

**SECRET**POWER PLANTS AND OIL INDUSTRY IN THE USSR; ROMANIAN PETROLEUM

Soviet Power Plants. The peak loads of power plants occur in the fall and winter and preparations must be made with this in view. Remodeling and construction of power plants has been stepped up; in 1947, 3 billion rubles were set aside for this work. However, the construction trusts and the suppliers of equipment of the power plants did not fulfill their schedules on time.

During the first quarter of this year, the Ministry of Electric Power Plants did not fulfill its plan and failed to put some new turbine and boilers in operation. The Construction Trust of the Dnepr Electric Power Plant (Dneprostroy) was even further behind. The builders at the Kurakhovka and Kanna Electric Power Plants are in arrears. The enlarging of the electric power plants of Ivanovo and Gor'kiy is progressing very slowly. The Ministry of Metallurgy is behind schedule in putting into operation the new aggregates at its own plants in Chelyabinsk and Tula and so is the Ministry of Construction of Heavy Industry Enterprises with respect to the TETs of Brznesniki. Because the work has not been completed and some individual parts are missing, the machines which are almost ready must remain idle. The directors of the Turbine Plant of Karkhov and those of the "Uralelektroapparat" Plant are guilty for the delay for putting into operation the new power sources for the electric power plants of Krivoy Rog, Dneprodzershinsk, and others. Turbine plants are slow in filling orders for the power industry.

The Council of Ministers, annoyed at the failure to supply the electric power plants with the necessary equipment, and the concomitant delay in putting these plants into operation, has ordered the Ministry of Heavy Machine Building, the Ministry of Electrical Industry, and others to take energetic steps to hasten the delivery of this equipment.

In the course of this summer, the power plants have not received even half of the fuel that they will need to operate during the winter. Coal

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hauling in the Donets Basin is not satisfactory and the same condition prevails in the Kuznetsk Basin.

Many electric power plants and power networks have fulfilled and even exceeded their repair assignments, although this is not the case everywhere. The Ural Power Plant, which is functioning properly, cannot make up the deficiency in the production of electric power of the power plants of the Donets Basin. "Donbassenergo," "Mosenergo" of Moscow, and the power plants of Kiev, Kasan', and other cities are behind in their repairs. It is said that the responsible parties are the main suppliers, such as Elektrosila Plant in Leningrad, Transformer Plant in Moscow, and Kirov Plant in the Urals. The Kirov Plant was to have manufactured 5,000 blades for turbines and so far has furnished only 500 to the power plants.

### PROGRESSIVE NORMS IN THE EXTRACTION OF PETROLEUM.

The situation in respect of the norms for the extraction of petroleum is unsatisfactory not only for the trusts of Azerbaydahan "Azneft'." Almost all associations, trusts, and oil fields have ceased to follow the technical norms for the extraction of petroleum and have substituted for these the production of individual wells. The methods of extracting petroleum have not been changed in any manner and the plan has not mobilized the cadres of workers, engineers, and mechanics either for the complete development of the capacity of the wells or for an increased efficiency in work. The ministry asks the managers in the petroleum industry to give their opinions of the norms for extraction but not about the measures which should be adopted so as to eliminate the deficiencies noted in the article of Comrades Goliskov and Kurashev.

The reorganization of petroleum extraction, which took place about 10 years ago, with the institution of squads for the extraction of crude oil, undoubtedly had a large part in the increased oil production.

The essential feature of the formation of these squads was to coordinate their activity with the final results of a given group of wells. In other words, the squads were primarily interested in the extraction of

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petroleum. Consequently, the squads must constantly improve their technique in extracting oil, improve the yields of the wells, and eliminate by every means any cessation of extraction which was due to organizational or technical activity. Each squad should be rated on the basis of its fulfillment of the established norms of extraction. Therefore, the norm of extraction is the base around which must be organized the search for new possibilities for increasing petroleum extraction.

In February and March 1947, the Baku branch of "SIT," a petroleum association, checked the norms of extraction in the branches of the "Azneft" trusts; that is Oil Field No 7 of "Stalinneft" Trust, Oil Field No 5 of "Ordzhonikidzeneft" Trust, and Oil Field No 2 of "Kaganovichneft" Trust. In Oil Field No 7 it was found that the quarterly norms of production were based on the data for the last 2 or 3 months, by using the theoretical production of some individual wells. This gave a norm of 86 tons for April. This seemed excessive because the squad had many deep wells which often ceased to flow. It was decided to lower the established norm.

