about the life of these communities. Some of the most outstanding features of the Absheron peninsula are the well-preserved hand-built oil wells and famous oil reservoirs, described by Kaempfer in the 17th century and re-discovered by the co-author of the first chapter, the archeologist Idris Aliyev. In the first chapter, the authors Orkhan Mamed-zade and Idris Aliyev paint a picture of the transformation of the life of communities during the history of oil extraction in Azerbaijan. Describing the artifacts of Baku's industrial heritage, they trace the development of oil technology and the role which oil and its production have played in the life and times of Baku villages throughout different historical periods. This chapter contains unique archive references, materials and photographs which reflect the complex effect of oil development on local communities.

Entrepreneurship in colonial Azerbaijan faced fierce discrimination during tsarist times - the law and its protection was on the side of the Christian brethren, Armenians. This fact had a major effect on their relative power in the oil business.

The role of land as the main source of "black gold" becomes obvious in the conflicts which provided a context for the history of the oil boom of the late 19th-early 20th centuries. The relative weakness of rule of law left the communities vulnerable to the practices of re-settlement, extortion and injustice. Yet the local population saw and made use of the opportunities created by reforms in the legal sphere, as demonstrated by the development of a relatively large class of entrepreneurs. Compared to other publications on oil history, this chapter stresses the previously-neglected area of the formation of a national bourgeoisie rather than focusing on the role of foreign capital and industrialists. This research shows that local entrepreneurship flourished after tsarist

reforms to the oil industry opened up opportunities for private ownership and business in the Muslim periphery of the empire. It also shows how market pressures were a driving force behind the development of technology in the oil industry. The authors cite evidence to show that a system of leasing existed in Azerbaijan, along with local refining of oil, all be it in a primitive way, even before these things were introduced by Russian colonizers. In spite of the dominance of oil and salt as the main resources of the area, the economy and lifestyle of the villages was characterized by relative diversity, with the cultivation and production of grain, vegetables, fruits and spices. The local population, who were largely denied the right of ownership of imperial oil-bearing areas, was involved in transportation, manual labour and the production of lime.

The three villages are unique in other ways apart from their industrial heritage. In addition to well-preserved ancient oil reservoirs and wells, other artifacts - medieval fortresses, bronze-age barrows, mysterious cart ruts, water reservoirs and mausoleums - bear witness to the diverse and complex cultural heritage of the area. In fact, the communities themselves and not just their ruins and artifacts are of a unique value given their specific language, traditions and history. The traditions and norms of these communities reflect the complex mix of their Zoroastrian, Christian and Muslim heritage. This history and current conditions, including those of the Tats - the people living in the villages of Balakhani and Surakhani - are explored by Aydin Balayev, who traces the demographic, ethnographic and social changes experienced by these communities. His work is based on the results of a survey conducted by CNIS in 2004.

The oil-rich area adjacent to Baku city has undergone some major demographic changes. The first significant change took place at the end of the 20th century. Since the first oil boom, Baku and its villages have attracted a large number of entrepreneurs, migrants and guest workers from other parts of Russia, Iran and Europe. The disintegration of the Soviet Union led to more changes, but in this case they were not prompted by the oil industry, which had become much less labour-intensive. These changes were a result of the conflict with neighbouring Armenia and refugees arriving from the occupied territories, along with the concentration of the main labour market in the capital city.

Although major waves of re-settlement inevitably had an impact on the life of these local communities, on the whole they managed to preserve their traditions and lifestyle. The author shows contrasting and diverse patterns of settlement, where refugees and local inhabitants coexist, and urban and rural lifestyles mix. The survey demonstrates the language preferences of the local population, with the status of the Russian language downgraded and replaced by Western European languages, primarily English. Aydin Balayev analyzes the whole range of difficulties surrounding the integration of refugees and IDPs into the local community due to increased resource and cultural pressures. These difficulties are reflected in the lack of contacts between these groups. While family in general maintains its formally patriarchal structure, there are clear signs of a move away from authoritarian to egalitarian relations in the family. Similarly, in the area of the status of women, the majority of those questioned were in favour of improved education and greater involvement for women in society.

The value of this study also lies in the discovery of a controversial aspect of the religious beliefs of the population. Despite living in what is regarded as a very conservative area, villagers around Baku demonstrate a distinctive belief system which combines Islam with some pagan and mystical elements, coupled with a rather liberal approach to the rituals of Islamic faith. Given that the area is mainly under the influence of Shi'a Islam, the local population's negative attitude towards Wahhabism comes as no great surprise.

Azerbaijan's economy reflects the problems of any transition economy along with all the controversy surrounding the economy of an oil-rich state where the large-scale commercial development of oil began before mature state and democratic institutions were built. Although benefiting from the oil dividends which helped to soften the shocks of transition, Azerbaijan's economy could not avoid some of the traps and asymmetries of oil dependency. As the study by Amiraslanov and Ibadoglu confirms, post-Soviet economic transition shows how futile measures to counteract structural factors caused by an oil economy developing in the aforementioned conditions can be, particularly when they are delayed. This leads to asymmetries with a heavy dependence on raw hydrocarbon resources and underdevelopment of the non-oil

and agricultural sectors. Furthermore, investment goes chiefly to the capital at the expense of the periphery.

One consequence of this is that the unprecedented economic growth of Azerbaijan has not been translated into corresponding social improvements. In examining the region's economy, the experts traces growth of the national economy since 1996, as well as the course of reforms which led to most state enterprises in the settlements being privatized. Amiraslanov also demonstrates a substantial rise in retail turnover and average wages. Despite the achievements of privatization and economic growth, however, the living standards of the population are low. For this reason it is essential not only to develop, but also to rehabilitate these settlements. According to the survey, in 2004 the per capita income of 43.9 per cent of respondents was less than 10 dollars. Moreover, their financial status is dependent on the state budget sector. This situation has arisen as a result of poor development of the business sector, an undeveloped infrastructure, the low level of bank credits and the lack of legal protection offered to businessmen. In the author's view, poor liquidity and the low profitability of business structures has hampered the development of credit. Therefore, banks are not interested in offering credit to small and medium-sized businesses in the settlements. Despite measures to create new jobs, the employment situation in 2004 remained critical, with one in three of those surveyed finding themselves without a job.

The author stresses that a significant number of refugees and displaced persons were traditionally engaged in agriculture and livestock-breeding, but the conditions of the region are not conducive to this, leading to increased competition for land resources.

The development of tourism is likely to play an important role in creating a good infrastructure and solving employment problems by giving an impetus to the development of service industries as an alternative source of income for the local population and municipalities. The study indicates that small and medium-sized businesses offer the best means of realizing the development potential of the region and improving the business climate.

Since 2003, the government has undertaken a few measures to address the issue of poverty and inequality in the region. The effectiveness of these measures is analyzed in the paper by Gubad Ibadoglu, who sets them in the broader context of the oil economy and macroeconomic conditions. Along with unprecedented growth, particularly since 2004, the economy of Azerbaijan shows a number of underlying tendencies which lie behind the problems in the social sphere. The positive trend of state investment in the infrastructure is hampered by a lack of transparency when it comes to the implementation of such projects. Employment problems can be attributed to inadequate growth in the agricultural sector and the slow pace of economic diversification, affected by the phenomenon of Dutch disease when most resources go to the oil and non-trade sectors. To stimulate development of the agricultural sector, the government subsidized this sector in 2007. Ibadoglu explains the social issues in the Baku villages through an analysis of budgetary spending and those policies which have ultimately led to underinvestment in the region. Among these policies are insufficient reforms in the area of fiscal de-centralization and control over spending being concentrated in the hands of a small group in the government, or "monopolization" of the budget. At the same time, much of this spending is directed not towards social programmes but the construction sector, which opens the way to corruption. There is a direct correlation between socio-economic conditions in the villages and the fair distribution of oil revenues.

The author devotes the second part of his paper to an evaluation of state programmes to improve social conditions and reduce poverty, in particular to the programme which was adopted on the basis of the president's decree of 26 November 2006 "On Measures to Accelerate the Socio-Economic Development of the Baku Villages for 2006/2007". The data shows a broad range of investments and budgetary spending

on infrastructure, communal services, education and the health system in the villages. In addition to budget funds, the National Oil Company, the Heydar Aliyev Fund and credits from international financial organizations have all contributed to implementation of this programme, with the bulk of these resources coming in the form of direct transfers from the State Oil Fund to the budget. The opinions of experts and the public regarding implementation of these state programmes are also cited. These paint a rather contradictory picture regarding implementation of these programmes, necessitating a further study into the effectiveness of state measures to address social issues in the region.

These three villages are the sites of the oldest oil industry in the world but also suffer from the accumulated environmental damage to the area. The lease system which was utilized in Baku's oil fields in the middle of the 19th century by the tsarist empire resulted in the rapid exhaustion of resources because of the short term of these leases. Industrial development in the late 19th century, before suitable reservoirs and pipelines were created, saw unprecedented contamination of the soil and waters of the villages by oil gushers, which could last for weeks.

Only in the post-Soviet era did the issue of cleaning up the old Absheron oil fields appear on the agenda. In the early 90s, the Green Movement of Azerbaijan, of which the author of the last chapter and the editor of the book were members, measured radioactivity levels at waste water pools in the oil fields of the villages. Their results showed a critical level of environmental pollution. According to Fikret Jafarov, the pollution levels of Suraxani and Sabunchu settlements are higher than in other regions of Azerbaijan in terms of air, water and soil pollution indicators. This has a major health impact. There are far more instances of allergic and malignant diseases in these settlements than there are in other regions of Azerbaijan. One of the leading causes of pollution is Beyuk Shor Lake. The level of this lake is rising all the time due to the discharging of industrial and domestic waste, threatening to flood surrounding areas. Another problem is that the oldest oil fields, which were not cleaned or rehabilitated for centuries, are still being contaminated by outdated oil equipment. The issue of the collection and utilization of communal waste and rubbish has only been addressed in 2008 by the decision to build a modern waste-burning factory in the area. The

biggest worry, however, relates to the intense construction in the polluted areas and the author suggests a whole range of measures to address the urgent environmental problems of the villages.

As a whole, this book is the first attempt to draw attention to the life of the communities living in the resource-rich areas on the shore of the Caspian. The enormous oil wealth generated by the "oil booms" at the fields of Balakhani, Sabunchu, Surakhani and Ramani villages during the last two centuries not only helped to raise Baku to the level of a European capital at the turn of the 20th century, but also contributed to the creation of the internationally-renowned Nobel Prize. How much the original owners of these wealthy lands benefited from the development of oil is analyzed in the following pages.

Leila Alieva

The Reforms and Oil Revenues - Consequences and Implications for the Communities in the Historical Perspective*

The influence of the development of hydrocarbon resources on the life of communities became the focus of the recent studies, as the oil development moved to the densely populated and ethnically diverse areas of the world. Frequently, the oil development in such areas is characterized by the conflict and instability, poverty and inequality. The control, which both the state and multinational corporations nowadays have over the most lucrative resources, causes various reactions from the side of the local communities, from the attempts to change the nature of control over the development of oil to the resistance to hydrocarbon extraction.[1]

The most outstanding example of the adverse effects of the oil development in such areas is the Niger Delta with its profound oil-related violence, or "petro-violence", where "youth militancy, communal violence and intense struggles over customary authority" spread over two decades or more.[2]

The "paradox of plenty", attributed to the adverse effect, which the large scale commercial development of oil has on development and resource distribution under the conditions of weak state institutions[3] makes clearly a significant contribution to the conditions of communities in the oil bearing areas.

On the other hand, oil development directly influences democratization. The lack of democratic institutions in the country/producer of oil

* This paper was in part written by the author while at the National Endowment for Democracy as Reagan Fascell Fellow in 2007. The author expresses its gratitude to the NED, Library of Congress and State Archives of Azerbaijan Republic for the assistance with resources during the research.

by the time of its commercial development hinders their further development and promotes consolidation of the authoritarian trends with inevitable effects on social welfare of the population, including the local communities.[4]

The scholars of the subject might find the history of Azerbaijani oil and the communities of Absheron peninsula - the site of the world oldest development of oil - an attractive case study, revealing specific conditions under which the resource distribution may benefit wider layers of the local population.

At first sight the current conditions of communities in formerly oil producing lands of Absheron peninsula are in contrast with communities in the other natural resource extraction areas of the world, like in Nigeria or Columbia. The situation is stable, luxurious villas co-exist with poor neighborhood of locals and refugees peacefully against the background of daily observed the dynamism of the oil boom construction. However, as our study shows, there is much in common between the communities in different geographic areas. None of them could avoid consequences of the unbalanced resource distribution in the "petro-state". Although abandoned by the oil industry around half a century ago, the villagers of the formerly richest lands in the world are now facing difficulties with employment, struggling with low living standards, problems with communal services, and shortcomings of health and education systems.

The old paved road in the oil fields (19th century)

The current conditions of the communities are in particular contrast with their ancestors a century ago, when during the period of private ownership of oil bearing lands some of them even got an access to the enormous oil riches of their villages and turned into the oil magnates. Then, however, the history of the region

was full of more dramatic pages of violence and conflict.

In fact, the complex and dramatic history of Baku oil is somewhat an apprehension of most of the challenges the oil industry is facing today in terms of the effects in other areas of the world.

The current chapter studies complex relations between reforms and oil development, and its effects on the life of communities, researching conditions, under which opportunities for the local population in entrepreneurial activities, jobs and social welfare are created.

It aims in showing some crucial factors determining most optimal conditions for the communities of the oil bearing areas to benefit from the resources, which their lands contain.

Of two oil booms which Azerbaijan experienced during one century (in the end of 19 -early 20th and in end of the 20th- early 21st), this paper focuses on the pre-Soviet period, which has a greater relevance to the topic of the study, when the oil extraction was on-shore. With all the unfairness of expropriation of lands and discrimination of the Azerbaijani landowners as compared to their Christian neighbors, three major events after Russian colonization had a significant impact on the economic, social and political development of the local population under the tsarist rule in the 19th century: legalization of the private property rights, reforms of the judiciary by Alexander the 2nd and "privatization" of the oil industry.

The analysis proved the issue of land ownership and property rights to be critical factors in determining conflict and power in the environs of Baku.

Land Ownership in Azerbaijan Before and After Russian Colonization

The land in independent Azerbaijani khanates which occupied the larger part of what is called South Caucasus and part of the North Caucasus by the time of colonization of Russia belonged to the class of owners - khans and beks, along with mosque altogether three types of ownership. First are the lands owned by khan (forests and pastures) which he could lend it for temporary or even for the life long use. Forests could be used by the population freely. But the other types of

The wooden oil reservoir (end of 19th century) Balakhani

utilization of land was taxed, such as in the Ilisu Sultanate, the so called "keshkel" equal to 1/10 of the harvest would be collected as a tax.

Secondly, there were communal lands, belonging to the local population, which could be given to the beks and meliks by khan, who would render them a right to use parts of their income. However, the right did not extend to the sales of land. The peasants were obliged to pay by part of their harvest and by the unpaid labour to the beks.[5]

The third ownership of land was the most protected, as it could be inherited and was originated from the lands "mulk" given to the beks by khans for allocation of the captured in the warfare and immigrants. Yet, without the renewal of the decree with every new khan, granting the rights on property, the ownership of land would loose its force. For utilization of these lands the peasants were obliged to pay 1/30 of their harvest as part of the "mulk" to the beks.[6]

Many sources point that the lease of the oil wells was used before the Russian conquest and introduction of this system in the oil bearing lands by imperial authorities.

The dwellers of the villages around Baku traditionally were involved in the diverse agricultural activities, along with extraction of oil, salt and production of lime.

Baku and its environs were characterized by the development of fishing, saffron and the plant marena. Intensification of trade and development of crafts in the 9-10th centuries turned Baku into the center of diverse crafts and an important sea-port, bringing together traders from Russia, Iran, Byzantine, China, India, Iraq and Syria. Sara Ashurbeyli writes, that Baku and environs were closely connected economically - "dachas" on Absheron provided the markets of Baku with fruits, such as figs, grapes and pomegranates, as well as the meat of sheep and ante-

lope. The environs of Baku, located on the Absheron peninsula, supplied the city with agricultural goods, which exceeded local demand and were also items of export. The towns around Baku were the source of raw materials for diverse crafts flourishing in the city. Baku traded with China, India, Moscow, Siberia and Western Europe.[7]

In the 17th-18th century Baku acquired a special significance for Russia, which was trying to gain access to the best port on the Caspian for the transit trade of silk. Russian occupation led to a substantial decline in the economy of the region and the city. During the Russian-Iranian wars, the fortress of Baku was an important military target. The local population, whose rebellion was severely suppressed by the colonizers, resisted the consequent Russian conquest and military rule.[8] The ethnic composition of Baku began to change towards greater diversification.

With the conquest of Azerbaijani khanates by Russia as a result of two Russian - Iranian wars, the land previously owned by khans and beks was confiscated along with the oil wells. By 1840 the military rule was eventually replaced by the civilian with the Russian law dominating in all civil and criminal matters, except for the family law, which was regulated by the religious courts.[9]

Two laws on ownership and authority, or "rescripts", followed colonization of khanates by Russians. The first one - in 1841- deprived all the previous owners, local aristocracy, of exercising authority over towns and collecting taxes with the life long grants from the crown as a compensation. The next rescript decree in 1846 " brought to an end of the centuries old Azerbaijani institution - the legal state ownership of lands and formally bestowed the hereditary and unalienable rights of the Muslim landholders to the tul lands and realized mass transfer of property titles into the private hands"[10]

The next rescript in 1847 granted peasants right to own 5 desiatin of lands for each, who reached 15.[11] In exchange the peasants were supposed to pay taxes to the landowner. Baharli[12] describes 7 types of such taxes. The full rights of land ownership was granted to the peasants only in 1912. So by early 20th century the territory of Azerbaijan was 8, 940, 382 desiatin, of which 65% were productive lands. Non-productive lands constituted 35% and included rocks, mountains, rivers, swamps, deserts and salty areas. In 1919 57,7% of land

belonged to the peasants, 23,3 - to "special owners", 19% - to the state. According to Swietochowski, majority of beks were entitled only to 6,5 desiatin of land, only slightly exceeding that of peasants. Only 4% of the landlords had an estate of 1, 500 and higher.[13]

Judicial Reforms of Alexander the 2nd

After the peasant reform by the Alexander the 2nd the number of reforms were conducted, such as judicial, financial, police, military, educational, censorship, zemskaya (self - governance). The judicial reforms were compiled on the basis of recommendations of the commission and taking into account the systems existed in the Western Europe. The judicial reform of the 1864 is viewed in the context of the Russian history as an extraordinary, or even a revolutionary, due to the fact that it established an independence of courts from the executive.

As a result of the reforms in judiciary the class courts under control of the governors was replaced by the new system of courts, which was open to all citizens. The reform statutes included special procedures for cases involving government officials and some political cases, as well as established two simple courts - the justice of the peace courts and the *volost* courts, which were accessible to ordinary persons (townsfolk and peasants), separation of the judiciary from the administration, elected and equal public judges, courts of jurors, advocacy, principle of competitiveness.[14] The court reform introduced the principle of independence of judges, established special court districts, which did not coincide with the administrative divisions.

The history of Russia's property rights is complex. Only the Certificate to the nobility in 1785 eliminated the right of state to confiscate the property.

Catherine the 2nd by the Manifesto of 1786 extended right of land ownership to the resources and right to lease for building refineries to the other persons.[15]

After reforms in administration and creation of ministries the Manifesto of the 25th of June 1811 made the Ministry of Justice responsible

The oil spring in the floor of the private house - a symbol of the Baku first "oil boom". (19th century) Balakhani

for all the judicial affairs.

Before the judicial reform 1864 the judiciary was under strong control of the political power.

Implementation of the judicial reform was completed in Russia by the 1899 with significant delays in the peripheries of empire.[16] The implementation of reform was, however, selective, depending on the geography of the area. For instance, in some areas the elected institute of public judges was not implemented due to political sensitivities. The implementation of reform in regions, like Siberia, was conducted with certain modifications, reflecting local characteristics. In these cases, some principles of the reform may have been already traditionally practiced and "affected trial procedures, activities of judges and people's involvement in justice, making them receptive to future changes".[17]

The reform in the Caucasus was implemented in 1866, but also with significant modifications. The criminal cases were taken away from the courts with jurors and given to the crown court. The public judges were not elected but appointed by the Minister of Justice. In addition, in 1889 the counter reform was undertaken, which eliminated the public judges, except for the capitals and Odessa, limited the principle of independence of judges etc.[18]

Yet, with all its shortcomings and delayed implementation the judicial reforms in the period from 1864 until 1889 created a unique window of opportunities for the subjects of the empire to promote their access to the resources and improve their wellbeing.

In the oil rich Baku the struggle for the oil bearing lands intensified competition, raised stakes and caused a strong need in qualified lawyers and attorneys. The cases, when the landowners of Absheron

peninsula won over the powerful competitors in the land disputes thanks to the independent judiciary were not so seldom.

Manaf Suleymanov[19] tells the story of famous local attorney Karabek, who helped the peasant Hadji-Yusif of the Balakhani village to win in the land dispute with the vice-roy Mikhail Vorontsov his inherited plot Baba Bostani (The Grandfather's Garden) based on the customary law. These cases of peasants winning over the powerful rivals in the legal disputes although were not of a daily occurrence, but yet confirmed certain efficiency of the legal reforms of Alexander the 2nd even in the peripheries with the far stretching consequences for the local communities.

Reforms in the Oil industry

The development of the oil industry was driven by the needs of domestic and international markets in the middle of the 19th century. First of all, by that time Russia developed a diversified economy and professional bureaucracy with an influence of the technical intelligentsia, which allows to speak about relatively strong state institutions. The leading economic branch was a textile industry .

In 1885 - 1887 53,2% of all the workers of Russia were occupied in the textile industry. The machine building industry was most quickly developing branch - from the 270 factories in 1880 it increased to 835 in 1900 with the produced value of 56 mln. to 208,8 mln. roubles and number of workers from 48 thousands to 148, 2 thousands people. Mining industry, responding to the market demand also increased its production. In 1887 it exploited 390, 915 workers, while in 1897 544, 335 workers. In 1900 it had (without 4, 226 queries) 14, 9% of total factories, 30,2% of workforce and 16,9% of the value. Oil industry exploited 27,000 workers in 1901 (in 1879- 1, 800).[20] The development of the national economy to sustain pressures of the international market required fuels, first of oil and its products.

After Russian colonization all the Baku oil wells - both belonging to khans and the private ones- were confiscated, except for those of

Selimkhanovs in Bibi-Heybat. Some owners would get compensation, like the one year pension, which would be far from the real cost of the property. Those, who managed to retain their property with the oil wells, were obliged to sell the oil to the state and were prohibited to sell the oil elsewhere. In the early 19th century the system of lease was introduced by the tsarist authorities. The first lessee (1807-1808) was Tarumov, who received not only oil wells, but slaughterhouse, fisheries, salt, wine who was obliged to give annually 112, 500 roubles in return. For the oil development - digging, exploring, extraction, transportation , storage - the forced manual labour of the local villagers of Balakhani village was used. Before 1830 the oil was transported also by the villagers from Binagadi and Bibi-Heybat. But in the 30s this right was extended only on Balakhani villagers, who were involved both in the cleaning and repair of wells. In the 1820s Balakhani had 121 house with 829 inhabitants (344 men and 448 women). They were involved both in the agriculture and oil works.[21]

According to Martellaro[22] the lease system only modified the previous monopolistic forest and mineral rights of the Crown. The lessee had the right to occupation, use and control of land for the purpose of extracting oil, but only for 4 years without an option for renewal. The obvious disadvantages of the short lease included environmental consequences of the intense oil extraction, pressure in terms of working hours on the oil workers, but most importantly disincentive of entrepreneurs in making major capital improvements.[23]

The demand of speedy industrialization in Russia , as well as introduction of the new technology stimulated development of the oil production. The technique of oil extraction has also experienced technological changes with introduction of pumps. The labour of Balakhani villagers appeared to be insufficient. The villagers would usually alternate to be able to process their plots of lands, crops, gardens and cattle. Balakhani workers with increasing qualification and experience would develop into masters. In 1829 the forced labour was cancelled and the hired labour started to be introduced at the oil wells. The ultimate cancellation of the forced labour in the oil fields took place in the 1864. In 1863 there were total 180 oil workers.

Thus the lease system, which was utilized by the tsarist authorities to develop the Baku oil wells from 1807 until 1872 with some periods of the state control was rather hindering growth in the oil industry.

To accelerate the development of the oil industry the Russian authorities cancelled the lease system and introduced the legislation of the February 1872 "The Rules about a) The oil development and the taxes on the photogen production b) The transfer of the treasury oil resources of the Caucasus and Trans Caucasus, previously on lease, to the private hands". Samedov cites the following data.[24] The treasury lands were 322 desiatin of oil bearing lands, of which 142 were distributed to the bureaucrats and elite of Russia for special services, while remaining 180 were divided on the pieces of 10 desiatin each of total value 555 thousand roubles and submitted to the auctions which were announced in June 1872. As a result of 4 auctions in 1872 the treasury got 3 mln. rouble exceeding the anticipated value 5 times. 94,5 % of the sum was paid by the local entrepreneurs for 80% of all oil wells.

Introduction of the new system - open sales of oil bearing lands - brought big benefits to the treasury from sales and lease, as well as to the entrepreneurs, as they got large pieces of lands at low cost. It stimulated a powerful flow of capital in the oil industry, by privatization of the oil industry and creation of conditions of competition.

Until the auction in 1896, when more than half of the plots went to the Nobel brothers, the local entrepreneurs got an advantage of the open sales with strict rules of regulations and with cheap price of lands. After the introduction of auctioning of the oil lands, those who were in the first round - 1870s - benefited most of all because of the cheap price of lands. (the price for 1 desiatin price was tens of roubles while in the early 20th century- hundreds of thousands). This "window of opportunity" gave the locals, including representatives of the Baku villages, in spite of discrimination from the side of the tsarist authorities, a chance to participate in the development of the oil resources, technology, trade and transportation.

Liberalization and "privatization" of the oil industry accompanied by the strengthening of the legal protection of property rights and reforms on independence of judiciary by Alexander the 2nd with all their imperfect nature promoted appearance of the first generation of the local "oil

magnates", along with formation of the Azerbaijani national bourgeoisie.

After cancellation of the lease system the capital invested in the oil industry, in particular in refineries, was mainly local. In 1872 the number of refineries reached 200, but then dropped to 103 in 1875.[25] According to the same source, these were the owners of refineries who were the "lobbyists" for the reforms in the oil industry, as they did not have a right according to the lease system to trade their products. The taxes on refined oil also served an obstacle to the development of refineries, before they were temporarily cancelled in 1877.

Development of the oil industry led to the emergence in Baku of such productions as machine building and metallurgy, ship repair, cement, mechanical industry, numerous workshops. The foreign investments in the oil industry increased after the appointment of Sergei Witte as the minister of Finance, who in fact did not take into account the decree limiting acquisition of the oil bearing lands in the Caucasus by the foreigners of 3 June 1892. By the beginning of the 20th century the foreigners acquired 25 local oil companies, with the leading role of the British capital (in 1903 there were 12 British companies with the capital of 60 mln. roubles, or third of all invested capital)[26]

The foreign investors such as Nobels, Rothschild, not only applied innovative technologies and pushed development of the oil industry and infrastructure, they have brought the business culture with its care for the social welfare of their workers and personnel, environmental awareness and education and trainings. Lev Polonski's book quotes an archive document - an agreement with a local landowner, Balabey Alibeyov, on construction of a pipeline in the village of Keshla. This docu-

An industrial heritage of Balakhani - a former mechanical workshop in the oil field (early 20th century)

ment offers an interesting insight into the environmental policy of oil companies during that period: "Under the present agreement, if pipelines built on this land by the Caspian-Black Sea oil and commercial company burst for any reason and cover public land or land allocated to individual peasants, the Caspian-Black Sea Oil and Commercial Company must pay one rouble for every sazhen of damaged land".[27]

Social Consequences of the First Oil Boom

The first generation of Azerbaijani oil magnates were predominantly peasants of the Baku villages. Such prominent figures as Hadji Zeynal Abdin Taghiyev, Musa Nagiyev, Murtuza Muxtarov, Shamsi Asadullayev and others distinguished in their business behaviour by two major traits : they re-invested their oil income in the real sector of economy, and they were widely involved in philanthropic activities, in particular H.Z.Tagiyev.

The class of the Z.Taghiev's secular school for muslim girls (around 1910) Baku

New system of ownership, privatization and commercialization of the oil industry, introduced in 1872, promoted a quickly forming class of bourgeoisie and independent economic groups with their interests. The new conditions reinforced speedy (overnight) enrichment of representatives of the local population, producing oil billionaires, which included not only beks, such as Selimkhanovs, but also previously poor villagers of the oil bearing areas. Besides oil production, the enrichment could happen quickly through different other ways- dealership, speculating at exchanges, oil trade etc. The accessibility, due to the cheap price of lands, and transparency of the auctions are reflected in the composition of the auction participants, as described by M. Suleymanov: "...both Asian and European dressed, mullahs, merchants, military, oil producers, landowners, dealers, peasants, intelligentsia, judges, doctors, engineers and even beggars"[28]

Political and social environment in Russian industrial centres, including Baku, was formed under quickly developing industrial capitalism, which contributed to the development of political parties. These parties were shaped under the influence of the dominating in Europe and Russia political discourse. But at the same time, their development was conditioned by the nationalist anti colonial movement , the bearers of which were local intelligentsia and bourgeoisie.

In the quickly politicizing society these were parties and their programs, not personalities, which were determining the political process. The power of parties was rather a deterring factor against a development of the strong leaders. In fact, none of the political leaders of the Azerbaijani parties demonstrated a will to usurp or monopolize power. Politics and representation was seen mainly as an area of highly educated people, intellectual elite or nobility, with a clear " labour division" between the businessmen- oilmen, industrialists, traders - on the one hand, and intelligentsia - on the other.

