MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE
NATIONAL AVIATION UNIVERSITY
FACULTY OF ENVIRONMENTAL SAFETY,
ENGINEERING AND TECHNOLOGIES
DEPARTMENT OF ECOLOGY

APPROVED TO DEFENCE
Head of the Graduate Department
_____ V.F. Frolov
«_____» _____ 2020

BACHELOR THESIS

(EXPLANATORY NOTE)

SPECIALTY 101 «ECOLOGY»,
TRAINING PROFESSIONAL PROGRAM
"ECOLOGY AND ENVIRONMENTAL PROTECTION"

Theme: «Environmental Impact Assessment when Building Materials Open Mining»

Done by: student of the –ЕК-402 Ba (№527/ст from 27.04.2020) Kyiv Victoria Olehyvna
(student, group, surname, name, patronymic)

Scientific Supervisor: Ph. D. in Geol. Sc., Associate Professor of the Ecology Department, Dydar T.V.
(academic degree, academic rank, surname, name, patronymic)

Standards Inspector: _____ Andrian A. Iavniuk
(signature) (S.N.P)

KYIV 2020

МІНІСТЕРСТВО ОСВІТИ І НАУКИ УКРАЇНИ
НАЦІОНАЛЬНИЙ АВІАЦІЙНИЙ УНІВЕРСИТЕТ
ФАКУЛЬТЕТ ЕКОЛОГІЧНОЇ БЕЗПЕКИ,
ІНЖЕНЕРІЇ ТА ТЕХНОЛОГІЙ
КАФЕДРА ЕКОЛОГІЇ

ДОПУСТИТИ ДО ЗАХИСТУ
Завідувач випускової кафедри
_____ В.Ф. Фролов
«_____» _____ 2020 р.

ДИПЛОМНА РОБОТА

(ПОЯСНЮВАЛЬНА ЗАПИСКА)

ВИПУСКНИКА ОСВІТНЬОГО СТУПЕНЯ БАКАЛАВРА

ЗА СПЕЦІАЛЬНІСТЮ 101 «ЕКОЛОГІЯ»
ОПП «ЕКОЛОГІЯ ТА ОХОРОНА НАВКОЛИШНЬОГО СЕРЕДОВИЩА»

Тема: «Вплив на довкілля при видобування будівельних матеріалів відкритим способом»

Виконавець: студентка групи ЕК-402Ба (№527/ст від 27.04.2020) Київ Вікторія Олегівна
(студент, група, прізвище, ім'я, по батькові)

Керівник: канд.геол.-мін.наук, доцент кафедри екології Дудар Тамара Вікторівна
(науковий ступінь, вчене звання, прізвище, ім'я, по батькові)

Нормоконтролер: _____ Явнюк А. А.
(підпис) (П.І.Б.)

КИЇВ 2020

NATIONAL AVIATION UNIVERSITY
Faculty of Environmental Safety, Engineering and Technologies
Department of Ecology
Specialty, training professional program: specialty 101 «Ecology», Training Professional Program "Ecology and Environmental Protection"
(code, name)

APPROVED
Head of the Department
_____ Frolov V.F.
«____» _____ 20__

BACHELOR THESIS ASSIGNMENT

Victoria O. Kyiv

1. Theme: «Environmental Impact Assessment when Building Materials Open Mining» approved by the Rector on №527/ст from 27.04.2020.

2. Duration of work: from 27.04.2020 to 17.06.2020.

3. Output work (project): data on the status and conditions of storage of spent building materials.

4. Content of explanatory note: (list of issues): Analytical review of the literature on the topic of the diploma. The assessment of hazardous impacts for mining industrial facilities on ecosystem state in Ivano-Frankivsk region. Recommendations for the use of remote condition monitoring of mining industrial facilities and their component structures.

5. The list of mandatory graphic (illustrated materials): tables, figures, charts, graphs.

6. Schedule of thesis fulfillment

№ з/п	Завдання	Термін виконання	Підпис керівника
1	Development together with the supervisor of the schedule of the bachelor's thesis	27.04.2020	
2	Search and analysis of literary sources on the topic of work	28.04.2020 – 29.04.2020	
3	Preparation of the main part (Section I)	01.05.2020 – 07.05.2020	
4	Preparation of the main part (Section II)	08.05.2020 – 12.05.2020	
5	Preparation of the main part (Section III)	13.05.2020 – 20.05.2020	
6	Preparation of graphic material	21.05.2020 – 24.05.2020	
7	Registration of conclusions, results and recommendations	25.05.2020 – 28.05.2020	
8	Work on the report and presentation	28.05.2020 – 06.06.2020	
9	Preliminary defense of the thesis	05.06.2020	
10	Thesis defense	17.06.2020	

7. Date of task issue: «____» _____ 20__

Diploma (project) advisor: _____ Dydar T.V.

(advisor's signature) (S.N.P.)

Task is taken to perform: _____ Kyiv V.O.

(graduate's signature) (S.N.P.)

НАЦІОНАЛЬНИЙ АВІАЦІЙНИЙ УНІВЕРСИТЕТ

Факультет екологічної безпеки, інженерії та технологій

Кафедра екології

Спеціальність, освітньо-професійна програма: спеціальність 101 «Екологія», ОПП «Екологія та охорона навколишнього середовища»

(шифр, найменування)

ЗАТВЕРДЖУЮ
Завідувач кафедри
_____Фролов В.Ф.
«____» _____ 20__ р.

ЗАВДАННЯ
на виконання дипломної роботи
Київ Вікторії Олегівни

1. Тема: «Оцінка впливу на навколишнє середовище при видобутку будівельних матеріалів», затверджена ректором №527 / ст від 27.04.2020р.

2. Тривалість роботи: з 27.04.2020 по 17.06.2020.

3. Вихідні роботи (проект): дані про стан та умови зберігання відпрацьованих будівельних матеріалів.

4. Зміст пояснювальної записки: (перелік питань): аналітичний огляд літератури за темою диплома. Оцінка небезпечного впливу гірничопромислових об'єктів на стан екосистеми Івано-Франківської області. Рекомендації щодо використання дистанційного моніторингу стану гірничопромислових об'єктів та їх складових конструкцій.

5. Перелік обов’язкових графічних (ілюстрованих матеріалів): таблиці, рисунки, діаграми, графіки.

6. Графік виконання бакалаврської дипломної роботи

№ з/п	Завдання	Термін виконання	Підпис керівника
1	Розробка разом з науковим керівником графіку виконання бакалаврської дипломної роботи	27.04.2020	
2	Пошук та аналіз літературних джерел за темою роботи	28.04.2020 – 29.04.2020	
3	Підготовка основної частини (Розділ І)	01.05.2020 – 07.05.2020	
4	Підготовка основної частини (Розділ ІІ)	08.05.2020 – 12.05.2020	
5	Підготовка основної частини (Розділ ІІІ)	13.05.2020 – 20.05.2020	
6	Підготовка графічного матеріалу	21.05.2020 – 24.05.2020	
7	Оформлення висновків, результатів і рекомендацій	25.05.2020 – 28.05.2020	
8	Робота над доповіддю та презентацією	28.05.2020 – 06.06.2020	
9	Попередній захист дипломної роботи	05.06.2020	
10	Захист дипломної роботи	17.06.2020	

7. Дата видачі завдання: «____» _____ 2020

Керівник дипломної роботи: _____ Дудар Т.В.
(підпис керівника)(П.І.Б.)

Завдання прийняв до виконання: _____ Київ В.О.
(підпис випускника)(П.І.Б.)

ABSTRACT

Explanatory note to thesis «Environmental Impact Assessment when Building Materials Open Mining»: 73 pages, 3 figures, 4 tables.

Object of research – Horodenkivske deposit of brick raw materials in Ivano-Frankivsk region, as a threat to the ecology of society, mining industry.

Aim of work – assessment of technogenic loads and the analysis of ecological safety.

Mehods of research: estimation by type and amount of expected waste, emissions (discharges), water, air, soil and subsoil pollution, noise, vibration, light, heat and radiation pollution, as well as radiation resulting from preparatory and construction work and planned activities .

GEOLOGICAL PROCESSES, MINING COMPLEX, ECOLOGICAL SAFETY, DECODING, MONITORING.

CONTENT

INTRODUCTION

Relevance of the work. The field has received a permit to create excavation works and currently works are underway there to extract clays for brick raw materials.

Aim and tasks of the diploma work. The purpose of the work is to determine the impact on the environment in the development of building materials.

Tasks of the work: Investigate the impact on the environment .

Object of research is the plot with an area of 3.9 hectares, Horodenka deposit of brick raw materials is located on the southwestern outskirts of Horodenka Horodenka district of Ivano-Frankivsk region at approximately equal distance from the settlements: Horodenka, p. Chernyatin, village Glushkiv.

Subject of research is sources of emissions of pollutants into the atmosphere

Methods of research – Estimation by type and amount of expected waste, emissions (discharges), water, air, soil and subsoil pollution, noise, vibration, light, heat and radiation pollution, as well as radiation resulting from preparatory and construction work and planned activities.

Personal contribution of the graduate: research and analysis of literatyre, research of ecological problem of extraction of building materials for the atmosphere.

Publications*:* newspapers with the publication of the ATS message, photo report on the placement of the ATS message in public places on bulletin boards. Information on the placement of the ATS message on the bulletin board of the Horodenka City Council.

CHAPTER 1
DESCRIPTION OF THE PLANNED ACTIVITY

Description of the location of the planned activity (to be added: copying from the master plan, zoning or detailed plan of the territory and situational scheme with the applied sources of environmental impact; information signed by the entity about the availability of own or leased production space (premises) required for the implementation business activities, together with copies of documents confirming the ownership or lease of the premises (premises);

The plot of 3.9 hectares of Horodenkivskoye field of brick raw materials is located on the southwestern outskirts of Horodenka Horodenkivskyi district of Ivano-Frankivsk region at approximately equal distance from the settlements: Horodenka town. Chernyatin, village. Glushkov. In the northeast, it is limited by the brows of the quarry, and has no natural boundaries on other sides. Coordinates of Horodenkovsky field:

vol.1 48 ° 39 '33 ", 25 ° 28' 21";

t.2 48 ° 39 '37 ", 25 ° 28' 25";

vol.3 48 ° 39 '33 ", 25 ° 28' 35";

t.4 48 ° 39 '28 ", 25 ° 28' 30".

An asphalt road with the village is 800 m away. Tatariv - Kamianets-Podilskyi (P24), with which the deposit is connected by a dirt road.

In orographic terms, the Horodenkovsky deposit is located within the southwestern spurs of the Podilskyi uplift, the general slope of which is observed from the northeast to the southwest. Fluctuations in elevation are 175-320 m.

In general, the area is a hollow wavy plateau, which is divided by beams and valleys. The plateau is gradually decreasing towards the Dniester River.

The slopes of the transverse valleys and ravines are quite steep here, steep in places, at the foot of which the groundwater outlets are often observed.

