

**1989****Nevada-Semipalatinsk Movement, 'Brief Information on Semipalatinsk Test Site'****Citation:**

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**Summary:**

A pamphlet about the Semipalatinsk Test Site, describing its history of nuclear testing from 1949 to 1989. Detailed information about the radioactive fallout from the tests is provided. The guide also gives information about the physical ailments&nbsp; nuclear tests rendered on local populations and includes rates of cancer, mental diseases, and infant mortality in the region.

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**NSM****MOVEMENT****NEVADA-SEMIPALATINSK****BRIEF INFORMATION  
ON SEMIPALATINSK TEST SITE**

The Semipalatinsk nuclear test site was established in 1948 by action of the Council of Ministers of the USSR in their resolution of August 21, 1947. The cost of one experimental device and its underground test averages 30 million rubles.

The first nuclear explosion occurred on August 29, 1949. In the first hours after the local radioactive fallout, the strength of the dose on the region (the village of Dolon) reached 200 R/hr (roentgens per hour). The exterior level of gamma ray irradiation for the population reached 60 R in the first 24 hours, 100 R in a week, 130 R in a month, and 160 R in a year. In the first

hours after the explosion the strength of the dose on the region around the village of Karaul reached 250 R/hr., the villages of Sarzhalsk and Kainar reached 150 R/hr. The tragedy of the situation lies in the fact that the inhabitants of Karaul village were returned to their homes only 9 days later, when the level of irradiation in the area was still 40-60 mil. R/hr. The return to Kainar and Sarzhalsk took place on the 19th day, when the level of irradiation was 25-35 mil. R/hr. The inhabitants of Semipalatinsk, and also some areas of the Pavlodar and Karaganda regions of Kazakhstan and some areas of Altai region of the RSFR (see figure 1, 2, 3).

According to data of the Ministry of Defence of the USSR, from 1949 to 1963 — 113 explosions occurred in the atmosphere ranging from several ton to 100 kiloton in strength. Beginning in 1964 in the USSR nuclear tests were conducted underground. At the Semipalatinsk test site, up until October 19, 1989; 343 such tests were conducted ranging from several ton to 150 kiloton in strength.

According to the data of the Swedish Science Research Institute for National Defence in the course of 40 years in the USSR, one test occurred every 23 days (in the USA — every 18 days, in France — every 61 days.) The power of the 179 known Soviet tests in the atmosphere from August 1940 to December 1962 measured 452 megaton.

It is known that for the period of open explosions the territories of almost all the areas of Semipalatinsk region were polluted with sub-atomic particles caused by the local fallout of atmospheric and above-ground nuclear explosions. The Beskaragai, Zhana-Semei and Abai regions were especially effected (see figure 1, 2, 3).

In January 1965 at the junction of the Chagan and Ashisu rivers, an especially powerful nuclear explosion took place — with the aim of creating a reservoir; it led to considerable pollution of the surrounding territories with sub-atomic particles and irradiation of the population with ionized radiation.

The research of hydrogeologists has shown that the nuclear tests destructively affected underground water. The content of uranium, strontium, and caesium in fissure waters exceeds the higher permissible concentration (PDK) by 100 times.

The underground nuclear explosion conducted on February 12, 1989 caused particularly strong indignation in the inhabitants of the Semipalatinsk region. In the Chagan village, just after 24 hours, the level of the dose in that area registered more than 3200 micro R/hr. The radioactive background (phon) in the settlements around the test site increased 100 times.

The total strength of the nuclear charges of atmospheric and above-ground tests at the test site near Semipalatinsk, in densely populated areas, exceeded the strength of the Hiroshima bomb by 2 to 5 thousand times.

834 700 people live in Semipalatinsk region, including 248 943 children (in Abai region — 10 041 children, in Beskaragai region — 10 506 children and in Zhanasemei region — 13 235 children).

In the 40 years that nuclear tests were conducted, no less than 500 000 people living in regions adjacent to the test site were exposed to chronic irradiation with ionizing radiation in differing diapazon doses.

Internal radiation was measured: 130 rad (Ber) in the thyroid gland, 80-90 rad in the alimentary canal, and 90 rad in the bone tissue.

Under conditions of tight secrecy, it is impossible to describe the full extent of damage inflicted upon the health of the population. Doctors and their assistants were forbidden to record causes of death by cancer, leukosa, and other diseases connected with ionic radiation.

Study of the disease statistics of the above mentioned areas and the city of Semipalatinsk beginning partially in 1962 revealed the destructive influence on the health of the population of the nuclear test site region. The level of cancerous diseases in the region are reliably higher than the republic's statistics, respectively 191,7 and 177,1. Particularly high numbers of diseases are found in the regions surrounding the nuclear test site.



The given statistics varies between 204,4 and 219,8 per 100 000 population.

Cancerous diseases and death by cancer of inhabitants of Hiroshima and Nagasaki, who were exposed to nuclear bombing are considerably less in number than the irradiated population of the Semipalatinsk region: in all types of malignant tumors by 2 times, of lung cancer by 3 times, of stomach cancer by 2 times and of gullet cancer by 15 times.

Cancer deaths from leukosia for the 10 year period, from 1975 to 1985, increased by 7 times compared to the previous decade in the Semipalatinsk region.

The dynamics of death from malignant tumors of the digestive organs is characterized by a sharp increase. In the period after irradiation, deaths from gullet cancer in the exposed population increased by 7-8 times, and exceed all the considerable thresholds.

Of the different localities of tumorous processes in the researched population, the breathing organs occupy the largest place. Mortality is 1,5 to 2 times higher than the control groups (those not exposed to radiation).

In Semipalatinsk and areas surrounding the test site there is a considerable increase in mental diseases — 156 incidents per 1,000 population (the Republics statistics is 113,3).

In Abai area alone on January 1, 1989 psychiatrists recorded 229 people (oligophrenia, schizophrēniā and other).

In the Kainar village in the last 10 years there were 36 people recorded with mental diseases, 7 people with suicide attempts and 22 mentally retarded children.

The pathology revealed that 68% of women experienced complications in pregnancy and delivery.

Especially, distressing is the constantly increasing number of births of children with innate development anomalies and with subsequent mental retardation (by 1,5 times in the region and 2-3 times in the areas in the last 3 years).

Since 1972 there have been studies of infant mortality before age 1 in the city of Semipalatinsk. In 1953-54 the city's infant mortality rate was 31 children per 100 births more than the control group outside the radioactive influence. In 1960 more than 38 children, from 1966 to the present time, more than 10 children.

For all years of researched statistics the infant mortality rate in the areas of Abai, Beskaragai and Zhanasemei was 20-25 per cent higher than the control group. In the last 8 years, in spite of the increased number of births in the Abai and Beskaragai areas, the number of children in the 0-41 years age group decreased because of high mortality to 468 and 298 respectively.

Specialized research conducted in different years, including 1989, showed that natural immunities were destroyed in the inhabitants of the settlements surrounding the test site in 50% of the cases (the norm is 10%). It also showed naturally decreasing compensatory resources of the organism and also cytogenic destruction took place which would bring

about terrible consequences, not only in people living today, but for many decades would cause damage to the health of future generations.

For the forty years of explosions by the government of the USSR, no kind of compensation has been provided by the Ministries or Departments for the damage done to the health of the people, to the social sphere or to the economics of the region.

*Information is prepared on the basis of materials of the scientific-practical conference held in the city of Semipalatinsk in 1989.*