In this regards political power and economy were separated in the Azerbaijani province of the Russian Empire. Industrial bourgeoisie, however, found its own ways to influence. It tried to lobby their interests both directly, establishing personal links with the members of the government , thus creating substitution of the electoral politics, and indirectly - through associations of industrialists. "The Russian petroleum

One of the first alumni of the Z.Tagiyev's high school for girls Mesme-khanim Garayeva, a prominent teacher (grandmother of the author) late 1920s, Baku.

industry in the 1880s was highly and openly political, engendering public polemics, interest group pressures, corridor horse trading, and contested decisions of intense interest to the major participants - businessmen, bureaucrats and technical intelligentsia. To the extent that the institutional framework of petitions, discussions, inquiries and commissions represented the different interests and allowed them to exercise some genuine influence, as seems to have been the case, there existed a political surrogate for electoral politics".[29] But from the point of view of the degree of liberalization of society and formation of the open political system, they have contributed significantly as the independent economic actors (with certain degree of loyalty to the tsarist regime in the beginning) through the support for charities, education, culture, media.

National bourgeoisie, which consisted of industrialists and population who benefited from the industrial oil boom and other branches of economy, had a crucial impact on the social and political development of the country. While social and cultural improvements accompanied foreign investments (the built by Nobel houses for its workers with hospital, infrastructure, gardens are still functioning being a reminder of the business culture of the investors of a century old oil boom), the support of the national bourgeoisie of education, infrastructure, culture and modernization was going beyond simply oil industry.

Z.A.Taghiyev not only financed schools, newspapers and theatres, but supported and helped to survive to many representatives of intelligentsia, such as poets, writers and journalists. The nationalist movement was the driving force behind the creation of local parties, in addition to the branches of the Russian parties. The recruitment of the national parties with the liberal ideology was based on the widening layers of educated people, independent owners, vibrant and informed society (at least some of its segments), liberated women, diverse economic

groups and public associations. The association of oil industrialists was active in promotion of their interests and influencing decision making in the local and central government. It also funded social and health projects, construction, education. Oil millionaires supported newspapers (not only locally, but also world wide), schools, charities, parties.

The local citizen N. tells his family story. (Suraxani- 02.08.08).

"My grandfather was born in 1903. My great grandfather first became rich through cattle breeding and agriculture. Since in Suraxani the gas was coming from the soil, they started to produce lime for the oil industry, but along with that they also had sheep and cows.The citizens of Surakhani were mainly involved in lime sale. After my great grandfather was purged as a "kulak", my grandfather escaped and was hiding until he died from illness. In 1955 during "the thaw" our family again started the cattle breeding and my father managed to have 400 sheep, but in 1961 my father was arrested, they said it was illegal, the cattle was expropriated, and he was sentenced for few years in prison.

This house was built for my grandfather when he was marrying, the other house was built for his older son. My grandfather was providing lime for the acid factory of Nobel. He was a subcontractor. All night long they produced lime and then in the early morning they were carrying it to the Black City.The citizens of Suraxani in the times of Nobel were mainly subcontractors for foreigners, producing lime, mainly at the service works, because the oil started to be developed here later than in the other villages. The first oil was developed in Balakhani and Bibi Eybet. After there was a coup, the Soviets came, The Englsih came from one side, Russians from the other, Iranians from the third , but Russians won. I work in the oil field now, my salary is 230-240 manats, my wife also works, a cleaner. Gas and electricity was always provided at the oil field, our house is on the territory of Surakhani Oil (formerly NGDU Surakhani neft). Some time ago they wanted to move us out of here to Hovsana to the corpus (a multistorey building). Why would I want to go there? I have 9 kids, 12 people moving to the corpus meaning moving to the cage, its better here. Here water is a serious problem, in the summer we rarely have water, so we usually buy it. My youngest child was born in 1986, the oldest in 1971, but he died when he was 25 from lung tuberculeousis.My daughter of 34 died last year from the brain cancer / it was too late, when we went to see a doctor. Her husband did not survive her, so we are growing their 1 year child. We have 7 girls and a son left, who works for the oil company - he sets conditioners, fridges. I am a worker, so we survive."

Against the background of widening political, social, intellectual movements a few infamous dramatic conflicts took place in the South of Russian Empire. The decades of discrimination, coincidence of the social and ethnic divisions, struggle for the oil bearing lands and diverse pattern of the colonial settlements contributed to the bloody events in 1905 and 1918. Political struggle in Russia and its peripheries, revolution of 1905, first world war with the interests of major world powers clashing in the strategically important region, anti-colonial movement, terrorism - all this was reflected in the conflicts in the oil rich and ethnically diverse area. The Baku and its environs witnessed strikes and fires of derricks in the oil fields, murders of foreign managers, Armenian- Azerbaijani clashes ending in predominantly Azerbaijani victims due to the privileged position of Armenians under Russian patronage.

Yet, by the beginning of the independence the pluralistic society and practice of parliamentarianism (through participation in 4 Russian Dumas), among the other factors, determined the inclusive policies, which the founders of the first democratic republic in the Muslim world introduced in the parliament of Azerbaijan Democratic Republic of 1918.

Parties and Alliances	**Number of Deputies**
Musavat	28
Independent	18
Ittihad	13
Socialist Bloc	8
Dashnaktsutsiun	6
Ehrar	6
Hummet	5
Armenian Faction	5
Minorities (Georgians, Poles, Jews, Germans –1 each)	4
Slav-Russian Society	3
Total	**96**

Conclusions

The history of pre-Soviet Azerbaijan oil and its comparison with the post- Soviet Azerbaijan and other oil rich geographic areas sheds light to the most complicated issue - under which conditions the communities living in the oil rich lands can benefit most?

There might be a few options, as the history shows. Once the state and democracy institutions are in place, there is a little threat, if at all, that the oil economy may affect development and the resource distribution in an unbalanced way. In such case, the state institutions and professional beurocracies can regulate the possible "molding" effects of the oil development. On the other hand, the institutions of public control, such as strong parliaments, independent judiciary, civil society prevent the rulers from the abuse of power and provide for the fairer distribution of the oil income. Oil industry in tzarist Russia had obviously developed in the conditions conducive for its positive effects in the political and social areas for its muslim periphery. First, it was the availability of professional and strong state institutions by the time of the beginning of the commercial development of oil resources. The system of ministries and the decision making, which was strongly influenced by the intellectual elite, was relatively well functioning as a result of the reforms in the end of the 18th century. Secondly, Russian economy was diverse with the strong real sector and agriculture, so the even share of the oil industry had little chances to have " molding" effect on the state institutions or make the empire to evolve into the "petro-state", as it was happening with some oil rich states later in the history. Thirdly, the oil industry was "privatized", so that all oil bearing lands were divided in small pieces and sold in the open sales to create competition and to boost the oil industry. The availability of open and transparent sales and cheap price of lands created unique opportunities for the wide social layers to participate and get an access to the oil resources. It is exactly in the first auctions when the local population - peasants of the Baku villages got an access to the oil riches, which gave the local enterpreneurs a unique opportunity to turn into the oil magnates. Most importantly, is how the local oil enterpreneurs re-invested the oil revenues. In a big contrast with the post-Soviet situation, they invested their enor-

mous capital in the real and non-oil sector of economy such as textile, shipbuilding, fisheries. The other characteristic of the first oil boom was widely spread philantropy - these were the simple peasants turned into the oil magnates, who transformed Baku from the medieval eastern city into the well developed modern center of European architecture and culture, supported art, media and science, secular education, and emancipation of women. The distribution, investment and disposal of the oil revenues by the private actors was taken place in the conditions of the relative independence of the oil economy of state, free competition and against the background of the strong anti-colonization and national liberation movement.

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History of the Baku "Black Gold": Fate of the Communities and Formation of National Bourgeoisie

The oil wells of Baku

The history of oil extraction in the Absheron peninsula is covered in detail by historical sources of the 18th and 19th centuries. By that time, technical progress had reached a peak so there was a natural need for an energy-providing raw material. This raw material was oil. With the emergence of steam engines, which were widely used in industry and transport from the 19th century onwards, especially for rail and water transportation, more and more oil and oil products were needed.

Scientific progress resulted in oil and oil products playing a greater role in people's lives.

European states were the first to realize the importance of oil. In the second half of the 19th century, the interest in its extraction exceeded all expectations. Oil became a more sought-after commodity than gold, diamonds, coal or other minerals.

The traditional uses of oil gradually became obsolete as the modern society of the 19th century emerged with its fast-paced technical progress. Oil would scarcely have gained its international importance had it continued to be used only for lighting and as liquid fuel.

The scientific-technical revolution, which began in the second half of the 19th century, affected all spheres of life, including the oil industry.

The uses of crude oil are quite limited. In most cases it served as a fuel. Oil processing, however, made it possible to obtain a whole range of very useful and valuable products with manifold uses. Some of these products, for example petrol, kerosene and fuel oil, were used as fuel, while others, for example, kerosene and paraffin, were used for lighting. Others were used as lubricants. Oil was also used to make prod-

ucts that were used for medical and cosmetic purposes, such as vaseline, pesticides (insect poison, naphthalene) and solvents, to prepare aniline dyes, and for construction purposes.

Petrol was a primary product of oil processing, and it was broken down into a whole string of light and heavy types. Light petrol is the name given to types of petrol with a specific weight of 0.72 grams per cubic metre, while types of petrol with a higher specific weight were called heavy petrol.

It must be noted that petrol was first distilled from oil by the British physicist Michael Faraday. Travelling in Europe, Faraday visited laboratories in a number of countries, and this marked the beginning of his independent research. As a result of this research, Faraday established that if oil is left in an open vessel for a long time, some of it will evaporate, while the rest will become heavier. If we put oil into a glass vessel with a diversion channel, cooler and thermometer attached to it, and then heat it, the oil will gradually start boiling and discharging steam. This will flow into the cooler, cool, turn into a liquid and collect in a vessel. This liquid had a markedly smaller specific weight than the oil put into the primary vessel.

Subsequently, various surveys established that the transient liquid - the distillate - is at first transparent, then it grows yellow as the temperature rises, and finally, it darkens. The oil remaining in the vessel will have a heavier specific weight as it discharges the distillate. This separation process was called oil distillation.

The academicians Gmelin and Lerche, who visited Baku in 1735, recorded that Baku residents distilled oil. Lerche wrote in part: *"…Oil does not start burning quickly, it has a dark brown colour, and when it is distilled, it becomes bright yellow. The white oil (the product of oil distillation - author) is slightly turbid, but as you distil it, it becomes light-coloured like alcohol, and burns quite quickly."*

Lerche's remarks clearly show that long before Faraday obtained petrol in a laboratory, the secret of oil distillation in order to obtain a flammable product was known to Bakuvians. Muhammad ibn Najib Bakran, a Persian-speaking author, described various sorts of oil, including white and black oil extracted in Balakhani, and the processing of black oil into white oil, calling this distillation.[1]

Petrol was, and still is, the most volatile oil product. Mixing with air, petrol vapour can create a combustible blend. Given this combustibility, the mechanic Marcus designed the internal combustion engine in 1875. The creation of the internal combustion engine using gas and petrol brought about the invention by Rudolf Diesel in 1913 of the internal combustion engine, which uses the heavy products of oil distillation. This invention revolutionised the oil business. Initially, he tried to create an engine powered by coal dust, but he succeeded only when he used purified oil, i.e. heavy petrol fraction, as fuel.

Kerosene, the fraction that followed petrol, was used mainly for lighting and heating in so-called oil stoves, which were widely used to cook food. In some cases, kerosene was used as fuel for kerosene engines. Continuing the process of distillation, people obtained solar oil which, like kerosene, was used in special lamps to provide a source of lighting.

The secondary processing of solar oil provided lighting oils such as astraline and pyronaphta, which had a heavier specific weight and a higher flash temperature. This made them safer. For this reason, these oils were preferred to kerosene for lighting crowded public places, ships and lighthouses.

Alkaline waste obtained during the kerosene purification process was used in soap-making, as well as in the manufacturing of insecticides and products to prevent wood from rotting.

Fuel oil, which remained after light fractions of petrol, kerosene and solar oil were distilled from oil, was tested to find out whether it could provide lubricants.

The main value of fuel oil is that it can provide a whole string of special lubricants which have many advantages over those from vegetable oil.

The use of fuel oil as fuel immediately displayed its advantages over other types of petrol.

The history of Baku is related to the history of oil. Rich oil deposits were a powerful factor that affected the course of Azerbaijan's historical development, especially in the 19th and 20th centuries. In people’s perception oil was the basis of both prosperity and all trouble - black blood.

Before the Russian invasion, the Baku Khanate occupied the whole territory of the Absheron peninsula, which was treeless and barren but rich in sources of oil and salt - the main wealth of the peninsula. All soil in the Absheron peninsula consisted of limestone, with a lot of fossilized shells, sandstone and clay.

In his report of 6 September 1850, the district head, M. T. Dementyev, wrote: *"…There are also sources of black oil here and there are wells installed on them. They are located in the villages of Balakhani - 87 and Binagadi - 5, as well as on the Beybat tract - 25; in the village of Surakhani there are 16 sources of white oil. Besides that, there are sources of thick black oil on the Isle of Svyatoy* and in the Bagcha and Shubani tracts…*

"The residents of Baku district are engaged mainly in arable farming, and their welfare depends on the harvest. They also cultivate saffron, cotton, a small amount of tobacco, and many of them have gardens with fruit trees and grapevines. Some of them have vegetable gardens where they grow melons, watermelons and other vegetables… The climate of Baku district is hot, which helps corn and other plants to grow faster. The northern wind blows here all the time, which is good for residents' health…. Plants sprout in the district in early March, flourishing at the end of the same month and ripening from May onwards. Thunderstorms never occur here, and there are no noticeable differences of climate in the same belt. There are no extremely cold winters in the district, which is why residents live in houses with heaters and windows, with doors always open and serving as windows; during the hot season, they live mainly in gardens. The air is quite healthy for both residents and troops stationed in the district.

"Northern and southern winds are more common and on hot summer days they cool the air and are very favourable to people's health. In winter, the northern wind rages almost all the time, for periods ranging from four to nine days, but this has no impact on residents' health. Rains here usually start in mid-October and continue until January. In spring, they resume from the middle of February to the middle of March. Rains here are not frequent and droughts are common; in such

* The Isle of Pirallahi

cases, fields are irrigated by only dew and fog. There are no rivers in the district and floods do not occur…

"Fogs occur in spring, but rarely. They disappear as soon as the sun shines and the wind blows; even in autumn, they have no influence… on vegetation…

"There is no hail in Baku district. Snow usually falls in January and continues until the end of February. In mountain villages, there is more snow and it lies for several days. Frost is insignificant, which is why rivers and lakes never freeze."[2]

The first information about Baku refers to white, not black oil. The Arabic geographer of the 10th century, Al-Mas'udi, writes that there are sources of white oil in Baku, not elsewhere. This is a littoral city in Shirvan.[3]

Another author, Al-Qarnati, writes that there is black and white oil near Baku in the Shirvan region.[4] On the whole, medieval authors repeat each other. Let's take, for example, a number of reports about Baku quoting translations from Arabic and Persian: Al-Istarhi (10th century) reports on the Sea of Tabaristan, mentioning the littoral cities of Derbend and Baku where there are sources of white and dark grey oil.[5]

Abu Dulaf (942-952) writes: *"I went 80 farsahs to Great Tabaristan, until I reached a so-called place called Bakuya, … where I found a source of oil, the daily fee for which reached 1,000 dirhams, and nearby there is another source that constantly gushes white oil, like jasmine oil, day and night…"*[6]

Yaqut al-Hamawi (13th century) reported: *"Bakuya is a city in Derbend district in the Shirvan region. There is a source of oil there, the rent for which reaches 1,000 dirhams, and nearby, there is another source that gushes white oil, like mercurial oil, day and night… A merchant I trust told me that he had seen a plot of land that burnt all the time."*[7]

Moses of Kalankatouts reported in the *"History of Albania", praising his homeland: "The country of Albania is wonderful and enchanting, with many natural gifts. The great Kura River flows quietly through it… The surrounding fields are abundant in bread, wine, oil and salt."*[8]

Hamdullah Qazvini (14th century) reported: *"Oil… there are many sources of it, and the most abundant ones are located in Baku. On the*

surface of the earth here, people dig wells and extract oil, and the water pumped into these wells pushes the oil to the surface."[9]

Abd al-Rashid al-Bakuvi (15th century) reported: *"Bakuya: there are known deposits of pitch and sources of oil here. Oil is extracted every day by more than 200 herds of camels. Nearby, there is another source that gushes day and night, oil which is white like jasmine oil:… Near the sources, there is solid yellow soil which burns like candles. People snap off pieces of it and take them to the city to heat their houses and baths (The author is probably talking about paraffin here).*

"At a distance of one farsah from the city, there is a place that produces an eternal fire. Near this fire, there is a village where residents are Christians. They burn lime and deliver it to the city on carts."[10]

Lime sellers

Most researchers believe that the village and eternal fires described by Al-Bakuvi belong to Surakhani and the fire temple located there.

Quite a detailed description of the fire temple was given in the book "In the Oil Kingdom" by V.L.Lvov: *"… In front of us, white serrated walls with a square tower in the middle and a big gate with a dome leading into the courtyard could be seen against the dark background of the sky. Pipes rose above the tower and the walls, with tongues of fire rising into the air. We stepped into the temple together. We were met by a guard who guided us everywhere, offering explanations. The temple has a wide courtyard, surrounded by walls so wide that three or four people can easily stand on top, and below, inside the walls, there are small cells of former solitary fire-worshippers. The temple itself is in the middle of the courtyard. It is a quadrangular tower with an entrance in the form of a gate on each side. In the middle of the tower, there is a quadrangular stone with a round dent. At the bottom of the stone, there is a pipe that belches gas. The corpse of dead fire-worshippers used to be put in this room*

and burnt on the fire emerging from the earth. The roof of the tower consists of a dome with bulges at the corners. A vertical iron staircase leads upstairs. After going upstairs, I found a comfortable platform there with pipes belching gas. I also entered the dark gloomy cells and climbed the wide walls that surrounded the courtyard, watching from everywhere the original sight of the fires that flared from the pipes and twisted as the wind blew.

The Fire Temple in Surakhani

"The area where the temple is located stands out because of deep cracks in many places in the earth, from which burning hydrocarbon gases emerge. If you light them, they burn uninterruptedly, emitting a specific smell and constantly changing the fanciful form of their flames.[11] *This place has been visited since time immemorial by believers from India, who regarded these flames as holy and worshipped them.*

"In the nahiyas (regions) of Baku, there are a number of areas that are unfit for farming (so-called shurs - saline land). If a man or horse sets foot there and loiters, they will burn their feet. Passing caravanners dig holes in such places, quickly putting copper dishes [with food] in them, and the food is immediately cooked by the heat of the earth.

"People engaged in oil extraction go down into the wells day and night, collect oil and place it in waterskins. Then merchants buy it and deliver it to different countries. Oil has eight colours, but the best oil is yellow. Black oil is the property of the shah. This black oil of Persia is supplied to Uzbekistan, Iraq, Kurdistan, Georgia and Dagestan and to castles located on the Ottoman border, and it is used for lighting in those countries.

"It is needed as a military reserve to defend castles and cities. Even for the Persian shah and the Ottoman capital, burning lamps are made from Baku oil. The oil is guarded day and night, because if fire touches it, it will burn until it runs out. For this reason, there is always a mountain of sand lying ready near sources of oil. If a source of oil catches fire, all the reayya and berayya (free people and labourers) immediately rush there to put out the fire by smothering it with sand, for there is no other method."[12]

This list of oriental sources is not exhaustive, but and it is also worth mentioning a number of Western European authors whose works reported Baku oil.

The most detailed information about oil extraction in Baku is provided by the German traveller, E. Kaempfer, who visited Absheron in 1683. This author's travel notes stand out for their accurate information and are of great interest as the most reliable source, not just about the history of extraction, but also about the history and ethnography of the region.

This work was published in Latin in 1712 and is difficult to find, which is why we quote here individual translations from a publication by Academician M. P. Petrushevskiy, published in 1949.

"Their depth [the depth of oil wells] is 30 and more, and this is rounded up to 40 elbows, not because the strands [strata] are at such a depth, but because they are dug deeper so that the liquid percolates through at night and stays in them until workers extract it the next morning."[13]

Then, Kaempfer describes one well that was deeper and more productive than all the others: *"…Oil was extracted from it with the help of a device installed above - a gate that was rotated by two horses taking turns, and the work did not stop - only for several hours at night. The oil was kept in special storerooms."* Speaking about one such room, Kaempfer said, that it was a big vaulted room, seven steps wide and 17 steps long, but he did not measure its depth… *"It was quite comfortable not just for storing, but also for pumping oil out of there as it was open on both sides and equipped with staircases by which you could go down to any level."*[14]

Kaempfer, who visited the Fire Temple in Surakhani, described "burning fields", eternal fires and pilgrims - fire-worshippers - reporting leaks of white oil and saying that 1,000 steps to the northwest from the "eternal fires", there was a wonderful source of white oil which was

located in a pond 100 steps long and 50 steps wide, with banks that were slightly lower than the surrounding area.

Early 18th century sources provide comparatively detailed information about Baku oil, oil wells, their properties and amounts of storage, processing and transportation.

The eastward expansion of the Russian Empire brought not only political but also economic benefits, including oil. Excerpts from some sources of that period are given below:

I.G.Gerber writes in his book "A Description of the Countries and Peoples along the Western Coast of the Caspian Sea" (1728): *"Certain workers, with their own homes attached to these oil wells, live near those wells." Then the author reports that gas was used for lighting in the homes of people who installed a reed in the floor and "lit it as a candle".*[15]

This method of lighting was ethnographically recorded in Surakhani and continued until the beginning of the 20th century.

I.Ganvey (1747) described the technology of separating oil from water, saying that *"this process was carried out by constantly allowing oil to leak through gutters via rows of holes or tanks. Thus, the water or the heavy part of the oil with which it was mixed settled in the first hole."*[16]

Lerche's information (1722) about a gushing well in Balakhani is also interesting. The well provided 500 batmans of oil (187.5 poods (x16 kg) per day).[17]

After the signing of the Treaty of Gulistan, on 12 December 1813, the khanates of Baku, Guba and Derbend were finally incorporated into Russia. Information about the population and the social composition of Baku and its surroundings can be found in a report by Commandant Lieutenant-General I. I. Repin to the State Expedition of the Supreme Georgian Government.[18]

A report on the number of residents of Baku Fortress and its suburbs, indicating their national and class affiliation and the sum of taxes imposed on them as of 1810, submitted to the State Expedition of the Supreme Georgian Government by Commandant, I.I.Repin.

10 September 1810

	Number		Taxes	In khan abazes (An abaz (abbasi) – Persian silver coins worth 20 kopecks	
	Homes	Souls		Roubles	Kopecks
1	2	3	4	5	6
Persians of the Ali sect (Azerbaijanis)					
Beys	25	98	These three titles are exempted from all taxes		
Mullahs and Saids	87	199			
Nukers	15	43			
Merchants	184	295	The Baku government has imposed taxes on all these seven groups on the basis of khans' laws, considering their fortunes and businesses as of 1810		
Those who sell different peasant items	93	323			
Those who use kirjims (big barge-like flat-bottomed boats – author)	17	45			
Various artisans: tailors, shoemakers, blacksmiths, carpenters and so on .	174	387			
Ploughmen	130	277			
Draymen	33	78			
Those who do menial work in the city	139	309			
Total	897	2,154		2,481	20
	Armenians				
Priest	1	2	Exempted from taxes		
Small traders	11	24			
Various artisans	6	16			
Those who do menial work in the city				53	
Armenians	24	55		2534	20
Jews					
Rabbi	1	1	Does not pay any taxes		
Workmen	2	6	From these two types of taxes	25	
Various small traders	7	19			
Jewish	10	26			
Total	931	2235	Total number of taxes imposed on them	2560	20

A report about the population and the revenues that came into the treasury from the city of Baku and the province[19]

30 April 1813

	Number of souls	*Those who pay an annual tax in khan abazes into the treasury*		
1	*2*	*3*	*4*	*5*
		Roubles	*Kopecks*	
Baku Fortress				
Residents of different ranks in the castle and in its outer settlement	*1,892*	*2,481*	*20*	
The province				
Villages				
1. Guzdek	*70*	*66*		*Run by Haji Zurab Bey on the basis of previous khan rights that allow the bey to use residents of the village three days a year to sow and harvest his bread*
2. Geokmali	*145*	*118*	*80*	*Run by a headman elected from residents every year without any privileges over other residents*
3. Kobu	*135*	*103*	*40*	*Run by Haji Zurab Bey on the basis of the aforesaid khan rights*
4. Khyrdalan	*92*	*79*	*20*	*Run by Haji Zurab Bey on the basis of the aforementioned khan rights*
5. Khojasan	*84*	*55*		*Run by Haji Zurab Bey on the basis of the aforementioned khan rights*
6. Bilajari	*112*	*116*	*60*	
7. Saray	*183*	*193*	*60*	*Run by Muhammad Bey on the basis of the aforementioned khan rights*
8. Mazazir	*73*	*81*	*40*	*By a headman elected every year*
9. Novkhani	*202*	*228*	*80*	*By Haji Nur Muhammad Bey on the basis of khan rights*
10. Jorat	*88*	*114*	*40*	*By an elected headman*
11. Fatmai	*177*	*160*	*60*	*By Asgar Ali Bey on the basis of khan rights*
12. Binagadi	*138*	*136*	*40*	*By Gasim Bey on the basis of khan rights*
13.Digah	*91*	*112*	*20*	*Run by Manaf Bey on the basis of the aforementioned rights*
14.Mahammadli	*68*	*81*	*40*	
15.Goradil	*25*	*28*	*60*	*By a headman elected every year*
16.Kurdakhani	*85*	*127*	*60*	
17.Pirshagi	*98*	*114*	*40*	
18.Buzovna	*263*	*215*	*50*	
19.Shagan	*51*	*63*	*80*	
20.Mardakan	*94*	*81*	*40*	
21.Zig	*71*	*59*	*40*	
22.Amirjan	*216*	*171*	*40*	
23.Ramana	*80*	*92*	*40*	

30 April 1813

24.Balakhani	*286*	*228*	*40*	
25.Kuley Mahmud	*71*	*77*		
26.Mashtaga	*582*	*653*	*40*	*By Galbali Bey on the basis of khan rights*
27.Bilgah	*93*	*103*	*40*	*By Habib Bey on the basis of khan rights*
28.Nardaran	*139*	*169*	*40*	*By Karim Bey on the basis of khan rights*
29.Zira	*94*	*83*	*60*	*Hashim Bey on the basis of khan rights*
30.Surakhani	*90*	*77*		
31.Kala	*332*	*323*	*40*	*Run by Mammad-Shirin Bey on the basis of the aforementioned khan rights*
32.Turkan	*32*	*41*	*80*	*By Aliverdi Bey on the basis of khan rights*
33.Hovsan	*64*	*59*	*40*	*By Gasim Bey on the basis of khan rights*
34.Bulbula	*33*	*28*	*60*	*By Muhammad Guli Bey on the basis of khan rights*
35.Zabrat	*38*	*57*	*20*	*By Ashur Bey on the basis of khan rights*
36.Sabunchu	*59*	*59*	*40*	
37.Keshla	*56*	*77*		*Run by Mammadyar Bey on the basis of khan rights*
Total The number of residents in all 37 villages	*4,602*	*4,641*	*80*	*Taxes on residents of the castle and the province are divided every year by the Baku city court and village headmen, depending on the state of every resident*
In Baku Castle and in the outer settlement	*1,892*	*2,560*	*20*	
Total	*6,494*	*7,202*		

Some literary sources of the late 19th and early 20th centuries report that before the Baku Khanate was incorporated into Russia, almost all oil wells, except for two wells that belonged to Gasim Bey Selimkhanov by hereditary rights, were used by the Khan of Baku Huseyn Guli Khan himself, and that until 1820, oil extraction from the oil wells of Baku was free, while the Russian government did not receive any revenues from oil reserves. However, archive documents show that from 1812, the Russian government received revenues not just from oil resources, but also from salt lakes:

Apart from the aforementioned tax on Baku Fortress and its provinces, the following show estate and articles that yield revenues[20]

Oil wells		
1. In the village of Balakhani, 10 versts northwest of the castle.	*All this was farmed out by the Georgian state expedition to the nobleman Zurap Tarumov from 1 July 1812 for four and a half years with a fee in Russian silver due to the treasu ry every year*	*[roubles]*
2. In the village of Binagadi, 12 versts north of the castle.		*625*
3. In the village of Beybat, five versts south of the castle.		
Salt lakes		
1. In the village of Masazir, 14 versts north of the castle.		
2. In the village o f Zig, five versts northeast of the castle.		
Articles		
1 The right to have dye houses in the castle and villages	*Farmed out by the same expedition to the resident of Baku, Aleksandr Makedonskiy, from 1 July 1812 for four and a half years with a fee in Russian silver due to the Russian treasury every year*	*9*
2. Sale of hot wine		
3. Tax from the sheep slaughterhouse		
There is a small caravanserai in the castle		
Fishing on the sea coast in Baku province		

In his report to the tsar on 30 July 1813, the commander-in-chief in Georgia, Lieutenant-General Rtishev, wrote: *"The oil wells are abundant in Baku province and are the primary source of its wealth. Since the very beginning of the existence of Baku, they have yielded important revenues to the khans who owned them and always farmed them out with the full right to dispatch oil abroad without any duties. With the conquest of this province… this item remained in the treasury for more than a year under the jurisdiction of the military chief of Baku district, yielding revenues that were insignificant compared to the expense of the maintenance of workers, cleaning of wells and other needs…*

"For this reason, it was recognized as useful to farm them out as before on the basis of khan rights, and the consequences indicated that such a measure is the most profitable for the treasury, for this item, and others, including quite insignificant ones, yielding a farming-out fee of 450,000 in banknotes in four years without any concerns or expense to the treasury."[21]

This shows that the farming-out system used by the Baku khans continued to exist as the then highest government institution - the State Expedition of the Supreme Georgian Government - simply legalized the right to farm out oil wells in order to obtain annual revenues.

