SURHAN GAS CHEMICAL
OPERATING COMPANY

Results of environmental monitoring at "O'zbekiston Mustaqilligi" Investment Block in 2023

Contents

1. Introduction

According to the requirements of approved Environmental Monitoring Program, specialists of Analytical Monitoring Center carried out 3 staged survey during 2023 (stage I - from March 13 to 17, stage II - from June 5 to 9, stage III - from September 20 to 23) to assess the environmental impact of the following oil and gas operations at "O'zbekiston Mustaqilligi" Investment Block:

- drilling and testing of wells at "Mustaqillikning 25 Yilligi" field;
- construction of Boysun GPP and infrastructure facilities.

Environmental monitoring survey was carried out on the following aspects:

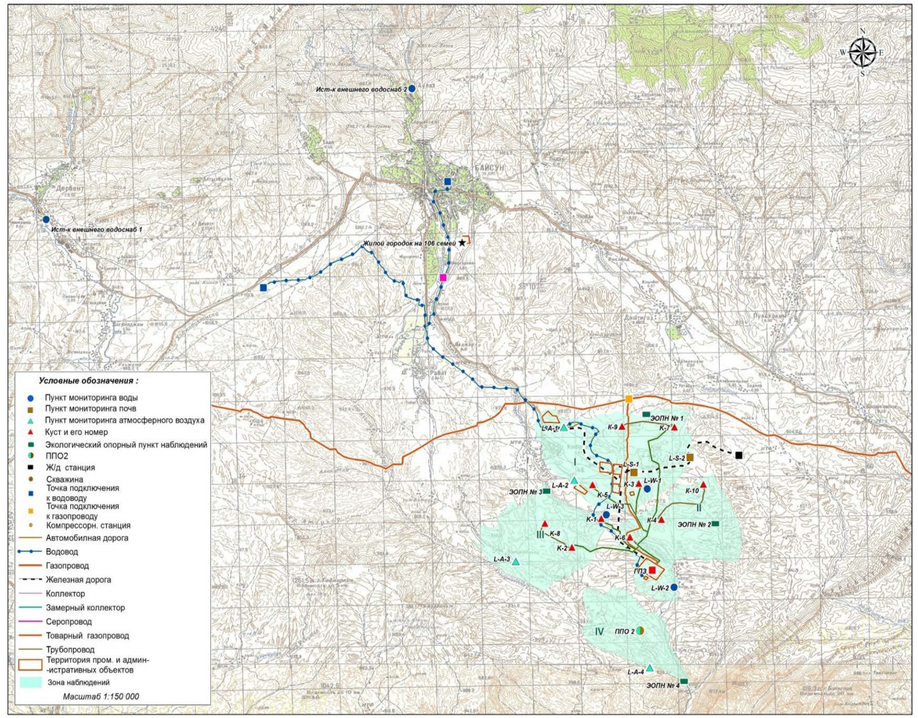
- ✓ atmospheric air;
- ✓ surface reservoirs and watercourses;
- ✓ soils, subsoils and terrain;
- ✓ radiation situation;
- ✓ production and consumption waste;
- ✓ flora and fauna.

2. Purposes and objectives of surveys

The purpose of environmental monitoring is to assess the impact of production activities carried out by SURHAN GAS CHEMICAL OPERATING COMPANY FC LLC (hereinafter referred to as Operator) on the natural environment in order to take timely measures to prevent possible negative impacts. The objectives are:

- ✓ assessment of the actual state of the natural environment;
- ✓ comparison of received information with the data of the Environmental Audit (2017-2018) carried out before the start of oil and gas operations, as well as a comparative analysis with environmental monitoring of previous years;
- ✓ monitoring the state of the natural environment and changes occurring in the contract area;
- ✓ predictive assessment of the impact of man-made processes on the state of the natural environment in the Contract area.

3. General principles of environmental monitoring



In 2023, within the scope of Environmental Monitoring, Operator continued survey to assess the impact of oil and gas operations (O&G) on environmental objects at "O'zbekiston Mustaqilligi" Investment Block. The survey was carried out by Center for Specialized Analytical Monitoring under the Ministry of Ecology, Environmental Protection and Climate Change of the Republic of Uzbekistan (hereinafter referred to as the Ministry of Ecology of RUz) within the scope of concluded contract in accordance with the "Program for industrial environmental monitoring of environment condition during oil and gas operations at "O'zbekiston Mustaqilligi" Investment Block performed by Operator in 2023", this program being approved at the meeting of HSE subcommittee and approved by the Ministry of Ecology of RUz.

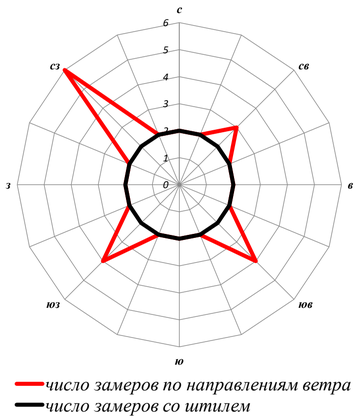
The complex of environmental studies included measurements of meteorological parameters of the territory, field survey of the area, flora and fauna, sampling of soils and subsoils, surface and groundwater, atmospheric air, with corresponding laboratory analyzes, processing of results and issuance of conclusions.

The map shows Eco-Audit 2017-2018 (EA 2017) regime stations and Ecomonitoring points for 2023.

At each local and background observation station, in accordance with the Calendar schedule, measurements of the territory's meteorological parameters were carried out, samples of atmospheric air, surface water, soil were taken, and radiation measurements were carried out.