In Oil Field No 5 of "Ordzhonikidzeneft" Trust, the norms were too low in relation to the capacity of the wells.

In Oil Field No 2 of "Kaganovichneft" Trust, the norms were also too low and did not correspond either to the potential capacity of the wells or to the actual extraction.

It is to be noted that in the oil fields of "Azneft" Trusts, the establishment of extractive norms was based on the actual extraction of petroleum from the given well during the preceding months; that is, the actual extraction was taken as the daily average (the arithmetic mean). The programs of the norms for the individual wells were not drawn up in the oil fields of the "Azneft" Association.

Neither in the trusts (except "Stalinneft"), nor in the oil fields, nor even in the Main Administration of "Azneft" is there a trace of the directives for establishing the norms of extraction by squads which were

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issued by Koslov, Deputy Minister of the Petroleum Industry, on 3 August 1942.

This lack of a single official directive for establishing the norms of extraction creates, in the trusts of "Aneft'," an unbelievable disparity in the methods of establishing the norms for each individual well. The administrative directives of the association give, however, quite clear indications of the way in which the extractive norm is to be calculated, when this must be altered, and how the work programs are to be formed. Actually, these technical and scientific standards for establishing of norms have been intentionally forgotten. So, the deplorable condition in the matter of setting up norms of extraction is readily understandable. The desire of the directors of the trusts and the oil fields to connect, at all costs, the general plan for extraction of petroleum for the trust with the norms for each individual well has brought, in practice, the limiting of the norm to a purely arithmetic mean. The sum of the norms of extraction for the individual wells is considered equal to the general extractive plan of the oil field. There are many cases when the possibilities to increase the extraction in the individual wells have been hidden. Many times, it is true, these methods lead to an increase in the norms of extraction in respect to the former norms of the wells; but the unfortunate thing is that this method of fixing the norms is effected without a detailed study of the extractive capacity of the individual wells.

There is no doubt that a complete study of the fixing of the extractive norms and an analysis of the capacities of each well would overcome the unfavorable differences between the plan for extracting petroleum for the whole oil field and the norms of extraction for the squads.

It is particularly important to establish for each well its capacity and its possibilities which must be the basis of the norms of extraction to be set up. Such norms, which would put the same pressure on each squad, would be able to stimulate the squads much more toward an increased extraction and would constitute an objective criterion of the valuation of the good activity of the individual squads of the oil field.

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One of the best ways to improve the extractive norms is to perfect the work of examining the wells. This has been postponed by numerous oil fields; they have not given sufficient thought to this highly necessary work. The ignorance of the potential capacities of the individual wells is shown particularly in the quality of the fixed norms.

Equally as important as the work of improving the regulations of the extractive norms is the elimination of numerous organizational deficiencies which have a bad effect on the normal activity of the squads. In some oil fields of the "Asneft" trusts, the workers and even the squad foremen do not know the norms of extraction for the wells to which they are assigned or their potential capacities. This is because the oil field has delayed in setting up the extraction norms and thus the squads work blindly for a long time.

Not all oil fields record the activity of the squads and the amount of petroleum extracted by them. In these cases, the extraction is divided conventionally among the squads. As coefficients for the inaccurate valuation by the oil field, there is given a constant and uniform 0.9 for the squads assigned to the deep pumps; while for the other squads the coefficient varies between 0.8 and 0.96 according to the amount of extracted petroleum. In this way, even if one well or another is not in operation for several days, the production is still recorded.

Undoubtedly, the solving of the question of separate computation for each squad is the most difficult thing, because there is a lack of drums and also poor liaison between oil fields. However, better attention of the directors of the oil fields and trusts to this problem would solve it.

9 October 1949

An anonymous informant reports that he met a likeable Czechoslovak engineer, about 27 years old, in the camp of Cinecitta. This Czech had been arrested at Brno on 10 August 1945 and sent to Floesti, where the Soviets give preliminary instructions to the specialists, and later he was sent to Baku.

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XXX, the Czech engineer, told the informant that inspite of the propaganda in the Soviet press on the great production of petroleum, by personal observation he could form a totally different opinion. The organisation is weak and production is based in a large part on the labor of women and prisoners who work knee-deep in mud to the limit of their physical strength.