In his essays on the history of the Baku oil industry, K. A. Pazhitnov provides a detailed description of the contract regarding the handover to the nobleman Tarumov:[22]

"On 6 July 1816, this contract was signed between the State Expedition of the Supreme Georgian Government and the governor's secretary, Mark Matveyev, the son of Tarumov, on farming out to him the oil extracted in Baku province, with the following points:

"First: He, Tarumov, shall maintain the mountain earth oil and oil springs in Baku province from 1 January 1817 for a period of four years - to 1 January 1821, namely: mountain-earth oil, or what they call black oil here in the village of Balakhani, at a distance of 15 versts from the city of Baki - four big ones - first Khalafi, second Agayi, third Zabrat and fourth Alibegi; and 73 medium-sized and small ones that are situated near each other and those which are within a distance of at least three versts. In the village of Binagadi, at a distance of 15 versts from Baki - five small ones, near the village of Beybati, at a distance of seven versts from Baki in the direction of the sea - 19, and the total number of big, medium-sized and small springs is 101. There are 15 springs of white oil between the villages of Amirganjani and Surakhani, at a distance of 20 versts from Baki, and they are all similar and much smaller than the black oil ones.

"Second: The lessee has to maintain in an operational condition those oil wells that are located under the ground, some of them being up to a depth of 20 sazhens, and encased in wood and in part stone, preventing them from collapsing or clogging up, using workers and his wealth to this end…" Then the essays report that according to a report

by the department of taxes and duties dated 26 October 1821, earlier, namely from 1 July 1812 to 1 January 1817, a contract for white and black oil, salt, a number of slaughterhouses, the sale of hot wine and a dye house was signed with the titular counsellor, Tarumov, for a period of 4.5 years, with a farming-out fee of 62,500 roubles in silver or 250,000 roubles in banknotes to be paid to the treasury. *"As the term of contracts with lessees of articles liable to quit rent approached in 1812, and having summoned those who wanted to rent those articles again, the state expedition issued an order… to publicize all the revenues of the treasury there through its counsellor, dispatching him to the cities of Yelizavetpol, Baku, Guba and Derbend so that he can review those articles and hold auctions on the spot, setting conditions in case someone from among the local residents wishes to rent them and submits them to the expedition for consideration."*[23]

There is an inaccuracy in the Essays here. According to the aforementioned archive document, *"apart from the mentioned tax on Baku Fortress and provinces…"* the right to have dye houses in the fortress and villages, sell hot wine, collect duties from the sheep slaughterhouse and so on was granted by the expedition to the resident of Baku, Aleksandr Makedonskiy, for a fee of nine roubles in silver to the Treasury.

The quote from the archive document "apart from the mentioned tax on Baku Fortress and provinces…" and information from the "Essays…" show that the oil wells which belonged to the khans of Baku before the Russian occupation of the Baku Khanate and which were taken over by Russia were farmed out by the government and yielded quite large revenues from the very first day, i.e. from 1808 to 1872.

It is also known that a local resident, named Mullah Najaf Ali, filed a complaint about Tarumov because Tarumov had seized an oil well that the khan handed over to his father in 1787. This complaint was examined and Mullah Najaf Ali was paid a pension of 120 roubles per year.

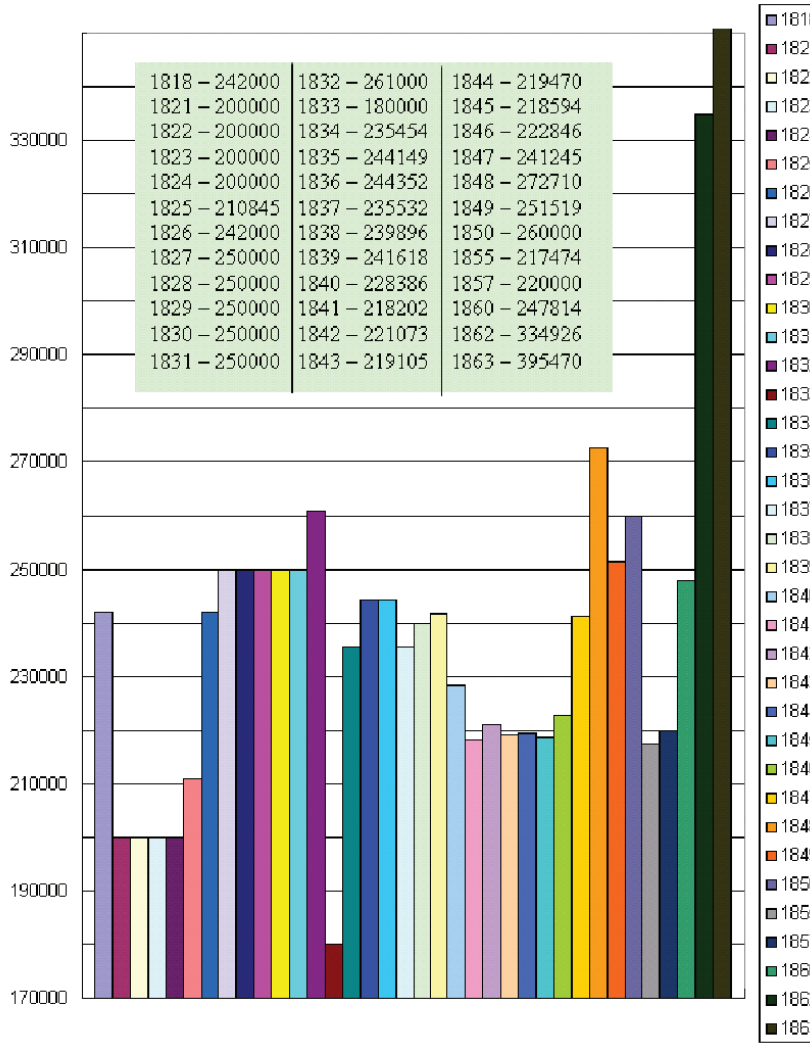
During the whole period of this farming-out system, oil extraction from 415 oil wells totalled 1.5-2 million poods, according to various sources. Under this system, oil sites were farmed out for a period of four years, which is why lessees did not seek to expand their businesses by investing large amounts of money, but extracted as much oil as possible from the wells without engaging in any technical improvements.

In Ragozin's opinion, having farmed out oil and salt fields in 1820, the government actually abandoned all responsibility for the development of these fields. Its primary preoccupation was trying to ensure its own revenues, while concern about the interests of the fields was expressed only in the form of naming prices for crude oil, and a lessee had no right to sell it for a higher price. The brevity of this four-year tenure discouraged lessees from developing the industry. When the government changed the system and took control of this industrial enterprise itself, it always incurred losses. For this reason, it finally decided in 1850 to farm out all oil land on condition that a lessee did not sell crude oil for more than 45 kopecks per pood.[24]

The diagram given below shows oil extraction from 125 oil wells from 1818 to 1863, i.e. until the abolition of the farming-out system.[25]

The diagram shows that the highest amount of oil - 395,470 poods - was extracted in 1863, i.e. in the last year of the farming-out system, while the lowest amount - 180,000 poods - was extracted in 1833. Overall oil extraction from 125 wells during the existence of the farming-out system was 8,615,680 poods, or about 240,000 poods per year.

This diagram is drawn up without considering extraction indicators from two oil wells that belonged to the Selimkhanov brothers. According to K.A.Pozhitnov's approximate calculations,[26] the Selimkhanov brothers extracted 10,800 poods each from two oil wells in 1824 and from 1834 to 1846; 7,316 poods in 1847; 12,830 poods in 1848; 17,800 in 1849 and 17,800 in 1862.



Oil in poods

1818-1863

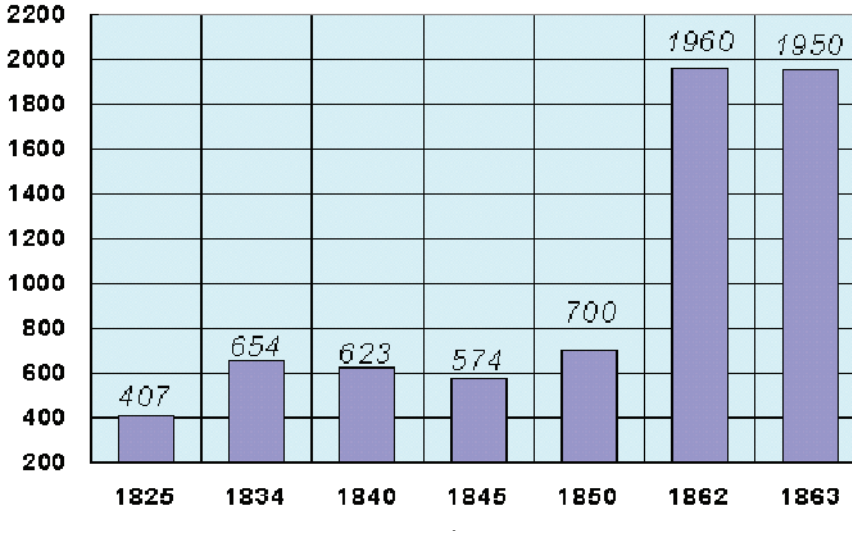
Oil extraction from 125 state run and farmed out oil wells

Thus, if the average production of one well that was farmed out or run by the state was 1,920 poods per year, the average output of the two oil wells owned by the Selimkhanov brothers was 3,948 poods, i.e. almost double.

Oil wells were not always farmed out, but were also run by the state.

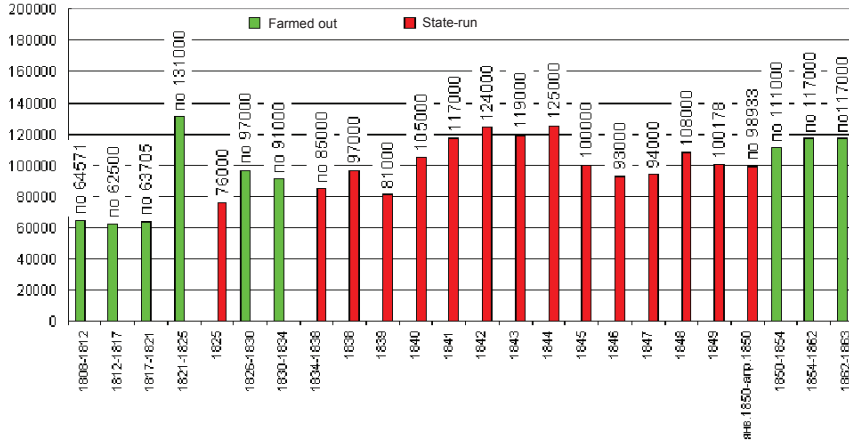
Apart from black oil, white oil was also extracted in Baku, and after purification it was often used to treat rheumatism, scurvy, skin complaints and other diseases.

The diagram shows white oil extraction per annum based on information provided by Pozhitnov.[27]



White oil extraction, poods

The overall sum of revenues from black oil extraction received by the treasury is given in the diagram below.[28]



Revenues from the sale of oil in 1808-1963, roubles

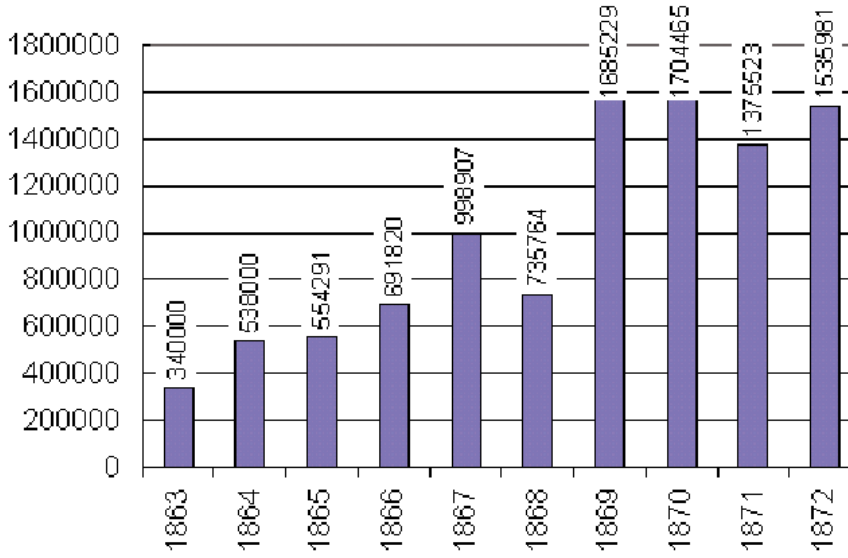
Analyzing this diagram, we can conclude that revenues almost doubled starting from 1821. Overall revenues from oil extraction during this farming-out period, i.e. in more than 37 years, totalled 3,567,104 roubles, or on average, 95,868 roubles per year. The share of private lessees accounted for 51.2 per cent (in 239 months) and totalled 1,788,993 roubles, while the state's share accounted for 49.8 per cent (in 207.5 months) and totalled 1,778,111 roubles. The average annual income, with account taken of the different duration of private ownership and state management, totalled: 89,824 roubles per year for private lessees and 102,828 roubles per year for state management. Thus, we can see that the treasury received slightly higher revenues from state management than from private lessees. For this reason, there were disagreements in government circles over whether state or private management was better. For example, Musin-Pushkin, one of the organizers of research into the riches of the Caucasus, suggested abolishing the farming-out system and basing oil production on the German system, i.e. involving as many industrialists as possible in oil extraction.

At the World Exhibition in Paris, Dmitriy Ivanovich Mendeleyev expressed the following opinion about the development of the oil industry: *"Obstacles to the oil business in essence lie in the exploitation of oil sources. The oil sources of the Caucasus are handed over to lessees. These lessees have no interest in starting a big and troublesome business on only a short-term lease or in spending money on exploration and test drilling and digging nine wells in order to recover their expenses with the 10th well. Maybe this 10th well will be discovered when the farming-out period expires or when the lessee is no longer able to enjoy the benefits of his enterprise given the certain degree of risk inevitable in the oil business."*[29]

Indeed, this was the case. A lessee who was granted the right to extract oil for four years sought to make as much profit as possible for the smallest possible capital investments, which resulted in the barbaric depletion of oil reserves. This subsequently played a negative role in the development of the Baku oil industry. The lack of funding to deliver crude oil to consumers forced them to spill oil into ditches dug near the oil wells, causing considerable environmental damage.

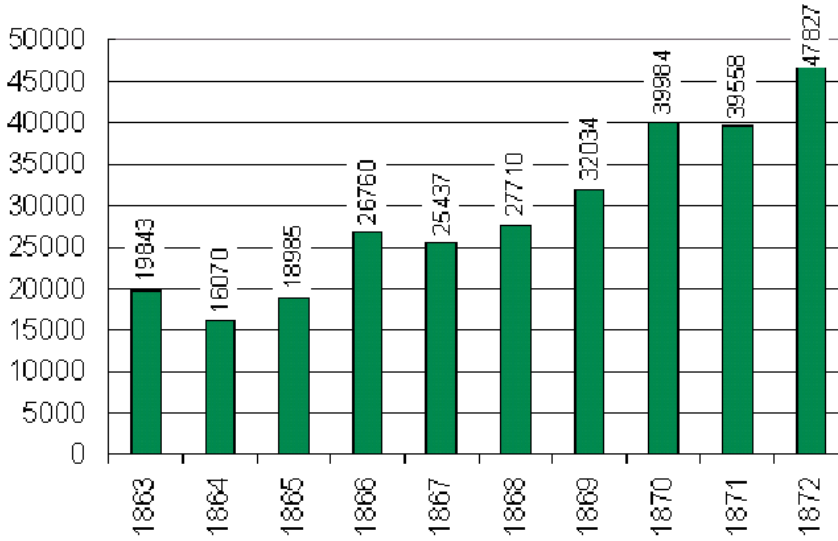
For this reason, Mendeleyev was one of those who suggested abolishing the oil farming-out system and selling the oil deposits to private individuals. He suggested selling them in small lots in order to boost oil industry competition.

But in spite of these comments, the farming-out system continued to operate for a further 10 years, i.e. from 1863 to 1873, with oil extraction reaching 10 million poods of oil (See the diagram).



Oil extraction in the final years of the farming-out system, poods

Until the 1860s, oil was also extracted from primitive wells and holes in the USA. The first borehole sunk by Drake provided a large amount of oil, which boosted oil extraction. In a 10-year period, from 1863 to 1872, about 300 million poods of oil were extracted from 1,000 operating wells in Pennsylvania (See the diagram).



Oil extraction in Pennsylvania in 10 years

On seeing the Americans' success, the Transcaucasian Commercial Association in 1866 filed a petition with the government to start drilling work. However, the government rejected this petition thanks to the erroneous view of the geologist Abikh who thought drilling on the Absheron peninsula would be useless.

The first reports giving oil well figures are provided by the 16th century Iranian author Amin ar-Razi, who recorded the presence in Absheron of *"500 wells from which black and white oil is extracted".*[30]

Among authors of the later period, the Turkish traveller Evliya Celebi (17thcentury) gave a detailed description of oil wells, oil extraction and gas reserves, as well as providing a lot of interesting ethnographic information: *"Near the city, there are rich oil sources of different colours in seven places."*

The construction of one well is described by I. T. Drenyakin in the "Description of Shirvan" (1796). He writes: *"About nine versts from the*

aforementioned lake [Masazir] towards the southeast, in the village of Balakhani, there is an inexhaustible white mineral well with a faulty wooden frame, measuring 2.5 arshins in width and with a depth of 13 sazhens, fenced off by a covered stone wall. Apart from that, in many places there are springs that produce black oil which residents take free of charge to lubricate the wheels of their carts."[31]

Judging from this description, the well was about 30 metres deep and about 1 metre wide, reinforced internally with wooden boards and rings and was surrounded by a fence. It is noteworthy that residents took free oil for their household needs.

Oil wells were dug manually by professional workers using the following method: *"When they plan to build a well somewhere, they first dig a well to the very first source of oil; this hole is rounded like a cone and, in order to facilitate pumping from depth, ledges are made on the sides so that workers standing in them can hand over soil to each other.*

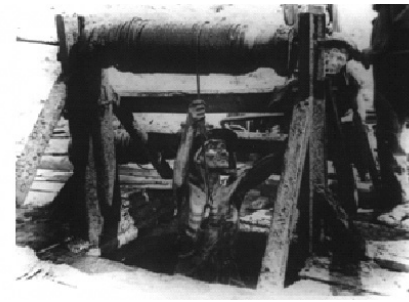
Oil was pured into holes

"On solid soil, the upper diameter of the well is large enough for oil vapour to emerge from it without hurting the workers, while in loose soil they dig a hole twice as wide as it is deep because the sides of the hole will tilt at an angle of 45 degrees, and the soil will no longer crumble".

"After that, they build wooden or stone walls for the well from the bottom of the hole".

"While building these wooden supports in the well, they place four thick bars at the bottom of the hole, locked together; they build the walls of the well on these bars, making them out of rows of beams tied together with logs or boards. Placing several rows one on top of the other, they stick two or three inches of wormwood on their external side and fill the whole area between the walls of the well and the hole with soil. The diameter of the well is from two to three feet at the top, while the bottom is much wider so that oil collects there. For the same reason, holes of different size are made in the walls of the wells, depending on the flow of oil".

"When a big well is very deep, they make the ends of the rows one arshin long, at intervals of one or two arshins, and tightly fix them in the ground. In this way, the whole construction is divided into two parts, each of which has its own foundation and the bottom parts cannot be damaged under pressure".



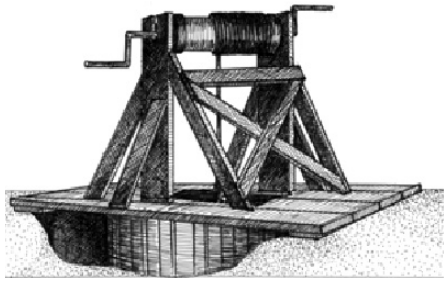
Digging of new wells

"Stone is used to build wells that are not so deep: they are either quadrangular or round like a jug; the former can have a diameter of two to three feet."[32]

The workmen who dug oil wells were in great danger. The deeper the well, the more gas there was. This is why it was extremely dangerous to stay at the bottom for any length of time. Numerous diggers were poisoned, then lost their eyesight or even died.

On oil extraction, it is reported: *"Waterskins or leather bottles, which looked like ordinary sacks, were used to scoop oi"l.*

"If the oil was lifted by horses, larger waterskins were used made of horse, bull or buffalo skin; if people did the lifting, then smaller waterskins were used made of sheep or goat skin. In this regard, various sources identify their capacity differently - from one bucket to 2-3 or even five poods. The edges of the waterskin are sewn onto an iron ring, to which two iron arches are attached, coming together at the top at right angles so that a cord can be tied to them. This cord is used to lift the waterskin using a manual winch or horses. The manual winch consists of a wooden shaft fixed on supports. In the middle, two bars are fixed perpendicular to each other and poles are attached to their ends.



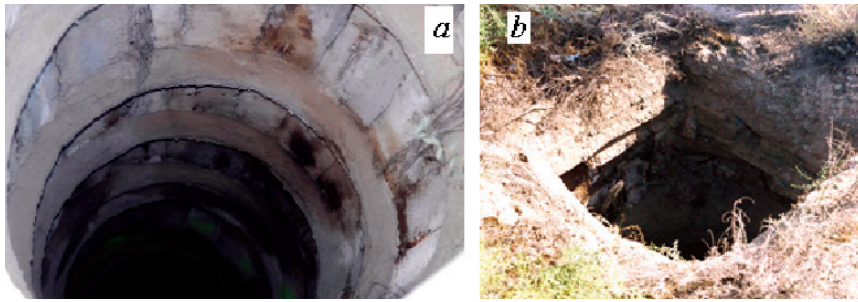
The manual oil extraction well

…In order to scoop oil using such a winch, three people are needed, two of whom move their winch both manually and by treading on the poles, while the third person operates the cord to ensure that the waterskin does not touch the walls of the well and spill out the oil. If waterskins of oil are lifted by horses, only one person is needed, and it is done in the following way.

…Over the middle of the well, an immovable block which rotates on an iron axis is fixed at a height of four or five feet on two bars dug into the ground on both sides of the well. On one side of the well, slightly higher than its mouth, two horizontal rollers are placed on one surface at a distance of three or four feet.

..A cord goes through the immovable block, and the waterskin is attached to its end by an iron ring. Another cord, which goes through the rollers, is attached to the bottom where there is a hole. Both cords are attached to the middle of the roller, to which the horse is tied, and they are long enough for the waterskin to bend in two when it is lifted.

…When the waterskin is lowered to the bottom, the worker pulls the upper cord, which quickly lowers the waterskin and scoops the oil. After being filled, it is lifted, bending in two so that the liquid it contains is in the middle, and when it is lifted above the well hole, the lower short cord straightens and the oil is decanted out of the hole."[33]



Oil wells were covered with wood (a) and stone (b)

An inscription on one of these manual wells reads that it was dug by Master Allahyar Mammad Nur oglu and was put into operation in 1594.[34]

According to Voskoboynikov, most of the oil wells were dug at different times and were either partially or fully renewable: *"… for example, according to residents, three years ago a stone inscription was found in a cellar near the Galafi well saying that the Galafi well was rebuilt 200 years ago. The Chambu, Haji-Zurabi and other wells were also renewed under the last khans."*[35]

It is interesting that most of the wells were given proper names such as Urusi, Chambu, Shah-Saf, Sovzechal, Sharapani and others.

By the beginning of 1863, there were 218 operating state-owned wells and two private wells belonging to the Selimkhanov brothers in the Baku oil fields, according to a report by Koshkul. By the beginning of 1873, the number of wells reached 415, i.e. in 10 years the number of wells increased by 195, plus an additional borehole drilled by Mirzoyev in 1872.

The depth and daily extraction from some wells in the period 1862-1870 are given below:

1862			1870		
Name of the well	**Depth, sazhens**	**Daily oil extraction, poods**	**Name of the well**	**Depth, sazhens**	**Daily oil extraction, poods**
Galafi	12.2	90	Aliman 1	15.2	610
Agayi	12.2	75	Saparov 2	13	376
Zabrat	8	75	Mikhaylovskiy	11	355
№ 65	4 – 6	40	Mirzoyev	-	308
Gazi	11.4	32	Jabar	15.2	281
Alibeyi	10.2	30	Salahi	9.2	164
Vorontsovskiy	7	30	Saparov 1	9	140
№ 37	4.1	28	Galafi	13	86
№ 102	5.1	21 – 27	Ag Akbar	14	79
№ 66	4 – 6	25	Agan	11.2	54
№ 35	4.1	20	Aliman 2	11.2	54
№ 36	4.1	17	Gazi	11	32

The exploitation of oil wells caused some difficulties. In order to avert any drop in the flow of oil, the wells were regularly cleaned because sand fell into the well as the oil was scooped out. Furthermore,

the oil flowing from different strata to the bottom of the well carried with it mineral particles, and they contaminated the bottom of the well. Moreover, when oil was extracted in an open way, it turned into kir* under air pressure and this also reduced the flow of oil.

In order to clean oil wells, a worker used a rope to go to the bottom and manually remove the sticky substances that accumulated there and reduced the productivity of the well. Naturally, as oil evaporated, especially in summer, the worker was subject to great danger and his work was sometimes unbearable.

In order to ensure more successful development for the oil extracting and processing industries, it was necessary to solve the problems of delivering crude oil from the oil fields to refineries and to facilitate their sale.

At the initial stage of the development of Baku's oil industry, crude oil was delivered from fields to consumers in a most primitive way - in waterskins and barrels loaded on special carts or camels and then in barrels with a capacity of 20 poods. Every cart carried up to 25 poods of oil. Tens of thousands of carts plied the poorly-maintained roads, delivering oil to the refineries. The fee for delivering crude oil, even for short distances, was several times greater than the cost of the oil. Delivery could only take place in good weather because the cart-owners refused to transport oil when there were strong winds or rain, thus depriving the oil refineries of their raw material. At times, the delivery cost of one pood of crude oil reached 7-10 kopecks.

Oil was extracted from wells with the help of horses

* Kir is a sticky black substance based on oil

"The transportation of one pood of oil from the fields to the Black City, at a distance of 12 versts, cost at least five kopecks. Since three poods of oil were used in the production of one pood of kerosene, transport expenses raised the cost of one pood of kerosene by 15 kopecks, and this accounted for 30 per cent of its cost when the price of kerosene was 45-50 kopecks,"*[36] K.I.Lisenko reported.

The construction of oil refineries near oil fields following the example of the entrepreneurs Kokorev and Mirzoyev, who built their factories in Surakhani, was not possible for two main reasons: firstly, they occupied areas that could be used for drilling new oil wells and did not solve the problem of delivering the finished product to the consumer. Furthermore, the government authorized the construction of factories only in the so-called Black City.

The transportation of oil on the backs of camels.

Some time later, the Nobel Brothers Petroleum Company carried out the following survey of local communication lines:[37] *"Oil fields were concentrated at a distance of 15-16 versts from Baku and 10 versts from the sea front, whereas the oil refineries were located along the Bay of Baku, at a distance of two of three versts from the city. The fields were separated from the refineries by an area that had no vegetation at*

* The Black City is an area near Baku where most of the oil refineries were concentrated

all and was totally covered with sand which was blown from one place to the other by the strong winds that dominated the area in summer. The area was bisected by earth roads that had never been repaired and had been used by thousands of two-wheeled carts pulled by just one horse." Then the survey said: "The Absheron peninsula, due to the lack of water and its bad vegetation, is not really fit for keeping large herds of draft animals. Transportation itself was not uninterrupted and depended on the climate because oil delivery stopped in bad weather. Factory owners also suffered a lot from constant strikes by cart-owners. In these conditions, the factory owners had no chance to take on urgent orders. Due to their complete lack of control over the situation, they often had to stop oil processing and the workers had to sit idle, waiting for the raw material."

Thus, primitive oil transportation from the fields was a significant obstacle to the development of the oil industry. Naturally, such oil delivery to consumers was quite expensive and increased the cost price of oil, and this had a negative impact on the end product.

Cheap delivery of the crude oil in tanks to factories and major warehouses was essential to secure major development of the oil industry. In this connection, the Nobel Brothers Petroleum Company initiated construction of semi-deep and deep oil tanks.

Initially, the oil reservoirs which remained from the time of the khans were used to keep oil. These oil reservoirs, in the form of underground stone buildings, were built not just in areas where oil was extracted. Lerche mentions three such oil reservoirs near Baku and 15 in the Bayil and Bibi-Heybat area.[38]

The local population had been familiar with the construction of underground oil reservoirs since the 16th and 17th centuries. They built underground warehouses using a substance based on white lime and plastered them from the inside with a cement solution prepared according to ancient recipes. The cement was made from lime and a mixture of ashes and camel and donkey dung, vine syrup, eggs and goat's wool. The roofs of the warehouses looked like domes and were covered with a coating of kir, which was quite abundant in Baku.

A report to the State Expedition of the Supreme Georgian Government, dated 18 January 1825, says:

"There are 82 state-owned wells in the village of Balakhani. The construction of all the wells is good.

The wells which constructed of stone are:

1. Ambar; 2. Kiomenter; 3. Kiomenter; 4. Hasan-Ali; 5. Sharapani; 6. Puskanachal; 7. Urusi; 8. Gabli; 9 Abol; 10. Daryagi; 11. Daryagi; 12. Gala-Galafim; 13. Bichagi.

The wells constructed of wood are:

1. Petrusi; 2. Saoage; 3. Ali-Beyi; 4. Gadoni-Zurabi; 5. Marzagi; 6. Gazi ; 7. Chambu; 8. Shah-Safi; 9. Kabli-Huseyn; 10. Kioment Gala; 11. Agan; 12. Galosvakhana; 13. Gaydari; 14. Irzaguli; 15. Khanami; 16. Petrusi; 17. Sovzachal; 18 Shah-Safi.

The remaining 51 wells are constructed of stone on top and wood at the bottom.

There are 12 stone cellars to keep oil in the village of Balakhani.

There are eleven useable wells.

There is one damaged well.

Note: This cellar is divided by partitions into four small cellars that are linked by means of small holes. The dome of one of these small cellars has collapsed.

In the Balakhani cellars there are 4,898 halvars of black oil left from Mr Tarumov. Namely:*

In the Khalafi cellar - 655 halvars

In the Zabrat cellar - 498 halvars

In the Agadoni cellar - 340 halvars

In the Agayi cellar - 80 halvars

In the Agayi Kchi Dazgi cellar - 276 halvars

In the Chambu cellar - 85 halvars

In the three cellars near the Agayi well - 2,964 halvars

Note: Each of these three cellars is divided by partitions into four small cellars which are interconnected.

There are five state-owned wells of black oil in the village of Binagadi.