4. RESULTS OF ENVIRONMENTAL MONITORING
4.1 Meteorological parameters

- Based on the results of field survey in the spring, summer and autumn periods of 2023 and observations of the main meteorological parameters throughout the surveyed territory, it can be noted that during the survey period, like it was last year, north-western, north-eastern and southwestern winds prevailed, winds are gusty, with a speed of 0.1 m/sec (quiet) to 6.3 m/sec. The distribution of air temperature values fluctuated in spring from 18.3°C to 28.1°C, in summer from 23.2°C to 39.8°C, in autumn from 22.4°C to 32.6°C, depending on the time of measurements, in the morning and in the evening hours the temperature was lower, in contrast to daytime readings.
- The results of measurements of meteorological parameters showed that during the period of: Stage I of environmental monitoring in the surveyed area, air temperature ranged from 18.3°C to 28.1°C, atmospheric pressure - from 687 to 706 mmHg, wind speed - from 0.6 up to 6.3 m/sec, winds from northwest directions prevailed; Stage II of environmental monitoring in the surveyed area, air temperature ranged from 25.6°C to 39.8°C, atmospheric pressure - from 685 to 704 mmHg, wind speed - from 0.6 to 3.2 m/sec, prevailing winds northwestern and northeastern directions; Stage III of environmental monitoring in the surveyed area, air temperature ranged from 22.4°C to 28.9°C, atmospheric pressure - from 691 to 710 mmHg, wind speed - from 0.9 to 6.2 m/sec, prevailing winds - northwestern directions.
- The determined values of meteorological parameters correspond to the average climatic readings of the spring, summer and autumn observation periods of the surveyed territory



Wind directions according to data of field survey at survey stage I.

Wind directions according to data of field survey at survey stage II.

Wind directions according to data of field survey at survey stage III.

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4. RESULTS OF ENVIRONMENTAL MONITORING.
4.2 Atmospheric air monitoring

The survey was conducted at: four environmental observation stations (№№1, 2, 3, 4), five local observation stations (L-A-1, L-A-2, L-A-3, L-A-4, L-A-5), five well pads (K-1, K-2, K-3, K-4, K-6), single wells (8-O, 802, 803) and one well №1 Kognysai.
The level of atmospheric air pollution was assessed in relation to sanitary and hygienic standards developed and approved by the Ministry of Health of the Republic of Uzbekistan - SanPiN No. 0293-11 "List of maximum permissible concentrations (MPC) of pollutants in the atmospheric air of populated areas on the territory of the Republic of Uzbekistan".

The results of survey of atmospheric air composition have shown the following:

- The content in the atmospheric air of the entire surveyed territory of such pollutants as nitrogen oxide, nitrogen dioxide and sulphur dioxide, as in previous years, does not exceed the established standard values for these substances and is at the level of 0.9 MPC o.t. and below.
- The increased content of carbon oxide this year was recorded only at two observation stations (KP-4, KP-6) at the first stage of observation up to 1.7 MPC o.t., then its concentrations in the atmospheric air of the surveyed territory did not exceed the established standard level and were recorded at a level of up to 0.6 MPC o.t., which corresponds to the monitoring indicators of previous years.
- An increased content of hydrogen sulphide in the atmospheric air of the surveyed territory this year was recorded only at two well pads in the Western zone (KP-2 and Single Well Site) and one well pad in the Eastern zone (KP-4); its concentration in the atmospheric air of the rest of the surveyed territory was lower than then the established standard value. The maximum concentration of hydrogen sulphide is fixed at 1.5 MPC o.t., which corresponds to the monitoring values of 2022.

➢Compared to the environmental audit and environmental monitoring data of 2020, when the maximum concentration of hydrogen sulphide was recorded at 0.6 MPCo.t., this year's data is slightly higher, but they are lower than the recorded concentrations of hydrogen sulphide during environmental monitoring in 2019 and 2021, when its maximum concentration was at the level of 2.0 MPCo.t. and 1.7 MPCo.t. respectively. (Figure 1)

➢It should be noted that the concentration of hydrogen sulphide in the atmospheric air in the territory of mothballed wells (provided that there is no accumulation of wastewater, which may have an increased content of hydrogen sulphide) is lower than the established standard value, which may indicate that the level of hydrogen sulphide in the atmospheric air decreases (dissipates) when completion of work and suspension of wells.

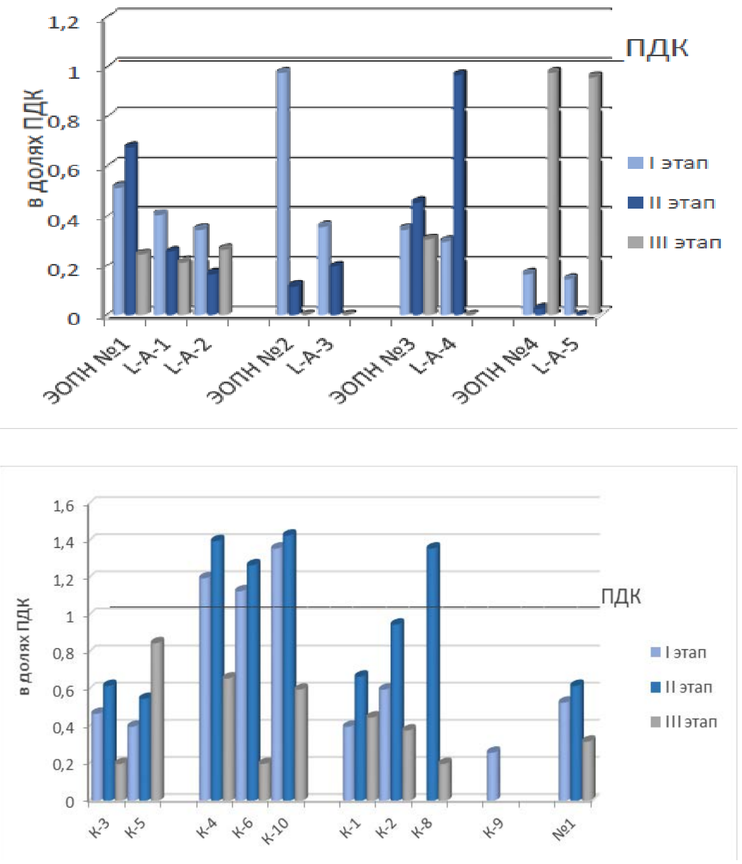

Fig.1 Hydrogen sulphide content in the atmospheric air of the surveyed territory for stages I, II and III of 2023.