The main waterway is the Dniester River, which originates on the northern slope of the Carpathian Mountains. The width of the river varies from 112 to 242 m, depth - 1.5-7.5 m. The Dniester River has a well-developed valley, the width of which reaches 5.5-6.0 km. The surface of the valley is almost flat in the absence of noticeable irregularities. The absolute markings of it, both in length and in width, have slight oscillations, the amplitude of their oscillations over more than 40 km is only 50 m. Its current is quite clear, though it does not carry the character of a mountain river here.

The surface of the site has a calm, even character, without sharp ups and downs. Overall, there has been a general decrease from southwest to northeast.

The climate of the area is temperate continental and is characterized by low snowy winter and warm summer. The average annual temperature is + 7,6 ° C. The average annual rainfall is 690 mm. Depth of soil freezing up to 1 m. The prevailing wind direction is northeast.

Economically, the area of work is agricultural, with the production and processing of agricultural products. Industrial enterprises are concentrated mainly in the district center of Gorodenka. An important role in the economy of the district is played by the construction materials industry. These are the quarries of limestone, gypsum, boulder deposits and brick mills.

Due to the proximity of a large settlement - the administrative center of Gorodenko - the area of the site has a well-developed transport connection. The energy supply of the area of work is carried out by the JSC "Carpathian region".

An overview map of the area of work of Horodenkovsky brick material deposit in the scale of 1: 200000 is presented in Fig. 1.1.

Determining the contours of the field that is eroded is shown in the situational plan in Fig.1.2.

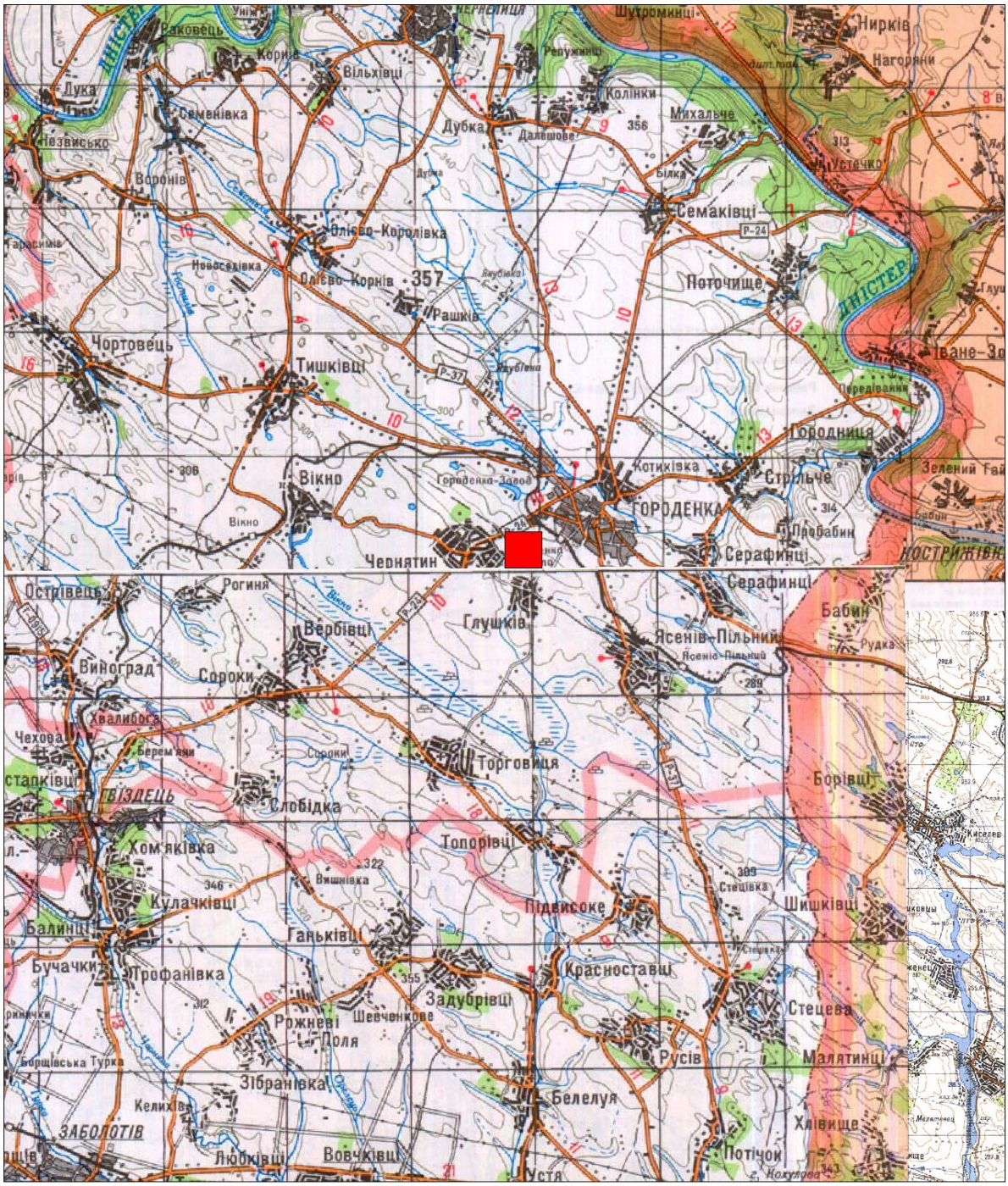


Fig. 1.1. Overview map

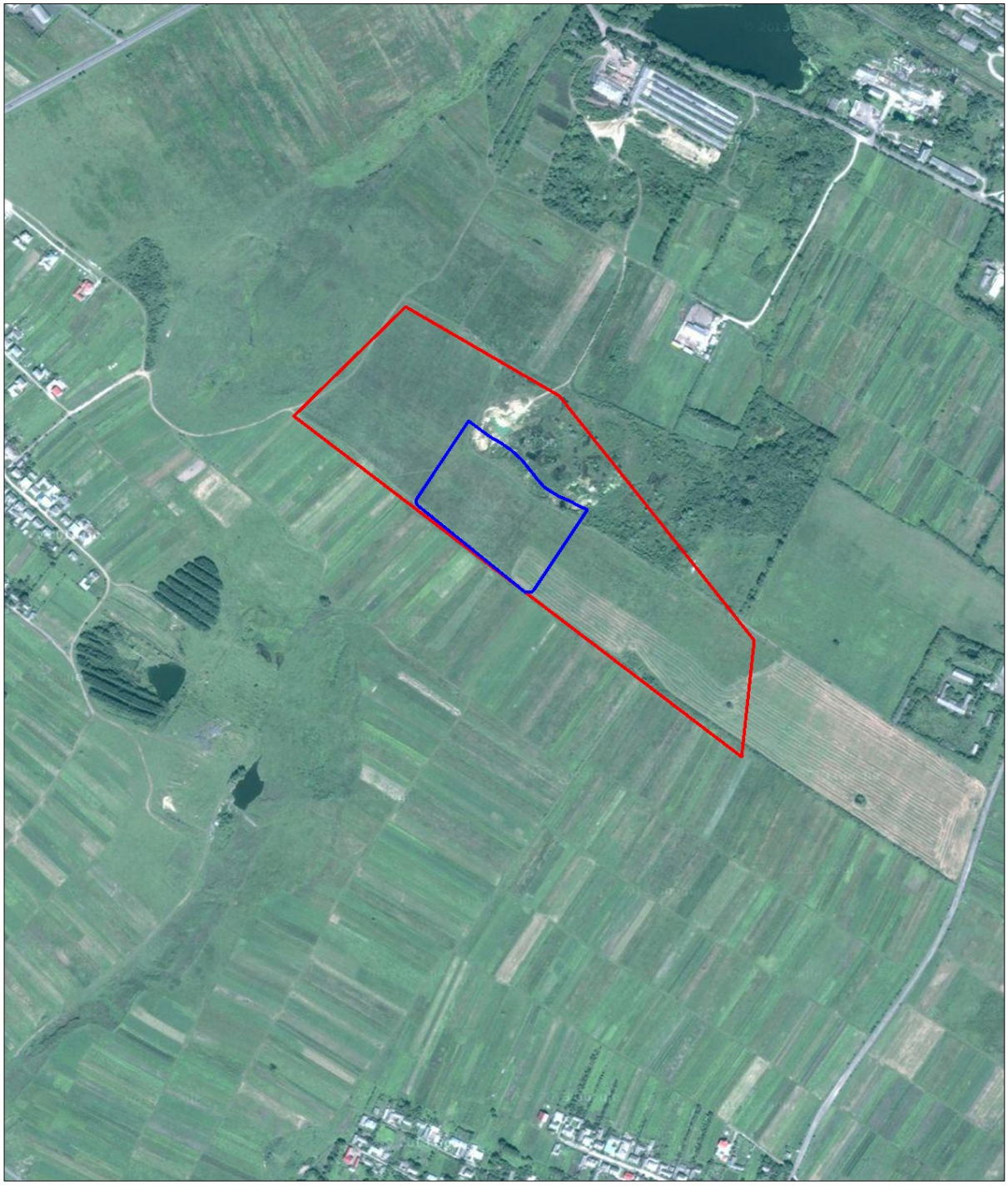


Fig. 1.2 Situational plan

1.1. Description of the characteristics of the activity during the preparatory and construction work and the implementation of the planned activity, including

A detailed exploration of the Horodenkivsky field of brick raw materials was carried out in 1988-90 by the geological party "Geolbudm" of the Republican cooperative-state association for agro-industrial construction of the State Agricultural Industry of the USSR.

Mineral reserves at the field were approved by the UkrTKZ Proto-Circle No. 5026 of 07.02.1991 in quantities by categories A + B + C1 2007 thousand m3, including cat. A - 558 thousand m3, cat. B - 341 thousand m3, cat. C1 - 1108 thousand m3.

These reserves were reconnaissance for the planned construction of a brick factory with a capacity of 13.5 million units. brick a year, but which has never been built.

Due to the fact that Horodenkivsky Brick Factory LLC is currently planning further development of Horodenkivskyi field, but such large reserves of minerals for the 3.5mn brick factory are planned. bricks are not needed per year. Therefore, the company decided to allocate as a separate mining facility with an estimated 300,000 m3 of mineral reserves to provide 3.5 million pieces of brick per year to the brick plant.

Mineral reserves in the area of 3.9 ha were calculated by category A + B in the amount of 332 thousand m3. The volume of overburden to be developed is 6 thousand m3. Geological coefficient of overlap - 0.02.

The work of the geological and economic evaluation of Magma LLC included: calculation of mineral resources in the selected area, bringing the data on the quality of raw materials in compliance with the current regulatory documents, as well as determining the technical and economic indicators of development of the site.

The quality of raw materials of Gorodenkivsky field of brick raw materials was evaluated according to DSTU B B.2.7-60 “Raw clay for the production of ceramic building materials. Classification".

Mineral reserves are classified in accordance with the “Instruction on application of the Classification of reserves and resources of the state mineral resources of clay to deposits of clay rocks” and are classified by industrial value to the explored balance reserves, and by the degree of feasibility study to GEO-1, code 111 .