The construction of all wells is good and they are made of stone.

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* One halvar is 0.2 poods

In the village of Bagche and Shubani there are no wells. Black oil is extracted from small holes here.

There are 16 cellars to keep black oil in Baku Fortress: nine of them are good and seven are damaged.

Note: These cellars have no visible damage, but oil is leaking from small holes in the walls.

Mr Tarumov has 220 halvars of black oil in these cellars.

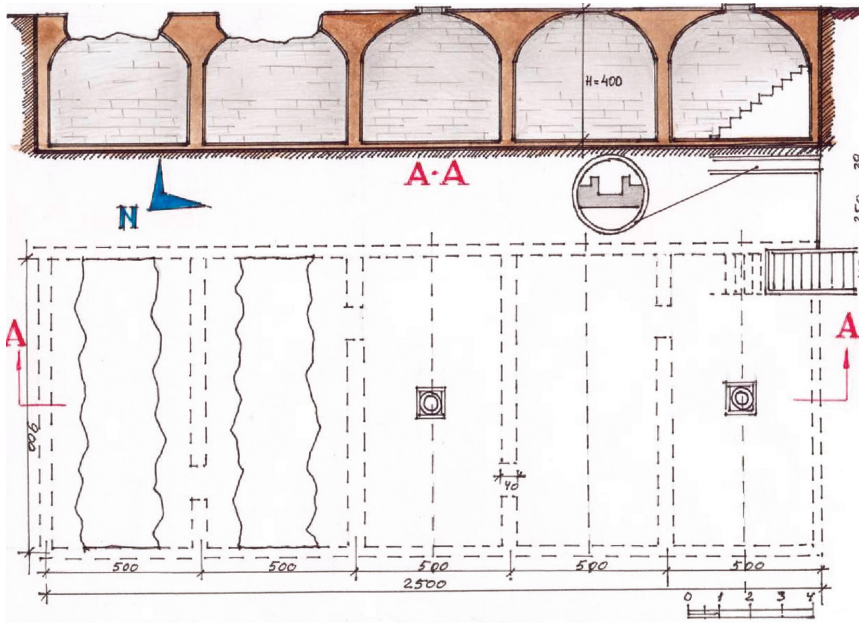
Mr Tarumov has 90 poods of white oil in Baku Fortress.

Note: The white oil is kept in clay jugs dug into the ground in two small stone constructions near Baku Fortress."[39]

The growing demand for oil in the second half of the 19th century and even greater demand for it in the early 20th century led to a global oil "boom". For example, by the beginning of the 20th century the main oil-rich lands in Sabunchu, Surakhani, Balakhani, Binagadi, Zabrat and Ramana were divided mainly between the oil companies and private individuals operating them.

This third stage in the exploitation of oil sites, which began at the end of the 20th century, changed the appearance of the oil fields. During the three technical stages in the development of these sites, most of the oil extraction structures from the Middle Ages to the early 20th century were destroyed.

However, oil wells dating from the second half of the 19th century and the early 20th century remain intact on the territory of Balakhani, two kilometres southeast of the village, and oil can still be found there. The diameter of the wells is 80 centimetres. They consist of metal pipes with riveted rings. Most of these wells/pipes are strengthened with masonry. They are densely located in the area. The mouths of three manual wells have been found at this site. The wells are both round and square. Wooden fasteners, consisting of vertical boards and horizontal round bars, still remain intact. Around the wells, reinforcing logs and the stonework that serve as a basis for strengthening the gate also remain intact. This construction and method of fastening, which are described by various sources in detail, can clearly be seen at these wells.



In the village of Balakhani, underground oil reservoirs made of stone also remain intact. They are rectangular in shape, with arches on both sides and steps leading to the bottom. The walls are plastered with white lime. Along the centre of the arched openings, there are drainage holes for the oil.

The oil reservoirs cover a territory of about one hectare. There are 16 underground constructions here. Remains of tiling, ceramic pipes and stone oil pipelines show that this unique complex dates from the 14th-18th centuries. It is notable that underground depots were also built at this site in the 19th century. These oil warehouses and reservoirs were first described by Kaempfer, and were confirmed by other sources.

The stone arch of an underground oil reservoir

This type of oil reservoir construction was used by the Nobel Brothers Petroleum Company to store crude oil and oil residue. In order to store oil products, the Nobel Brothers Petroleum Company built oil tanks with iron rivets and a conical roof.

Near the stone oil reservoirs, metal reservoirs of the early 20th century remain intact and, according to available archive documents, they belonged to the Nobel Brothers Petroleum Company. On the basis of interviews with the local population, it was established that the stone oil reservoirs were restored and strengthened not just in the 19th century, but also in the 1930s.

a ***b***

Underground (a) and overground (b) oil reservoirs in Balakhani

Following the example of the Nobel Brothers Petroleum Company, other factories also started building depots to store crude oil and oil residue. For example, in 1900 about 2,000 different reservoirs were built in Baku district.

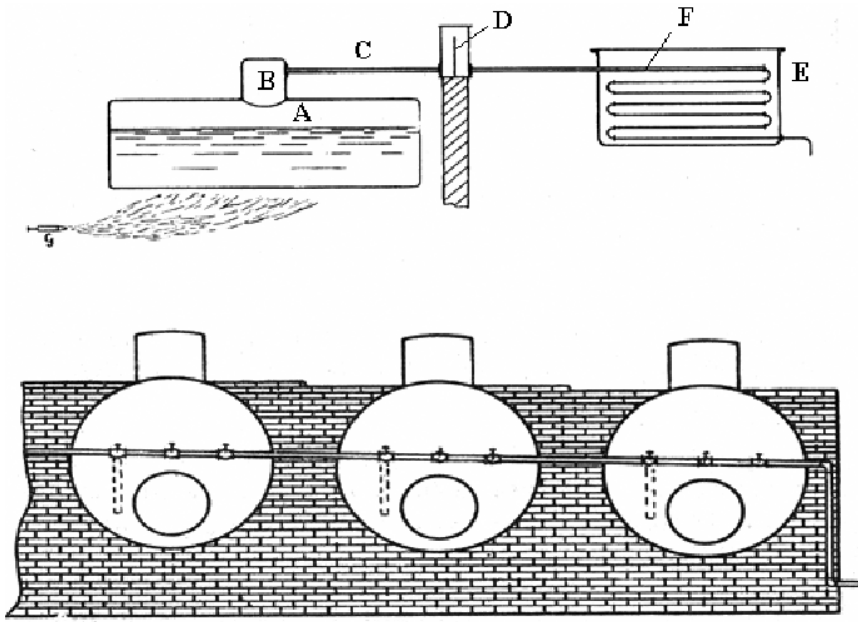
Type of reservoirs	Number of reservoirs		
	For crude oil	For oil residue	For products of oil processing
Covered stone warehouses	15	33	-
Open stone warehouses	1	75	-
Covered earth warehouses	21	4	-
Open earth warehouses	-	70	-
Iron reservoirs	259	203	1,296

Production of photogen

The first small factory to manufacture the lighting product - photogen - was built in Burgundy in 1832. The development of photogen manufacturing was quite successful. In a short period of time, quite a large number of factories producing it were built in Europe.

The great popularity of photogen revived previously unsuccessful attempts to process oil in the North Caucasus in 1823. This revival was led by serfs belonging to Countess Panina and the Dubinin brothers and proved that it was possible to obtain photogen through oil distillation.

The remains of Voskoboynikov's oil refinery at the foot of the Boghbogha volcano



The drawing of oil distillation equipment

According to Ragozin,[40] a report to General Safonov, the governor-general of the Caucasus, on 21 February 1847 said the following: *"Colonel Prints submitted a certificate in two copies on the Dubinin brothers' invention in 1823 of a method of purifying black oil into while oil, which was not known to anyone at the time. He gave a description of this method, a drawing of their establishment and a sample of the distilled white oil. Large amounts of this white oil invented by the Dubinins have been put on sale in various cities of the Russian Empire and are used in pharmacies due to its high quality…"* Then it says: *"…The industrial process of oil distillation using the method of the Dubinin brothers is notable for its primitive simplicity, just like the factory itself".* The archive also contains a description of the method of purifying black oil, which was invented by the serfs of Countess Panina,

Vasiliy Dubinin and his brothers.* The description is given in the actual words of the Dubinins. The drawing of the factory that is attached is an accurate copy of the drawing they submitted to the governor-general of the Caucasus when they applied for a reward:

"A - an iron cube fixed in a brick stove; 40 buckets of black oil at a time are used to fill this cube.

B - a copper lid that covers the cube as you fill it with black oil.

C - a copper pipe goes from the lid through a wooden transom capable of one revolution with water.

D - near the transom there is a wooden bucket fixed in front of the pipe.

When starting the fire chamber of the brick furnace, E, equipped with an ash pit, F, oil flows from the cube into the pipe through the water, becoming purer and turning into white oil, and then it flows out into the bucket. Forty buckets of black oil produce 16 buckets, while four buckets of charcoal fumes and 20 buckets of dense black oil remain in the cube."

The location of Vitte's factories on the 1899 map of Absheron

* There were three Dubinin brothers

Since the original drawing of the Dubinins is not available, a slightly revamped drawing of the oil distilling equipment which produced kerosene is given here.[41]

Every cube which was designed for oil distillation was a cylindrical (initially, ball-shaped) vessel, A, mounted on brickwork in order to prevent it from cooling quickly. On top of the cube, a steam dome, B, was installed and the pipe, C, connected it to the coil pipe, F, which was placed in the cooling chamber, E, with running water. The cube, filled with oil, was heated on an open flame. As the temperature in the cube rose, the oil was distilled in accordance with the temperature of the evaporation of each fraction (petrol, ligroin, kerosene, solar and so on). The steam from these products was channeled into a refrigerator where it condensed into distillate of the individual fractions. At the end of the process of distillation, the remainder was released from the cube, while the cube was cooled and filled with fresh oil, and the whole distillation process was repeated again. This method of distillation was subsequently called batch distillation.

This method of obtaining photogen from oil was then used by the Americans. In 1846, in America, Abraham Gesner succeeded in obtaining lighting oil from resinous coal and called it kerosene.

Apart from the Dubinin brothers, the mining engineer Voskoboynikov was also engaged in oil distillation. According to Ragozin, *"…at the foothill of a mud volcano, 15 versts from Baku, there are still some ruins which, as legend has it, are remains of a photogen factory where the mining engineer Voskoboynikov distilled oil in 1836."*[42]

Describing Voskoboynikov, V.I.Ragozin pointed out that Voskoboynikov was quite an active person and worked hard in the Caucasus, and he printed many of his works on various spheres of the mining business, but never mentioned photogen distillation anywhere. Then Ragozin draws the conclusion that, to all appearances, his (Voskoboynikov's) experiments were a repeat of the previous experiments carried out by his predecessors under Persian rule.

With this conclusion, Ragozin to some extent confirmed the words of Academician Lerche that "150-200 years earlier (approximately in the 16th century*), the local population was aware of the secret of oil distillation."

* Author's note

For comparison purposes, we should say that attempts were also made in Europe during this period to replace the expensive vegetable oil used for lighting with a cheaper product.

In 1832, Seligue built a small factory in Burgundy where he managed to obtain a lighting product, which he called photogen, from tar by means of sublimation.

In 1860, photogen called kerosene was placed on the European market.

Success on the European market helped American kerosene enter the Russian market as well. For example, in 1864 Russia imported 189,100 poods of kerosene, in 1869 - 1,099,500 poods and in 1872 - 1,790,300 poods. The sum of the proceeds from the kerosene that was supplied totalled 35 million roubles.

Such high proceeds from the sale of kerosene prompted Baron Tornau (Germany) to open a kerosene factory in Baku, where he knew about the existence of a special substance, so-called kir, which could produce kerosene. There was a large amount of kir in Baku and it could be bought very cheaply. In order to organize kerosene production from kir, Baron Tornau established contacts with the Trans-Caspian Commercial Association led by Kokorev and Gubonin. In those years, the Trans-Caspian Commercial Association enjoyed various government perks and traded actively with Persia.

The kir-processing factory was built in the village of Surakhani near Baku, to the design of the German scientist Liebich. His plans were developed along the lines of German photogen-producing factories. In order to help build the factory and assemble the equipment, Liebich sent his assistant, Moldenhauer, to Baku. However, kir processing did not yield positive results. The kerosene that was obtained from kir was quite heavy and was not suitable for lighting. Then Moldenhauer suggested obtaining kerosene by distilling liquid oil, which was abundant on the outskirts of the village of Balakhani. Apparently, Moldenhauer used the knowledge of Balakhani residents. He was delighted with the result: the distillate, i.e. kerosene, was almost totally transparent and ready for use in lighting. Moldenhauer's oil distillation experiments to obtain a lighting product of higher quality than that obtained from kir sublimation gave a real impetus to his enterprise.

Further research to improve the final product was carried out by W. Eichler, whom the association invited to the Surakhani factory from Moscow in 1860. Since the lighting product obtained at the Surakahni factory was new and different in quality to the photogen obtained through sublimation, Moldenhauer and Eichler invented a new name for it - *photonaftil,* from the Greek words *phos* - light and *nafta* - oil.

Then Eichler introduced a method of purifying the product of this distillation using sulphuric acid and alkali. The first batch of kerosene purified in this way was sent to Tiflis, where it became very popular. From 1864, the kerosene from the Surakhani factory was supplied to the Russian market, gradually ousting American kerosene.

"…the purification of kerosene distillate introduced by Eichler, who worked in Baku, is still roughly the same, and it currently produces kerosene that is even better than American kerosene…"[43]

Initially, the factory kept Eichler's purification method a commercial secret, but subsequently, other factory owners discovered this method of purification with the help of acid and caustic soda alkali. The acid came from Russia and the caustic soda from England.

Ragozin's book provides a relatively full description of the equipment at the Surakhani factory: *"The factory, as was mentioned above, was built to manufacture kir photogen, but under Moldenhauer, it transpired that a better product could be obtained from oil. For this reason, all cast-iron retorts for kir sublimation were left unattended, and only the ball-shaped boilers for the secondary processing of the distillate were used. These boilers were made of iron, and only the extension through which oil was poured and purified was made of cast iron. It was covered with a lid secured by spiral brackets. A diversion pipe linked to the cooler was attached to the side. At the bottom there was a pipe to release water that mixed with the oil in order to dispose of the residue after distillation. The whole ball was heated, except for the extreme top and bottom of it which the fire did not touch. Before starting to heat the boiler, the water was released from it. These boilers were quite big for that time: about 100 poods of crude oil were poured into them and distillation lasted three days. There were three such boilers in 1861 and they produced the following distillates: 100 poods of photogen with a specific weight of 0.819 and 100 poods of photogen with a specific*

weight of 0.860. Then the second sort of photogen was distilled again and produced another 15 per cent of the specific weight of 0.819. Therefore, at that time, oil produced 50 per cent of lighting oils, i.e. when oil was expensive it provided 50 per cent, not 30 per cent, as secondary distillation provided kerosene from solar oils.[44]

"Initially, Eichler prepared photogen with a specific weight of 0.815, which provided 20 per cent from the oil extracted from wells with a specific weight of 0.867. Then, in order to increase the release of photogen, it was obtained with a greater specific weight: 0.8175 and 0.819. This continued until 1873, i.e. until the excise system was introduced. Under the excise system, it became impossible to carry out secondary distillation.

"From then on, in order to increase the release of photogen, it was made even heavier - 0.820 and not 50 per cent, but 32-34 per cent. Oil was heated in ball-shaped boilers extremely unevenly, which is why this shape was soon replaced with cylinders: there was a free tubular steam boiler at the factory, and they removed the pipes from it, attached a headpiece and started distilling oil using old methods. This happened in 1862. One year later, this boiler was replaced with an ordinary standing cylindrical boiler with a flat bottom, and one year later again, they decided to bend the bottom inwards…"[45]

Then it says that in order to cool oil and gas steam, a special tubular cooler was used following the initial plans of the Surakhani factory. It consisted of two metal boxes linked together by up to 30 vertical metal pipes. The whole system could be placed in a wooden bowl with cold water. Oil vapour from the boiler moved through the pipe into the upper box where part of the vapour thickened and turned into a liquid, flowing into the lower box from which the distillate flowed out into a sink. In this cooler, the vapour did not thicken fully, which is why it often did not get a chance to thicken during fast distillation and gushed out of the pipe, catching fire due to quick oxidation in the air. Of course, this caused frequent fires, which is why the tubular cooler was soon replaced by another type. The new cooler was a truncated iron cone with double walls and could be placed into a wooden bowl filled with water. The interior of the cone was also filled with water. Water did not circulate here, which is why the process of cooling vapour was far from perfect. Then an ordinary coil pipe was installed, and this is still common at almost all photogen factories.

Following the Surakhani factory, another businessman, Colonel Vitte, decided to build a factory to manufacture photogen through oil, kir and ozocerite* sublimation.

Having examined all the deposits of this mineral in the Baku region, he concluded that the most suitable place for the construction of a factory was the Isle of Svyatoy (Pir Allahi), 50-60 versts south of Baku.

The serfs of Princess M. S. Vorontsova discovered oil deposits on this island in 1846. According to a special "High Decree" of 6 June 1859, all sources on the Isle of Svyatoy (Pir Allahi), spread over an area of 10 dessiatinas, were handed over to Vitte *"…in order for him to build a paraffin factory, ownership of which will be hereditary for as long as the factory itself exists."*

A state fee of 25 kopecks per dessiatina was set for using the land, while the fee for using the oil sources was one rouble per dessiatina. If the oil sources ran out, Vitte would be exempted from the state fee. These conditions were quite favourable and the fee for using the land and oil sources was low, which is why Vitte started building the factory and completed it by the end of 1862, spending 300,000 roubles. Ozocerite (Naftagil) intended for sublimation to obtain photogen was extracted in the Isle of Cheleken and delivered to the Isle of Svyatoy (Pir Allahi) by sea.

The location of Vitte's factories on the 1899 map of Absheron

This is how Ragozin described the technology of producing liquid lighting oil: *"The processing of ozocerite produced 68 per cent of distillate, of which paraffin comprised 60 per cent and mineral lighting oil - 8 per cent. The oil was clay-coloured and had a slightly burnt smell. In order to purify it, it was first heated at a temperature of 60 degrees*

* Ozocerite is mineral wax which was called naftagil in the local dialect; nafta - oil and gil - clay.

Celsius and then mixed with one per cent sulphuric acid. The whole mass was mixed until the foam became totally white; the whole mass was then mixed with quicklime and distilled again."[46] Candles were made from the paraffin after it was purified with sulphuric acid.

However, due to the lack of suitable raw materials for the production of paraffin and the high cost of delivery, the factory soon closed.

In 1863, a former employee of the Vitte factory, Javad Melikov, managed to build quite a primitive oil refinery to obtain kerosene. The factory consisted of a boiler and cooler installed in the open air. Javad Melikov's idea of building a kerosene factory was regarded dubiously at first. However, Melikov was quite an enterprising person. Despite the fact he did not have enough money, he managed to build a factory and obtain quite pure and transparent kerosene. This success silenced the doubters and made it possible to set up an association with a fixed capital of 2,000 roubles. Javadov himself, however, was subsequently removed from this business.

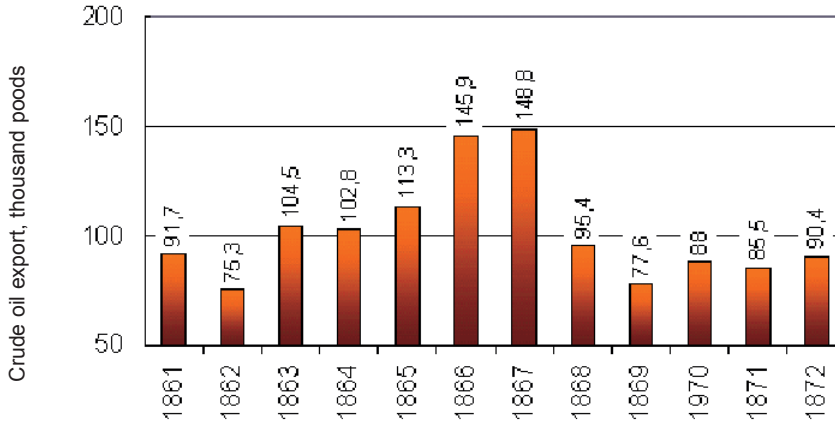
Ragozin described this enterprising man in the following way: *"Javad Melikov, a dark and uneducated person like the Dubinin brothers in the North Caucasus, is the true pioneer of photogen production in the Absheron peninsula. Like all people who are possessed by an idea, he saw every initiative purely as a method of implementing this idea and Bakuvians regarded him as an eccentric and strange man. What else would people think of you if you did not seek personal gain: he spent his last kopeck without thinking about tomorrow - just to achieve his goal! In the history of the development of technical production, we often encounter such eccentric people who give an impetus to production and move it forward, but then get sidelined and die in poverty and uncertainty, while the crowd that did not trust them and mocked them makes a fortune from what they created. This is what happened to Melikov. He persuaded Mirzoyev to use oil sources in the North Caucasus (Groznyy) and build a photogen factory there in order to supply photogen to the whole of the North Caucasus. Melikov was authorized to build the factory. He built the factory which exists to this day, but was sidelined again and died somewhere in poverty and anonymity, giving an impetus to the development of one of the major industries in the country. His former fellows - companions and bosses - now have large fortunes which they made from oil distillation."*[47]

Thanks to high kerosene prices, other businessmen followed Melikov and also built oil refineries. In 10 years, the number of factories reached 23, with a total output capacity of 0.5 million poods per year.

The former lessee, Mirzoyev, built a kerosene factory in Ateshgah district in Surakhani. The location of the factory, near oil sources, was chosen because of the high cost of crude oil delivery, which still remained primitive, i.e. by cart. The price of delivery had already reached 70 kopecks per pood.

Location of refineries of Kokorev and Gubonin (Baku Oil Company) and of Mirzoyev near Ateshgiah at the map of the Absheron Peninsula (1899)

The development of kerosene production and the expansion of the market helped increase oil extraction in Baku. According to statistical information from literary sources of the late 19th century, oil extraction almost trebled with the development of kerosene production: if in 1863 oil extraction totalled 340,000 poods, in 1867 it reached one million poods of oil. The transportation of crude oil from Baku dropped noticeably. In part, photogen was also transported together with the crude oil, which yielded much higher revenues. The diagram given below shows the dynamics of crude oil transportation to Persia.



Crude oil export to Persia

The further demand for oil necessitated the drilling of new oil wells and new investment in the oil industry. However, the existing farming-out system did not facilitate this. Despite the growing demand for oil, the revenues of the treasury scarcely reached 0.5 million roubles in the period 1821 to 1872.

"The aboriginal population of the Absheron peninsula only consumed and transported oil, while the incomers consisted of officials and exiled sectarian settlers who did not take part in the oil business," Ragozin said. "Thus, only lessees were oil business tycoons and they were least expected to initiate changes in the existing status quo… Meanwhile, the revenues of the treasury did not increase, but conversely, dropped by 36,000 roubles in silver, while the consumers of oil products were forced to pay high prices."[48]

In this regard, a commission was set up under the chairmanship of the Duke of Leichtenberg to consider the issue of developing the oil business. This commission, of which the prominent chemist Dmitriy Ivanovich Mendeleyev was a member, pointed out that the existing farming-out system did not offer opportunities to develop entrepreneurship or free competition and spoke out in favour of repealing this system as it slowed down development of the oil business. The commission's deci-

sion said: *"By repealing the farming-out system, the government will open a huge beneficial field for private industry. The government should first of all eliminate all the economic obstacles standing in the way of the development of any industry. The rest will depend on the skill of private individuals in taking up the business and their spirit of enterprise."*

As we said above, the transportation of one pood of crude oil cost 7-10 kopecks. For this reason, cart transportation was a major handicap in development of the oil industry.

In 1877, factory owners filed a petition with the government seeking authorization for the building of a railway from the fields, but their request was turned down.

Only at the end of 1878, did the society of Transcaucasian railways start building the Baku-Balakhani railway. The construction of this railroad ended in April 1879. The delivery of oil to factories now cost 1.5 kopecks, which certainly affected the cost of kerosene as a finished product. But most of the raw material was still delivered to factories by carts. Then, Ludwig Nobel, the founder of the Nobel Brothers Petroleum Company, suggested building an oil pipeline that would connect the fields to the oil refineries.

Having carried out research into the state of crude oil transportation to oil refineries, the Nobel Brothers Petroleum Company deemed it necessary to build oil pipelines to establish uninterrupted communication between factories and the oil fields. Ludwig Nobel submitted his proposal to other oil industrialists, outlining the benefits of oil transportation by pipelines, which he pointed out in his note, entitled "A View of the Baku Oil Industry and Its Future" in 1876.[49] In this note, Nobel pointed out that in America, oil was initially transported by carts and then by barques on shallow rivers, and finally they decided to deliver it by pipelines with the help of pumps. Since this method turned out to be the best, he recommended that it also be employed on the Absheron peninsula.

The Nobel Brothers Petroleum Company developed quite a simple draft on the transportation of oil to oil refineries by pipeline, though this required great efforts and financial expense. This project was implemented in 1878 and consisted mainly of two pumping stations which were connected by pipelines. One of these stations was installed at the oil fields and the other - near oil refineries in the Black City. It was possible to pump 35,000 poods of oil through such a pipeline, reducing the cost of delivery to oil refineries to one kopeck.

The great effectiveness of pipeline transportation compared to cart transportation prompted other oil industrialists to build oil pipelines. They started building oil pipelines not just to connect oil fields to oil

refineries, but also to connect oil fields and oil refineries to each other. Pipeline transportation was also used to deliver the finished product from factories to oil tankers.

By the early 20th century, the number of pipelines at oil fields reached 38, with a total length of 390 versts. Twenty-five pipelines transported oil to factories, while the rest pumped sea water to fields in order to feed steam boilers. In 1900 alone, 427 million poods of oil were transported from the fields to the oil refineries. The cost of delivery suddenly fell to 0.25 kopecks.

The repeal of the farming-out system, the construction of oil pipelines and increasing demand for kerosene and other oil products led to a rapid rise in the volume of extraction and reduced crude oil prices, which ended in the accelerated construction of new oil refineries.

Let's cite some information from archive materials which confirm the growth in oil extraction and processing:

From a note by the commission to discuss the draft concession of the Association of Caspian-Black Sea Oil Pipelines on the productivity of the Baku oil industry in 1872-1876.[50]

22 May 1878

With the repeal of the farming-out system, by 1877, i.e. in four years, the productivity of Baku's oil fields increased 10-fold; according to statistical information collected by the mining department, the progressive increase in the productivity of the Baku oil industry is expressed in the following figures:

Extracted oil	*Obtained photogen*
1872 - 1,395,114	*500,000 poods*
1873 - 3,951,575	*1,212,390*
1874 - 4,862,642	*1,419,797*
1875 - 6,285,728	*2,179,374*
1876 - 10,324,453	*unavailable*

There is no official information about 1877, but according to oil industrialists themselves, productivity has already reached 10 million per year, and therefore, has increased almost 20-fold…

The chairman of the commission, I, Shteyman

An area two versts from Baku was allocated for the construction of new oil refineries. It was later called Black City due to the high concentration of soot.

"Two versts north of Baku, also on the sea coast, there is a place that is home to kerosene factories," Lvov writes in his book *"In the Oil Kingdom". "Eternal dirt, soot and the dense black smoke that covers it earned this place the name Black City. Oil comes here by iron pipes - oil pipelines - from fields that are often several versts away, and it is received by factories that process it into kerosene and other oils. This is where I went in order to familiarize myself with the further processing of oil."* Lvov also described the state of the White and Black Cities: *"As soon as we left the city, the view suddenly changed: houses, streets and roads disappeared; meanwhile, there was not a single trace of what we expected to see outside the city, i.e. vegetation. We travelled on a wide black road with ditches full of dirty water, which smelled like kerosene, stretching on both sides. The farther we went, the gloomier the view. The ditches of dirty water grew greater and wider. The ditches of water were followed by wooden fences behind which big factory buildings and high chimneys could be seen emitting thick black smoke. The smell of kerosene grew stronger and stronger, as if all the air consisted of its evaporations.*

"East of the Black City, there is a whole string of other tidier factories which are called the White City."[51]

Oil pipelines of the Nobel Brothers Petroleum Company in the Black City

Below is the list of the largest oil refineries in the Black and White Cities, as well as the amount of kerosene produced by 1912.

Name of the factory	*Location of the factory*	*Kerosene produced in 1912, in thousand poods*	*Number of workers*
Shamsi Asadullayev's factory	*Black City, 6th Zavodskaya Streets*	*3,037*	*45*
K. L. Kvarnstroem's Bakunit factory	*Black City, 12th Chernogorodskaya Street*	*2,084*	*34*
K.V. Bykhovskiy's factory	*Belogorodskoye Road*	*6,824*	*63*
The factory of the Vostok association	*Black City, 8th Chernogorodskaya Street*	*117*	*14*
H. Z. Tagiyev's factory	*Black City, 5th Zavodskaya Street*	*1,595*	*28*
The factory of Itskovich and the Petrol Association	*Black City, 2nd Chernogorodskaya Street*	*3,816*	*78*
The factory of the Caspian Association	*Belogorodskoye Road*	*8,541*	*100*

The factory of the Caspian -Black Sea Oil Industry and Commercial Association	*White City*	*9,441*	*285*
The factory of Gulibeyov and Mammadov	*Black City, 4th Zavodskaya Street*	*1,798*	*26*
The factory of Lev and Sons	*Black City, 6th Zavodskaya Street*	*2,336*	*21*
The factory of G. M. Lianozov, the Oil Production Association	*White City*	*3,349*	*120*
The factory of Montashev an d C0	*White City*	*3,776*	*180*
The factory of Aga Musa Nagiyev	*Black City, 2nd Zavodskaya Street*	*4,861*	*60*
The factories of the Nobel Brothers Petroleum Company	*Black City*	*17,148*	*600*
The Oleonaft factories of the Oil Industry and Commercial Association	*Black City*	*6,012*	*-*
The Russian-Caucasus Oil Society	*White City*	*2,704*	*97*
The Yakor and Vera factories of I. K. and A. V. Rylskiy, a joint-stock company	*Black City, 14th Chernogorodskaya Street*	*1,617*	*125*
The factory of Shibayev and C 0	*White City*	*10,282*	
The factory of S. L. Shifrin	*White City*	*120*	*165*

In the first six months after the repeal of the farming-out system, 80 oil refineries were built. However, the technical equipment at these factories was quite old-fashioned. Each of these factories had one, two or in some cases more cylindrical boilers with a capacity of 200 to 700 poods. The boilers had special cast iron pipes placed in wooden tanks filled with water. The product of distillation flowed into smaller tanks, while the oil residue, which consisted of fuel oil, was poured into special holes near the factories. This fuel oil was then partly used to burn in fireboxes installed above the boilers, while the rest of it either caught fire or was simply set on fire.