- Of hydrocarbons, as in previous years (2017-2022), only methane was detected in the atmospheric air, but its concentrations do not exceed the safe reference levels of impact (SRLI).
- According to the results of field and laboratory studies in the spring, summer and autumn periods, no significant impact on the atmospheric air was noted during oil and gas operations at "O'zbekiston Mustaqilligi" investment block.

Conclusion: In general, the survey results showed that the level of atmospheric air pollution with inorganic dust, carbon monoxide, nitrogen dioxide and hydrocarbons in the contract area does not exceed the maximum permissible concentration and background indicators of EA 2017.The atmospheric air does not experience increased anthropogenic and technogenic load from the Operator's activities.

4. RESULTS OF ENVIRONMENTAL MONITORING.

4.3 Surface water condition

Surface watercourses at the site of oil and gas operations are represented by one watercourse - Khongaronsai, the bed of which passes through the city of Boysun and the village of Kofrun and then, cutting through mountain uplifts, enters the valley of the Surkhandarya River.

The surface waters of the Khongaronsai River within the Contract area retain high levels of sulphates, chlorides, BOD, COD and heavy metals.A comparative assessment of the state of change in Khongaronsai surface waters over the observed periods shows:

➢The content of petroleum products at observation station L-W-3 fluctuated at the level of 0.0484-0.084 mg/dm3, at environmental opservation point No. 4 at 0.0472-0.0996 mg/dm, the maximum concentration was detected at the first stage of observations, and at the III stage at environmental observation station No. 4 to 4.95 times and L-W-3 to 5.3 times lower than the values of the same reporting period in 2022. (Figure 2.)

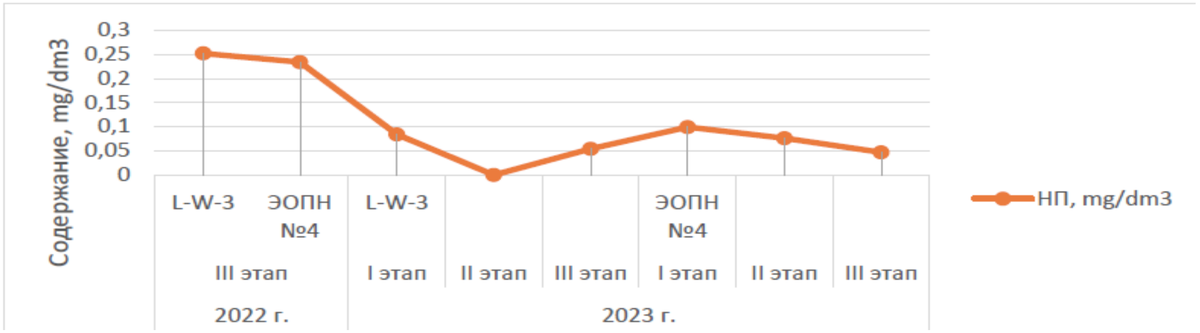

Fig.2. Dynamics of changes in the content of petroleum products in the surface water of the Khongaronsai River for stages I, II and III of 2023.

Surface water of the Khongaronsai river(L-W-1).

Surface water of the Khongaronsai river (L-W-3).

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➢ at observation station L-W-3, the manganese content was found to be up to 0.0253-0.115 mg/dm3, iron - up to 0.152-0.568 mg/dm3, lead at the level of 0.0771-0.159 mg/dm3, their maximum content was noted at the second stage of observation; at environmental opservation point No. 4, the manganese content was found to be up to 0.0247-0.0387 mg/dm3, iron - up to 0.141-0.417 mg/dm3, lead within 0.0988-0.112 mg/dm3, the maximum lead content was detected at stage III, manganese and iron at stage II of observation. A comparative assessment of changes in surface water over the observed periods shows that in waters L-W-3 the content of lead, manganese and iron is up to 1.86-2.21 times, in the water of environmental observation station No. 4 lead is up to 1.45 times, iron is up to 1.6 times higher, and manganese up to 1.58 times lower than th