Protocol of SCC of Ukraine N^{o}. 3850 of February 27, 2019 introduces the following changes to the protocol of UkrTKZ of February 7, 1991 No. 5026: to withdraw from the total volume of approved clay reserves of Horodenkovsky field according to the categories of clay reserves in the total amount of 324 thousand m3 (from category A - 109 thousand m3, B - 215 thousand m3) as tested within the limits of Section # 1 of Horodenkovskoye field, according to clause 3.4 of SCC of Ukraine No. 3850 of February 27, 2019 under category C1.

Gorodenkovsky clay deposit has been in operation since 1962. In 2002 - 2012, the exploitation of the deposit was performed by Gorodenkivsky Brick Plant LLC under a special permit for subsoil use (text. Add.), The term of which expired on 29.10.2012, and the extension was not timely issued. At present, Gorodenkivsky Brick Plant LLC plans to obtain a new special permit for further exploitation of the deposit.

According to the specifics of the object of the quarrying stage and the exploitation of the quarry, they are similar and combined, and therefore the environmental impact assessment is considered comprehensively. Technological operations, sources and types of impacts in the construction of a quarry are the same as in the development of a deposit.

The layout of the access roads meets the construction requirements. Career roads belong to the technical category III according to SNIP 2.05.07-91 “Industrial transport”, and their technical parameters have been adopted in their design. The 0.3 km quarry access road is arranged from the existing road to the mouth of the entrance

trench. The roadway of the entrance trench is designed with a solid surface, the roads are scheduled to be maintained in good condition and regularly cleaned of dirt and snow, in the summer, water, and in the winter - calcium chloride solution.

The planning of the industrial site, namely, the place of filling and servicing of motor vehicles is carried out in accordance with the sanitary and hygiene requirements and the requirements of safety and fire safety. The parking lot is equipped on an industrial site of the projected object with a flat surface, not a large slope of 0.002% for drainage of water with a muddy base and collapsing around the perimeter of the site.

All career work must be carried out in accordance with NSAID 0.00-1.24-10 "Rules of Occupational Minerals in Open-pit Mining", ed. 2010

The responsibility for the serviceability and operation of the machinery and machinery of the career rests with the Chief of Career and his subordinate staff, in the amounts provided by the job descriptions. Every worker must be sure of the safe condition of his workplace before starting work, and check the safety of the safety equipment, tools, mechanisms and appliances necessary for the work.

The premises are located on a specially equipped site on the south side of the quarry. For shelter from inclement weather, the food intake project provides for the purchase of two cars - dormitories VO-10 for 10 people. In homes and premises, the requirements of the Sanitary and Fire Safety Rules of the Premises in accordance with NAPS B.03.002-2007 and DBN B.1.1-7-2002 shall be observed. All sanitary facilities have fixed heating, supply and exhaust ventilation, which ensures the content of harmful impurities in the air of these premises within the limits stipulated by the State Standards.

The decisions taken by the project envisage the return of the lands disturbed by mining operations to the economic circulation. Career development does not emit toxic substances that could adversely affect the earth around the quarry.

The overburden is located in the outer heaps, which are further reclaimed for felling.

1.2. Description of the main characteristics of the planned activity

Planned for development with an area of 3.9 hectares, is located on the territory of Horodenkovo field of brick raw materials of Horodenkovsky district of Ivano-Frankivsk region. The deposit is located on a watershed elevated area at approximately equal distance from the settlements: Gorodenka, village. Chernyatin, village. Glushkov. The planned annual production of mineral resources is 8785 m^3.

Horodenko deposit is located on the right bank of the Dniester River.

The geological structure of the deposit is due to its confinement to the Outer Zone of the Precarpathian Bend.

Geological prospecting works of 1988-90, drilled at the field to a depth of 15 m, revealed Quaternary and Upper Tertonian deposits (Kolomysky layers) of the Neogene, which are presented in the following form:

1. Soil and vegetation layer - from 0 to 0.2 m;

2. The clay is greenish-yellow to yellow-green, very dense, plastic - from 9.6 to 14.8 m (power output).

Characteristics and conditions of occurrence of each species of rocks according to the results of geological prospecting works of 1988-90 are as follows:

The minerals are represented by the Upper Tertonian deposits of Neogene - clay greenish-yellow. The capacity of the clay deposit, which is included in the calculation of reserves to the absolute mark of +136 m, ranges from 7.9 to 12.8 m, on average - 10.4 m. Below the mark of +136 m, the same clays, which are also useful, continue to lie fossils. The traversed capacity ranges from 2.0 to 6.9 m. The relief of the surface of the deposit is quite equal with the marks of the surface within 324-329 m.

The area of the field occupies arable land and is 3.9 hectares within the calculation of mineral resources.

The body of the mineral deposits is bedded, with a slight slope to the northeast. The roof of the minerals in the main parts repeats the relief of the day surface, the

sole in the main features repeats the roof, but has a number of local uplifts and lowers.

The growing soil at the field is vegetation soil. Plant soil capacity is 0.2 m, volume within the field was 6 thousand m3. Vegetable soil should be removed separately and subsequently used in the remediation of waste land.

Minerals are not flooded.

The minerals are represented by the Upper Tertonian deposits of Neogene - clay greenish-yellow. The capacity of the clay deposit, which is included in the calculation of reserves to the absolute mark of +136 m, ranges from 7.9 to 12.8 m, on average - 10.4 m.

Below the +136 m mark, the same clays, which are also minerals, continue to lie. Passed capacity ranges from 2.0 to 6.9 m.

Minerals are not flooded.

The +136 m mark, to which the mineral reserves were calculated, was accepted in accordance with the requirements of the technical specification of the customer.

Mineral reserves in the area of 3.9 ha were calculated by category A + B in the amount of 332 thousand m3. The volume of overburden to be developed is 6 thousand m3. Geological coefficient of overlap - 0.02.

Mining conditions, terrain, determine the development of the field in an open way, using a bulldozer, one-bucket excavator and dump trucks. The quarry has three ledges: one overburden with an average height of 0.2 m and two mines with a total height of 12.8 m.

The development of the deposit will be carried out with the use of quarry equipment: the EO-4321 excavator with a ladle of 0.75 m3 capacity, the DT-75 bulldozer, the KAMAZ-5511 dump truck with a capacity of 10 tons.

A deposit uncovered in the northern part of the work area by an active quarry on almost the entire front of the work in which the mineral is exposed to its full capacity. Further moving it to the receiving hopper of the plant is performed by dump trucks. As a result, mining operations related to the opening of the deposit are not foreseen.

Career fixation is internal.

Quarrying will occur only through atmospheric precipitation, which is partially drained into the underlying rocks or naturally evaporated. Based on the above, quarrying is not expected.

CHAPTER 2
ESTIMATION BY TYPE AND AMOUNT OF EXPECTED WASTE, EMISSIONS (DISCHARGES), WATER, AIR, SOIL AND SUBSOIL POLLUTION, NOISE, VIBRATION, LIGHT, HEAT AND RADIATION POLLUTION, AS WELL AS RADIATION RESULTING FROM PREPARATORY AND CONSTRUCTION WORK AND PLANNED ACTIVITIES

2.1Air environment

Characteristics of sources of pollutant emissions into the atmosphere

The technology of field development provides processes that lead to the emission of pollutants into the atmosphere.

The sources of formation of pollutant emissions into the atmosphere are mining and quarrying, loading and unloading, quarrying, motor transport, repair work.

The sources of pollutant emissions into the atmosphere are divided into stationary and mobile.

Stationary sources of emissions include loose waste heaps, overburden and extraction works, loading and unloading operations, mobile ones - motor transport and quarrying.

In turn, stationary emission sources can be roughly divided into (table 2.1):

Table 2.1

Stationary emission sources

sources of continuous atmospheric pollution	- a source that emits pollutant continuously over a long period of time and maintains sufficient stability of emission modes (overburden heaps)
sources of irregular atmospheric pollution (salvos / technological-salvos)	- a source that releases pollutant into the atmosphere at irregular intervals (trenching and mining operations, loading and unloading operations)
organized sources of emissions	- Emission sources with defined parameters (height, diameter, volume of gas-air mixture, etc.)
unorganized emission sources	- emission sources that do not have defined parameters

A characteristic feature of the technological-volley emissions is a small amount of time during which the emissions are carried out, the absence of a time pattern and a period of time for the works to be completed. The operation of process equipment and, as a consequence, the release of contaminants is carried out on a production need.

According to the adopted system of development and technological scheme of mining, the sources of emissions of pollutants into the atmosphere during the development of the field are:

Source № 1 - carrying out overburden works (unorganized, technological-salvo). Inorganic dust with a SiO2 content of 20 ÷ 70% occurs.

Source № 2 - mining operations, extraction of clays (unorganized, technological-salvo). Inorganic dusts with a SiO2 content of more than 70% occur.

Source № 3 - storage and unloading of overburden (unorganized, planar). Inorganic dust with an SiO2 content of 20 вмі 70% is produced during unloading and storage of overburden.

Source № 4 - Quarry Road Transport Work (Unorganized, Linear). Inorganic dust with a SiO2 content of 20 ÷ 70% of the dump truck's movement during the transport of overburden occurs.

Source № 5 - Career Road Transport Work on Transportation of Mining Rocks (Unorganized, Linear). Inorganic dust with a SiO2 content of 20 ÷ 70% of the dump truck's movement during the transport of overburden occurs.

Source № 6 - the work of the internal combustion engine (ICE) of the EO-4321 excavator with a ladle of 0.75 m3 (unorganized, technological-salvo). Emissions of carbon monoxide, nitrogen dioxide and oxide, sulfur dioxide, soot, methane, ammonia, benzene (a) pyrene occur. At the same time, the emissions of CL during the operation of the ICE are not normalized, taken into account in the calculation of air pollution.

Source № 7 - the work of the internal combustion engine (ICE) bulldozer DT-75 (unorganized, technological-salvo). Emissions of carbon monoxide, nitrogen dioxide and oxide, sulfur dioxide, soot, methane, ammonia, benzene (a) pyrene occur. At the same time, the emissions of CL during the operation of the ICE are not normalized, taken into account in the calculation of air pollution.

Source № 8 - the work of the internal combustion engine (ICE) of the KAMAZ-5511 dump truck with a load capacity of 10 t (unorganized, technological-salvo). Emissions of carbon monoxide, nitrogen dioxide and oxide, sulfur dioxide, soot, methane, benzene (a) pyrene occur. At the same time, the emissions of CL during the operation of the internal combustion engine are not normalized, taken into account in the calculation of air pollution.

Source № 9 is the location of the welding work. There are emissions of iron oxide, manganese oxide.

The criterion for the assessment of the effects on the air environment is the power output per unit time (g / s) and gross emissions per year (t / year), as well as the air quality standard, which reflect the maximum permissible content of pollutants in the atmosphere and in which there are no negative impacts on human health and the environment.

Emissions of specific pollutants per unit of output for quarries have not been established. In addition, the sources of career emissions are disorganized. This career uses equipment specific to such careers. And air emissions are also common for quarries. The main amount of dust emissions occurs during mining and mining operations and depends on their amount.