The leaders of the petroleum industry are not specialists but officials of the Communist Party. From the very beginning, the work was based on the Stakhanovite system, in which quantity supercedes quality.

In the Baku region, the petroleum reserves are already reaching their limit. Nevertheless, extractions is being effected at top speed without a thought of what will be left 10 years from now. The depth of the deposits in the Baku region varies between 600 and 1,200 meters. The average daily depth of drilling is 50 to 60 meters but sometimes this reaches 125 meters in 12 hours, but at other times during the week it may be only 50 centimeters for 12 hours. It is necessary to be very cautious in drilling wells in the open sea because the depth of the water is about 250 meters in the petroleum zone. The maximum distance of the wells from the shore is about 2 kilometers.

The Czech engineer was later transferred to the petroleum region of Kerch, which is about the same size as the Baku field and is equally rich. Petroleum has been extracted in the Kerch region for about 20 years. The engineer remained in this field for 4 weeks.

He was next sent to Estonia and employed at Kingisepp, which is located between the Narva River, the city of Narva, and the seashore resort of Kingerburg. He worked 3 years for a branch of the Soviet petroleum industry. During this period, he was assigned to do prospecting with a special electrical apparatus. He worked the shore of the Baltic Sea from Roja (on the same latitude as Tukums) and Popperwalen to Leningrad in the hopes of finding oil deposits. He was partially successful and found minor deposits near Roja. From Roja to Leningrad there was no trace of oil nor from Riga to Estonia. Some deposits were discovered south of Leningrad.

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Volosovo, at the south end of this oil field, is the center of production.

Similar prospecting was done to the north of the former residences of the Czar at Petergoff and Oranienbaum. Although no oil was discovered, methane gas deposits were found.

The following general statements are valid for the whole petroleum industry. The majority of the specialists are foreigners - Rumanians, Poles, Germans, and, surprisingly, English. The last have been required to become Soviet citizens. Sixty percent of the workers are not Soviet citizens but prisoners of war and foreigners; foreigners form most of the office force. The remaining 40 percent are women, youths, and old men (most of the latter are from Estonia and Latvia). There are about 70 specialists who are prisoners of war. Soviet citizens between the ages of 18 and 50 are subject to military duty in the Red Army, which is preparing with all its might for an aggressive war.

The Czech engineer does not believe that the USSR is sufficiently armed at this time to sustain a war. War, however, is inevitable and time favors Moscow.

The Soviet government is extremely anxious to cover its lack of specialists as quickly as possible and to this end the Soviet youth is being given a methodical instruction. With these youths, the Soviet Union will form its own general staff of specialists on whom it can count to be 100 percent loyal. It is hoped that this will be accomplished in 10 years. The various Soviet industries have organized professional schools in which the instruction is free and the course last for 5 months. The school hours are 0700 to 1200 and 1300 to 1900.

The engineer was next transferred to Vienna where he succeeded in escaping. He hopes to be able to emigrate.

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## STATEMENT MADE BY CZECHOSLOVAK SUBJECT XXX

On 15 August 1943, I received an engineering diploma at Hohenstadt and immediately went to an electric motor plant owned by my father in Kaltenlautsch.

On 10 August 1945, I was pulled in by the Soviets and sent to Floesti (Rumania) with 30 Czechoslovak technicians. Petroleum exploitation is divided into three sections; Section 1 dealt with research and soundings, Section 2 with the erection of derricks for sinking oil wells, and Section 3 with the actual exploitation. There are also subsections for transport, repair of machinery, and other related matters.

At Floesti, I was assigned to Section 2 under a Russian chief engineer, about whom I am unable to furnish information. He was in charge of the geologists and of the technical inspection of this section.

Section 1 was subdivided into two branches; one branch was interested in physics research, the other in electrotechnical methods. The two branches of Section 1 presented their data and where this showed positive results Section 2 erected the derricks and then gave way to Section 3, which performed the actual extraction.

There were about 10,000 people working at Floesti; about 10 percent were technicians of various nationalities, 60 percent were Rumanian workers, and 30 percent were Soviet technicians and guards.

The oil field was intersected by a double-track railroad which was used to carry the oil in tankcars to the refineries located in this zone. I cannot give the number of tankcars of refined products which were loaded daily nor the number of wells in the field, because I stayed only a week at Floesti. However, local sources said that the production was 70 percent less than during the German occupation.