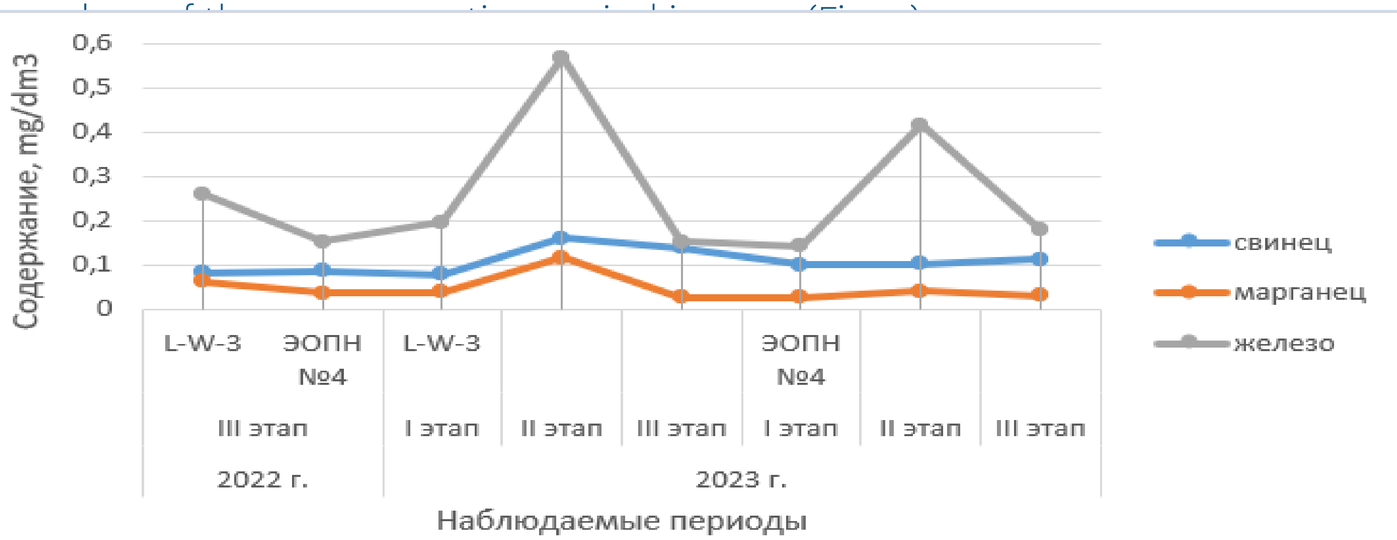


Fig. 3. Dynamics of changes in the content of manganese and iron in the surface waters of the Khongaronsai River for stages I, II and III of 2022.

Surface water of the Khongaronsai River (L-W-3).

It should be noted that the discharge of wastewater into the surface water of the Khongaransai from the Operator's production activities is not provided for and is not permitted, therefore the watercourses of the Khongaransai do not experience anthropogenic impacts from the Operator's facilities under construction at the Mustaqillikning 25 Yilligi field.

4. RESULTS OF ENVIRONMENTAL MONITORING.

4.4. Condition of wastewater in sludge pits

According to the Program, observations were made over the condition of wastewater in sludge pits. The result of the survey of wastewater in all samples noted a high content of: suspended solids, COD, chlorides, petroleum products, sulphates, dry residue, hydrogen sulphide, iron, manganese, lead and phenol.

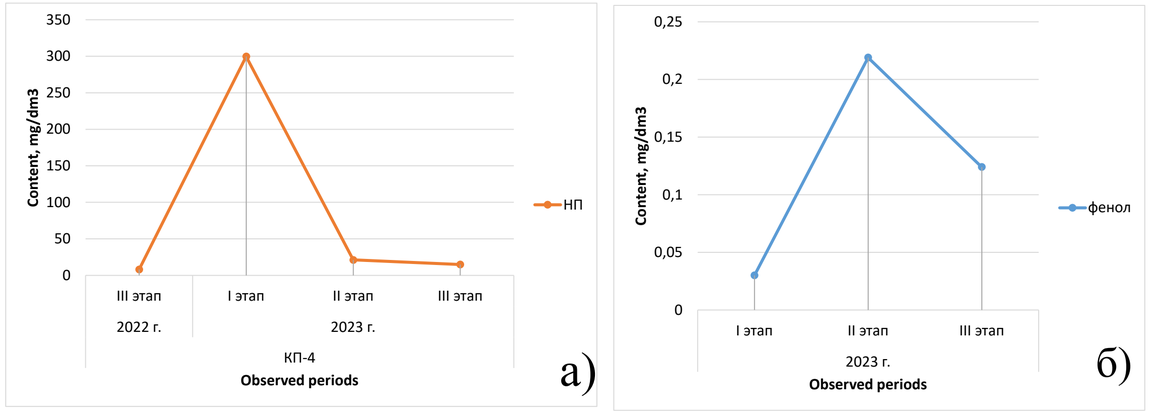


Fig. 4. Content of petroleum products (a) and phenol (b) in the wastewater of the K-4 sludge pit for the III stage of 2022 and I, II, III stages of 2023..

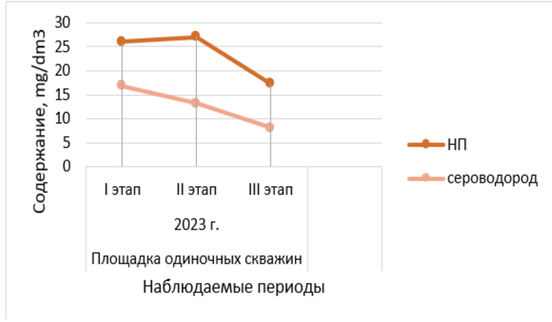


Fig.5. Content of petroleum products and hydrogen sulphide in the wastewater of the sludge pit Sites of single wells for stages I, II and III of 2023.