The calculations show that the greatest contribution to air pollution is made by nitrogen dioxide, inorganic dust with a content of silicon dioxide 70-20%, soot and benza-pyrene.

Characteristics of pollutants to be released into the atmosphere (table 2.2):

Table 2.2

Characteristics of pollutants to be released into the atmosphere

The name of the substance	Emissions t / year	Class sky-high	population, mg / m3	working zone, mg / m3	Maximum concentrations of CL in the working area, mg / m3
Carbon monoxide	0,46390	4	5	20,0	-
Nitrogen dioxide	0,40239	3	0,2	2,0	8,952
Sulfur dioxide	0,05510	3	0,5	10,0	-
Methane	0,00320	4	50	7000	-
Nitrogen oxide	0,00154	3	0,4	5	-
Soot	0,04934	3	0,15	4,0	0,14448
Benz (a) pyrene	0,00038	1	0,00001	1,5E-4	0,000023095
Inorganic dust containing 70-20% silicon dioxide	1,0562	3	0,3	2,0	0,63828
Iron oxide	0,0009	3	0,4	0,4	-
Manganese oxide	0,00026	2	0,01	0,3	-
Total:	2,03205				

Generalized effect on the air environment:

1. There are 9 sources of formation and emission of pollutants into the atmosphere.

2. The total emissions of CL into the atmosphere by stationary and mobile sources of emissions are 2,032 tonnes per year.

3. The calculations of the concentrations of pollutants in the atmosphere showed no excess of the MPC values outside the GHG from existing sources of emissions.

4. For dust suppression at work of career equipment it is planned to carry out irrigation with water of roads and places of work.

5. To reduce air pollution by harmful gases, the installation of exhaust gas catalytic converters is provided on the quarry equipment.

6. Based on the results of the scattering calculations, the emissions estimated in this work are proposed as allowable pollutant emissions for the projected sources.

2.2.Aquatic environment

Hydrogeologically, the area of work belongs to the edge of the Volyn-Podolsk artesian basin. Given that the minerals of the Horodenkovsky deposit are dated to the Quaternary and Neogene deposits, a brief hydrogeological description of these deposits is given below.

1. The aquifer in alluvial deposits of the Holocene floodplain of rivers and bottoms of beams is confined to pebbles, sands of various grains, sandy loams, loams of the Dniester floodplain and its tributaries in the Podolsk height. Depth of groundwater level changes from 0.5 to 3.6 m. The flow rates of individual water points on the floodplains of the main watercourses are from 8 to 19.5 dm3 / s while reducing the levels by 1.50 - 4.46 m; specific flow rates from 1.79 to 9.94 dm3 / s. The filtration coefficients vary from 37 to 200 m / d. Fresh water, (dry residue from 0.3 to 0.7 g / dm3) is hydrocarbonate, quite often hydrocarbonate-sulfate, hydrocarbonate-chloride, rarely three-component. Calcium prevails among the cations, but sodium and occasionally magnesium are almost everywhere.

Groundwater of alluvial deposits of floodplains is widely used by the local population for individual water supply.

2. The aquifer complex in the alluvial deposits of the first and second above the floodplain terraces of the Upper Pleistocene is widespread in the valleys of the main watercourses. This is the most flooded complex. Water-bearing rocks - pebbles with sandy and sandy-clay filler, sands of variegated with lenses and layers of loam, covered with different age and composition of Quaternary formations. Overlapping Neo-Pleistocene subahedral formations. The roof is opened at depths of 0.5 to 12.5 m. The pebble power varies from 2.8 - 3.3 to 10 - 16 m. Due to the presence of heavy and dense loams in the roof, the water is unpressurized, low pressure. The magnitude of the head is from 0.2 to 3.1 m. The well flow rates and filtration coefficients range from 1.2 to 28.0 dm3 / s and from 3.4 to 300 m / d, respectively. Specific flow rates are 0.5 - 3.5 dm3 / s with decreasing levels of 1.2-7.0 m. The main source of nutrition of the aquifer is the infiltration of precipitation water.

Also, hydrogeological conditions of a deposit are determined, first of all, by its geological structure, as well as by physical and geographical factors, the most important of which are climate and geomorphological conditions.

According to SNIP 11-A.6-72 and previous studies, the average annual rainfall in the area is 690 mm, the daily maximum is 90 mm.

The quarry water will actually be formed only by the atmospheric rainfall that directly hits the quarry area. Water flow is calculated by the formula (2.1):

$$Q_{атм.} = \frac{W \cdot F \cdot \eta}{365} = \frac{0{,}690 \cdot 39030 \cdot 0{,}8}{365} = 60 \text{ м3/д} \qquad (2.1)$$

where: η- is a dimensionless factor that takes into account the amount of evaporation.

An additional relatively short-term inflow into the quarry will also occur on separate days during showers. Stormwater inflow is determined by the formula (2.2):

$$Q_{злив.} = q_з \cdot \lambda \cdot F = 0{,}09 \cdot 0{,}8 \cdot 39030 = 2810 \text{ м3/д } (\sim 117 \text{ м}^3\text{/год}) \qquad (2.2)$$

where: qs -is the intensity of the rain, taken for the area under consideration; λ- is the coefficient of surface runoff.

Thus, the water inflow to the quarry of the existing and its design part will be formed only due to precipitation. The geomorphological features of the deposit allow it to remove atmospheric precipitation through drainage ditches at an extra cost, which must be laid down the quarry to the natural gully-beam network. There is no provision for pumping equipment.

Based on the above, we see that, in general, the hydrogeological conditions of the deposit are favorable and no drainage from the quarry is expected.

Assessment of the effects on the aquatic environment

The aquatic environment is not susceptible to disturbance and disturbance because the deposits of greenish-yellow Neogene clays are located above groundwater levels and are water resistant. Groundwater will not flow into the quarry. There will be no change in the hydrological regime of groundwater. Career water is not discharged to the nearest surface water bodies - Hnyliak and Typyachka rivers.

Drinking water of quality quality in the technological process is not used. The water supply of the quarry for the drinking needs of the workers will be provided at the expense of imported water in accordance with the contract. Water must comply with the requirements of DSanPiN 2.2.4-171-10 "Hygienic requirements for drinking water intended for human consumption". Household wastewater will accumulate in a special waterproof container (septic tank) and will be transferred to specialized enterprises in accordance with concluded contracts.

For economic, technical and technological needs, it is recommended to use quarry water with the introduction of a closed cycle to reduce the negative impacts on the environment, namely for refueling of mining and transport equipment, watering roads, irrigation.

The following protective measures will be applied at the site of Gorodenkovsky clay deposit:

- the field will be mined above groundwater level;

- drainage ditches will be laid along the bottom of the quarry, which must be laid into the natural gully-girder network;

- the contour of the deposit will be laid up a ditch for removal of atmospheric and melt water.

Assessment of the effect of possible pollution on the aquatic environment, taking into account the envisaged protective measures - the impact is characterized as environmentally acceptable.

To prevent contamination of soils and aquatic environments beyond the quarry, solid waste and waste oils will be collected.

2.3.Noise and radiation pollution assessment

The maximum possible noise level can be at the same time operating 3 pieces of equipment, with the following typical noise levels:

Excavator - L1 = 85 dBA - 2 pcs.

Bulldozer - L2 = 80 dBA - 1 pc.

Tipper - L3 = 91 dBA - 1 pc.

The cumulative maximum possible noise level L∑ in the quarry may be (2.3):

$$L_{\Sigma} = \sum^{3} 10^{0,1L} = 10 \cdot \lg(10^{8,5} + 10^{8,5} + 10^{8,0} + 10^{9,1}) = 37,2 \text{ dBA} \quad (2.3)$$

The maximum possible noise level at the boundary of the SPZ (R = 100 m) is calculated by the formula (2.4):

$$L_{C33} = L_{\Sigma} - 10 \cdot \lg\Omega - 20 \cdot \lg R \quad (2.4)$$

where: 10 • lgΩ - noise reduction due to its circular geometry dissemination; 20 • lgR - Career distance reduction.

$L_{C33} = L_{\sum} - 10 \cdot \lg 2\pi - 20 \cdot \lg 100 = 37{,}2\text{-}10^{*}\ 0{,}79\text{-}20^{*}2 = -10{,}7$ dBA

In accordance with the Sanitary Regulations, the permissible noise level for residential buildings is 55 dBA during the day and 45 dBA at night. Therefore, the noise level in the city of Gorodenka will not exceed the normative values for settlements.

Measures to prevent intense noise generation and isolation of the noise source are carried out directly on the site of the planned activity. The following noise and vibration control measures will be applied:

• All mechanisms will be kept in good working order. Their noise and vibration characteristics will match the specifications;

• permanent contact with vibrating surfaces is excluded;

• workers will be provided with personal protective equipment (shoes, gloves, etc.) to prevent the harmful effects of vibration;

• according to LTO 3.3.6.039-99, a set of therapeutic and preventive measures will be carried out, namely, the mode of work, vitaminization; persons under the age of 18 who have undergone a previous medical examination, have the relevant qualification, have made the technical minimum of the labor protection rules and are familiar with the effect of vibration and noise on the body.

Noise reduction landscaping can be used for effective and relatively inexpensive noise reduction measures from process equipment. A 25 m wide planting strip helps reduce noise by 10-12 dB, with conifers mostly deciduous. The height of the trees should be at least 7-8 m, shrubs - up to 1.5-2 m.

2.4.Description of the impact on the geological structure and soils

Generally, the development of deposits leads to a disruption of the integrity of the earth's surface, and at high volumes of production and use of blasting - to very negative phenomena such as seismic, geodynamic and other changes.

In our case, the impact on the geological environment is expressed only in the development of the depth of the clay deposit and the change of landscape characteristics of the terrain.

The technological scheme for the extraction of minerals will be carried out in an open way on the transport system of development. The design depth of an industrial quarry is planned up to 10.4 m and ranges from 7.9 to 12.8 m. The minerals are developed by 3 ledges.

The career boundary is determined by the configuration of the site, as well as the method of fixing the idle sides of the quarry and the angles of repayment. Fixing of non-working boards of the quarry is taken externally by overburden and minerals - internally.

It is envisaged to rehabilitate the area that has been disrupted by mining operations. The spent quarry is being reclaimed for felling and will be run by a local forestry company.

Considering the geological and hydrological characteristics of the territory and the terrain, dangerous geological processes in the adjacent quarry area are not foreseen (landslides, landslides, suffusion, erosion processes).

The main requirements for the protection of subsoil in career development are:

- providing a complete and comprehensive geological study of the subsoil;

- adherence to the established procedure for providing subsoil use, preventing unauthorized use of subsoil;

- Preventing the harmful effects of subsoil works on the conservation of minerals, protection against degradation of their quality;

- protection of the field from flooding, floods, fires and other factors that reduce the industrial value of the field or impede its development;

- restoration of the lands disrupted by mining operations.