With the introduction of various methods of kerosene purification, factories used special equipment designed to mix kerosene with acid or alkali. This equipment stood out for its simple construction and consisted of long semicircular vessels through which a shaft passed. When the shaft was turned, the kerosene mixed with the acid or caustic natron, and then the kerosene was poured by bucket into oak boilers for purification before being decanted into barrels.

But there were also factories with more state-of-the-art equipment. For example, the factory "Jakeli Association and C" at Bibi-Heybat was built in 1876 to the design of a French professor, Pelletier. The factory consisted of two trunk-shaped boilers, with a capacity of 600 poods each and equipped with cast-iron coolers. The coolers were connected to a vacuum pump which was operated by steam. In order to purify the kerosene, there was an iron mixer equipped with an Archimedean screw which was operated by serrated wheels and a steam engine. The process of mixing the reagent and kerosene was more sophisticated here, which is why the kerosene produced by this company was slightly more expensive. The Caspian Association factory had installed an American-type boiler, 20 feet in length, 12 feet in width and 10 feet in height. This boiler, which had a capacity of 3,000 poods of crude oil, had a corrugated floor. This made heating and vaporizing much quicker.

The Nobel Brothers Petroleum Company played a major role in the development of oil processing in terms of quantity, technical equipment and quality.

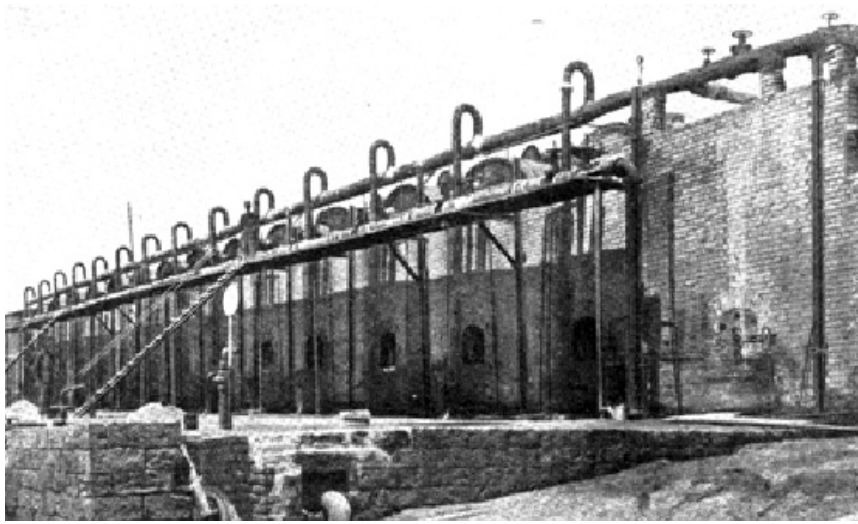
The arrival in Baku of Robert Nobel, one of the sons of Immanuel Nobel, in 1874 ushered in a new stage in the development of the international oil industry. Robert Nobel's brother, Ludwig Nobel, who was well grounded in technical science and was quite an experienced manufacturer, opened special technical laboratories, first in Baku and then in St Petersburg, where all sorts of experiments were carried out to distill and purify various oil products.

Nobel's factory laboratory

Such a scientific approach to the business gave the Nobel Brothers Petroleum Company a chance to improve their business and reduce costs, securing stricter control over the quality of their output. For this reason, the products of the Nobel Brothers Petroleum Company were more expensive on all markets.

In 1885, for the first time Ludwig Nobel installed continuously-working batteries on stills which produced four to five containers per day. This marked the beginning of an uninterrupted method of oil distillation the like of which had never been seen before.

By expanding its business and reducing costs, the Nobel Brothers Petroleum Company secured control of almost one third of the entire oil industry by the early 1890s.



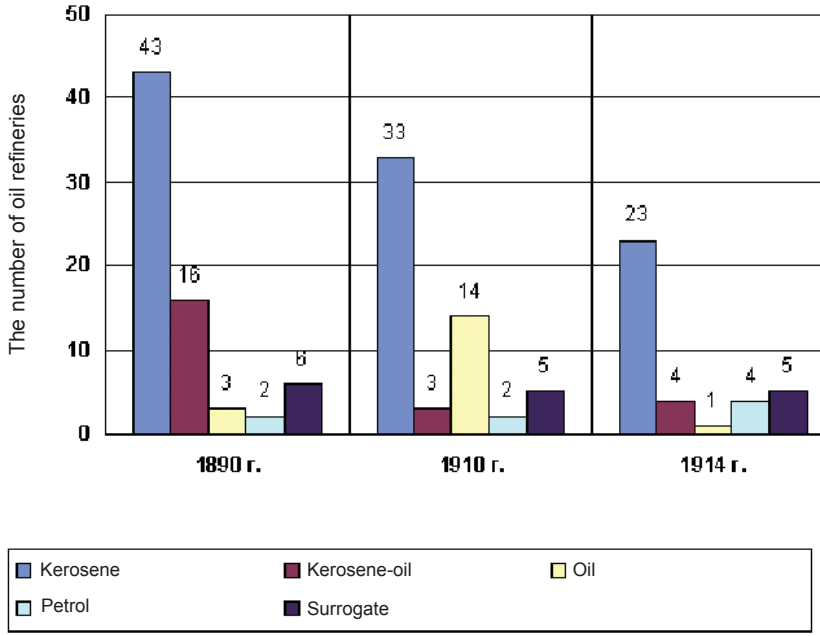
Permanent refinery batteries

The successful development of oil processing and the manufacturing of lighting products made it possible to start producing mineral lubricants.

In 1878, the Baku merchant G. F. Cheknoverov built his first lubricant-producing factory. The huge revenues generated from the production of mineral lubricants served as a basis for the further development of industry in this direction. For example, in 1882 the Siberian goldminer S. M. Shibayev, who owned the only factory manufacturing sulphuric acid in Baku, built a factory to produce mineral oils. In the same year, the Nobel Brothers Petroleum Company began building a new mineral

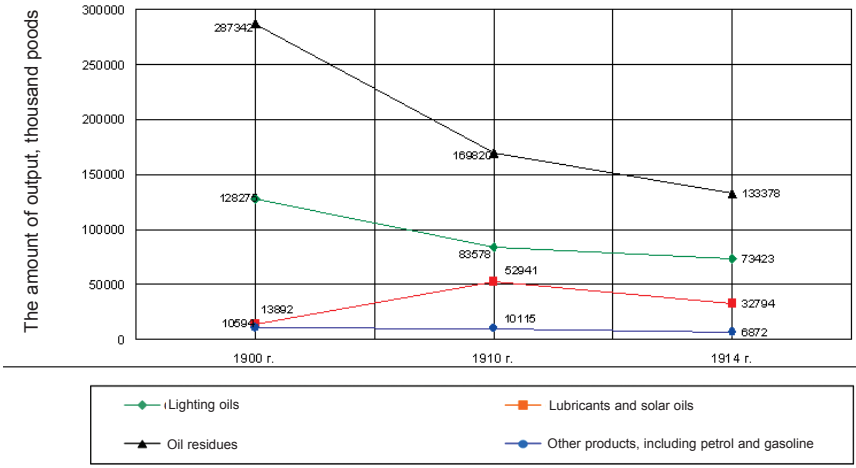
oils factory in Baku. The Nobel Brothers Petroleum Company factory obtained mineral oils mainly by processing oil residues.

The overall number of oil refineries in Baku by the beginning of World War I is shown on the picture.



Changes in the number of oil refineries in 1890-1914

These factories produced:



The drilling of oil wells

"The statute on the oil industry and the excise on photogen production" took effect on 1 January 1873, abolishing the farming-out system. This decree offered great opportunities to oilmen for oil exploration and extraction both on private land and on vacant state-owned land. An industrialist who wanted to obtain a plot of land for oil exploration and extraction had to mark this area by installing a post, which meant that the area within a range of 80 sazhens around the post was occupied. Throughout the existence of the farming-out system, i.e. over 40 years, 17 million poods of oil were extracted. In the first 10 years after the abolition of the farming-out system, 1,800 million poods of oil were extracted, i.e. 100 times more in a period that was four times shorter.

The abolition of the farming-out system prompted free competition, which furthered the development of oil extraction and the oil industry and led to the formation of a large class of oilmen.

According to this decree, the size of the plot on state-owned land was identified by the industrialist himself on condition that his allotment

did not go beyond the area he occupied, the allocated area was not less than one dessiatina, the sides of the allotment were rectilinear and the width of the allotment was not less than one third of its length. Moreover, according to the statute, one industrialist could not be given two land plots if the distance between them was less than two versts.

On receipt of this land entitlement certificate, the industrialist was granted the right to extract oil and kir, manage them at his own discretion, build the installations and premises required for oil extraction and build a photogen factory in the area. During the first two years following allocation of the area, the industrialist was obliged to start extracting oil, retaining the right to choose the method of extraction.

A special commission was set up on the orders of the Caucasus governor in order to identify oil sources, list them, collect information about the size and productivity of oil wells, make an inventory of state-owned buildings and divide all participants into groups.

"While collecting information about the state of oil sources in the Transcaucasian region, the following was discovered," according to V. P. Ragozin:

1) "In Balakhani, where there was a major concentration of oil deposits, there were 125 wells from which greenish-black oil, with a specific weight of 0.861-0.905, was extracted. The shallowest of the wells was two sazhens deep while the biggest reached a depth of 21 sazhens. The well with a depth of 21 sazhens was drilled as manual wells deeper than 10-12 sazhens were rare. This borehole provided about 100 poods of oil per day; all the others provided much less. In total, they provided 1,482,101 poods in 1870, i.e. seven times more than all the other wells of the Caucasus and Transcaucasian region. All the wells in this area were spread over an area of about 312 dessiatinas, but only 170 dessiatinas were allocated for sale here, and they were broken down into 17 groups of 10 dessiatinas each.

"The plan was to allocate the remaining 142 dessiatinas to residents of Balakhani because they did not even have pastures, but then this decision was reversed and separate plots of the remaining vacant land were distributed on special orders from on high. For example, in 1878 the general and aide-de-camp Lazarev was given 10 dessiatinas, while Princess Gagarina was given five dessiatinas recently."

Although according to the rules of February 1872 it was possible to request a plot of land on these vacant areas, no plots were allocated there by order of the administration as it was detrimental to those entrepreneurs who had paid a lot of money for neighbouring sites. Moreover, the administration banned residents of the village of Balakhani from extracting oil on the plots they used which were adjacent to the Balakhani square because this could have undermined the business of the land owners, even though this measure, as Professor Lisenko rightly pointed out, ran counter to the main principles of the 1 February 1872 law liberating the oil business.

2. "In Surakhani there are only 21 wells. The shallowest of these wells is two sazhens and the deepest is five sazhens. Up to 160 poods of oil a month were extracted and up to 2,000 a year. But the oil here is half-white and lighter than photogen, with a specific weight of 0.78. It contains a lot of volatile products and can be used in ordinary lamps without distillation and purification. All these wells comprise one group No 18.

3. "In Bibi-Heybat, six versts south of Baku, there are 27 oil wells on an area of 20 dessiatinas with a depth of less than 10 sazhens. Bibi-Heybat oil is much lighter than Balakhani oil and contains more photogen. It has a specific weight of 0.850-0.910. All the wells together provide about 6,000 poods of oil per year. This site is divided into two groups No 19 and No 20.

4. "There are 57 oil wells with a depth of one to four sazhens on an area of 45 dessiatinas near the village of Bilagadi and Mount Kir Maku, two versts from Bilagadi and 11 versts from Baku. The oil is thick and black everywhere, while the wells provided 19 poods per day and comprised four groups: 21, 22, 23 and 24.

5. "In the village of Bilagadi itself, there are four wells varying in depth from one to four sazhens. Together they provide three poods of oil per day with a specific weight of 0.912; they comprise three groups: 25, 26 and 27.

6. "There are three wells named Chiyil five versts from Mount Zaglar Dag in the Baku province of Shamakhi district, southwest of Jenginskaya station between Baku and Shamakhi, and they comprise one group - No 28.

7. "Twenty-two wells seven versts northeast of the village of Berikey, near Jemikentskaya station, in Kaytago-Tabasaran district of the Dagestan region comprise group No 28.

8. "Five wells located six versts from the Maraza station, towards Jenginskaya station and 1.5 versts to the right of the postal road, comprise one group - No 30.

9. "Five wells north of Khydyrzinde station in Baku province in Guba district, at a distance of one verst, comprise groups No 31 and 32.

10. "Five wells, located at a distance of 45 versts, in a place called Salyan in Baku province, in Lankaran district, comprise groups No 33 and 34.

11. "Three wells and five holes located 16 miles southwest of Baku, on the Bagchi tract, also comprise two groups - No 35 and No 36.

12. "Those located at a distance of 1.5 versts from the village of Balakhady form one group - No 37.

13. "One well located at a distance of five versts southwest of the village of Balagadi, near the village of Khyrdalan, comprises one group - No 38.

14. "Natural oil sources located at a distance of five versts from Jenginskaya station are included in one group - No 39.

15. "Natural oil sources located at a distance of 15 versts southwest of Jenginskaya station in a place called Kir-Gyshlag comprise two groups - No 40 and No 41."[52]

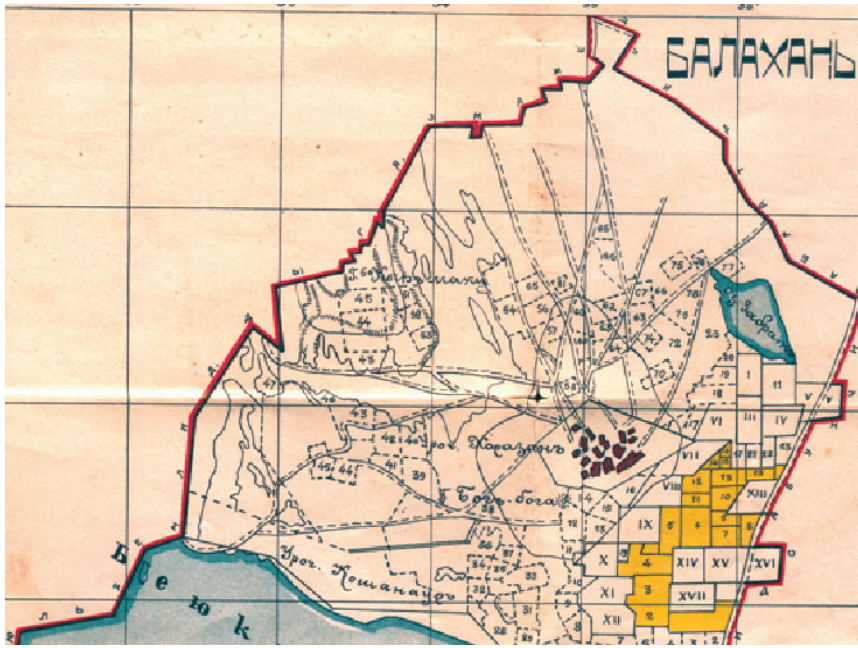
*16……**

Thus, the special commission divided the whole state-owned area into 48 sites, each covering an area of 10 dessiatinas, but 46 sites with a total area of 459 dessiatinas and 2,351 square sazhens, with an estimated value of 552,221 roubles in silver, were to be distributed.

Eighteen groups, with an overall area of 173 dessiatinas, of which 15 were located at Balakhani dachas, two at Bibi-Heybat and one in Surakhani, and which occupied a special place in oil extraction, were handed over at auction to 10 firms for a single fee of 2,901,518 roubles in silver.

* Points 16-22 which cover the Tiflis region - author

Defending the interests of oil industrialists, the special commission banned residents of the village of Balakhani from extracting oil on their land, which ran counter to the statute of 1 February 1872.

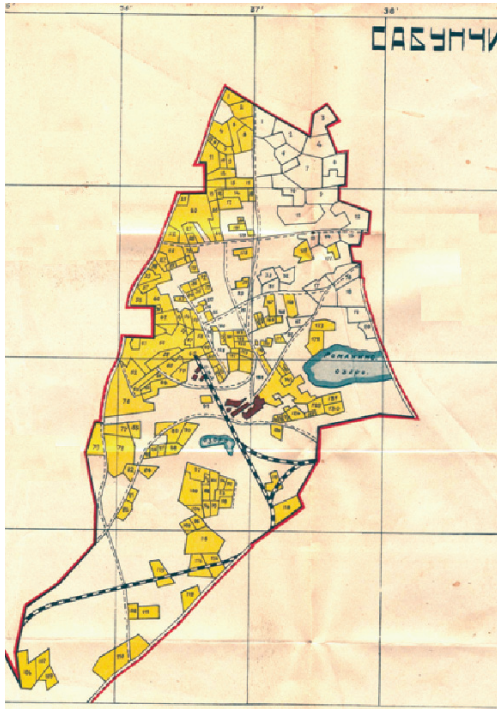


Oil sites in Balakhani

If under the farming-out system oil extraction was concentrated in the hands of individual lessees and was sometimes controlled by the treasury, now the statute of 1 February 1872 helped expand the circle of oil industrialists, form a national bourgeoisie, accumulate capital and develop oil extraction and processing equipment and technology. Apart from the state-owned lands, oil was also extracted on private land, mainly in Sabunchu. The price of one dessiatina was low and totalled about 1,000-1,500 roubles. This price was even lower closer to Ramana and Zabrat - 500.[53]

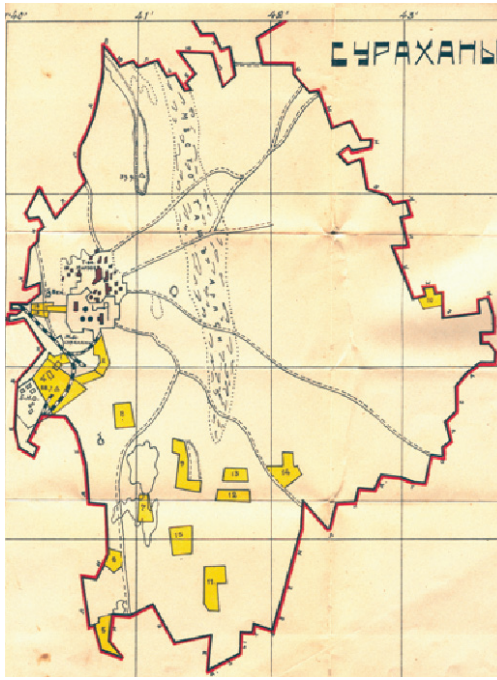
Businessmen obtained oil-bearing lands for development at auction in sites of one to 10 dessiatinas, paying a one-off deposit and making per pood payments. The whole of the Absheron peninsula was regarded as oil-bearing land. For this reason, by the beginning of 1890, an area of 5,572 dessiatinas had been confiscated from peasants in 11 villages of Baku district, and 1,000 dessiatinas were divided into 206 sites to be handed over for private development at auction. Here are some of them:

Name of the village	*Number of sites*	*Total area of sites, in dessiatinas*
Balakhani	*79*	*401.5*
Sabunchu	*42*	*150.9*
Ramana	*27*	*109.1*
Bibi-Heybat	*58*	*294.0*



Oil sites in Sabunchu

Minister of Trade and Industry S. I. Timashev said in his report to the Council of Ministers on the confiscation of land from peasants in the Surakhani-Amirjan district of Baku province on 21 August 1910: *"According to the project that has been submitted, the confiscation from peasants on the Absheron peninsula of state-owned land recognized by the minister of trade and industry as suitable for handover for oil extraction on the basis of contracts is carried out with these peasants receiving a one-off sum amounting to the capitalization of five per cent of annual double net revenues from what they extract from the surface of the land. First of all, the plan is to conduct such confiscations in*

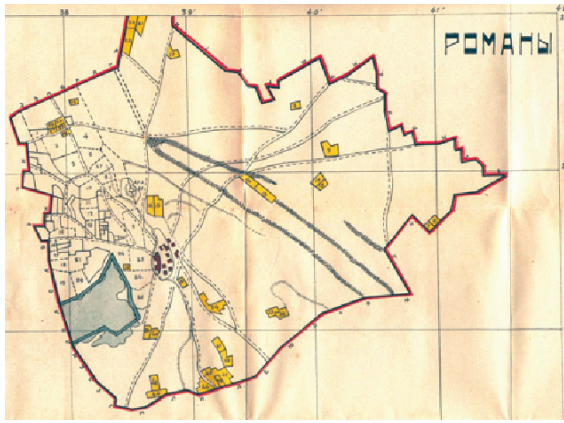


Oil sites in Surakhani

Surakhani-Amirjan district for an area of only 2,000 dessiatinas, while the cost of payments to the peasants to the tune of 500,000 roubles will be included in the budget."[54]

Apparently, these confiscations were carried out against the will of the peasants, and not just in this district but in other villages as well, because there were requests to top officials to keep the farming areas under their previous ownership. However, as a rule, these requests were rejected. The chief manager in charge of land management and agriculture, A. A. Rattikh, says in his instruction to the representative of the chief manager in charge of land management and agriculture in the Caucasus, K. I. Shashkovskiy, to reject the petition from peasants from the village of Ramana in Baku province to reverse the handover of their land to oil industrialists:

"Following the submission on 29 October this year of petition No 12410 by residents of the village of Ramana to keep ownership of the farm which is to be handed over for oil extraction on the basis of the 25 June 1912 law (collection of laws, Article 1195) and the agreement of the Ministry of Trade and Industry with the main department of land management and agriculture and the governor of His Majesty in the Caucasus and to allocate this site for oil extraction in exchange for a one-off payment for the part of the farm handed over to the treasury, I report to Your Excellency that the main department of land management and agriculture, sharing the opinion of the governor of His Majesty in the Caucasus on this issue, deemed the aforementioned petition as



Oil sites in Ramana

worthy of rejection. This was announced to the petitioners."[55]

This policy of evicting peasants from oil-rich land was also carried out in subsequent years and under Soviet rule in Azerbaijan, i.e. in the 1930s. Soyuzneft allowed Azneft to relocate the village of Surakhani, under which great oil reserves lay, to a new site* near its previous location, Vyshka newspaper reported. *"In early 1931, the construction of the new village and the demolition of the old one will begin. Six million roubles have been allocated for this work. Residents of the village of Surakhani will be offered flats in workers' settlements."*[56]

Memory photo. Migrant peasants from the village of Surakhani

* This place was then called Yeni Surakhani (New Surakhani)

According to the head of the statistical bureau of the Council of the Congress of Baku Oil Industrialists: *"…Three of these four main areas are located 14 versts from the railway northeast of Baku, in the former Tatar villages of Balakhani, Sabunchu and Ramana after which these oil-bearing lands are named: the fourth main area - Bibi-Heybat - is located southwest of Baku on the shore of Bibi-Heybat Bay, which is next to the Bay of Baku and is separated from it by the Cape of Bayil. In total, 1,003 dessiatinas and 968 sazhens of land are being developed at these four main areas, and their forms of ownership can be broken down in the following way:*

1. Privately-owned land	*324 d. 2,093 s.*	*32.4%*
2. State-owned land rented out for per-pood payments or for share deduction	*416 d. 895 s.*	*41.5%*
3. State-owned land rented out for per-dessiatina payments	*178 d. 844 s.*	*17.8%*
4. State-owned land rented out for a one-off fee of 125,000 roubles per dessiatina	*66 d. 1,995 s.*	*6.7%*
5. State-owned and public land rented from peasants	*16 d. 2,341 s.*	*1.6%*
	1,003 d. 968 s.	*100%*

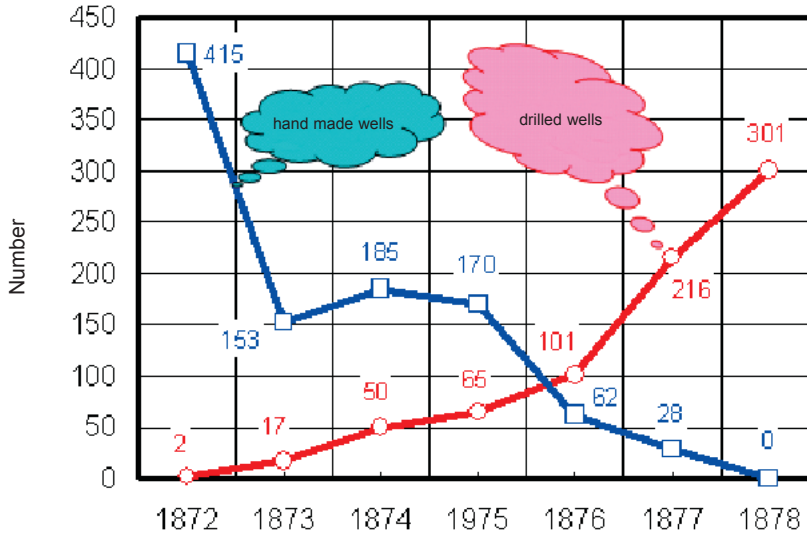
"Privately-owned land consists of two categories: imperial grants (only applicable to the Balakhani site with an area of 97 dessiatinas and 1,280 sazhens) and land obtained in other ways (in Sabunchu - 221 dessiatinas and 408 sazhens and Ramana - six dessiatinas and 405 sazhens). The category of privately-owned land can also include state-owned land rented out for 'further extraction' both for annual per-dessiatina payment and, especially, for a one-off fee of 125,000 roubles per dessiatina. The annual per-dessiatina payment of 100 roubles in the oil industry can easily amount to zero; the one-off fee of 125,000 roubles is also such a small amount that there is no point in separating these lands from privately-owned ones. With this interpretation of the word 'privately-owned', 58.7 per cent of land in the Baku oil industry is privately-owned (578 dessiatinas and 73 sazhens) and 41.5 per cent state-owned."[57]

In 1869, a local resident, Mirzoyev, drilled the first well then a second well with a depth of 20 sazhens was drilled in 1870. The second well provided 700 poods of oil per day. For comparison, the best oil wells provided no more than 100 poods per day, i.e. seven times less.

The drilling of oil wells made it possible to select oil in an industrial way, which is why the beginning of the development of the Baku oil industry can be dated from the 1870s. From that time onwards, the whole of Baku district was covered by a forest of drilling rigs.

The whole of the Baku district was covered by oil rigs

In 1873, 17 wells were drilled; in 1874 - 50 wells; 1875 - 65; 1876 - 101; 1877 - 216 and in 1878 - 310. As the number of oil wells increased, so development of the wells began to fall, and finally ended in 1878.

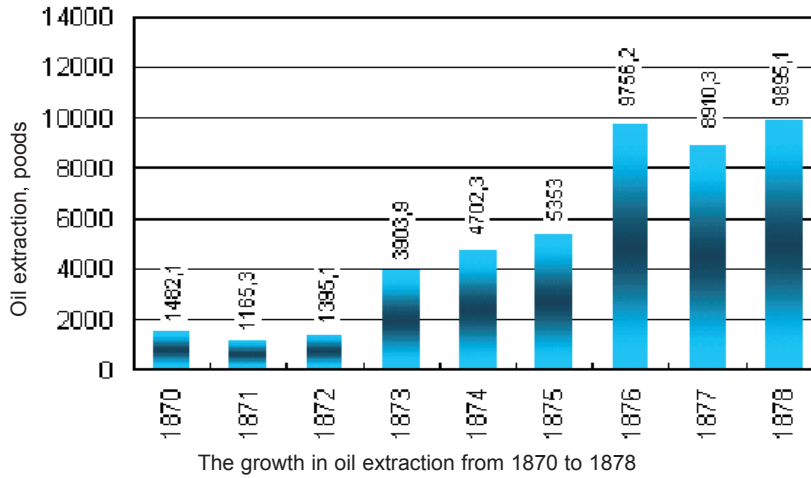


The growth in oil wells

The largest number of oil wells (204) was located in Sabunchu and at the adjacent Ramana and Zabrat sites. At other sites, oil wells were distributed in the following way by 1878:

Balakhani - 47 wells;
Surakhani - 22 wells;
Bibi-Heybat - 19 wells;
Bulbula - one well;
Binagadi - four wells;
Masazir - two wells;
Khyrdalan - two wells.

The drilling and commissioning of oil wells led to a considerable increase in oil extraction in Baku. For example, if from 1870 to 1872 oil extraction in Baku did not exceed 1.5 million poods of oil, from 1873 to 1875, this amount reached 3-5 million poods and by 1878 - almost 10 million poods.

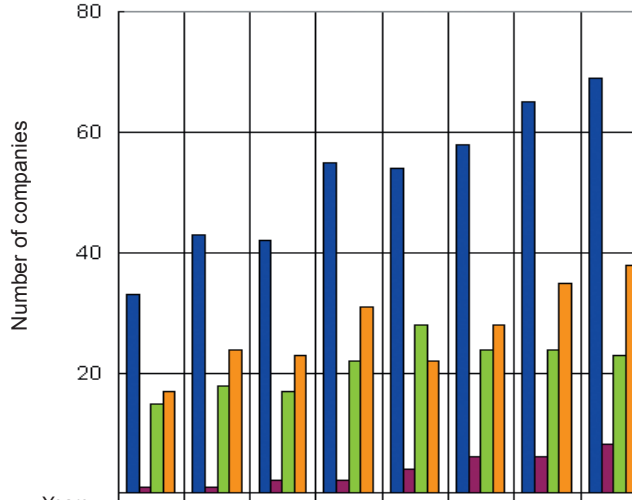


The growth in oil extraction from 1870 to 1878

Demand for oil and oil products continued to grow. If up to the middle of the 19th century oil was used mainly as a lighting product, in the second half of the 19th century oil as liquid fuel became a more promising option than, for example, bituminous coal. *"The Clam steamship belonging to the Shell Transport company sailed from Suez to Singapore using only fuel oil, expending only 18 tonnes per day for two boilers over a period of 23 days at a speed of 9.75 knots per hour, whereas the highest speed it could reach previously, using three boilers and 26 tonnes of the best Welsh coal per day, was only nine knots. The use of liquid fuel required only four people in the engine room, while stokers were not needed at all. Another special advantage is the speed at which oil* is pumped into the holds, workforce economy while delivering fuel to the stokehold and finally, the insignificant amount of smoke. It is worth noting that the new way of heating steamships was used by a German shipping society earlier than the British ones. In any case, the influence that the use of liquid fuel may have on the state of British steamship coal and coal stations must be tremendous,"*[58] Neftyanoye Delo magazine reported in 1900.