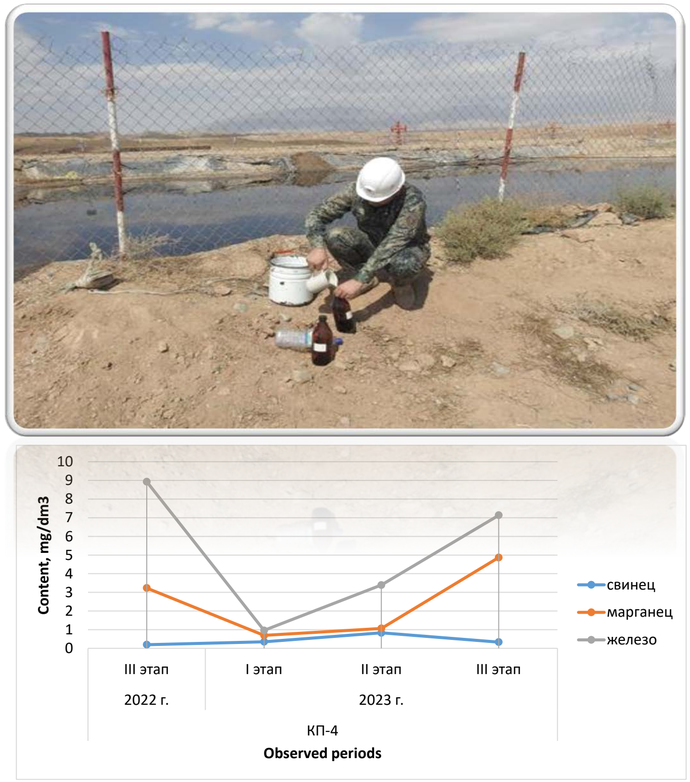


Fig. 6. Content of heavy metals in the wastewater of K-4 sludge pit for the III stage of 2022 and I, II, III stages of 2023.

Since during construction of sludge pits waterproofing of the bottom and sides of the pits was used, during storage the flow of wastewater into the soil and groundwater is excluded, and after drilling is completed, the drilling wastewater along with the sludge is subject to neutralization by the method of reagent coagulation and disposal. Thus, water pollution in terms of comparison with MPC is not entirely declarative, since there is no wastewater flow into ground and surface water from sludge pits at well pads.

4. RESULTS OF ENVIRONMENTAL MONITORING.
4.4 Soil and subsoil condition monitoring.

At each stage of observation, 166 samples were taken for soil analysis. Diagnostics of the general condition of the soil cover and soils, the content of pollutants in them was carried out according to an organized observation system.

Monitoring of soil conditions was carried out at local stations: L-S-1, L-S-2, L-S-3 and L-S-4. In the soil and sediments of the background complex observation stations, with a slight increase in the total salt content, no noticeable deviations were noted in the content of petroleum products, chlorides, sulphates, calcium, magnesium, and sodium. The results are quite consistent with the data obtained in previous years of observations.

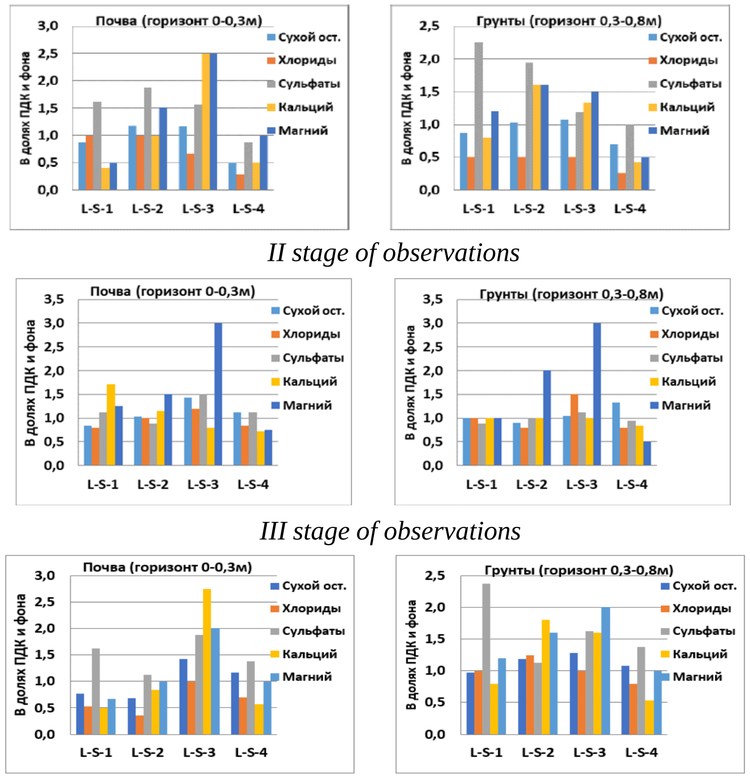
Production monitoring of wells was carried out in soil and subsoil at seven well pads at three local points: near wellhead, drill mud pit and fuel and lubricants location.

The soil of the environmental observation stations EOPN No. 1-4 and local points have weak salinity with a dry residues of water extract of 0.030-0.087% and a hydrogen index of 7.07 to 8.87. At certain stages, an excess of the MPC standard for sulphates was noted: at environmental observation station No. 1 up to 1.4 times, environmental observation station No. 3 up to 1.8 times, environmental observation station No. 4 up to 1.6 times. In soils of local observation stations (L-S-1, L-S-2, L-S-3 and L-S-4) the excess was 1.1-1.9 times, in soil - 1.1-2.4 times. The content of chlorides in soil and subsoil is mainly at level 195 of background values. The excess was noted according to observations of stages II and III in soil and subsoil of local point L-S-3 up to 1.5 times, in soil L-S-2 up to 1.3 times. In soil L-S-1, L-S-2 and L-S-3 and in soil L-S-2 and L-S-3, the calcium content exceeds the background values by 1.1-2.8 times and 1.3-1.8 times, respectively. An excess of 1.3-3.0 times (relative to the background) was noted for magnesium in the soil and subsoil of points L-S-1, L-S-2 and L-S-3. In the soil and subsoil of the environmental observation stations EOPN No. 1 and EOPN No. 3, the presence of very small amounts of petroleum products was determined, from 0.003 to 0.010 mg/kg, in the soil and subsoil of local points L-S-1, L-S-2, L-S-3 and L-S-4 from 0.012 to 0.400 mg/kg.