Access to the production zone of the field was limited to those who had special passes issued by the NKVD. There were three distinct classes of passes: Class A for day workers (0600 to 1800), Class B for night workers (1800 to 0600), and Class O for technicians and valid at all times.

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Each well was assigned a number and the average daily production was about 40 tons. The depth of the wells usually varied between 700 and 1,200 meters. There is one case when a well was drilled to 4,700 meters but no oil was found at this depth and the ground proved friable.

The area of the oil-bearing zone at Baku is about 30 square kilometers not including the field in the Caspian Sea where 80 wells have been drilled at distances varying up to 1,200 meters off shore. The water depth is 80 to 150 meters.

The best oil came from the southern part of the zone; in the other parts there was a high paraffin-content and a larger amount of water.

Baku had about 20 refineries of old type and low output and also the following modern refineries: "H.8," "V.21," and "D (?)." The most important was "V.21" which also had a loading station. There was also a plant for processing residues and two electric power plants operated by gas turbines. One of these plants had a capacity of 50,000 kw and the other 120,000 kw. These plants furnished electric power to the petroleum industry. The well derricks are operated by electric motors (two of 140 kw each), or by Diesel engines (four motors of 300 hp, in two groups of two), or by 600-hp steam engines. The derricks were either wooden, 30 meters high, or steel, 40 meters high. When the well was fully drilled, a new 16-meter derrick was installed for actual extraction.

Lately, a 1,000-meter well could be drilled in a month of work.

All of the workers at Baku were issued a similar pass, although the technicians had a different type. Internal security was maintained by 3,000 Soviet guards in black uniforms. External security was delegated to units of the Red Army; the soldiers wore the collar insignia of the NKVD. I noticed about 10 uniformed NKVD men, but the total strength was unknown to me because the majority were in plainclothes.

The guard service attributed to sabotage even machinery failures which were generally due to the worn-out condition of equipment from hard and long service. For this reason, an average of five workers disappeared

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every month through sentencing and deportation. The workers lived in constant fear, and the technicians avoided any indications of initiative in increasing production because a later decline in production would be fatal to them.

There is no safety equipment in the work area, and operations are inefficient because most of the assistants are appointed to their positions by virtue of their fanatical Communist sentiments.

At Baku, I was authorized to study mining engineering under old, local engineers and geologists.

The workers at Baku, as at Ploesti, had to attend meetings of a political and social character and, at times, documentary films of the same nature. The work shifts were 12 hours with a 24-hour rest period.

On 10 October 1946, I was assigned to Section 1, under Dr. Sommerauer, and left on the same day with this section for Kerch. There were 600 wells in this field and research and soundings were to be done to increase the yield. The section prospected about 20 square kilometers of terrain, starting from the limits of the old field. The depth at which petroleum was found averaged 700 meters.

After a month at Kerch, I accompanied the section to Kingisepp, which lies between Reval and Leningrad (actually 60 kilometers south of Leningrad), to do research in the triangle bounded by Oranienbaum, Volosovo, and Kingisepp. Only four wells were set up in this area, and in these the petroleum showed a high water-content. Rich deposits of methane gas were found and this has been piped to Leningrad for industrial use. The "Messwage" method, based on principles of physics, was used for prospecting. I know very little about the details of this method because I was working on the electrotechnical method, which registered explosive waves at 200-meter depth to determine the occurrence of petroleum. The "Geofulgur" method was also used, based on the flow of an electric current between two wells.

After 2 years in this area, I was transferred with the section to the

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southern sector to drill in the Kingisepp - Roja - Reval triangle. Only at Roja was petroleum found and this was of poor quality.

On 10 June 1949 I was sent, together with five other technicians of this section including Dr. Sommerauer, to the administrative headquarters for the Austrian oil fields with an office in Vienna at Johannesgasse [End?] Kantgasse. <sup>3127</sup> Our mission was to do the preparatory work for the exploitation of the Zistersdorf region. The head of the administration was the Soviet engineer Koniev who had about 200 people under him. Out of this number, 80 were Soviet national and the rest were local people.

On 20 July 1949, I decided to escape because I had received orders to return to Baku along with the other technicians who had come here with me.

From Vienna I went to Klagenfurt and from there to Innsbruck, where I surrendered to the French authorities. I was repeatedly questioned and sent to a local camp, presumably to await an investigation.

On 7 August 1949, I escaped from the detention camp and reached the Brenner Pass and thence Italian territory.

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