The soil-vegetation layer of the earth will be removed and is in temporary storage for subsequent use during the reclamation. Lands that are projected to be affected are non-arable lands of the reserve, so no significant damage to fertility is expected.

Career slope remediation works are carried out as the site is worked out, when the ledges are reached.

In the first stage, preliminary surface planning is performed, and in the second, a year behind the works of the first stage (the time gap required for consolidation of the dump), the final surface planning.

Impact on soil during quarrying is localized outside the construction site. The use of land as a quarry does not affect the condition of adjacent lands. Clay extraction is unrelated to the processes that cause soil contamination in adjacent fields.

The project does not provide for the introduction of production processes that can contribute to the technological watering of soils as a result of leaks (leaks) from communications.

The impact on soils is considered to be negligible if the projected conditions for the development of the deposit are fulfilled and the existing normative rules for its implementation are complied with (obligatory observance of the boundaries of the territory allocated for construction; provision of workplaces with inventory containers for household waste).

CHAPTER 3
DESCRIPTION OF THE AREA AND THE IMPACT OF THE WORKS

Based on the available environmental information, the following facts are established.

Gorodenkovsky district - the district of Ukraine in the east of the Ivano-Frankivsk region, part of historical Pokuttya. District center: Gorodenka. End points: in the north - with. Khmelev, in the south - with. Toporovka, on the west - with. Rostohach, in the east - Peresivany village.

Fig. 3.1. Coat of arms and location of Horodenka village on the map

The boundaries of the district are very indistinct except for the eastern one, which runs along the border with the Chernivtsi region. The southern boundary is the window of the Window River (Benelux tributary) and the lowering to the upper part of the Gostiny River, which forms the western boundary of the district.

The district was formed in 1939, the district center is the city of Gorodenka. The first written mention of Gorodenka dates from 1195, in 1668 the city received the Magdeburg right.

Gorodenkovsky district borders with Snyatyn, Kolomyia, Tlumatsky districts of Ivano-Frankivsk region, part of Ternopil and Chernivtsi regions.

On the territory of the district the main and largest river is the Dniester, which flows from the northwest to the southeast.

The area covered by the Dniester waters is 923 ha. It flows through a picturesque canyon with steep, forested shores and attracts tourists. The Dniester flows into a large number of small streams that feed it with its waters. As a whole, the area under water occupied by the area is 1.6 thousand hectares or 2% of the total land fund. The terrain of the wavy edge, with a common slope to the southeast, is included in the second southeast agroclimatic area.

The absolute heights of Pokuttya average fluctuate within 300 - 320 m. The depth of the divisions is not always the same: in the north and west it reaches large sizes (80 - 150 m) and in the east - insignificant (40 - 60 m).

In spelling, Pokutia is a large ridge height. The ridges and low plains that divide them extend parallel to the Dniester and Prut valleys. Karst forms of relief are very common here: dip, watering cans, caves. Much of these depressions are permanently or temporarily filled with water and form small lakes with very variable

water levels, which at times disappear. Karst forms absorb surface runoff from precipitation, translate it into underground, so the rivers here are slightly branched.

The climate is temperate continental. The average annual temperature is 7.3 ºC. During the year, more than 600 mm of precipitation falls on average. Most of them are observed in June-August (from 80 to 88 mm), the smallest - in December - March (from 26 to 28 mm).

Rainfall may vary significantly in some years. Thus, in 1912, 836 mm of precipitation fell, and in 1946, only 364 mm.

In winter, 13% of the annual rainfall falls, the snow cover is maintained up to 100 days, the average duration without frost is 150-160 days, the vegetation period is 205 - 220 days.

The area is dominated by northwest and southeast winds. The average wind speed is 2.9 m / s. The highest wind speed is observed in February - March (3.7 - 4 m / s), the lowest - August - September (2.2 - 2.3 m / s).

The soil complex consists mainly of ash-blackened soils. The areas covered with forest are dominated by light gray soils.

Atmospheric air

The information is based on the latest, at present, Regional Report on the State of the Environment in Ivano-Frankivsk Oblast (data as of 01.01.2018).

In 2017, emissions of pollutants into the atmospheric air from stationary sources of pollution increased by 1% compared to 2016 and amounted to 198.3 thousand tons. In addition, from stationary sources of pollution to the air basin, 11.9 million tons were received. Carbon dioxide is the main greenhouse gas that affects climate change.

The density of emissions from stationary sources of pollution per square kilometer of the territory of the region in 2017 amounted to 14,200 kg of pollutants, the volume of emissions per person - 143,8 kg, compared to 2016, 1,4 kg more.

The main air pollutants are the enterprises for the production and distribution of electricity, gas and water (92.3% of the total regional volumes), including the separate unit Burshtynskaya TPP, the branch "Management of the main gas

pipelines" Prykarpattransgaz ", PJSC" Ukrtransgaz "and PJSC" Ikshtsev " a number of other enterprises of the region.

Dynamics of atmospheric air emissions in Ivano-Frankivsk region, thousand tons (table 3.1.):

Table 3.1

Dynamics of atmospheric air emissions in Ivano-Frankivsk region

Yeras	Air emissions			Density of emissions per 1 sq. Km, t	Emissions per person, kg
	Total	Stationary sources	Mobile sources		
2013	253,5	202,9	50,6	14,6	146,8
2014	277,2	228,8	48,4	19,4	165,5
2015	266,4	223,9	42,5	19,2	162,0
2016	196,7	196,7	-	14,1	142,4
2017	198,3	198,3	-	14,2	143,8

According to the head of statistics in the Ivano-Frankivsk Oblast, in the structure of pollutants emissions is dominated by dioxide and other sulfur compounds - 137.7 thousand tons (-22.4 thousand tons), substances in the form of solid suspended particles were emitted 31.5 thousand .t (-1.5 thousand tons), nitrogen compounds - 14.2 thousand tons (-1.7 thousand tons), methane - 6.6 thousand tons (-1.3 thousand tons), non-methane of volatile organic compounds - 3.7 thousand tonnes (-0.5 thousand tonnes), carbon monoxide - 2.9 thousand tonnes (-0.2 thousand tonnes).

The main air pollutants in terms of economic activity continue to be electricity, gas, steam and air conditioning supply companies, which account for 92.3% of national emissions, mining and quarrying accounts for 2.9%, land and pipeline transport - 1.9%, manufacturing - 1.6%, agriculture, forestry and fisheries - 1.0%, other industries - less than 1%.

Radiological investigations were carried out in the waters of open reservoirs and sources of water supply of settlements envisaged by the State Environmental Monitoring Program. The results of radiological studies showed that the tested

samples did not reveal an excess of the content of cesium-137 and strontium-90 above the permitted levels of radionuclide content.

The state of water sources and the quality of drinking water directly affect the health of the population. Water supply to the population of Ivano-Frankivsk Oblast in 2016 was provided by 41 centralized water supply systems, incl. 24 - communal, 5 - departmental and 12 - rural.

In order to improve the water supply of the population in the region, a regional target program "Drinking Water" for 2012-2020 has been developed and is being implemented. " In 2016, the laboratories of the State Institution «Ivano-Frankivsk OLC of the Ministry of Health of Ukraine» according to the concluded agreements and monitoring from centralized water supply systems of the region selected and investigated: by epidemic safety indicators - 1528 water samples, of which 1274 - from municipal water supply systems, 126 - from departmental and 128 - from rural areas, 34 samples were found that did not meet the requirements of DSanPiN 2.2.4-171-10, which is 2.23%. On municipal water supply the share of non-standard samples was 1.97%, for departmental ones - 0.8%, for rural ones - 6.25%. According to the sanitary-chemical indicators - 1525 water samples, 1241 - from municipal water supply systems, 129 - from departmental ones and 155 - from rural ones. 38 samples were found that did not meet the current requirements, or 2.5% (2.4% of them from municipal water supply systems and 5.2% from rural ones).

Water quality in the Carpathian region is generally better than the national average. With high general rigidity, the water was supplied to consumers - 56 - municipal water pipelines of KP “Zhytlovyk” of Burshtyn and SE “Rohatynvodokanal” and rural water pipelines of the villages of Zadnistryansk, Lana, Mariampol and Yabluny of Halych district.

The vast majority of the population of the region uses the systems of decentralized water supply for well-drinking needs - wells and water sources. There are more than 100 thousand of them in the region, of which 355 (350 wells and 5 captures) are for public use, others are individual.

From decentralized sources of public water supply, 465 water samples were selected and investigated in 2016, according to sanitary and chemical indicators, and 458 samples, according to epidemic safety indicators. Specific gravity of water samples that did not meet the standards was 17.9% for sanitary and chemical parameters, 24.9% for microbiological ones.

Of all types of water resources, groundwater is the most valuable for water supply because it is cleaner than surface water and has a more stable flow rate. Groundwater by chemical composition, mineralization, content of specific components and other characteristics are divided into groundwater drinking purpose, mineral water, natural brines, industrial water.

Drinking groundwater includes waters with mineralization up to 1.0 g / dm3. There are about 300 deposits and manifestations of mineral waters of various types in the region. Among them there are analogues of "Naftus", "Myrhorod", "Morshyn", "Yessentuki".

1) Forests. According to the data of the main forest users, the lands of the forest fund of the Ivano-Frankivsk region make up 620.8 thousand hectares, of which 565.2 thousand hectares is covered with forest vegetation, which makes up 40.6% of the administrative area of the region. Forests in the region are unevenly distributed and are located mainly in mountainous areas (73% of the forests in the region are mountainous). Therefore, forested areas vary from 11% to 68%.

The forest fund of Ivano-Frankivsk region is assigned to permanent forest users from 6 different departments: 75% of the forest fund lands are assigned to the enterprises of the State Agency of Forest Resources of Ukraine, 25% of the forest fund lands are provided for use by other users, namely, the specialized enterprises of “Ivano-Frankivskob OKP” »- 74,0 thousand hectares, national nature parks and reserve of the Ministry of Ecology and Natural Resources of Ukraine - 63,2 thousand hectares (NPP" Hutsulshchyna "- 7,6 thousand hectares, Carpathian NPP - 38,3 thousand hectares, Gorgani Software - 5,3 thousand hectares, Verkhovyna NPP - 12 thousand hectares), TO "Sinogora Residence" - 10,9 hectares, SLMNDPZG "Black Forest" PE - 8,5 thousand hectares, Carpathian military forestry of SE "Ivano" -

Frankivsky LPK »- 8,0 thousand hectares. Due to the special protective (water, soil, soil, recreational, sanitary, hygienic, health, environmental, aesthetic, etc.) functions, more than half of the forests of the region (52%) have limited forest management, and 48% of exploitation forests are classified. Wood reserves in the forests of the region - 166.5 million m 3, including in mature and overgrowth stands - 26.4 million m 3. The average total annual growth of timber is 2.48 million m3 (4.4 m3 per 1 ha of forested area). By age groups, permanent forest users' land is divided into young plants, which make up 17.5% (95.6 thousand hectares), medieval 52.0% (287.2 thousand hectares), arriving 15.0% (82.2 thousand hectares). ha) and ripe and persistent 14.2% (85.1 thousand ha) (Table 5.2.2.2.). Coniferous breeds, which account for 59% or 331 thousand hectares, predominate in the region's forest composition, hardwood stands stand at 37% - 211 thousand hectares, meadow deciduous trees 4.0% - 23 thousand hectares.