In the soil of well pads, it was established that the maximum permissible concentration for sulphates was exceeded by up to 16.3 times (21.6 times for Kognysai No. 1); excess of background values for chlorides, calcium, magnesium, respectively, up to 332.9 times, 30.0 times and 12.0 times. In the soil of well pads it was established that: the maximum permissible concentration for sulphates was exceeded by up to 15.3 times (20.8 times for Kognysai No. 1); background values for chlorides, calcium, magnesium are 141.1 times, 24.0 times and 11.0 times, respectively.

The iron content in soil and subsoil samples from local sites is at the level of the corresponding background values or with minor deviations due to the heterogeneity of soil composition. In the soil and subsoil of point L-S-3, an excess of the background was observed by 1.1-1.3 times, in the soil of point L-S-4 by 1.1 times. The results of chemical analysis of soil at background and local monitoring stations are presented in Fig. 7.

I stage of observations



II stage of observations

III stage of observations

Fig. 7. Content of ingredients in soil and subsoil at local observation stations (in shares of MPC for sulphates, in shares of background for dry residue, chlorides, calcium, magnesium) at stages I-II and III of observations in 2023.

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Pollution with oil products noted at all local points of well pads, was: 0.400 – 120.100 mg/kg in the humus horizon, 0.300 – 121.600 mg/kg in soil. (Figure 8.)

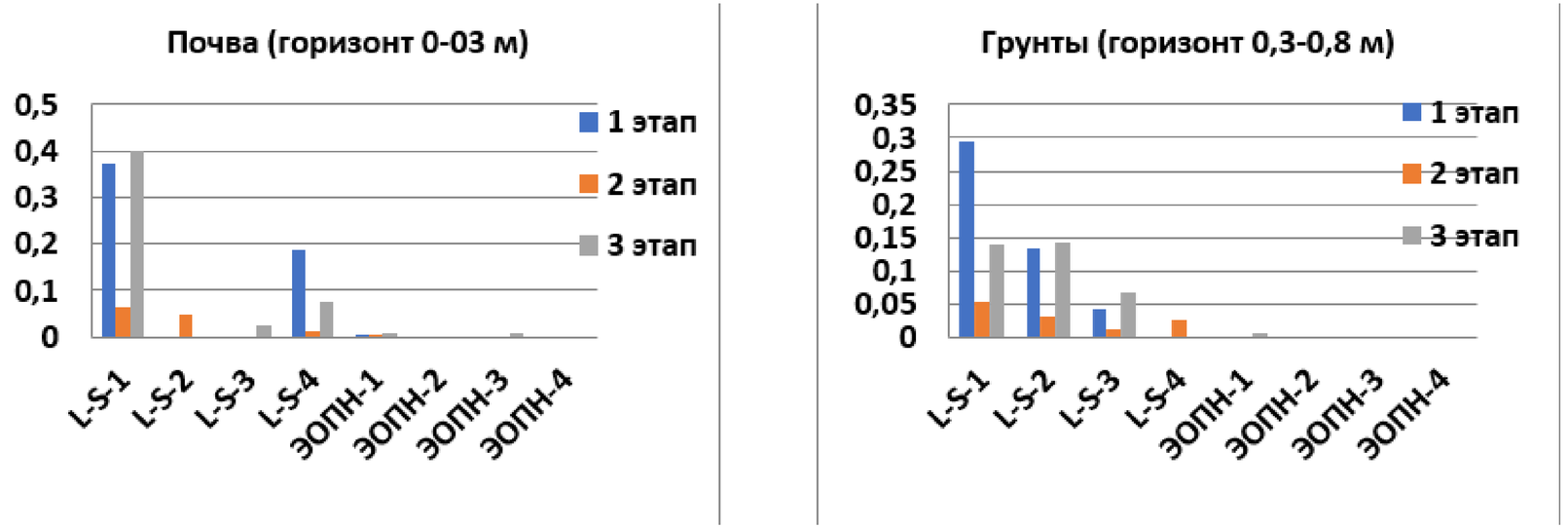

Fig.8. Content of petroleum products in soil and subsoil at local and background stations (in mg/kg) at stages I, II and III of observations in 2023.

The results of soil and subsoil studies showed changes in the salt composition: in the total amount of salts, in the ratio of components and their distribution over the soil horizon. The instability of the ingredients' indicators is obviously associated with the seasonal redistribution of components between layers of soil and subsoil under the influence of precipitation and air temperature fluctuations.The established presence of petroleum products in soil and subsoil is technogenic in nature and is associated with ongoing operational work, storage of drill cuttings, placement and use of fuels and lubricants.

Conclusion: Based on the results of laboratory studies, no significant impact on the condition of soil and subsoil during oil and gas operations at "O'zbekiston Mustaqilligi" Investment Block was observed.

4.5. Environmental radiation monitoring

Environmental monitoring was carried out: at four environmental monitoring points (No. 1, 2, 3, 4) and four local observation stations (L-S-1, L-S-2, L-S-3 and L-S-4).During the period of industrial environmental control, during construction of wells, to study the radiation situation on the territory of site at 7 stations, measurements of MED of external gamma radiation were carried out, and soil samples were taken from two horizons (from a depth of 0-30 cm and 30-80 cm) to determine the "Total specific alpha activity (TSAA)", as well as at 7 stations (at stage I) and at 4 stations (at stage II) of monitoring, water samples were taken to determine the content of natural radionuclides 226Ra, 222Rn and 238U. The values of MED of external gamma radiation and SAAA at the site do not exceed background values and permissible sanitary standards.On the territory of the Contract area, at 7 observation stations (Stage I) and at 6 observation stations (Stage II), wastewater samples were taken and gamma spectrometric studies of the selected water samples were carried out to determine natural radionuclides: gross content of uranium-238, radium-226 and radon-222 (226Ra, 222Rn and 238U). The values of the MED value of external gamma radiation of soils and the content of natural radionuclides in water samples comply with the requirements of SanPiN No. 0193-06 (NRB-2006).