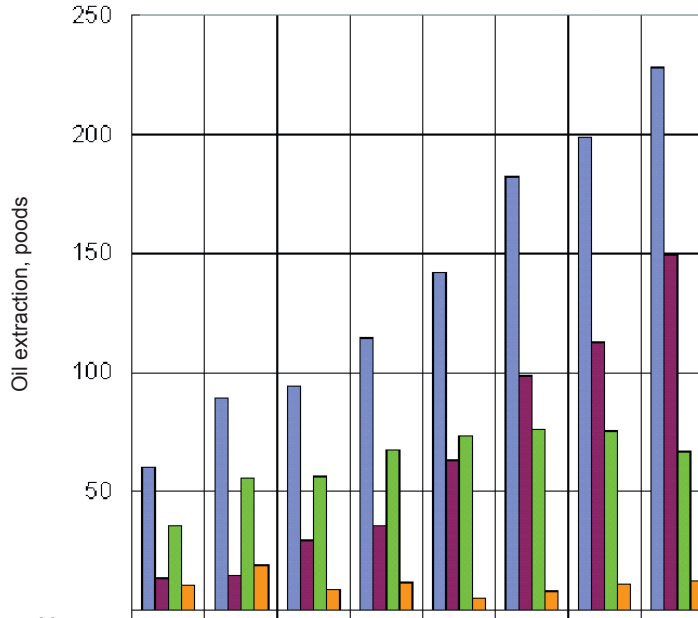
* It probably means furnace fuel oil

The number of companies involved in oil extraction was also on the increase. If in 1873 the number of oil-extracting companies was 12, by 1883 their number increased to 33, while by 1890 the number of oil-extracting companies reached 69. Among these companies were major firms that extracted more than 10 million poods per year, for example the Nobel Brothers Petroleum Company with average oil extraction of 1 to 10 million poods per year and smaller companies which extracted less than one million poods. The diagrams below show the dynamics of growth for oil-extracting companies and the amount of oil extracted by these companies.



Years	1883	1884	1885	1886	1887	1988	1899	1890
The total number of companies	33	43	42	55	54	58	65	69
The number of companies extracting more than 10 million poods	1	1	2	2	4	6	6	8
The number of companies extracting from 1 to 10 million poods	15	18	17	22	28	24	24	23
The number of companies extracting less than 1 million poods	17	24	23	31	22	28	35	38

The growth in the number of companies from 1883 to 1890

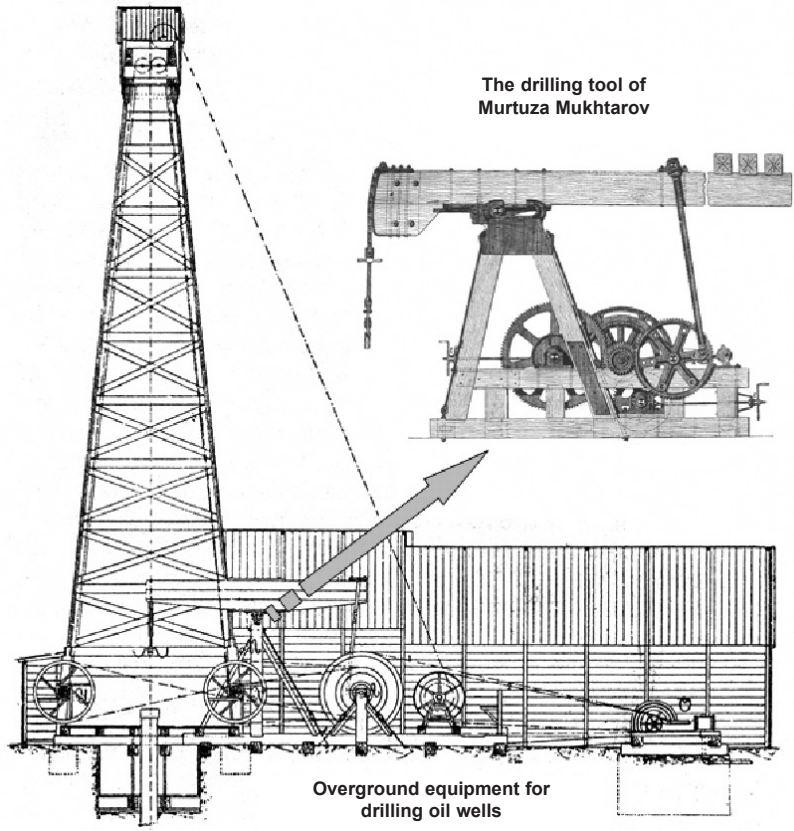


Years	1883	1884	1885	1886	1887	1888	1889	1890
Total oil extraction	60	89,2	94,4	114,5	142	182,2	199	228,1
By major companies	13,8	14,5	29,5	35,5	63,4	98,3	112,5	149,2
By middle-sized companies	35,8	55,5	56,3	67,1	73,3	75,7	75,2	66,8
By small companies	10,4	19,2	8,6	11,9	5,3	8,2	11,3	12,1

The growth in oil extraction from 1883 to 1890

In its simplified form, the drilling process consisted simply of breaking down the rock and removing it from the well. Depending on how this process was carried out, drilling was divided into the following three main groups: percussion-rod drilling, percussion-cable drilling and rotary drilling. The rock was split either by repeated strikes with a special tool from top to bottom or by cutting it with a tool.

The essence of percussion-rod drilling was that the main tool, called a drill bit, was raised to a certain height and then dropped to the bottom, crushing the rock. The blade of the drill bit was turned in the direction of the star-shaped diameter of the borehole. The drill bit was turned manually with the help of a key, which covered a rod that had a square section. Each drill bit had a blade diameter that conformed to the diameter of the well, ranging from 30 to 90 centimetres, with the thickness of the blade varying between 50 and 75 mm. In order to drill wells with a larger diameter, a dilator was installed above the drill bit.



The drilling tool of Murtuza Mukhtarov

Overground equipment for drilling oil wells

Drilling work was carried out in the following way. First of all, a round hole was drilled where it was planned to start a well, and this hole had wooden supports, called a shaft, with a diameter of 2-4 metres and a depth of eight metres. From the top, this shaft was covered with thick flooring. The aim of the shaft was to secure the vertical position of the well; the first column of casting tubes was inserted into it through a hole in the floor in order to fortify the well and secure the vertical position of other columns. Then they started drilling a rig and a shed or a slope for it. The rig, which was shaped like a tetrahedral pyramid, was a big installation and served to lift and lower the tool, the pipes, rods and so on. The rigs were usually made of wood, but later on, as drilling depths and acting load increased, rigs were made of iron. The height of the rigs was 21-25 metres. For the sake of comparison, it is worth noting that in America the height of the rigs was 38 metres.

There are different types of boring machines. They all have a beam consisting of a wooden bar fixed on two counters in a way that allows it to move up and down. A machine designed by Murtuza Mukhtarov was used for Baku's oil rigs. Rods are attached to the front of the beam with the help of a temper screw, while the rear is attached to serrated wheels (crankshafts) with the help of two pivots or connecting rods. As the wheels rotate, the beam starts moving up and down. The number of strikes of the beam is 30-45 per minute. The tool also has a chained lifting drum to lift and lower the tool on a cable and a bailing drum to clean the well and carry out test-bailing.*

The driving force was provided by a steam engine, oil engine or electric engine. Steam engines were more common as they were easier to maintain and worked even in the most difficult conditions. The steam engine was powered by a steam boiler with the help of a steam pipeline.

The equipment and technology to drill oil wells in the Baku oil district was developing in quite an original way. *"Two methods of drilling - by cable and rods** - were taken from Galicia and North America 20-30 years ago,"* Neftyanoye Delo magazine reported. *"But they underwent*

* This term tartaniye (bailing) derives from the Azerbaijani word - dart (pull). This term is still used in literature on the oil business. For example, all load-lifting drums used in the oil industry are called tartal drums. This links them to the history of the Baku oil industry.

** This means percussion-cable and percussion-rod drilling methods.

significant changes under the influence of local conditions of oil bedding, and there is little in common between modern methods of drilling and their prototypes."[59]

Oil field workers

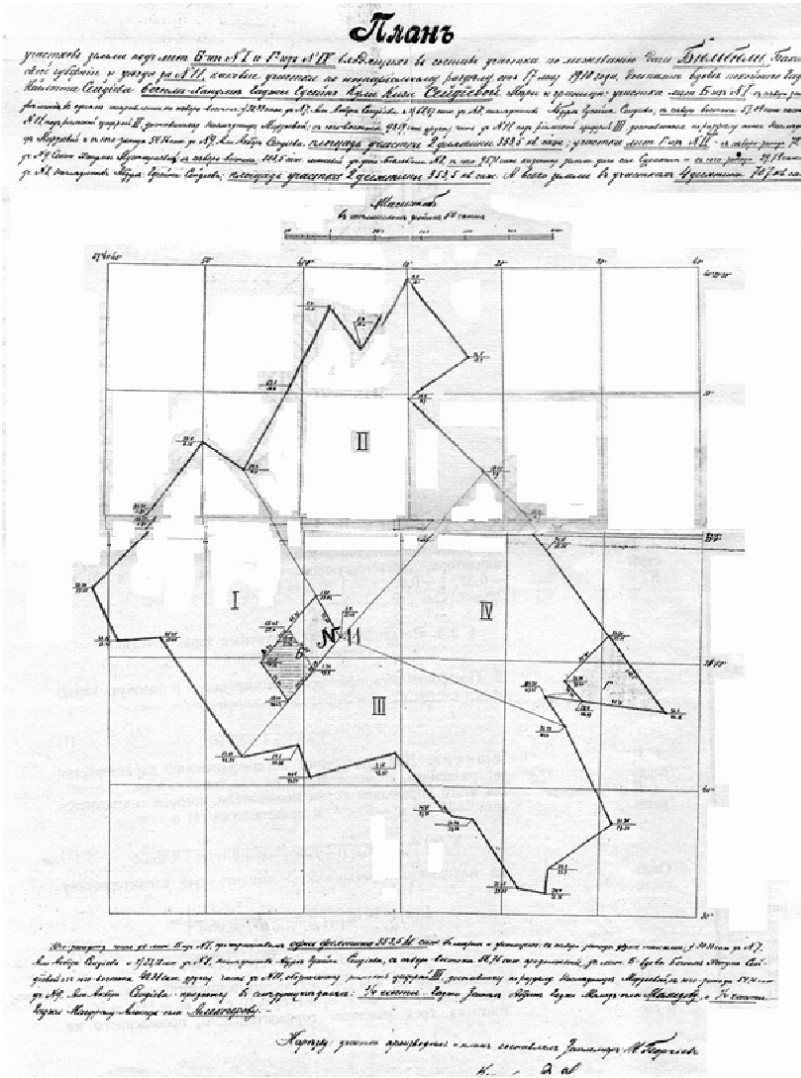
Workers cleaning the channel of an oil gusher

The digging of a depot for gusher oil

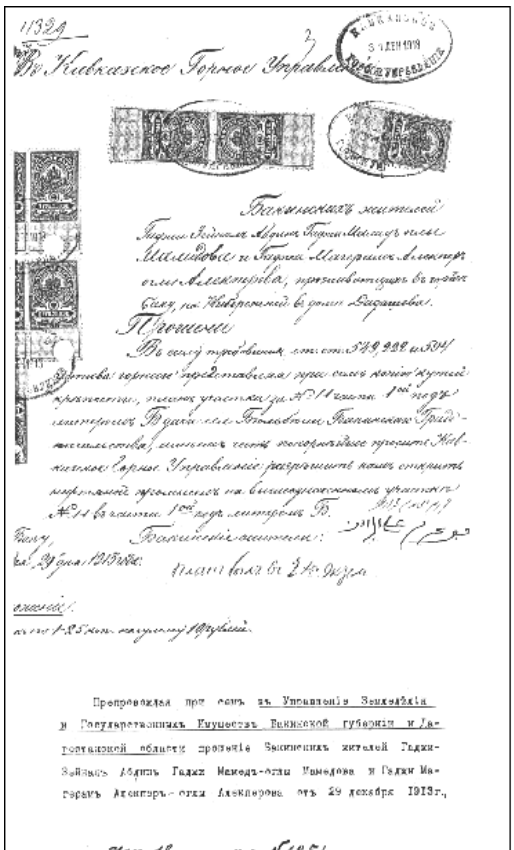
Vermishev's gusher

A fire at oil fields, a gusher ablaze

Burning oil rigs and an oil gusher, Baku



An oil site which belonged to Haji Zeynal Abdin haji Mammad oglu Mammadov by 3/4 and Haji Maharram Alakbar oglu Alakbarov by 1/4



11329

В Кавказское Горное Управление

Бакинских жителей Гаджи Займал Абдул Гаджи Мамедовых и Гаджи Мамедъ Алекперова, проживающих въ нашемъ селѣ, по Набережной въ домѣ Дадашева.

Прошеніе

Въ силу требованій ст.ст. 349, 998 и 1014 Горнаго Положенія, нами сего числа, какъ собственниками участка за № 11 смежн. 1-ой подъ литерою Б дачи гг. Бибиэйбатскихъ Промышленниковъ Братьевъ Нобель, симъ честь имѣемъ просить Кавказское Горное Управленіе разрѣшить намъ открытіе нефтяной промысловой на вышеуказанномъ участкѣ № 11 смежн. 1-ой подъ литерою Б.

Къ сему прилагаемъ:

1) Планъ участка.

2) Квитанцію о взносѣ 100 р. за открытіе.

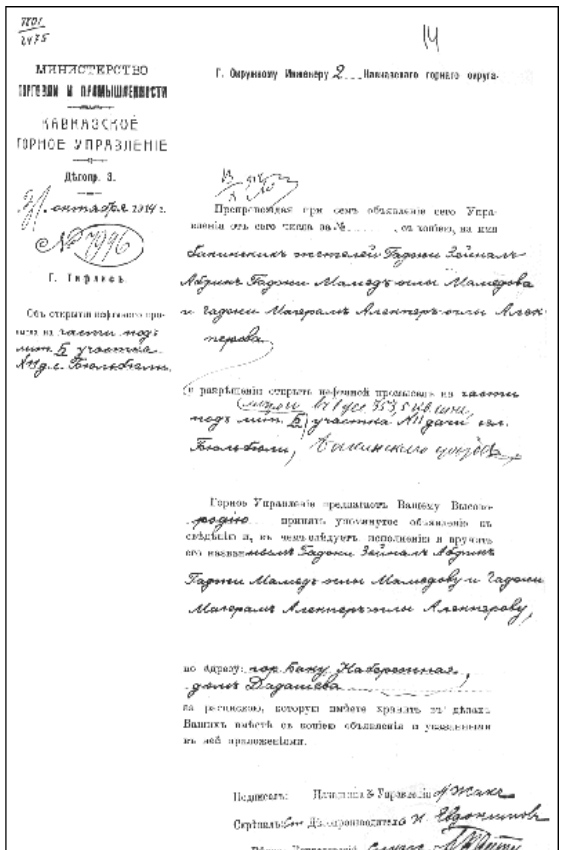
Баку, 29 декабря 1913 г.

Бакинскіе жители: Гаджи Займал Абдул Гаджи Мамедовъ и Гаджи Мамедъ Алекперовъ

Планъ участка № 2 къ дѣлу

Препровождая при семъ въ Управленіи Земледѣлія и Государственныхъ Имуществъ Бакинской губерніи и Апшеронской области прошеніе Бакинскихъ жителей Гаджи-Займалъ Абдулъ Гаджи Мамедъ-оглы Мамедова и Гаджи Мамедъ Алекперъ-оглы Алекперова отъ 29 декабря 1913 г.,

Нач. 18 сентября № 6851



МИНИСТЕРСТВО ТОРГОВЛИ И ПРОМЫШЛЕННОСТИ

КАВКАЗСКОЕ ГОРНОЕ УПРАВЛЕНІЕ

Дѣлопр. З.

4 октября 2014 г.

№ 7996

Г. Тифлисъ

Съ открытіи нефтянаго промысла на участкѣ подъ лит. Б участка № 11 дачи гг. Бибиэйбатскихъ Промышленниковъ Братьевъ Нобель.

Г. Окружному Инженеру 2 Кавказскаго горнаго округа.

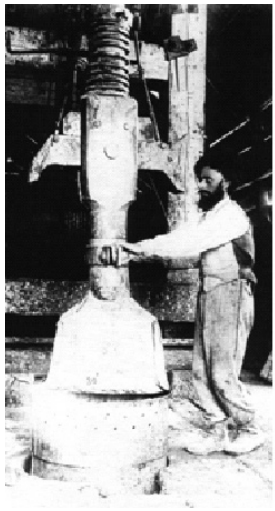
Препровождая при семъ объявленіе сего Управленія отъ сего числа за № ..... со всѣми, на немъ значащимися документами, Горное Управленіе предлагаетъ Вашему Высокородію принять упомянутое объявленіе къ свѣдѣнію и, въ чемъ надлежитъ исполненію и вручить его указываемымъ Гаджи Займал Абдулъ Гаджи Мамедъ оглы Мамедову и Гаджи Мамедъ Алекперъ оглы Алекперову, по адресу: при Баку, Набережная, домъ Дадашева, за росписью, которую имѣете хранить въ дѣлахъ Вашихъ вмѣстѣ съ копіею объявленія и указанными къ нему приложеніями.

Подписалъ: Начальникъ Управленія

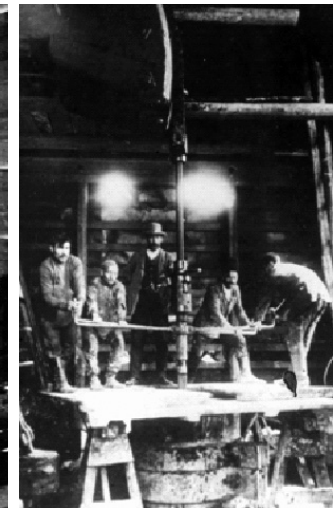
Секретарь Дѣлопроизводитель

Вѣрно: Канцелярскій служитель

In order to develop drilling equipment and technology, as well as methods of oil processing, various ways of encouraging and rewarding different inventions and surveys in the sphere of oil equipment were used. One of these methods was the Ludwig Nobel Prize, founded by the Imperial Russian Technical Society. Neftyanoye Delo pointed out that *"hardly any sphere of technology developed without the help of auxiliary means of encouragement. The demand for such measures is generated by the circumstance that private invention is not always aimed at solving issues that are important for industry and are significant at this very moment. Relevant public agencies need to exert some pressure in order to channel the inventiveness of individuals into research where there is the greatest demand. In this case, these agencies are mainly communities of scientists. In our sphere of industry, in the oil business, it is well known that such encouragement exists in the form of the Ludwig Nobel Prize, founded by the Imperial Russian Technical Society, for the best inventions and surveys in the sphere of oil equipment."*[60]



A drilling bit with an expander



The blade was turned manually with the help of a key

In six years, from 1889 to 1894, 533 oil wells were drilled in the Balakhani, Sabunchu, Ramana, Bibi-Heybat and Binagadi areas, i.e. about 100 wells per year (see the diagram), and according to the Review of the Baku Oil Industry, *"this data illustrates as never before the close link between the state of the oil market and drilling: oil prices go up - drilling becomes more intensive, prices go down - drilling slackens off. The law of supply and demand, which sets prices and regulates production, has also manifested its power in our oil business together with all the 'sad consequences' that are typical of this."*[61]

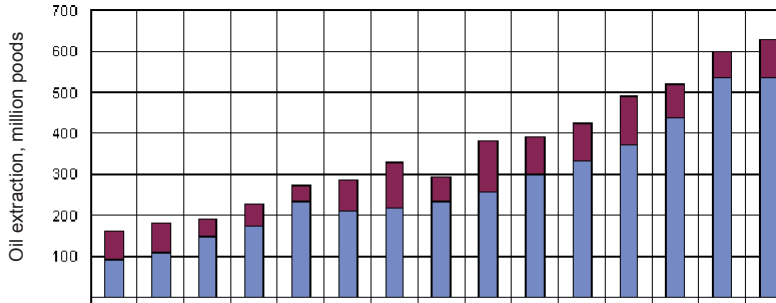
Oil was extracted from wells not just by bailing, i.e. by lifting the liquid with the help of clean-out bailers,* but also by expelling gushers of oil under pressure from gas. The first oil well drilled in 1870 disgorged oil together with gas, water and clay. This was considered to be a sign of evil spirits, which is why people in fear sealed the well using stones and clay. But later, in 1873, there was a new gusher, yielding up to 200,000 poods of oil per day, according to some information. From this moment onwards, these gushers were no longer viewed as a manifestation of evil spirits and were seen as ordinary occurrences in the Baku oil industry. According to Ragozin, *"…at the end of June [1873], the famous Vermishevskiy gusher gushed oil in the 14th group, which belonged to the Khalafi company, and it was absolutely impossible to stop it. Oil was gushing out with such force and in such quantities that in a short time it covered a vast area in the neighbourhood, creating several big lakes. Silt and sand from the gusher created a cone over the well, and whole rivers of oil flowed along its slopes." Ragozin pointed out that a boat for sailing on one of these [oil] lakes was prepared ahead of the visit to Baku by His Imperial Majesty Mikhail Nikolayevich, but the trip did not take place due to bad weather."*[62]

In 1875, a big gusher was also discovered on the site of Colonel Burmeister, which Ragozin described in the following way: *"The Burmeister gusher created several big lakes in which oil was lost unproductively, partly permeating the soil and partly evaporating. Only*

* Clean-out bailers were long iron buckets with a valve in their bottom. This valve was equipped with an exit rod which pressed the bottom and opened the valve, pumping the oil into the clean-out bailer. Then the clean-out bailer containing oil was pulled out of the well and the oil was decanted into special containers, for example, washtubs.

one of them was set on fire in order to clear the area for new drilling work, and the terrible glow of the fire lit the skies of Baku for several days. I wonder how much oil was burned?"[63]

But no matter how dangerous and at times unproductive oil gushers were, the extraction of oil from these gushers yielded much higher revenues than bailing oil. The diagram below gives information from the statistical department on the extraction of bailing and gusher oil in the period 1887-1901.



	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Fountain oil	68	73	42	50	39	76	109	60	124	90,7	90	116	82	63,4	92
Bailing oil	92	109	149,7	176	235	210	219	233	258	300	334	373	438	536	537

The oil gushers of the Absheron peninsula were periodic ones, which operated for several hours or several days, and regular ones, which could operate for months, releasing a large quantity of oil from the depths of the earth and spilling it onto the surrounding land, causing irreparable damage to the environment of the peninsula.

Lvov provides a good description of oil gushers in his book "In the Oil Kingdom": *"…The steam rose even more powerfully, and dirty-brown liquid appeared above the hole, shooting straight up and turning into a grandiose gusher. Indeed, it was quite a spectacular sight. An oil gusher is absolutely different from a water gusher. Instead of a high and narrow stream, a whole bouquet of brown liquid shot up here. The sound of the splashes could be heard, and sprays of oil flew in different directions, preventing anyone from approaching it." Then Lvov said: "The gusher sometimes appears quite unexpectedly when the drilling is still going on, but often you can predict it from certain signs. Boreholes*

The preparation of pipes to be inserted in the well

The lifting of pipes for riveting in the well

that produce gushers often release very little oil at first, instead discharging loads of gas. The boring tool quickly reaches the established depth, and when you lift it, it goes up very quickly under pressure from exploding gas. Sometimes it gushes out of the borehole together with oil, water, silt, sand and small stones. For example, a remarkable story is told. Workers who drilled a well did not suspect that it might turn into a gusher and continued to drill as a terrible and incredible force suddenly pushed the whole drilling assembly out of the well, pierced the top of the drill tower and tossed it up vertically to a great height. At the same time, oil gushed out of the well, carrying with it a large quantity of sand. Another time there were only 45 sazhens to drill to get to oil as it suddenly broke through and tossed up this 45-sazhen cork and furiously shot up in a powerful gusher, crushing everything around and burying the machines working on the surface under sand.*

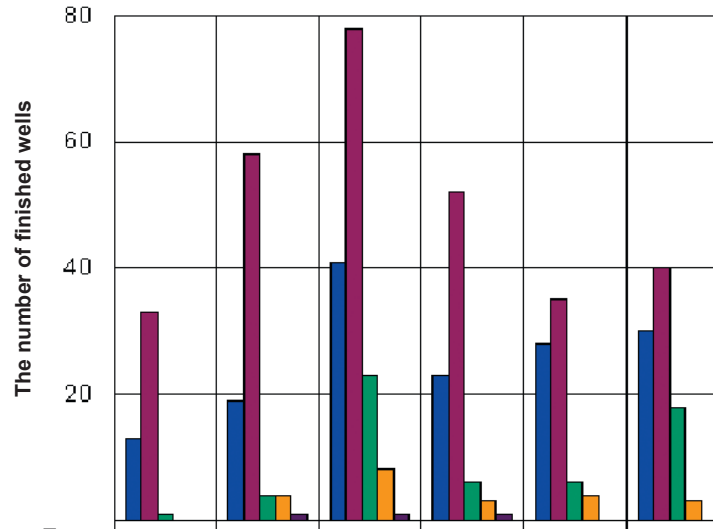
"Uninterrupted gushers sometimes gush for several days or even hours, or sometimes for several months without interruption. Since the gusher emerges from a great depth, it rises to a great height, sometimes

* A drilling assembly means a drilling tool, i.e. the drill bit with a dilator and rods attached to it. The weight of the drill bit together with the dilator could reach 300-400 kg - author.

reaching 50 sazhens. A strong gusher produces hundreds of thousands of poods per day. There were gushers that produced up to 700,000 poods per day, and even up to half a million poods in exceptional cases! In some cases all the holes (depots) prepared in advance are quickly refilled with oil, and then it flows around freely, sometimes forming a huge oil lake. The sand that comes out together with the oil quickly creates a high sand hillock around the borehole, and from the funnel-shaped hole on top, oil shoots straight up, spilling around and covering everything with oil rain. As you approach the gusher, you can feel that the land is trembling under your feet. The oil washes the soil with great waves, flowing into the holes dug in the ground. A great number of workers fuss around near the gusher, walking in the oil river up to their knees and using spades to clear its channels of the sand that shoots up together with the oil. The air near the gusher becomes stifling and the atmosphere is filled with flammable gases that burn and often produce dangerous fires."[64]

In his book, Lvov also describes fires at the oil fields: *"Actually, fires are an everyday occurrence at the oil fields. They happen for various reasons despite all sorts of precautions. Starting a fire and smoking are strictly prohibited at the oil fields. Electrical lighting is available everywhere and the furnaces of steam engines are placed in separate stone buildings (stokeholds) located at some distance from the rigs. However, an insignificant cause, for example, a spark produced by a stone being hit is enough to start a terrible fire." Describing the fire that broke out at the oil fields of Bibi-Heybat, Lvov went on to say: "From afar, I could already feel the heavy smell of burning and kerosene. Having driven closer, I saw a huge, thick black cloud which was hovering above the earth, obscuring much of the sky. Wrapped in black puffs of smoke, the dark rigs seemed even darker and, at times, disappeared in the smoke. The stifling fumes of the inferno could be felt in the air."*[65]

On 3 June 1892, new rules were introduced at the oil fields. According to these rules, the conditions for oil extraction were divided into two categories: oil sources open to exploration by private persons and closed oil-bearing lands. Oil exploration and extraction rights on the land falling into the first category were granted to businessmen in line with the rules of the mining regulations on applications. Below are two documents and a plan of oil-bearing land prepared for the opening of an oil field.



Годы	1889	1890	1891	1892	1893	1894
Balakhani	13	19	41	23	28	30
Sabunchu	33	58	78	52	35	40
Ramana	1	4	23	6	6	18
Bibi-Heybat	0	4	8	3	4	3
Binagadi	0	1	1	1	0	0

The number of drilled wells in 6 year period

One of these documents is a petition filed with the Caucasus Mining Department by the residents of Baku, Haji Zeynal Abdin Haji Mammad oglu Mammadov and Haji Maharram Alakbar oglu Alakbarov on 23 December 1913, which says: *"According to the requirements of Articles 549, 222 and 594 of the mining regulations, we present a copy of the deed of the castle and a plan of Site No 11 of the first part under warrant B for a dacha in the village of Bulbula of Baku City and have the honour of requesting that the Caucasus Mining Department allow us to open an oil field at the aforementioned site."*[66]

In response to this request, the Caucasus Mining Department sent the following letter to the district engineer on 31 October 1914: *"Attaching the announcement of this department dated and numbered ___ with a copy in the name of Baku residents Haji Zeynal Abdin Haji Mammad oglu Mammadov and Haji Maharram Alakbar oglu Alakbarov regarding permission to open an oil field at the site under warrant B with an area of one dessiatina and 353.5 square sazhens at Site No 11 at the dacha in the village of Bulbula in Baku district.*

"The Mining Department requests that Your Excellency take this announcement into consideration and hand it over to Haji Zeynal Abdin Haji Mammad oglu Mammadov and Haji Maharram Alakbar oglu Alakbarov."[67]

For three decades from 1870 onwards, the pace of development of the Baku oil industry was unprecedented, even in America. Ragozin described the drilling of oil wells during this period in the following way: *"Drilling work on privately-owned land at Sabunchu, though it was sluggish, continued in 1875 as well. Land in this area was not so expensive at the time: one dessiatina could be purchased for 1,000-1,500 roubles and away from Sabunchu, closer to Ramana and Zabrat, the price was about 500 roubles. But one successful borehole in Sabunchu turned everything upside down: oil was discovered on a plot of 10 or 12 sazhens. Its quality was superior to that in Balakhani and there was so much oil that it gushed out as a small gusher. All the sites here were sold out quite quickly, a lot of associations were set up and everyone started drilling. Luckily, every-*

Water and oil lakes in the village of Ramana

one found oil at a relatively shallow depth, which is why the credit of this place quickly rose. In a small area of several hundred square sazhens, one rig after another rose up, and soon the famous Shaytan Bazar, which means the Devil's Bazaar, appeared. Indeed, so many people worked so hastily on this small plot of land and they were all so stained and dirty that the name of Devil's Bazaar seemed quite appropriate."[68]

The drilling of oil wells required great financial resources. If in the middle of the 1880s, the drilling and development of oil wells cost 12,000-15,000 roubles, by the beginning of the new century this figure had reached about 50,000 roubles. Such an increase did not slow down the influx of new entrepreneurs, but conversely increased their numbers.