Forestry enterprises of the region demonstrate the stability of forestry production. Lack of government funding has a negative impact on economic activity. Priority of forest exploitation over cultivation is observed, connected with the need for self-financing of economic activity.

In order to improve the efficiency of forestry, rational and sustainable use of forest resources, it is advisable to take the following measures:

- study and implementation of the best practices of European countries in the field of forest relations;

- economic stimulation of the enterprises of the branch at application of the advanced technologies of forest management, transfer of forest seed on a genetic-breeding basis with the appropriate level of reforestation and afforestation;

- financing of forestry enterprises, using a differentiated approach, in accordance with the characteristics of the logging fund and the possibilities of self-financing activities;

- Completion of forest certification as a pathway to European industry standards;

- improving the legislative and regulatory framework in the field of protection, reproduction and rational use of forest resources;

- allocation and protection of forest ecosystems;

- Increasing the forest road network, which will significantly reduce the quantitative and qualitative loss of forest resources.

2) Minerals. 340 deposits of 26 kinds of various minerals are recorded in the territory of the region, of which 161 are being developed. The raw material base of the region consists of minerals of the fuel and energy direction (gas, oil, condensate, peat) - 34.6%, 47.8% - raw materials for the production of building materials, 12.3% - groundwater, 4.4% - Mining and chemical minerals (rock, potassium and magnesium salt, carbonate raw materials for liming of acid soils, carbonate raw materials for the sugar industry, sulfur), 0.88% - mining minerals.

Within the region, 42 hydrocarbon fields are known, of which 31 fields have been developed by industry. Oil and gas production in the region is concentrated mainly in the Dolinsky and Nadvirnyansk oil fields. The major production volumes are attributed to the oil and gas departments of Dolyna Naftogaz and Nadvirna Naftogaz, which are under the rights of structural units within the PJSC "Ukrnafta". The main oil fields included in the State Balance Sheet of Ukraine are Dolinsk, North-Dolinsk, Strutinsk, Bytkov-Babchenskoye.

The region has a well-developed raw material base of building materials. There are 163 deposits of 11 minerals used in construction on its territory. 65 fields are being developed. The area is fully stocked with explored reserves of salts of kitchen, cement raw materials, limestone for burning lime, gypsum, sand and gravel materials, brick-tile and expanded clay, mineral waters, which gives an opportunity to increase the capacities of existing quarries and attract labor .

Recently opened shale gas deposits on the so-called Oles'ka Square have a significant economic and energy perspective for both the region and Ukraine. The Olezskaya plot covers almost completely the territory of Tlumatsky, Halytskyi, Tysmenytskyi, Rogatynskyi districts, partly - Gorodenkivskyi, Kaluskyi, Kolomyiskyi, Snyatynskyi districts and occupies about 2.9 thousand square

kilometers. Olesko area forecast resources are estimated by the State Geology and Subsoil Service of 2.98 trillion. cube. m of gas.

3) Agricultural land. The area of agricultural land in the district is 61.4 thousand hectares, including arable land 50.7 thousand hectares. In the sectoral structure of agriculture, crop production is 61%, animal husbandry 31% and auxiliary industries 8%.

The territory of Gorodenkovsky district belongs to a kind of physical-geographical area - Transnistrian Pokuttya, which is part of the Volyn-Podilsky hills. Together with Snyatyn, Kolomyia, Tlumatsk, and partly - Tysmenytsia administrative units, it is part of a large ethnographic region with the melodic name - Pokutia.

The terrain of the wavy edge, with a common slope to the southeast, is included in the second southeast agroclimatic area. Gorodenkovsky district borders with Ternopil and Chernivtsi regions and districts: Snyatyn, Kolomyia, Tlumatsky.

On the territory of the district the main and largest river is the Dniester, which flows from the northwest to the southeast. The area covered by the Dniester waters is 923 ha. It flows through a picturesque canyon with steep, forested shores and attracts tourists. The Dniester flows into a large number of small streams that feed it with its waters. As a whole, the area under water occupied by the area is 1.6 thousand hectares or 2% of the total land fund.

Gorodenka district center since 1939. The administrative-territorial area is divided into 1 city council, 1 village council and 31 village councils, which unite 50 settlements and are subordinate to Gorodenka district council.

4) Water supply. In the Ivano-Frankivsk region, all 15 cities and 12 out of 24 settlements have centralized water supply. All cities and 10 settlements are provided with drainage systems. Water supply and sewerage companies operate 32 water intakes, three water treatment plants, 56 water pumping stations, 182 wells, 54 sewage pumping stations, 28 sewage treatment plants. Horodenko State Production Management of water supply and sewerage system provides centralized water supply and centralized drainage to all categories of consumers in the area.

The length of the inlet gas pipeline is 2.45 km, the outlet is 1.3 km. The percentage of gasification is more than 90%.

5) Transport communications. The Ivano-Frankivsk region has good communication links. The transport system of the region is represented by rail, road and air modes of transport. The territory of the region is included in the development zone of international transport corridors.

For 2005, the total length of the railways was 494 km and the density of the railways was 34.5 km per 1000 km. Important railway corridors do not pass through the area. Railways are not electrified and mostly single track.

The main railway junction of the Ivano-Frankivsk region is Ivano-Frankivsk. International trains provide direct connection to the region with Belarus, Poland, Russia, Moldova. From year to year there is a clear tendency to increase the volume of transportations, the main indicators of rolling stock are improving, the work on reconstruction and restoration of the railway stations of the region continues.

In Ivano-Frankivsk Oblast the network of public roads is 4 160.3 km.

There are 5 airports in the Ivano-Frankivsk region, although there is only one airport at the Ivano-Frankivsk International Airport. Local-type hardwood grasslands are located in the cities of Kolomyia and Kosiv, and two field airfields are located in the cities of Snyatyn and Gorodenka.

The Western transit corridor of gas transportation passes through the Ivano-Frankivsk region. It is formed by three main gas pipelines that ensure the continuous supply of gas to the countries of Central and Western Europe and is a powerful gas transport channel between the Russian Federation and Europe. Gas is supplied to consumers through 196 gas distribution stations.

All settlements have a connection between themselves and the district center, settlements of the region with paved roads.

6) Agriculture. In the commodity structure of agricultural production, the share of animal husbandry specializing in meat and dairy production is slightly higher, while the crop production is on growing cereals, sugar beets and potatoes. The dominant share of intermediate consumption over the production of gross value

added in the output of goods and services remains characteristic of the region's economy. Starting in 2004, the share of intermediate consumption began to decline from 59.7% to 56.7% in 2006, indicating an increase in production efficiency in the region.

One third of the population of the Carpathian region is employed in agricultural production. APK Prykarpattya annually produces more than two and a half billion hryvnias.

The enterprises of the region are able to produce 70 tons of meat, 18 tons of sausages, 29 tons of animal oil, 19 tons of fatty cheese, 200 tons of milk and dairy products, 300 tons of bread and bakery products, to process daily up to 5 thousand tons of sugar beets . Available capacities allow to produce 2.8 million decalitres of raw alcohol, 2 million decalitres of vodka and liqueurs, etc. for the year

According to the data of 2009, there are: agrarian commodity exchange, 7 agro-trading houses, 25 small-scale live cattle and poultry markets, 75 wholesale and 59 wholesale and vegetable markets, 948 procurement points dealing with the production of agricultural products, 120 agricultural products, 40 - cattle and birds.

26 agricultural service cooperatives are working in the region to provide farmers with services for cultivation of land, harvesting and harvesting of agricultural products.

At the request of Horodenkovsky Brick Plant LLC, the Ivano-Frankivsk Regional Center for Hydrometeorology provided a brief climatic description of Horodenka (Annex 7).

The physical and geographical features of the area and the site of the object of the design object, as well as metrological characteristics and coefficients that determine the conditions of dispersion of pollutants in the atmospheric air of Gorodenka, Ivano-Frankivsk region are given below:

The factor that depends on the stratification of the atmosphere - A-200. Average air temperature - plus 7,1 ° C;

The absolute minimum air temperature - minus 37.9 ° C was observed on December 28, 1996. The mean air temperature of the coldest month (January) is

minus 5.3 ° C. The average (from absolute lows) minimum air temperature (January) is minus 21.7 ° C.

The absolute maximum of air temperature - plus 37,6 ° C, was observed on August 19, 1946. The average air temperature of the warmest month (July) is plus 17.6 ° C. Average (from absolute maximums) maximum air temperature (July) - plus 30.5 ° C;

Rainfall per year is 699 mm;

The daily maximum rainfall - 108 mm, was observed in June 1897;

The average monthly humidity of the coldest month (January) is 84%.

The average monthly humidity of the warmest month (July) is 77%.

Condition of atmospheric air in the village. Gorodenko is characterized by values of background concentrations. The values of background concentrations are taken into account in the calculation of the dispersion of pollutants in the atmospheric air in accordance with paragraph 4 of the Order of the Ministry of Resources No. 286 of 30.07.2001, as for settlements where regular monitoring of atmospheric pollution is not carried out and in the absence of significant industrial sources of emissions.

Summarizing the above, without a planned activity, natural changes from the baseline scenario will be insignificant.

3.1. Description of the impact on the geological structure and soils

The impact on the geological structure and soils during the development of the Horodenkovsky deposit will only be to develop the depth of the brick material deposit and change the landscape characteristics of the terrain.

The surface of the deposit is calm and even, with a slight decrease overall in the north direction. Surface markings range from 324.1 m in the north to 329.0 m in the south. The field is occupied by arable land.

Taking into account the mining and geological conditions of the development of the deposit, the thickness and physical and mechanical properties of minerals and overburden, technological features of extraction of brick raw materials, as well as the

experience of development of this and similar deposits, the transport system of development of the deposit with the internal location of waste heaps is adopted.

The technological scheme of overburden works involves the direct development of a bulldozer with load in vehicles.

The technological scheme of mining operations involves the development of clay with two ledges from the same mining horizon.

The quarry boundaries of the plan are determined by the contour of reserves within the exploration work, taking into account the spacing of the quarry at the time of redemption.

Groundwater is not found in the field either in the mineral or in the surrounding rocks.

According to the above, according to the data from the development of similar fields and according to the "Technological Design Norms" (VNDMI "Handbook of opencast mining", NV Melnikov) when constructing the project contour of the quarry at the moment of repayment of the angles of slopes are assumed equal:

- minerals – 30^{o};

- for overburden – 30^{o}.

With the specified method of development of the field changes in the mining and geological conditions under the influence of mining and quarrying is not expected.

Upon complete completion of the extraction at the site of the deposit, there will be a basin-like quarry with a total area of 3.9 hectares, which is subject to mining and biological reclamation.