Conclusion: Based on the results of the radiation monitoring, no excesses of the established standards for radiation-environmental indicators were observed at any monitoring station; all radiation parameters in waters and soils are much lower than the standards. Radionuclide pollution of water resources and soils on the territory of "O'zbekiston Mustaqilligi" investment block has not been recorded.

4.6. MONITORING OF PLACES FOR TEMPORARY COLLECTION OF PRODUCTION AND CONSUMPTION WASTE

According to the Industrial Environmental Monitoring Program in 2023, three stages of environmental monitoring of production and consumption waste were carried out, and the mechanism for organizing work on collection, accumulation, transportation, processing, disposal, neutralization and disposal of drilling waste was also studied. Waste is mainly associated with the production of such work as: drilling, well casing, which is accompanied by the formation of drilling waste. All generated drilling waste enters a waterproofed sludge pit, is neutralized with reagents using solidification method, followed by burial in the sludge pit. The generation of production waste is temporary - only during construction of a well. During monitoring of production waste generation at well pads, several violations were identified at stages I and II.

K - 7

Territory of demolished areas

K - 3

K-2

Well pad

K-6

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Based on the results of the III stage of monitoring, it was established that most of the violations in the management of production and consumption waste identified during stages I and II were eliminated. The results of a visual inspection of the storage and warehouse areas for production and consumption waste at "O'zbekiston Mustaqilligi" Investment Block showed implementation of planned environmental protection measures regarding waste.

In general, the condition of storage areas during oil and gas operations at wells at the time of departmental environmental monitoring is satisfactory.

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5. RESULTS OF BIOLOGICAL MONITORING

It was carried out at representative sites in each of the 5 ecological zones characterized by homogeneous natural conditions, landscape, sources and degree of pollution. For the Northern zone - 6 representative sites, the Eastern zone - 4, the Western zone - 3, the Southern zone - 4 and Kognysai - 1 representative site were assigned for environmental monitoring.

III-zone - Western - zone of moderate development of low mountains in the upper reaches of Alankutansai.
Monitoring over the condition of flora was carried out at representative biodiversity sites within the environmental observation station No. 3 and local points L-A-4, L-W-3.
The landscape of zone III represents dry slopes of the foothills and ravines with sandstone outcrops, with plots of rainfed lands.

I-zone – Northern – the zone of active agricultural landscape.
The northern ecological zone covers the left side of Khongaronsai (Tashkupriksai), in its contour there are 1 background monitoring point EOPN No. 1 and 5 local monitoring points L-A-1, L-A-2, L-S-1, L-S-2, L-W-1. The landscape of zone I is represented by an agricultural landscape (rainfed fields and fallow lands) and the slopes of hilly foothills (adyrs), dissected channels of temporary watercourses and dry ravines with sandstone outcrops.

II-zone – Eastern zone of moderate development of the adyrs and low mountains on the left bank of the Khongaronsai.
Monitoring over the condition of flora was carried out at representative biodiversity sites within environmental observation station No. 2 and local points L-W-2, L-S-3, L-A-3.
The Eastern zone covers the middle reaches of the Khongaronsai (Tashkupriksai), including the riverbed, the riverbed part of the right and left banks of the sai, dry dissected slopes of the foothills and ravines with sandstone outcrops, with a significantly more dissected topography than biotope-I, and with small areas of rainfed deposits.

IV-zone–Southern – the valley of the lower reaches Alankutansai.
Monitoring over the condition of flora was carried out at representative biodiversity sites within environmental observation station No. 4 and local points L-A-5, L-S-4, L-W-4.
The landscape of zone IV consists of dry, relatively gentle and weakly dissected slopes of the foothills and a shallow dry ravin with sandstone outcrops, sandy loam soil.

V-zone – Kognysai area from the turn from the road between the villages of Chilanzor and Beshirkak to well 1J. Dry, saline slopes of the foothills and ravines with sandstone outcrops, beds of temporary watercourses, clayey, saline soil. Vegetation: indigenous ephemeral-salt communities, fragments of tugai yulgun communities along the riverbed of the sai.

RESULTS OF BIOLOGICAL MONITORING

4.7. Flora

In general, the vegetation cover of the surveyed area has an average degree of disturbance and retains the ability to self-heal. During environmental monitoring, it was established that the main anthropogenic factors affecting the vegetation cover of the territory of "O'zbekiston Mustaqilligi" Investment Block are intensive grazing and rain-fed farming.

In the vegetation cover of the surveyed area, the composition of natural dominants and subdominants was mainly preserved. The total projective cover ranges from 45–80% (in 2022 it was 15–45%), which is explained by intense precipitation in the form of rain that fell at the end of February 2023 and dryland conditions of the territory. Everywhere in the composition of plant communities there is a significant abundance of xerophytic species, ephemerals and weeds.

- As a result of the environmental monitoring carried out in 2023, the following 3 species of plants included in the Red Book of the Republic of Uzbekistan were identified : Tulipa tubergeniana, Tulipa korolkowii, Anemone baissunensis;
- It has been established that more than 50% of the species composition of the territory's flora is associated with specific and limited habitats of river valleys, canyons and dry ravines with sandstone outcrops;

Conclusion: In general, the vegetation cover of the surveyed area has an average degree of disturbance and retains the ability to self-heal.