"All oil well exploitation expenses can be divided into two categories: the first category includes those expenses that are directly and wholly linked to the extraction of oil from this well; these are expenses for steam from the steam engine, bailing lines, repair of the rig and tools and replacement of worn-out cables, belts and other expenses… Another category of expenses are those that should be distributed evenly among all the wells being exploited; these expenses depend on elements that reach different levels in different firms,[69] "Neftyanoye Delo magazine reported. This article also noted all expenses for the drilling of wells and oil extraction: *"The expenses of the first category in average figures are given in the table below:*

Expenses on each well

Maintenance of three bailing workers, including their salaries of 20 roubles. Each of them was given 10 roubles per month for accommodation, heating, lighting and water. Each of them was given every month.....90-00

Three rolls of wire rope per year, costing 1,440 roubles per month.....120-00

One belt from the engine for the drum per year, costing 480 roubles per month.....40-00

Lighting with electric bulbs per month.....6-00

Steam for the engine per month.....400-00

In these conditions, all overall expenses will be covered by 20 per cent by each well and will be expressed in terms of the following individual items:

The maintenance of personnel of the oil field

The manager of the oil field with a monthly salary of 400 roubles and a flat worth 50 roubles, for one well per month.....90-00

His assistant or a mechanic with a salary of 200 roubles and a flat worth 40 roubles, per well.....48-00

An engine driver at the oil field with a salary of 60 roubles and a flat worth 10 roubles, per well.....25-00

A clerk of the oil field with a salary of 60 roubles and a flat worth 20 roubles, per well.....16-00

Two lubricators with a salary of 25 roubles each and with flats 10 roubles each, per well.....14-00

Three stokers with a salary of 20 roubles and a flat worth 10 roubles, per well.....18-00

Two guards with a salary of 20 roubles and a flat worth 10 roubles each, per well.....12-00

Unskilled workers, watchmen, coachmen and others - 10 people with a salary of 20 roubles and a flat worth 10 roubles each, per well.....60-00

The office of the oil field with three staff members with a salary of 150 roubles per month and flats worth 90 roubles, per well.....48-00

The materials clerk with a salary of 60 roubles and a flat worth 20 roubles, per well.....16-00

Total……..347-00

The annual maintenance of personnel requires about 4,000 roubles per well.

Redemption of the property of the oil field

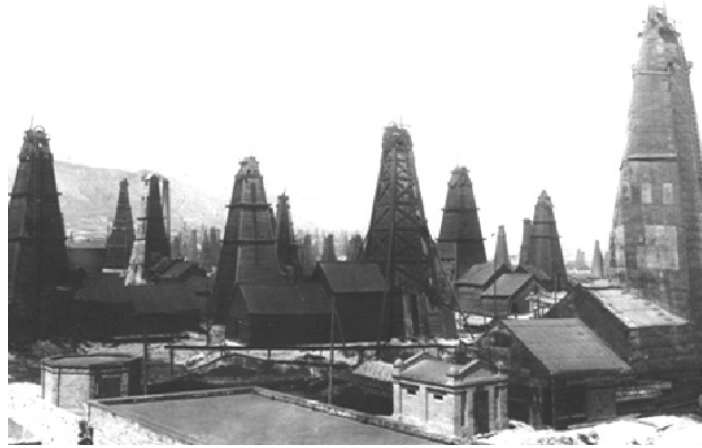
An operating oil field, which we take as an average one, should

have the following equipment: five productive wells with vats, batch-boxes, depots, tanks, pumps and so on - an amount of approximately 12,000 roubles.

Land rent

…Land rent in the near future will be based on a per-pood payment, the average size of which is currently 4.36 kopecks. In order to switch from this figure to land rent expenses per operating well, it is necessary to determine the productivity of the well, i.e. its annual output.

Baku oil fields. Early 20 centry



In 1898, this output was 439,000 poods; if you include gusher oil here, this figure will drop to 337,000 poods per well. The last figure is closer to the truth and gives a more accurate idea of the productivity of wells at oil fields: gushers belong either to major companies that have a great number of wells at various fields, which increases their chances of finding gushers, or to small companies that operate exclusively in areas where conditions are favourable; for example, in 1898 only 21 of the 102 companies had gusher oil and only 12 of them extracted one million or more poods of gusher oil.

If we take 337,000 poods of oil as the average output of the wells in 1898, the per-pood payment of 4.36 kopecks for this output will comprise a rent of 14,693 roubles for the exploitation of oil-bearing land, or about 15,000 roubles per year for each productive well.

Thus, in total there will be the following expenses for each productive well in an average oil field with five productive wells.

1. Expenses on each well separately (personnel, repair and redemption of the property of the well, expenses on steam, lighting, etc.) per year.....10,000-00

2. General expenses redeemed by each well by 20 per cent;

a) Personnel (salaries and flats with heating, lighting and water) for one well per year.....4,000-00

b) Redemption of the cost of five wells with exploitation equipment worth 250,000 roubles for one well per year..... 10,000-00

c) Redemption of the rest of the oil field equipment (buildings, except for accommodation, depots, tanks and mechanical devices) for one well per year.....2,000-00

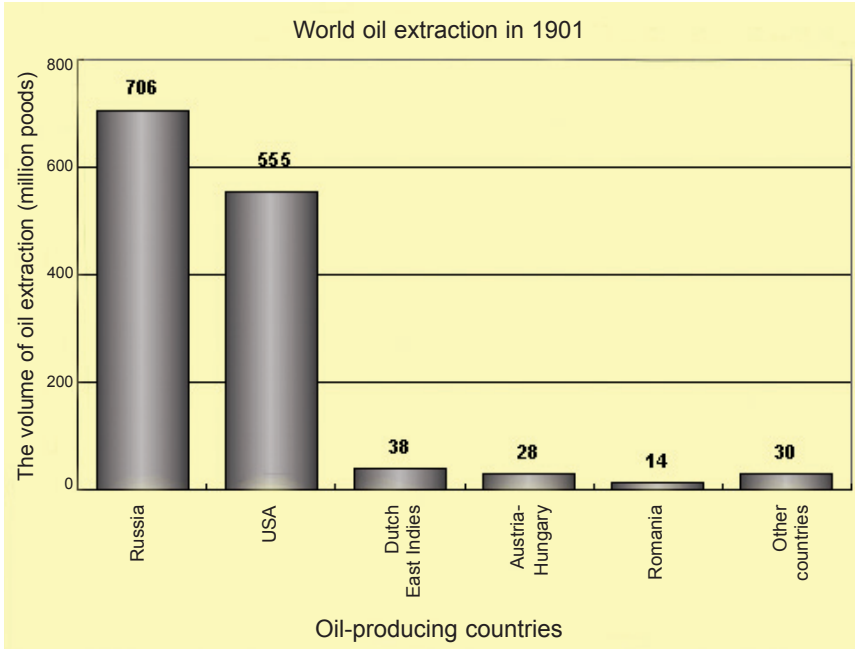
d) Land rent based on a per-pood payment of 4.36 kopecks and an average annual output of 337,000 poods from a well.....15,000-00

Total.....41,000-00

Despite these high costs, the number of people wishing to engage in the oil business was increasing. Independent firms and associations were set up. Privately-owned land was bought up, split and sold again for drilling work. According to Ragozin, *"splitting up reached an extreme: people started buying plots of land not only hundreds of square sazhens in size, but also dozens of square sazhens in size. There were plots of land where a cart could not turn around. As plots were split, so shares were also split, and this sometimes reached ridiculous degrees."*[70] Ragozin then went on to say that *"you can't be surprised by this splitting up of land plots if you remember how much money oilmen made at the time. Many people quickly got rich and became capitalists. Every entrepreneur made a fortune more or less, and there was not a single case of bankruptcy at this enterprise." Ragozin also points out that "one sazhen of land was first sold for five roubles and then the price increased to 10 roubles! The fever was unprecedented and no-one feared crises or a lack of demand for oil. In one year, the price of 1,000 roubles per dessiatina increased to 24,000 roubles! But soon this was not enough either: there were many people who were willing to buy land, and no-one was willing to sell it."*

By the end of the 19th century, oil was being extracted in Russia, the USA, Romania, Austria-Hungary and India - in so-called Dutch India and British India. The diagram below provides information from the statistical bureau of the Council of the Congress of Baku Oil Industrialists regarding world oil extraction in these countries and regions in 1901.[71]

Talking about the oil industry of Russia at the end of the 19th and the beginning of the 20th century, we have to say that in this period no oil was actually extracted in Russia proper, but it was extracted in its colonial possessions, on a large scale primarily in the Baku region and in Groznyy. In Russia proper, oil was first extracted in Uralo-Embinskiy district and in Maykop in the early 20th century. Moreover, at the beginning of the 20th century oil was also extracted in other regions of the Russian Empire, for example, in the Fergana valley and on the Isle of Cheleken. These places were not as important as the Baku region in terms of oil extraction.



On a global scale, 1,371 million poods or 171.4 barrels* of oil had been extracted by 1901. Russia extracted 706 million poods or 88.2 million barrels of oil, which accounted for 51.4 per cent of world oil extraction. According to the statistical bureau of the Council of the Congress of Baku Oil Industrialists, 671 million poods of oil were extracted in the Baku region, while only 35 million poods were extracted in Groznyy. Thus, we can see that by the beginning of the 20th century, the Baku oil industry occupied a leading position in world oil extraction. Its share accounted for 48.9 per cent, i.e. almost half of all the oil extracted around the world came from Baku.

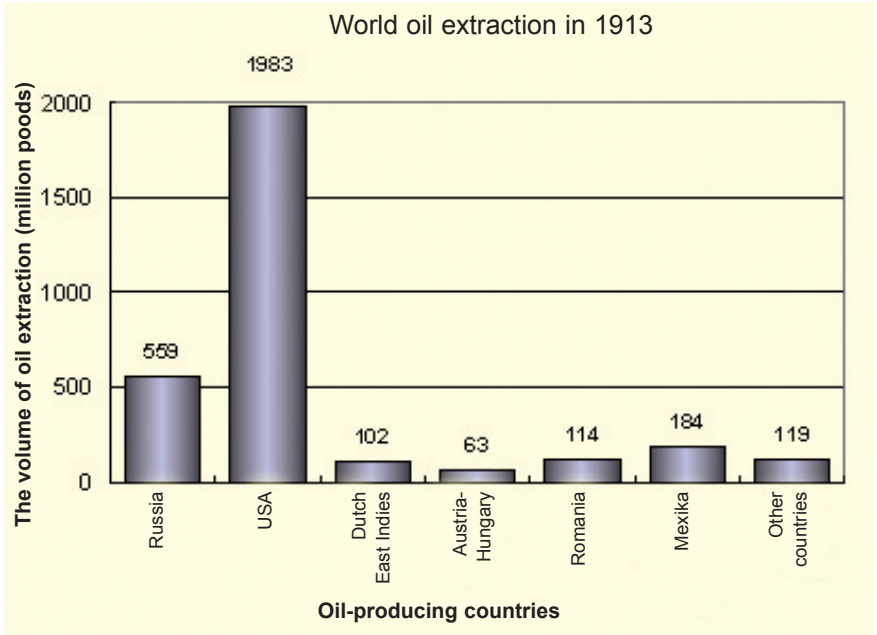
However, this extraction reached a peak of 671 million poods of oil in 1901, and in subsequent years - until the Bolshevik coup and the establishment of Soviet rule in Azerbaijan - oil was not extracted in such

* One barrel equals eight poods.

amounts in Baku. One of the causes behind the fall in oil extraction in Baku was instability - oil fields were devastated during the Armenian-Azerbaijani massacre in 1905, and the fight for oil-bearing land populated by Azerbaijanis played an important role in this. Azerbaijanis were ousted from their lands in the following years as well. For example, during the well-known events of March 1918, more than half of Baku's population was massacred by Armenian formations who returned from the Turkish front armed to the teeth. In the first few decades of Bolshevik rule in Azerbaijan, the Azerbaijani national bourgeoisie which took shape in the middle of the 19th century was almost completely wiped out.

Peaceful residents of Baku - victims of the March 1918 massacre

For this reason, at a time when oil extraction around the world was increasing, it was falling in Russia. In 1913, oil extraction in the USA increased by 357 per cent, in Dutch India - by 268 per cent, Romania - 814 per cent and so on. New oil deposits were developed as well, for example, in Mexico, British India and so on. In Russia, despite the development of new oil deposits in the Baku region (the Surakhani and Binagadi areas and the Isles of Svyatoy and Cheleken), in Maykop, in the Urals and Fergana region, oil extraction on a global scale fell by 20.8 per cent due to the fall in the volume of oil extracted at the main oil fields in the Baku region. According to the statistical bureau of the Council of the Congress of Baku Oil Industrialists,[72] the total volume of oil extraction in Russia in 1913 was 559 million poods or 69.9 million barrels.



National bourgeoisie

Significant changes occurred in Baku's oil industry after Azerbaijan's incorporation into the Russian Empire. Due to the economic and technical level of feudal Russia, rapid progress was not possible in this sphere. The Russian authorities declared all oil-bearing areas the property of the treasury from the first days of Azerbaijan's occupation, depriving the local aristocracy of its oil revenues. A national bourgeoisie started taking shape in Azerbaijan from this moment onwards, and Baku became its important centre.

The colonial policy of Russia predetermined the ethnic composition of the Azerbaijani bourgeoisie during these early stages - among the owners of oil-bearing lands there were only two Azerbaijani Turks who owned only 32 of the 163 wells.

The ethnic composition of Baku district changed following the development of the oil industry. Below is some archive data about the change in the ethnic composition of Baku district:

**From the report by the Baku district head, M.T.Dementyev, to the governor of Shamakhi region, Deputy Governor V I. Smitten, containing information about the natural-geographic conditions, population and economy of the district*

6 September 1850.

The number of people who profess:
The Orthodox religion……1,399
The Muslim religion……32,889
The Armenian-Gregorian religion……561

The district has one monastery of Indian fire worshippers and two Orthodox stone churches, as well as one Armenian-Gregorian church of the same kind; the number of Muslim stone mosques is 70 and none of them stands out from a military or religious point of view…

*Information about the territory, population, education, the construction of the Baku-Shollar pipeline, revenues and expenses of the city of Baku as of 1 January 1914 presented by the head of the city, L. L, Bych, the governor of the city, P.I.Martynov***

29 May 1915

II Population

In 1913, the male and female population of Baku within its municipal boundaries was 214,679.

The same figure for 1903 is 142,786 people. Thus, the population increased by 70,893 people or 49.3 per cent in 10 years.

* ЦГИА Азерб.ССР, ф.44, оп. 2, д. 26, лл. 26-30 об., 32 об.-33, 35-38.
** ЦГИА Азерб.ССР, ф.389, оп. 1, д. 643, лл. 8-14

Men comprised 120,798 or 56.3 per cent of the population in 1913, while women - 93,881 or 43.7 per cent.

The gender correlation of the population in 1903 was almost the same: men comprised 57 per cent and women 43 per cent of the population.

The ethnic origin of the population in 1913 was the following:

Russians.....76,229 people of both sexes, or 36 per cent
Caucasian Tatars.....45,972 or 21 per cent*
Armenians.....41,685 or 19.5 per cent
*Persians**.....25,097 or 11.8 per cent*
Jews.....9,689 or 4.55 per cent
Georgians.....4,077 or 1.9 per cent
Germans.....3,280 or 1.5 per cent
Kazan Tatars.....2,346 or 1.1 per cent
Poles.....1,772 or 0.83 per cent
Lezgins.....1,343 or 0.49 per cent
Other peoples of the Caucasus.....476 or 0.02 per cent
Other nationalities.....2,713 or 1.27 per cent

214,679 or 100 per cent

The growth in the population of separate ethnic groups in 10 years is expressed in the following figures: 25,257 for Russians, 3,840 for Caucasian Tatars, 16,848 for Armenians, 15,183 for Persians, 4,533 for Jews, 1,822 for Georgians, 767 for Kazan Tatars, 596 for Poles, 823 for Lezgins, 382 for other peoples of the Caucasus and 1,007 people for other ethnic groups. As for the Germans, their number dropped by 140. According to place of birth, the population of Baku consists of the following: the local population is 76,243 people or 35.5 per cent, while the number of incomers is 138,436 people or 64.5 per cent…

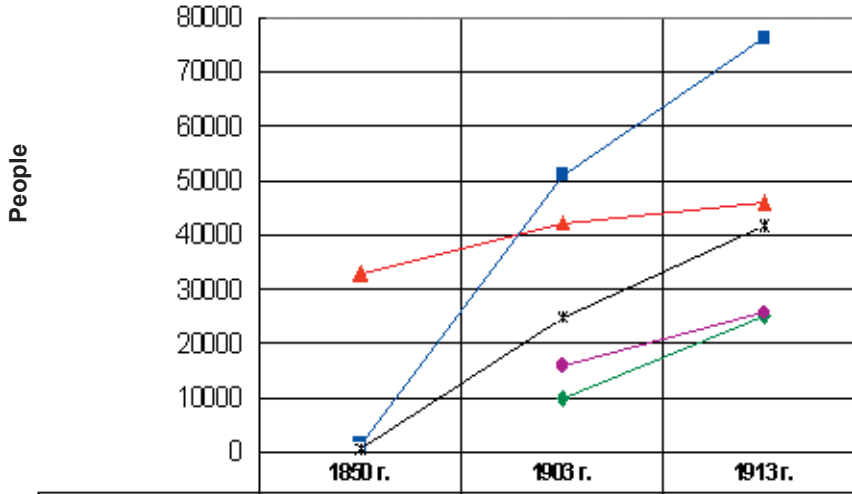
* Meaning here and hereafter Azerbaijani Turks
** Meaning here and hereafter Azerbaijani Turks from Southern (Iranian) Azerbaijan who migrated to Baku to make a living

The head of the city,

The secretary of the city

The diagram below shows the dynamics of changes in the ethnic composition of Baku:

Changes in the national composition of Baku district



	1850 r.	1903 r.	1913 r.
Azerbaijanis	32889	42132	45972
Russians	1399	50972	76229
Armenians	561	24837	41685
Persians		9914	25097
Other ethnic groups		15917	25696

The diagram shows that as the oil boom developed, the number of Russians and Armenian migrants increased at the expense of the local population. For a long time, considerable obstacles stood in the way of the desire of the national bourgeoisie to strengthen its position.

By the beginning of the 20th century, representatives of the national bourgeoisie owned 49 of the 167 oil enterprises, but this indicator did

not reflect their output capacity. Of the 167 oil enterprises, Armenian entrepreneurs, whom the Russian government supported as their co-religionists, owned 55 companies, Russians - 21, Jews - 17, Georgians - 6 and foreign companies - 19.

The oil enterprises which belonged to Azerbaijani capitalists were mainly small and medium-sized.

Armenian and Russian capitalists dominated the medium-sized and large enterprises. Foreign capital was their main competitor from the 1870s.

The Azerbaijani national bourgeoisie was represented by businessmen like Haji Zeynalabdin Tagiyev, Shamsi Asadullayev, Musa Nagiyev, Murtuza Mukhtarov and others.

The Armenian industrial bourgeoisie was represented by Mantashev, Lianozov, Ter-Gukasov, Pitoyev, Mailov and others.

The Russian industrial bourgeoisie was represented by Kokorev, Benkendorf, Shibayev, Ragozin and others.

The prosperity and growth of the Armenian-Russian oil bourgeoisie was secured by the patronage of the tsarist government. As for the Azerbaijani capitalists, conversely, the tsarist administration did everything possible to restrict their participation in the oil industry.

More than 6,000 people worked at oil fields which belonged to Azerbaijani entrepreneurs in 1915. The overall amount of oil extracted by all enterprises of the national bourgeoisie was more than 40 million poods, which is insignificant compared to total oil extraction. It is enough to say that the Caspian-Black Sea Oil and Commercial Society extracted more than 30 million poods of oil, while the Nobel Brothers Petroleum Company extracted more than 60 million poods of oil in 1913.

The fate of representatives of the Azerbaijani national bourgeoisie was tragic from the first days of Soviet rule in Azerbaijan. They were persecuted, deprived of their property, repressed and executed; the process of discrimination continued almost until perestroika and the collapse of the USSR. Ideological propaganda in publications and films created images of "cruel capitalists", "oil magnates" and "exploiters of capitalist Baku". According to this propaganda, such people were only Azerbaijanis.

In 1905, an ethnic massacre was instigated between the Armenian and Azerbaijani population of Baku. Ethnic clashes occurred across the whole of the Caucasus, which was becoming more and more unstable.

Armenian capital, which was supported by the Russian Empire from the very beginning, including in Baku, was granted free oil-bearing lands in the middle of the 19th century. The beginning of the 20th century was a harsh test for the local population living on oil-bearing lands. The territories of Absheron's oil-rich villages were gradually bought up or seized by oil magnates, while arable land was bought or deviously seized from the local population, and this disrupted their traditional farming lifestyle. The emerging first generation national bourgeoisie, represented by Haji Zeynalabdin Tagiyev and Gasim Bey Selimkhanov, made a great contribution to the development of the national economy, culture and education. By the end of the 19th century and especially after 1905, the oil business saw an influx of a greater number of entrepreneurs representing the local bourgeoisie.

The second generation of the national bourgeoisie consisted of people who had small capital or peasants from oil-rich villages who began extracting oil on the land which they owned or bought. They were also energetic people who worked at the fields of big and small enterprises, dealing with oil delivery, cleaning the territory of oil spills, workers and guards working at the fields and so on.

The establishment and formation of a national bourgeoisie, despite their limited economic potential, was an important stage in Baku's development. This time saw the emergence of a national idea and defence of the interests of the indigenous population from imperial capital. The local population raised with the authorities the issue of violations of their rights by oil businesses, such as the illegal seizure of lands and the damage caused to pastures and farms by oil extraction.

The archives contain a large number of documents in which the issue of the eviction of the indigenous population from oil-rich villages was raised with the imperial government and even with the Emperor himself. Here is one document from the archive, which testifies to the desire of oil magnates to seize the lands of the community of Sabunchu village.

In 1901, the Baku Congress of Oil Industrialists bought from the treasury more than 300 dessiatinas of state-owned land in order to build barracks for workers. In fact, under the guise of charity oil magnates started oil exploration here, building at the same time barracks for their cheap work force on this territory. Supported by the national

bourgeoisie and intelligentsia, the Sabunchu community fought to defend its interests for several years. In this case, representatives of the Sabunchu community sent a petition to the Russian emperor in 1905. The document is given below:

YOUR IMPERIAL MAJESTY,
HOLY MONARCH AND MOST GRACIOUS RULER

This is a petition, an original with a translation attached, from a community of peasants in the village of Sabunchu in Baku region and district, in the name of their authorized fellow villagers Maharram Murtuzov and Yusif Aliyev, who live in their own homes in the same village of Sabunchu.

PETITION

The special session which was held at the Ministry of Agriculture and State Property in 1901 and was chaired by His Excellency Minister A. S. Yermolov resolved: To satisfy the request of Baku oil industrialists to hand over 300-400 dessiatinas of state-owned land to them so they can set up several workers' settlements there. In order to sequester those plots of land on the pretext of economic needs to develop the oil industry, it is planned to request a high order regarding the law concerning the issue of confiscating oil-bearing lands from peasant farms on the Absheron peninsula.

Information provided by the Mining Department said that residents of Sabunchu have 1,460 dessiatinas of state-owned land in their households and public ownership, and it is planned to hand over 140 dessiatinas of this land to oil industrialists for the construction of a workers' settlement in the southern part of the oil-bearing land that has already been sequestered from us. This area is especially comfortable because it is adjacent to the Sabunchu train station and has wells with good quality water. Apart from these 140 dessiatinas, we, residents of Sabunchu, are required to ensure the needs of the local railway, the construction of a new Sabunchu train station and the expansion of access roads.

For its part, the Congress of Oil Industrialists resolved on the issue

of workers' settlements in 1903: It will transfer 125,000 roubles for all land (from 300 to 275 dessiatinas) handed over to oil industrialists, and for the clearance of agreements and the termination of contracts with household-public owners concluded between various oil companies and us, peasants, and until His Excellency, the governor of the Caucasus, Prince Golitsyn, issues circular No 14429 on 12 December 1898, the Congress of Oil Industrialists will transfer another 26,000 roubles. In total, it will pay 161,000 roubles for ownership of the sequestered lands and, in future, the Congress of Oil Industrialists will regard itself as exempted from all payments, expenses and obligations. Thus, the congress wishes to buy 300 dessiatinas for 151,000 roubles, or each dessiatina purchased for full ownership will cost them 500 roubles.

Our community is poorer than the Congress of Oil Industrialists. We have been using this land since time immemorial and we desperately need and want to buy it as well, which is why we are happily ready to pay 50 kopecks for one square sazhen, which makes 1,200 roubles per dessiatina, and will transfer not 151,000 but 360,000 roubles to the treasury. Our gain and calculation is as follows: according to their information, they have no fewer than 40,000 workers at the oil fields, and these people will probably serve as residents for the planned workers' settlements. Of the overall number of workers, according to the calculations of the congress, no less than 28,000, i.e. two thirds of all workers, will be concentrated there: in other words, the same number which currently occupies the barracks, houses and premises of various companies and entrepreneurs will be there, greatly narrowing in this way the area of oil extraction because, according to the law, an oil rig can and should be installed at a distance from any dwelling, not near it. Therefore, by setting up workers' settlements, the oil industrialists will deprive themselves of the right to exploit oil and expand their area given that it is now occupied by barracks and dwelling houses, which will not allow them to drill and install new oil rigs, i.e. they will get an oil-bearing land plot of 300 dessiatinas, and every oil-bearing dessiatina of land costs not 500 and not even 1,200 roubles, but from 12,000 to 60,000 roubles. On average, they gain at least 10,000 roubles from each dessiatina and from the whole area, 3,000,000 roubles. In this way, the oil industrialists wish to buy property worth 3,000,000 roubles

for 151,000 roubles - a desire that is unprofitable for the treasury and devastating for the state but quite lucrative for the oil industrialists.

If you measure all the oil-bearing land belonging to companies but occupied by their barracks for workers and houses for clerks, this area will probably be no less than the amount of land they are requesting for workers' settlements. It is also obvious that the cost of the oil-bearing land cleared in this way by various companies is not the 151,000 roubles they have offered the treasury, but several million roubles; the miserable sum of 151,000 roubles will be handed over to the treasury, not to us, and will return to them through a court under the guise of breach of contract and payment of a penalty through the court for the termination of contracts and deals ahead of the expiry of contracts. We will go bankrupt, we will be impoverished and be turned into their labourers, which will bring about the long-awaited but carefully-disguised dream of creating not a migrant or casual contingent of workers, but a permanent landless contingent for their needs who will then compete with migrant workers to earn a crust, reducing the cost of labour and impoverishing both themselves and the migrants - Persians and Russians who come here temporarily to make a living. This will clearly enrich the oil industrialists, not the treasury, peasants, society or state.

In 1901, the Special Council, having agreed to satisfy the demand of oil industrialists on the basis of information provided by the Mining Department about the amount of farmland we had, was misled and made a mistake which was not clarified or discovered until recently since we did not have a single person to defend our interests either in the committee or in the commission and we found out what was going on by hearsay or by chance. In fact, however, the future of all society and the further fate of our children are affected by the incorrect settlement of this issue.

This mistake happened because the farmlands which were confiscated from us a long time ago were not taken off the list of our farmlands before 1903, and these farmlands have not belonged to us since 1891. In the same way, the land that was taken from us for the construction of a railroad in 1882 was not taken off the list either. Since according to documents and registers these lands still belong to us, we have been paying the land tax for them without using them. In fact, we have only

442, not 1,400 dessiatinas. Thus, the information was incorrect and overstated: the documents indicate that we are using 1,052 dessiatinas more land that we actually are. It would not be onerous if you confiscated 146 dessiatinas for oil industrialists from a community that has 1,460 dessiatinas, but if you confiscate 140 dessiatinas and 24 dessiatinas for a railroad, i.e. 164 dessiatinas, from a community that has only 363 dessiatinas and 917 square sazhens of arable land and 38 dessiatinas and 1,423 square sazhens of other land, this will leave half of the population without land and the community will lose half its wealth.

According to the scientific description of 1886, we have 156 houses, but in these 18 years our population has doubled; new households have been allocated, and these new settlers are threatened with bankruptcy and poverty. Currently, every household has two dessiatinas on average on which they can live in a suburban farm. If our water land of 140 dessiatinas is confiscated, we will have a miserable farm of waterless land - only 173 dessiatinas - and on average every household will have slightly more than half a dessiatina. It is clear that not only are we unable to improve our farms on such a small plot of land, it is also unthinkable and impossible to keep them without proper water supplies. The population will go bankrupt irreversibly because the current practice of confiscation will deprive us not just of half of our best lands, but also our water sources and our wells. If you look more carefully at this, neither we, the peasants, nor the treasury will get anything from this, and only the oil companies making up the Union of Oil Industrialists will become richer, and they will become our real and undisputed "oil kings" - this is what they call themselves now.

They are becoming richer first by buying new lands for their own needs, to build barracks and living accommodation and by clearing their oil-bearing lands in order to expand extraction to areas where various companies have built living accommodation and barracks, regaining what they offered (151,000) again, though this sum is disguised as compensation in return for the plots of land taken from us. But they will get this money back as a penalty through the takeover of new plots of land for their needs, for construction work to expand oil extraction to areas where various companies have built accommodation and barracks, and finally, regain the 151,000 roubles which they offered

because, although this sum is disguised as compensation for the plots of land taken from us, they will get this money back as a penalty for a violation… of our deals and contracts with them. Then they will reduce wages as our people will be forced to join the ranks of those trying to earn a crust. In this way they will get not a contingent of migrants, but will use local landless workers instead of the migrants with whom the oil industrialists currently have to deal. These migrants have no links here and are, therefore, unstable, more demanding and less reliable.