A small amount of overburden eliminates the possibility of reclaiming waste space to the living surface. Based on this, the spent quarry area provides for the arrangement of areas for agricultural use (pasture), and the slope of the quarry boards is reclaimed for afforestation.

Mining and reclamation of disturbed lands in the field of deposit includes the following works:

1. Placement of overburden in the produced quarry.

2. Positioning the quarry up to an angle of 25 °;

3. Planning the surface of the waste heaps in the open pit.

3. Installation of a safety shaft 2 m high on the perimeter of the ledge

4. Planning of the blade surface.

The biological reclamation of the area will be carried out by a local forestry enterprise one year later after the mine reclamation at the expense of the mining enterprise.

The following environmental and subsoil measures are envisaged:

1. The soil-vegetation layer is developed and stored separately and subsequently applied to the reclaimed land or to the unproductive in order to improve them.

2. After the completion of the mining of the mineral resources, the reclamation of the spent quarry is carried out.

3. Extraction of mineral reserves by area and depth of approved reserves.

4. Refueling of quarry equipment with diesel fuel and lubricants should be carried out at a specially designed site.

Considering the geological and hydrological characteristics of the territory and the terrain, dangerous geological processes in the adjacent quarry area are not foreseen (landslides, landslides, suffusion, erosion processes).

The planned activity will reveal the impact on the soil by breaking them during the excavation works, as well as during the formation of temporary external dumps of the extracted rocks.

According to the requirements of GOST 17.5.3.04-83 “Earth. General Requirements for Land Reclamation ”The quarry is subject to reclamation. The following requirements must be met when reclaiming a quarry at the Horodenkovsky field:

- preliminary folding and folding of plant soil;

- the formation of a quarry, taking into account its reclamation and accelerated return of the reclaimed area for use in the national economy;

- the reclaimed area and all the land adjacent to it after the completion of the whole complex of works should make an optimally organized and sustainable landscape.

Impact on soil during quarrying is localized outside the construction site. The use of land as a quarry does not affect the condition of adjacent lands. The extraction of bricks is not related to the processes that lead to soil contamination in the adjacent fields.

The project does not provide for the introduction of production processes that can contribute to the technological watering of soils as a result of leaks (leaks) from communications.

The impact on soils is considered to be negligible if the projected conditions for the development of the deposit are fulfilled and the existing normative rules for its implementation are complied with (obligatory observance of the boundaries of the territory allocated for construction; provision of workplaces with inventory containers for household waste).

3.2.Description of the effects on atmospheric air

During the planned activity of the development of the Horodenkovsky field of brick raw materials, the atmospheric air is affected. Among the main sources of influence on the atmospheric air are the following:

- execution of mining and quarrying, as well as internal dumping on the quarry (including trenching and trenching). The technological processes of construction, which will be associated with the execution of earthworks, as well as overloading of the rock, are accompanied by the release of inorganic dust with a silicon dioxide content of 20-70%, the amount of which will be about 1.0562 tons.

- Carrying out of transport operations (use of quarrying mechanisms and vehicles) is accompanied by emissions of carbon monoxide, nitric oxide, sulfur dioxide, soot, methane, ammonia, benzo (a) pyrene and approximately 0.9746 t.

- welding operations for metal structures are accompanied by emissions of iron oxide and manganese oxide and will total 0.00116 tons.

The environmental impact of the processing of brick raw materials is estimated to be very insignificant. Dust emissions from brick factories are low. The low firing temperature of the brick (1000 ° C) allows neglecting the emissions of nitrogen oxides.

All engines and vehicles with internal combustion engines must be fitted with exhaust gas absorbers.

Conducted calculations of concentrations of pollutants in the atmosphere showed no excess of the MPC values outside the GHG from existing sources of emissions.

To reduce dust on the quarry roads, watering or surfactant solutions (sulphate soap, bischofite) is carried out when transporting loose rock and minerals.

At air temperature + 3-10 ° C watering is necessary up to 2 times, at + 19-26 ° C - up to 6 times a day. When applying bischofite solution, irrigation of roads in warm season is performed once a day, and at sub-zero temperature - once every two days. The need for technical water for dust suppression is solved by technicians, based on the actual dustiness of working areas in the quarry, processing sites and storage of rocks.

To reduce atmospheric air pollution by harmful gases, the installation of exhaust gas catalysts is installed on the quarry equipment.

Given the timing of construction work and the permissible emissions of pollutants, it can be assumed that, at the end of construction, the atmospheric air will return to its existing level.

Taking into account the many years of experience in conducting similar construction operations, it is possible to consider the impact on the air as permissible.

3.3.Description of the effects on surface and groundwater

Hydrogeologically, the area of work belongs to the edge of the Volyn-Podolsk artesian basin. The hydrogeological conditions of a deposit are determined, first of all, by its geological structure, as well as by physical and geographical factors, the most important of which are climate and geomorphological conditions.

During the exploration of Horodenkivskoye field no ground water was encountered in the area of the described area. Most of the incision is composed of dense clays of the Neogene age, which are essentially water resistant. Quaternary deposits of the upper part of the section have a capacity of up to 1 meter and also do not contain permanent aquifers. The tip may be present, but temporarily and sporadically across the area.

According to SNIP 11-A.6-72 and previous studies, the average annual rainfall in the area is 690 mm, the daily maximum is 90 mm.

The quarry water will in fact be formed only by atmospheric rainfall directly entering the quarry area and will be 60 m3 / d. Also, an additional relatively short-term inflow into the quarry will occur on separate days during rainfall and amount to 2,810 m3 / d.

Thus, the water inflow to the quarry of the existing and its design part will be formed only due to precipitation. The geomorphological features of the deposit allow it to remove atmospheric precipitation through drainage ditches at an extra cost, which must be laid down the quarry to the natural gully-beam network. There is no provision for pumping equipment.

The water supply of the quarry for the drinking needs of the workers will be from its own well, as well as from the supply of water according to the contract with the trade network (Annex 13). It is stored and transported in special metal tanks of the established construction and in special plastic containers. According to the joint venture, one worker must have at least 3 liters / change of drinking water. The need for drinking water for the whole number of employees in the shift will be 42 liters. Drinking water must comply with the requirements of DSanPin 2.2.4-400-10

"Hygienic requirements for drinking water intended for human consumption". Drinking water of quality quality in the technological process is not used.

Household wastewater will accumulate in a special waterproof container (septic tank) and will be transferred to specialized enterprises in accordance with concluded contracts.

For economic, technical and technological needs, it is recommended to use quarry water with the introduction of a closed cycle to reduce the negative impacts on the environment, namely for refueling of mining and transport equipment, watering roads and industrial sites, irrigation.

Diesel fuel and lubricant equipment must be refueled at a specially designed site. It also provides for the operation of technically sound quarry equipment that eliminates the entry of petroleum products (diesel and oil) onto the earth's surface. In case of emergency spills of oil products, they should be collected together with the soil. It is recommended to treat the collected soil for the destruction of petroleum products with the preparation “Ekonadin”.

The main source of noise at the work site will be loading and unloading operations and road construction machinery, the intensity of noise during which depends on the type of engine, operating mode and distance from the place of work.

Thus, when unloading building materials, noise with an equivalent level of 80.0 dBA is created, cars with a load capacity of more than 10 t create a noise of 85 dBA. In terms of timing, these noises are volatile, which means that the average noise level at a construction site will be 15-20 dBA below the noise level, which will be the most significant source of noise.

In addition, after the completion of works related to the implementation of these operations, the noise level in the construction area will return to its current state, and therefore, its impact can be considered acceptable.

Climate and microclimate are not expected to be affected by the development of the Horodenkovsky brick deposit.

3.4.Descriptions of the impact on flora and fauna

The plot, planned for development with an area of 3.9 hectares, is located on the territory of Horodenkovsky field of brick raw materials of Horodenkovsky district of Ivano-Frankivsk region. The deposit is located on a watershed elevated area at approximately equal distance from the settlements: Gorodenka, village. Chernyatin, village. Glushkov.

The area within the boundaries of the calculation of mineral reserves is 3.9 ha.

Orographically, the deposit area is located within the southwestern spurs of the Podilskyi uplift, the general slope of which is observed from the northeast to the southwest. In general, the area is a hollow wavy plateau, which is divided by beams and valleys. The plateau is gradually decreasing towards the Dniester River.

The overburden rocks at the deposit are represented by a soil-vegetation layer, whose capacity is on average 0.2m.

The minerals of Gorodenkovsky deposit are represented by clay greenish-yellow, with a capacity from 7.9 to 12.8 m; the average is 104 m. The marks of the roof of the minerals make 323,9-328,8 m, the marks of the sole - the horizon 316 m. The minerals are not flooded.

Soil and vegetation layer - a humic loam with roots of plants, brown color. The soil and vegetation layer covers the entire area of the deposit, except for the quarry area where it was removed. Its power is negligible and the average field is 0.2 m.

Geomorphologically, the area is located within the Volyn-Podolsk hills, the Precarpathian plain and the Carpathian Mountains. By the nature of the relief, it is divided into three parts: plain, foothills and mountains. The height of the relief increases from northeast to southwest.

The Volyn-Podolsk height, which occupies the northeastern part of the region, is a plain cut by river valleys, ravines, and beams.

Due to the diversity of the terrain and therefore the climate, Ivano-Frankivsk region has preserved the largest diversity of flora and fauna. Ivano-Frankivsk region is considered one of the most picturesque in Ukraine.

The flora of the region includes more than 1500 species of plants, which makes more than half of the list of flora of Ukraine, of which 120 are medicinal, 60 of which are common.

Ivano-Frankivsk region is one of the richest forests in Ukraine. The forested area is over 40%. The plains are dominated by deciduous forests and coniferous forests in the pre-mountainous areas. Among coniferous species is dominated by spruce, which the local population poetically calls spruce. At altitudes above 1500 m, subalpine meadows (meadows) begin.

Ivano-Frankivsk region combines mountainous, foothills and flat landscapes. Each of them has its own specific plant cover. Therefore, both in the present and in the past, the flora of Ivano-Frankivsk is characterized by the richness and variety of floral elements. Boreal and European immoral, montane, mountain-disjunctive and steppe species grow in the region.

The boreal type of geographical elements are, first of all, European spruce, common pine, cedar pine, lingonberry, alum, medium pear, gentian gentian, viburnum and others.

The European type of geographical elements include plants that are characteristic of deciduous forests (beech, oak, hornbeam). It is primarily beech forest, hornbeam, common oaks and rock, linden heartwood and European, maple, thousand berry. Among the herbaceous species we note interesting species, which are widespread, especially in the mountain range: streptopus leaf-wrap, cordate, primrose tall, common companion long-deciduous forest perennial and others.

The alpine type of geographical elements combines European montane and Arctic alpine species. There are many endemic species among the representatives of the European geo-element. These are Carpathian and Porcius foxes, Zephyr zephyr, Carpathian stork, The violet is rejected, The round-headed queen, The poppy onion (known only in the Horodenko district of Ivano-Frankivsk region) and others.