Tulipa tubergeniana

Tulipa korolkowii

Anemone baissunensis

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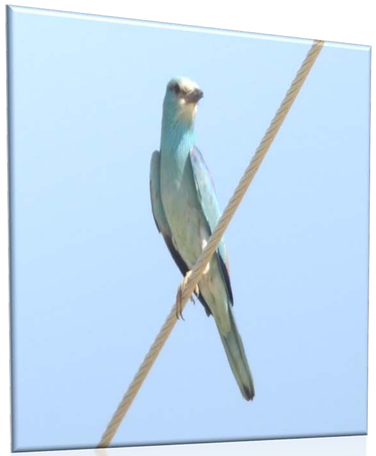
RESULTS OF BIOLOGICAL MONITORING

4.8. Fauna

In 2023, in the process of carrying out three stages of environmental monitoring and production control over the state of the animal world on the territory of "O'zbekiston Mustaqilligi" Investment Block in 4 conditionally divided ecological zones, at environmental observation stations and representative observation sites, as well as according to information provided to us by local ecologists , 52 species of vertebrates were noted, of which 1 species of amphibians, 7 species of reptiles, 41 species of birds and 3 species of mammals, among them 8 species included in the Red Book of the Republic of Uzbekistan (2019) and the lists of the Convention on International Trade in Endangered Species of Wild Fauna (CITES)



Roller

Grey heron

Cormorant

Tajik racerunner

Fox

It should be noted that in 2022, 45 species were recorded, including 1 fish species, 8 reptile species, 32 bird species and 4 mammal species (including 11 species listed in the Red Book of the Republic of Uzbekistan (2019) and the lists of the Convention on International Trade in Endangered Species (CITES), and in 2021 33 species were noted, of which 1 amphibian species, 11 reptile species, 18 bird species and 3 mammal species, including 8 species listed in the Red Book of the Republic of Uzbekistan (2019) and lists of the Convention on International Trade in Endangered Species (CITES). The differences in the number of species and their species composition when comparing data from 2021-2023 differ due to the fact that both sedentary and migratory species are present on the territory of "O'zbekiston Mustaqilligi" Investment Block. In addition, due to the fact that active construction and drilling works are carried out (rocky formations on which some species of reptiles live are destroyed, or hilly areas are leveled due to construction plan, and this leads to loss of habitats and migration of animals to other more suitable sites) in many areas, this also causes some fluctuations in the population size of a particular species.

RESULTS OF BIOLOGICAL MONITORING
4.8. Fauna

Among them there are 11 species listed in the Red Book of the Republic of Uzbekistan (2019) and the lists of the Convention on International Trade in Endangered Species (CITES): Central Asian tortoise (Testudo horsfieldi), Turkestan agama (Paralaudakia lehmanni), CITES, vulture (Neophron percnopterus), RDB Uz, EN, IUCN:[EN], CITES II, bearded vulture (Gypaetus barbatus), RDB Uz, NT, IUCN:[NT], CITES II, griffon vulture (Gyps fulvus) RDB Uz, NT, IUCN:[NT], CITES II, long-legged buzzard (Buteo rufinus), CITES, steppe eagle (Aquila nipalensis), RDB Uz, (VU:D), CITES II, Turkestani white stork (Ciconia ciconia), RDB Uz, (NT):, short-toed serpent (Circaetus gallicus), RDB Uz, (VU:D):, CITES II, owlet (Athene noctua), CITES II, lesser kestrel (Falco naumanni), CITES II.

SURHAN GAS CHEMICAL OPERATING COMPANY

RESULTS OF BIOLOGICAL MONITORING

The summer period of 2023 was characterized by abnormally high temperatures and low water levels in the rivers and streams, which led to the drying out of all surveyed riverbeds in all environmental monitoring zones. This situation has adversely affected the condition of representatives of fauna.

An equally important factor determining the successful state of populations and the number of species is the anthropogenic and technogenic impact on the environment. During this period, drilling and construction works are carried out on the territory of "O'zbekiston Mustaqilligi" Investment Block for construction of BGPP, shift camp and other related infrastructure facilities. As a result, animals lose their usual habitats and begin to move in search of the most suitable place.

Compared to 2022, in 2023 the scale of technogenic impact associated with oil and gas operations has increased. However, the technogenic impact generally has a local scale; areas with mechanical damage or destruction of vegetation cover are noted in a strip of up to 20–30 m along roads, gas pipeline lines, within a radius of up to 50–100 m. near the wells and shift camp. In such areas devoid of vegetation, for example, on highway embankments, erosion processes develop.

As part of ensuring the conservation of flora and fauna on the territory of "O'zbekiston Mustaqilligi" Investment Block, Operator:

- has prepared and handed over "Instructions on conservation of Biodiversity in the Operator's contract territory" to the employees of Operator and Contractors;
- has established a system of constant departmental monitoring with the maintenance of observation sheets of fauna objects.

5. Conclusions

Owing to implementation of environmental protection measures, as well as regular industrial environmental control and monitoring of technological processes and objects of the condition of atmospheric air, surface and groundwater, soil and subsoil, we can note in 2023 the absence of direct and tangible impact on the environment from the activities of SURHAN GAS CHEMICAL OPERATING COMPANY FC LLC.

The results of environmental monitoring in 2023 showed that the state of flora and fauna outside the areas allocated for construction work remains stable; no significant anthropogenic and technogenic impacts on the atmospheric air, aquatic environment, soil, flora and fauna of the contract areas have been identified.

During the execution of field work on the investment block, no accidents or incidents involving employees of the Customer, Contractor and third parties were noted.

THANK YOU FOR ATTENTION!