Of course, according to existing Russian legislation, it is no longer possible to restore serfdom. However, the planned workers' settlements belong to private individuals not the government and fall into the hands of entrepreneurs. Despite the fine-sounding name of "model workers' settlements in order to improve and protect the lives and health of workers", these settlements will and have to be speculative and exploitative in nature for the purpose in founding them is to make as much profit as possible, not to ensure general welfare. They want to make a profit, not losses, without any humanitarian or philanthropic motives and they do this for their own good, not for the good of the workers. The planned settlements will turn into dependent and private colonies of workers belonging to the Congress of Oil Industrialists. This will cause trouble for both society and the government in the future as they will serve as a source of mutual discontent.

In order to build and to develop the accommodation, or to use the foreign word the orators at the congress used to describe these planned settlements, barracks and huts - "our cottages" and the settlement - "a workers' town", it will not seem illegal for every company to deduct only 25 kopecks from the weekly wages of every worker, which will make 13 roubles for the oil industrials over 52 weeks, i.e. in a year, from every worker with the total number of workers reaching 40,000. These 25 kopecks will make up an annual amount of 520,000 roubles. If we note that only two-thirds, i.e. 26,000, workers will be living in these settlements, then the sum of deductions from the workers will equal 338,000 roubles per year. So in the first year, they will recover what they paid into the treasury for the land and will get money for equipment and living accommodation, barracks and so on. The shareholders of these breakeven enterprises will get 100 per cent revenues in the future.

In order to prove that our arguments regarding the use of not 1,460 dessiatinas but only 402 dessiatinas are fair, we quote order No 8090 issued by the Baku regional board on 17 May 1902, following which land surveyors Sharin and Yegiazarov carefully measured the whole of our state and public land, and it was discovered then that we have arable land of 393 dessiatinas and 917 sazhens and, in total, according to the document of 1904, we have only 402 dessiatinas with farmsteads and unsuitable land, not 1,460. The Mining District gave incorrect information, exaggerating our farmland by 1,018 dessiatinas and suggested requesting the permission of Your Imperial Majesty to confiscate in favour of the oil industrialists the land we, our fathers, grandfathers and forefathers owned and used, not just as your faithful subjects, but also from time immemorial, under Persian rule, and we have never been slaves to khans or beys, which is why we do not want to fall under the yoke of the oil industrialists and request the protection of Your Imperial Majesty.

The note to Article 543 of the Mining Regulations published in 1893, which the Mining Department quotes, cannot apply to us because this note speaks: a) about the confiscation of oil-bearing lands from the farmland of state-owned peasants of the Absheron peninsula; b) about compensation for peasants for the oil-bearing lands taken from them; c) about them (peasants) using those oil-bearing lands, 2) about the method of exploiting oil-bearing lands by the peasants themselves and articles liable to quit rent located on the oil-bearing lands, and finally about the violation of rules stipulated by Article 210 of the Mining Regulations both by the community of peasants and its individual members. The rules stipulated by Article 201 of the Mining Regulations say: "…the depths of state-owned land used by peasants belong to the government." There is no question about this and no-one disputes it. So the note to Article 543 of the Mining Regulations, to which the Mining Department refers, was used with regard to us, residents of Sabunchu, a long time ago. All known oil-bearing lands were confiscated and taken from us, but unfortunately, they were not removed from the lists, records and information submitted by the Mining Department to the Special Session at the Ministry of Agriculture and State Property.

Referring to the note to Article 543 of the Mining Regulations, they want to confiscate our oil-bearing lands or the area of known oil-bearing

land and take our arable land not for oil extraction, but for the settlement of those who work at the oil fields, which is not implied and indicated by the note. For this reason, it is groundless to refer to Article 201 and the note to Article 543 of the Mining Regulations, and this is not possible in this case, because it is not appropriate and does not form part of the rules stipulated by those articles. This law protects state interests without supporting the interests of a private circle of people, a cartel of oil industrialists who clearly wish to devastate society for their own speculative purposes and to devastate not only our community, but also several other rural communities. With the establishment of the planned settlements, our neighbourhood will become not a new agricultural-economic society, whose residents and members could join us and become members of our society, which would be quite desirable. Instead we will see the development of a rootless colony, while the Union of Oil Industrialists will have the monopolistic right to those who live there with rent and food.

Peaceful Persian or Russian families will not go to live there. Only people without a family or those who do not care where they live will go there. This will be not a settlement, but a big doss-house for several thousand people. In other words, this will not be a colony but a collection of people of different ages, religions and nationalities - a kind of prison. A person who ends up there will never break free and will never rise from there as if he was stuck at the bottom; he will not send money to his family in the village and will not save up enough money to return home. He will leave everything he earns there. Ending up there, he will become cut off from his family, an apostate, and will be fit to work only until he becomes crippled or unfit to work. Then he will become a professional cripple and beggar. If the rules of life in the settlement are strict and tough, the settlers will run away but their houses will become deserted and empty if living in them is not compulsory. Is it worth confiscating land from hard-working and chaste peasants in the hopes of some hypothetical benefit and to hand it over to oil companies so they can increase the area under their control for more money and file more petitions for new privileges and subsidies from the treasury to maintain the workers' settlement they have set up?

This state-owned land will be taken away from hard-working people and handed over to the Union of Oil Industrialists, making them owners

of the land to which we have had the privileged right of ownership since the issue of ownership was first raised. Why devastate and impoverish us? Why clear the oil-bearing lands of various companies of the accommodation that exists there under the guise of setting up workers' settlements? The extortions of the Union of Oil Industrialists will not bring anything stable or gratifying to society or the government, but will perhaps create only a permanent state of displeasure arising for insignificant and often empty reasons. Then there may be one rule: if one unhappy person refuses, others will have to follow suit out of friendship or necessity. In order to settle these troubles and ensure security, it will inevitably be necessary to increase the number of staff: police and guards. It is planned to arrange the lives of workers who depend on a private circle of people, but these lives will have no calm and no real foundations.

A sanitary inspection conducted in the autumn of 1904 in order to protect workers from epidemics of cholera showed that the lives of workers at oil fields was unthinkably impoverished and it would be necessary to improve it in one way or another; forcing oil companies led by the Council of the Congress to obey, respect and observe the law and its requirements.

It is desirable that state-owned lands remain the property of the treasury or are at least state property, or that we are granted the privileged right to buy them as permanent residents. It is also desirable that living accommodation for workers and labourers is in barracks, like troops in cities. They should be built by oil companies in compliance with modern requirements, but should be under the jurisdiction of the factory inspectorate and those who use them. It is desirable that such a settlement on state-owned land belongs not to private individuals or oil companies, but to the treasury, being under our control and under the control of the local authorities, first of all giving workers who have families the right to buy their flats or houses only for personal use, not for speculation, and second, giving such owners the right to participate in economic affairs, enjoy prosperity and further develop the settlement. Of course, the future of such a settlement would be true and it would develop peacefully because its residents would be hard-working people, and such a lifestyle cannot but have a positive influence on all the oil-field workers. The population itself will form part of a useful, government-

owned enterprise. These settlers could become members of our society through mutual rapprochement with us and without destroying our families or the calm household and religious features which would renew our lives. In these conditions, we would not become poorer and the treasury would not lose an inch of land, but our society would become richer, greater, better educated and less alienated from the Russians.

Since it is the high authorities - the special council at the Ministry of Agriculture and State Property under the direct presidency of His Excellency the Minister of Agriculture and State Property - that decide the issue of confiscating our land and giving it to the oil industrialists in order to set up a workers' settlement, the local leadership rejected our request. For this reason, we have only once choice: to request that Your Imperial Majesty consider and examine our complaint, ensure that what we say is true and that the information submitted to the Council about the amount of land we have is incorrect,: 1) order an investigation into the incorrect and exaggerated information about the land, which is unfavourable to us and quite favourable to the oil companies; 2) reject their attempts to ensure that 140 dessiatinas of state-owned land from our household-public ownership are handed over to them; 3) return the extra taxes we have paid to the treasury for many years or order that the culprits pay compensation for our losses; 4) do not confiscate the land on which the wells we need for our farms are located, leaving it under our ownership, or grant us the right to buy it at a higher price than that offered by the Union of Oil Industrialists because, due to our situation and high prices of private plots of land around the city of Baku, the confiscation of the best plot of 140 dessiatinas from us threatens all our families with unthinkable disasters.

Oppressed by despair, we turn to the paternal protection of Your Imperial Majesty and ask you to condescend and consider our fate as faithful subjects of our common homeland. We appeal to your royal mercy, which equally and fairly unites all those who live under your rule, be it a poor Muslim or a noble universally-known banker or prince. As faithful subjects of Your Imperial Majesty, representatives of the community of peasants of the village of Sabunchu, Baku region and district, we sign this appeal - Yusif Aliyev and Maharram Murtuzov, the village of Sabunchu, 15 February 1905.[73]

This document describes with great accuracy the situation at that time. It also prophetically foresaw future political events which threatened not just the community, but also the Romanov Empire itself. Similar letters were sent to the imperial office from various villages of Absheron, but they usually yielded no results.

The indigenous population realized there was a threat that could deprive them not just of their inherited lands, but also of the right to live on these lands. In such difficult conditions, the village community nominated a number of prominent people engaged in the oil business. The names of these people are not widely known by the general public, but they were quite well known in Baku in the early 20th century. These people had a number of qualities in common which they demonstrated in their desire to achieve their goals - decisiveness, courage and, in a number of cases, entrepreneurial adventurism. The fate of many of them is tragic.

One such person was Movsum Salimov, who was born in the village of Kurkand (now Bina).

Until the 1920s, Salimov was a successful oil industrialist. He bought up a considerable number of oil-bearing plots of land, built small workshops and accommodation for his workers, field offices and telephone exchanges. In fact, that the administration of Binagadi still uses a building built by Salimov. He built wonderful multi-storey houses in various parts of Baku which now stand as architectural monuments. A peasant by origin with no formal education, he had a natural intelligence and good business instincts. His repeated visits to European cities and his secular way of life developed his understanding of the need to educate the Muslim population and familiarize them with the achievements of world science and technology. It is no accident that he was surrounded by young people - former peasants' children were educated in the colleges of Baku and

Oil industrialist Movsum Salimov with his wife

A relative of Salimov, Khanifa, says: "My grandfather was a close relative of Salimov, who managed one of the oil fields. He said that I was born in exile. In his childhood, Salimov lived at his relatives' in Zabrat, where he engaged in agriculture. He bought a plot of land in Binagadi using his savings and began prospecting for oil. Initially drilling work did not yield positive results. Totally bankrupt, Salimov decided to leave his homeland secretly to avoid his creditors and the workers at his well, whom he had no money to pay. He was sitting on a train ready to go when he suddenly noticed a man running along the platform with a smile on his face, covered in oil, who looked like the drilling fitter he had hired. He realized that they had struck oil at his well. Overnight, he became a millionaire."

Russia. Ahead of the Bolsheviks' arrival in Baku, Salimov and his family emigrated to Iran. He lived there until 1944. The group of Russian troops stationed in Iran, apart from its main function, was also engaged in tracking down former enemies of the working class, including Salimov. He was lured into an agent's secret flat and secretly extradited to Azerbaijan. Salimov was reportedly executed but, according to reports, in 1955 he was seen by prisoners who survived the camps in Semipalatinsk (Kazakhstan) where he worked as the manager of a lumber mill. After that, there is no information about him.

The growing influence and power of foreign monopolies was a strong factor that encroached on the positions of the Azerbaijani oil bourgeoisie, led by its most outstanding representatives such as Haji Zeynalabdin Tagiyev, Shamsi Asadullayev, Murtuza Mukhtarov, Aga Musa Nagiyev and Gasim Bey Selimkhanov.

Haji Zeynalabdin Tagiyev was the most notable of these figures and was the leader who managed to unite the national bourgeoisie. Being quite a popular figure among the national bourgeoisie and progressive intelligentsia, Haji Zeynalabdin Tagiyev was active as a state councillor, a member of the board of the Baku Mercantile Bank and four major companies, as well as a member of many charitable societies. He was born to a poor Azerbaijani family in 1823. Tagiyev rose from being an ordinary stonemason who carried out contract construction work to a

Haji Zeynalabdin Tagiyev

prominent capitalist. His "H. Z. Tagiyev" enterprise occupied fourth place in the oil industry in terms of output after the enterprises of the Nobel brothers, Rothschild and the Caucasus Association. Moreover, Tagiyev owned an oil refinery, a tank barge and tugboats to transport oil along the Volga and 18 steamboats that sailed on the Caspian Sea. In 1898, he opened a textile factory with 4,000 workers, having spent 5.5 million roubles on equipment. After the Bolsheviks came to power, Tagiyev's factory was renamed the Lenin factory. Touching on this shortly before his death, Tagiyev said: "I have a wonderful memory and I remember all the big deals, but I don't remember this one: when did I sell my textile factory to Lenin?"

Tagiyev made a huge contribution to the development of educational institutions in Baku. For example, he was the first to build a Russian-Muslim women's grammar school, naming it after Empress Aleksandra Fedorovna. He invested 100,000 roubles in the construction of the Baku secondary technical college and financed the activities of the Saint Nina commercial, mechanical and technical schools. He also built a theatre - the so-called Tagiyev theatre, currently the Musical Comedy Theatre, which is now an historical monument.

Another major oil industrialist and philanthropist was Aga Musa Nagiyev. Aga Musa Nagiyev was born in 1849 into a peasant family in the village of Bilajari, north of Baku. From early childhood, Nagiyev was an oil-field worker. He saved some money and started his own business.

In 1896, Musa Nagiyev and Shamsi Asadullayev, who also hailed from a poor peasant family in the village of Amirjan, bought 242 dessiatinas of land in a place called Boyuk Buta[74] and founded their first oil well.

In 1899, Aga Musa Nagiyev founded his own oil company. In 1913, the Aga Musa Nagiyev oil company extracted 6,886,615 poods of oil at oil fields in the villages of Sabunchu 23 and Ramana 107. The number

Aga Musa Nagiyev

Aga Ismail Nagiyev,
son Aga Musa Nagiyev's

of productive wells was 27 and the number of workers - 600.[75] Moreover, Aga Musa Nagiyev owned an oil refinery at Second Zavodskaya Street in the Black City. In 1912 alone, this factory produced 4,861,238 poods of purified kerosene, 9,914,894 poods of oil residues and 281,756 poods of light gasoline.[76]

Aga Musa Nagiyev built a great number of houses in Baku, including the Ismayiliyya Palace, which he built in memory of his son Ismayil, who died of tuberculosis, and a city hospital. Besides that, Aga Musa Nagiyev was a philanthropist and guardian of the Realny grammar school.

Although Aga Musa Nagiyev died in 1919, before the Bolsheviks came to power, according to his granddaughter Dilara khanum, his remains were reburied four times after the establishment of Soviet rule in Azerbaijan, while his family was subjected to cruel repression. The last place where Aga Musa Nagiyev's remains are buried is his native village of Bilajari, from whence he rose to such heights in society only

thanks to his hard work and great entrepreneurial skills.

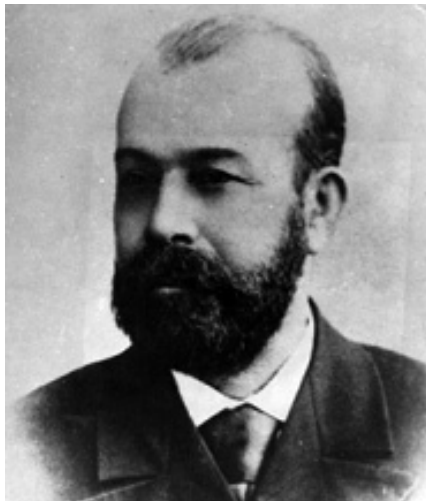
Information bulletins from those years provide brief descriptions of the entrepreneurial qualities of some representatives of the national bourgeoisie: Shamsi Asadullayev, Abdulla-Karbalai Zarbaliyev, Teymur Gulibeyov and Najaf Mammadov.

Aga Shamsi Asadullayev - an oil king known in Russia and Europe. He was born in 1840 to a poor family in the village of Amirjan and died a millionaire in the city of Yalta on 21 April 1913. He lived and grew up in the land of oil, where people could very quickly be transformed from paupers to millionaires thanks to their natural intellect, iron will and energy.

In 1860, he started off as a clerk in Kokorev's factory, currently the Baku Oil Society. However, this position did not satisfy him at all. In an attempt to start his own independent business, he got involved in minor kerosene and salt contracts. This marked the beginning of his colossal wealth.

In 1875, he abandoned these salt contracts and opened a kerosene factory in Baku, transferring his kerosene-selling business to the Volga, Astrakhan and Tsaritsyn. In 1890, he and others started an oil business.

In 1891, he ordered the first steamboat to transport oil via the Caspian Sea and the Volga.



Aga Shamsi Asadullayev

А. Ш. Асадуллаевъ.

Information sheet

Russian-Muslim high school for girls named after empress Aleksandra Fedorovna

In 1895, so historical records report, a gusher suddenly gushed oil with great force on his plot of land, producing 1,600,000 poods of oil for 56 days.

The Asadullayevs bought new plots, extracted up to 10 million poods of oil per day, built their own kerosene factory to process oil, bought 15 tankers to transport kerosene via the Volga and the Caspian Sea and developed their kerosene business in Central Asia and Persia, where they owned up to 36 kerosene depots. They had large kerosene depots on the Volga, in the kingdom of Poland and in Moscow.

In 1905, Asadullayev moved to Moscow, where he was known for a number of major charitable activities. In Moscow, the couple bought a plot of land and built buildings for poor people, regardless of rank or religion.

In 1913, Aga Shamsi founded two scholarships of his own at the Tiflis Teachers' Institute in honour of the 300th anniversary of the Romanov dynasty.

In 1913, the oil king Aga Shamsi Asadullayev suddenly died, prematurely cutting short his charitable works.

The Gulibeyov and Mammadov company was founded by Teymur bey Gulibeyov and Najafguli Mammadov in 1909. Gulibeyov was born in Baku in 1885 and was educated to secondary school level. Mammadov was born in Baku in 1879 and was educated to primary school level. The company had oil fields in Balakhani and Sabunchu and kerosene-petrol factories in Baku.

The exploitation of these fields began in 1913 and 30,000 poods of oil were extracted per month. Apart from their own oil, they bought 10 million poods of oil per year for the kerosene factory. About 200 workers worked there. Up to 2.5 million poods of kerosene per year were produced and sold to trade companies. Up to 150,000 poods of petrol

Baku Commercial School

Tagiyev's Theater, now Musical Comedy Theater

per year were produced and placed on the local market.

Apart from the oil fields, the company had a shipping company on the Caspian Sea and its own tanker wagons to transport oil products and for other commercial purposes. Offices and oil depots were located in Baku, Petrovsk (Dagestani region), Tiflis, Vladivostok, Yekaterinodar, Stavropol region, Warsaw, Lodz, Sosnovitsy and Minsk. All the enterprises of the company were transformed into a joint-stock company called "East Caucasus Oil Society".

Abdulla Karbalai Zarbaliyev owned oil fields and several houses in Baku. Zarbaliyev was born in Baku in 1853 and was a Russian citizen. He had received a Muslim education.

He inherited a kerosene factory from his father, Zarbali Mirzali oglu. He started his oil business in 1876 when he bought oil-bearing land and started exploiting it with a companion. Abdulla Karbalai's oil fields were located in Sabunchu. Crude oil was sold on the spot. There were up to 80 workers at the oil fields. In the commercial world, the company enjoyed great trust and occupied a strong position. Abdulla Karbalai was a member of the City Duma, a former member of the accounting committee and a member of several local charitable institutions. Abdulla Karbalai's assistant was his son Haji Aga, 25.

Абдулла-Кербалай Зарбалiевъ.

Зарбалiевъ—Абдулла-Кербалай, владѣлецъ нефтяныхъ промысловъ и нѣсколькихъ домовъ въ г. Баку. А. К. родился въ Баку въ 1853 году. Родъ его изъ Баку, русскій подданный. А. К. получилъ образованіе мусульманское. Въ наслѣдство отъ своего отца, Зарбали-Мирали-Оглы, онъ получилъ керосиновый заводъ. Нефтяное дѣло началъ въ 1876 году, когда купилъ нефтеносный участокъ и началъ его эксплоатацію съ компаніономъ. Нефтяные промыслы А. К. находятся въ Сабунчахъ. Нефть продается въ сыромъ видѣ на мѣстѣ. Рабочихъ на промыслахъ до 80 человѣкъ. Среди коммерческаго міра фирма пользуется большимъ довѣріемъ и занимаетъ прочное положеніе. А. К. состоитъ гласнымъ Городской Думы, ранѣе состоялъ членомъ учетнаго комитета и состоитъ членомъ нѣкоторыхъ мѣстныхъ благотворительныхъ учрежденій. Помощникомъ А. К. являет-

Information sheet.
Abdulla Kerbelayi Zarbaliyev

It is notable that the number of Azerbaijani businessmen and the national bourgeoisie increased in the oil business after 1905. Having realized that the oil business was quite profitable, local residents themselves started setting up oil companies and refused to sell private and community land to anyone. This secured some balance between capitalists of various nationalities. The authority of the Azerbaijani national bourgeoisie was increasing and it was no longer possible to ignore it. Despite the comparatively small capacity of their enterprises, the Azerbaijani bourgeoisie and engineering-technical intelligentsia actively participated in the development of the oil sphere, in oil exploitation and in the development of oil equipment. For example, many technical solutions by the oil industrialist Murtuza Mukhtarov, the author of many inventions, are known in the history of Baku oil. Murtuza Mukhtarov, who received his higher technical education in Germany, owned not just oil fields, but also engaged in the contract drilling of wells. His mechanical factories, located in Sabunchu and Bibi-Heybat, had 75 drilling tools. The number of workers working at these factories was 1,320.[77]

Oil industrialist and an engineer
Murtuza Mukhtarov

Shikh Ali Benda oglu Balayev was a peasant from the village of Surakhani and was born in 1882. His father Ali Benda Bala oglu was initially engaged in lime transportation, but then he signed a contract on lime burning and on lime supplies to construction sites in Baku. From his youth, Shikh Balayev helped his father and transported lime, and then he organized drinking water deliveries to workers at the oil fields of the oil

Nagafkulu Mamedov with his family

Teymur bek Kulibekov with his wife

industrialist Lianozov. At the same time, he organized work to clear and collect field oil. Areas were usually cleared of oil after powerful gushers. The organizers of the cleaning work earned quite tangible revenues. This was not a pleasant job, but it served in future as the basis for Shikh Balayev's career as an oil industrialist.

Old-timers in the village of Surakhani noted his energetic nature, intellect and fearlessness in the most extreme situations. Moreover, Shikh Balayev was quite a well-known person in Baku. By the age of 20, he had become an influential young man with some financial capital. According to old-timers, Shikh Balayev, though he had no special education, was a European-looking person and had a good command of Russian and Persian. His friends and family respected his opinion and there were some who were even afraid of him. Given Shikh Bala-


Торговый Домъ „Т. Кулибековъ и Н. Мамедовъ".

Information sheet.
The Trade House "T.Kulibekov and N.Mamedov"

Shikh Ali Benda oglu Balayev

yev's growing authority among the local population, some oil industrialists invited him to organize security for their oil fields. One such person was the major oil industrialist, Lianozov. In future, Shikh Balayev undertook to organize the security of all oil fields in Balakhani-Sabunchu district.

At the beginning of the 20th century, Shikh Balayev bought several oil-bearing land plots in Balakhani-Sabunchu district and became an oil industrialist. In 1909, he and Zafar Babayev set up an oil company called "Z.Babayev and Sh.Balayev", with headquarters at 1 Krasno-vodsk Street in Baku. In 1913, the company Z.Babayev and Sh.Balayev extracted 342,570 poods of oil from four operating wells at the Sabunchu V-9 site.[78] Moreover, after lengthy court proceedings, Z.Babayev and Sh. Balayev became the full owners of the oil fields of the Tumanyan brothers and Lazarev with all their equipment.[79]

Thanks to his personal qualities and large personal fortune, Shikh Balayev was accepted by the Baku elite and top officials. He knew several top officials in Baku, Tilfis and St Petersburg. For this reason, ordinary people and workers, specifically his fellow villagers, asked him for help and protection from the bureaucratic administration.

There is a story that Shikh Balayev met Stalin, who was known in Baku under the alias of Koba.

A resident of Surakhani, Shahbala, said: "Once, in 1906, Stalin was campaigning among workers of the Balakhani-Sabunchu oil fields, trying to persuade them to start a strike. On seeing this, a private guard arrested Stalin and, twisting his arms behind his back, tried to throw him into a well. On finding this out, Shikh Balayev hurried to the scene of the incident and stopped the guards. This is how the future dictator avoided a disgraceful death and lived to send millions of innocent people to their deaths in prisons and concentration camps in the future. Although Shikh Balayev saved 'the father of nations', he was shot by a firing squad on the Isle of Nargina in the Bay of Baku in 1924."

Co-founder of oil company Dayanet Mamed Aga Yusif Mamedov (1886-1922)

Mammad Aga Yusif Mammadov, an oil industrialist and co-founder of the Dayanet oil association,[80] was born into the family of a prominent gold and silver expert, Haji Zeynal Abdin Mammadov, in 1886.[81] After graduating from technical college, the young Mammad Aga Yusif totally dedicated his short life* to the oil business. The Mammadov family owned oil fields in Surakhani and Binagadi, two houses in Baku and dachas in the villages of Shuvalan, Mardakan, Fatmai, Bulbula, Gala and at the pastures of Gobustan,[82] where they planned to drill exploration wells in the future.

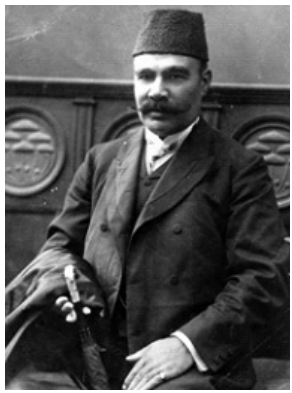
The oil company of the Rasulov brothers owned the Komar oil field in Binagadi.[83] Moreover, one of the brothers, Hamid Rasulov, had oil tankers which delivered kerosene to other cities of Russia via the Volga and steamboats that sailed on the Caspian Sea.

The oil company of the Guliyev brothers extracted oil at the Sabunchu 5 site from 1907. In 1913, 158,475 poods of oil were extracted from three operating wells.

The oil company "Hajinski Isa-bey" started extracting oil in 1903. In 1913, the company extracted 74,126 poods of oil from 12 operating wells at the Balakhani 6 and 9 and Sabunchu 16 sites. Moreover, Isabey Hajinskiy was a co-fonder of the oil company "I. Hajinski and the Gadimov Brothers", which extracted 293,884 poods of oil in 1913.[84]

The oil company Mir-Babayev and Mir-Tagi was founded by a former singer, Mir-Tagi Mir Babayev. Once a wedding singer, Mir Tagi sang a mugham during a wedding party and, out of gratitude, the oil industrialist Shikh Balayev gave him a plot of land in Balakhani.[85] An oil gusher gushed on this plot of land and the poor singer turned into a rich oil industrialist. The Mir-Babayev Mir-Tagi company had oil fields in Balakhani 16, Sabunchu 51 and 72 and Ramana 48. In 1913, the company extracted 1,936,205 poods of oil from 20 operating wells.[86] After

* Mammad Aga Yusif died after a serious and protracted illness in 1922



Aga Bala Guliyev

Isabek Hajinski

Mir Tagi Mir Babayev

the Bolsheviks came to power, Mir-Tagi lived in France and Iran. In 1953, at the age of 86, Mir-Tagi Mir Babayev died alone in Tehran.

Representatives of the ancient noble family Ashurbeyov made a great contribution to the development of the oil business in Baku. They owned a number of oil companies, such as Ashurbeyov Ibrahim-bey, Ashurbeyov Ibrahim-bey and Brothers, Ashurbekov Agasi-bey and Aga Sharif-bey and the Alibey and Balabey Ashurbeyov Brothers. These companies owned oil fields at Sabunchu 54, Sabunchu 16 and Sabunchu 137 and 175.[87] In 1913, the Ashurbeyovs' companies extracted more than 1.5 million poods of oil. Moreover, representatives of the Ashurbeyov family actively participated in many charitable events. With their financial support, young Azerbaijanis studied in Europe and Russia, and some of them then became prominent in various spheres of science.

Rahile khanim Ashurbekova,
Haji Ahmed Aga bek Ashurbekov's daughter

Rahila khanum, the daughter of Haji Ahmad Agabey Ashurbeyov, who died at a great age, said that her

Aga Sharif bek Ashurbekov

Ali bek Ashurbekov

Bala bek Ashurbekov with his wife Ismet khanim

Haji Ahmed Aga bek Ashurbekov in Switzerland

Oil industrialist Zafar Safarov

father, who was known in Baku for his charitable activities and did so much for the development of the national infrastructure, was persecuted by the local authorities and was forced to move to Samarkand (Uzbekistan) where he died. His five young and innocent brothers were repressed by the authorities, and one of them was shot by a firing squad by decision of the NKVD "troika court" in 1938.

This is not the full list of representatives of the national bourgeoisie. Every individual represents separate stages in the establishment and formation of a bourgeois class in Azerbaijan, forming part of history ahead of the collapse of the Russian Empire.

Under the influence of foreign capital, a certain culture of entrepreneurship and a specific attitude to the workers of enterprises took shape. Hospitals, settlements for workers (the Nobel settlement for workers in Sabunchu), schools, etc. were built. It is notable that the tradition of restoring comfortable settlements for workers in the Nobel style was resumed by another entrepreneur, Benkendorf. In 1911-1912, he built a settlement with all the necessary facilities for workers on the easternmost edge of Absheron, near the village of Gala. A similar comfortable settlement was built in New Ramana.

The most outstanding representatives of the national bourgeoisie of Azerbaijan were mostly repressed after the establishment of Soviet rule in Azerbaijan, while the rest emigrated.

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