Meadow vegetation in the plains of Ivano-Frankivsk region is spread over floodplains year (inland or floodplain meadows) and on upper terraces and watersheds (dry meadows). In Podillya, floodplains occupy the valleys of the year of

Rotten Lime, Svirzh and Dniester, in the Precarpathian Mountains the valleys of Candles, Limnitsa, Bystrica, Prut, Ribnitsa and others. They are formed under conditions of constant surface and soil moisture. Common grasses are the most common grass-grass and grass-root grasses and grass-grass grasses (the medicinal leaf and the sycamore bushes).

Steppe vegetation sporadically, with small areas preserved in the northern part of the region - in Pokut, Prekarnart, and Ashley. The steppes of Ivano-Frankivsk are phytocenotically heterogeneous. Dominants of the primary types of these steppes - rocky owl, feather grass, or sawdust, sedge low, sedge mountain, Sesselia Geifleroyaa, Welsh bonfire. Basis of herbaceous hairy-steppe grass - feather grass, tip furrowed, dumplings Pannonian, sand pepper, wormwood odorless, slimy celery, Austrian astragalus, Siberian bells, low sedge, Moldavian thyme.

The diversity of natural factors causes the presence of wildlife, perhaps the richest in Ukraine. Certain species of animals and birds may be hunted during the hunting season. Wild boar and roe deer hunting is possible with a hunting license. The species number of the Ivano-Frankivsk fauna is much richer than in other regions of Ukraine. Vertebrates are represented by 435 species, mammals - 74 species, birds - 280 species. A number of species are endangered and listed in the Red Data Book of Ukraine: Alpine beetle, European mink, Common badger, Lynx, Triton Carpathian, Spotted salamander, Woodpecker, Copper, Alpine mustache, Carp, Chop.

In the Dniester and Prut basins there are various types of fish: Ukrainian lamprey, starlet, rainbow trout, rainbow trout, pike, gossip, verisub, oatmeal, redfish, lynx, moraine, walleye, perch, gobies, crucian, bark, catfish, ruff , carp, chub, top, fisherman, lighthouse, nose.

Fast currents, rocky, slimy bottom, plankton poverty, and poorly developed vegetation determined the composition of the ichthyofauna. Rhyophilic, omnivorous species that spawn on a rocky or shallow-sand substrate are common here. About 20% of fish species lay eggs on vegetation.

Representatives of batrachofauna (amphibians) belong to two rows: tailed and tailless. The vertical spread of amphibians in the Carpathians has little or no

ecological attachment to vegetation. Amphibians occur from the foothills to the subalpine meadows of the meadows, they reach the plain. Plain species include Triton comb, red-eared kumka, common garlic, common kvass, pond frog, reed burdock. For amphibians, the typical palearctic (common and comb newt, spiky, lake and pond frog), Mediterranean (alpine newt, spotted salamander, common kvass), western European (yellow-red kumka, common alfalfa, common and reed roe.

Among the lizards, the most common is the vertebrae brittle, lizard elk and live lizard. Of the snakes in the territory of the area are common, forest patches, mussel, common viper.

Birds of the Carpathian region are distinguished by their species richness and abundance. The Carpathian mountain ranges serve as the south-western boundary for the distribution of many bird species and subspecies. The distribution and displacement of certain bird species is significantly affected by economic activity. The cattle and the white-tailed flan have stopped nesting in the area. Reduced the number of kibbits, hawks of large hawks, red shawls. The colonies of gray herons have considerably thinned, and the largest in the western region of the colony of the yeasts have disappeared. The black tern became scarce.

The peculiarity of the local fauna is the dominance of rodents and predators. There are few ungulates, even fewer - rabbits.

Numerous common insectivorous species are moles. The brown tooth of the tooth is a background insect species in the area. In the area of the bat, the water horseshoe is small, the nightshade is large, the ears, the ore is evening, the bats are small, the bat is late, they are pouring two-colored.

Rabbits in the fauna of the area are represented by only one species - the hare, which is found everywhere.

Predatory mammals are represented by both small and large mammals. A rare species is forest marten and stone marten. Ferret is darkest among the chicken most mass appearance. A forest cat is a typical forest beast that leads a twilight nightlife, the lynx is the largest among our cat forests. Also found are wolf, bear, fox.

The arable, low-productive land, buildings, underground, terrestrial communications and tree planting are not represented on the projected field.

The construction of a clay mining career is associated with the destruction of vegetation and parts of soil organisms (ants, worms, beetles). Representatives of the animal world will be displaced from the field. During the development period the site loses its importance as a forage base for birds and some other animals from the surrounding territories.

Impact on flora and fauna is limited to the area under development. The impact on wildlife in the surrounding area will be due to noise loading. The greatest danger is the noise factor for ornithofauna, especially in the breeding season. This will lead to a slight depletion of the species diversity of birds in nearby ecosystems.

The flora and fauna, along with the quarry, is not particularly stressed. There is no change in the composition of plant communities, fauna, species diversity outside the quarry. No additional measures are needed to protect wildlife.

Activities for the development of the Horodenkivsky field of brick raw materials will not change the habitat of flora and fauna in the immediate vicinity of the object and accordingly will not affect the reduction of the species composition of wildlife in the surrounding area, which guarantees the preservation of ecological balance.

The object and its sanitary protection zone are not located in the territory, which is marked by the presence of areas of distribution of hunting, red-book and other valuable species of animals. There are no bird and animal migration paths in the area of work, there are no areas of growth of rare and endangered plant species listed in the Red Data Book of Ukraine.

Atmospheric emissions can not have a negative impact on the plant world, as no significant excess of MPC pollutants is expected in the air pool in the impact area.

The soil-vegetation layer from the quarry area is pre-removed and developed into special dumps for further reclamation before development. Overburden rocks and substandard deposits will fill the spent space of the career field.

Reclamation of the development area involves the return of the land in a condition suitable for previous use. Soil structure and fertility will be restored and improved. Favorable conditions will be created for the continued use of the land after the development of the field as arable land and shrubs. The animal territory on the reclaimed territory will be restored as well. Conducting post-quarrying remediation will minimize and counteract the environmental impact. It has no transboundary impact.

Impact assessment on flora and fauna - the impact can be recognized as environmentally acceptable.

3.5. Description and assessment of the potential environmental impact of the planned activity

Description and assessment of the potential environmental impact of the planned activity, in particular the magnitude and magnitude of such impact, nature, intensity and complexity, probability, expected onset, duration, frequency and inevitability of exposure conditions flax:

-execution of preparatory and construction works and carrying out of the planned activity, including (if necessary) dismantling works after completion of such activity;

-use of natural resources, in particular land, soil, water and biodiversity in the process of carrying out the planned activity;

-emissions and discharges of pollutants, noise, vibration, light, heat and radiation pollution, radiation and other factors of influence, as well as operations in the field of waste management;

-risks to human health, cultural heritage and the environment, including through the possibility of emergencies;

-the cumulative impact of other existing sites, planned activities and sites that have been decided to carry out the planned activities, taking into account any existing

environmental problems related to the areas of particular environmental concern that may be affected or affected by which natural resources may be used for;

-the impact of the planned activity on the climate, including the nature and extent of greenhouse gas emissions, and the sensitivity of the activity to climate change;

-technology and substances used.

The area planned for the development of the Southwest section of Horodenkivskoye Brick Field is 3.9 ha.

After the development of the field is completed, it is planned to be recultivated in order to return the land to a condition suitable for previous use. Favorable conditions will be created for further land use after the development of the field.

In accordance with the Code of Mines of Ukraine, mining companies are obliged, at the same time as the development of the field, to restore damaged land. The reclamation works will be described in more detail in the project of mining and technical reclamation of the Southwest section of Horodenkovskoye deposit. The works will be carried out in accordance with the current rules, rules and regulations, the main design decisions made when choosing a site.

Subsoil protection measures are developed in accordance with the Code of Ukraine on subsoil and ensure the complete extraction of minerals, protection of natural objects from the harmful effects of mining, as well as compliance with all regulatory requirements for the protection of subsoil.

The volume of overburden rocks at the field is small and amounts to 332 thousand m3, of which 4 thousand m3 is the volume of the soil and vegetation layer, which will be stacked up to bees for further use during the period of reclamation on degraded lands.

Soil protection from degradation and destruction during the development of the deposit is the responsibility of the subsoil user. The project provides at the request of Art. 168 of the Land Code of Ukraine and Art. 52 of the Law “On Land Protection” before the start of the work on the preparation of the field development selective removal of the vegetation layer of soil and placing it in a temporary burst with

subsequent use during reclamation of the quarry. Since the shelf life of the fertile soil layer exceeds 2 years, the surface of the seedbed and its slopes should be sown with perennial grasses. Bevel slopes are allowed to be sowed by hydraulic means. The fertile soil layer can be stored in burrows up to 20 years. Unsuitable for activity areas and unproductive lands, which exclude flooding, salinisation and contamination of industrial waste, solid objects, rubble, pebbles, stone, should be allocated under the burglaries. Depth of removal of the most fertile layer is regulated by GOST 17.5.3.06-85 «Protection of nature. Earth. Requirements for determining the rates of removal of the fertile soil layer.

The reclamation of degraded land in the Southwestern part of the Horodenkovskoye deposit involves two stages, namely mining, technical and biological reclamation. Career reclamation works will be completed within 1 year after the quarry is completed and will be carried out in an economic manner. After the mine reclamation, biological recultivation of the lands that have been disturbed by the mining operations is carried out. The purpose of biological reclamation is to create favorable conditions for the further targeted use of areas with the restoration of soil fertility. Biological recultivation on the field of the deposit includes works on the preparation of areas for organo-mineral mixtures, preparation of mixtures and their application, sowing of grasses. The biological reclamation works will be carried out by a specialized organization.

Provision of reclamation of the territory, which has been disturbed by the mining operations, the spent space of the quarry is reclaimed for afforestation.

After the reclamation of the disturbed lands, an inspection body of the State Land Committee of Ukraine, which has issued the permit, with the participation of the representative of the territorial body of the specially authorized central executive of the executive power on environmental protection and the applicant, conduct a survey of the land plot and draw up an act. The act states the conformity of the completed works with the conditions of the determined project, records the agrochemical passport of the land plot from which the fertile soil layer was removed, as well as the agrochemical passport of the reclaimed land plot.

This act is the basis for the transfer of the reclaimed land to the previous landowner. The control over the implementation of reclamation works is carried out by the State Inspection bodies.

The implementation of the planned measures for the protection of air and water basins, the implementation of safety rules, the protection of subsoil, GNPs and other regulatory documents, land reclamation provides minimal impact of works on the environment, prevents environmental degradation, provides environmentally safe economic activity, eliminated and public health.

Environmental impact assessment of planned activities from industrial and household wastes

In developing a career, the following major waste types can be generated:

- *Oiled rag*

When using quarry machinery and fuel-consuming machinery, an oilcloth is formed. Temporary storage of waste in metal containers is envisaged. The amount of wiping materials will be counted in the development project. It is planned to give away the wiping materials to local workers for kindling home heating appliances (stoves, coarse ones).

- *Waste oil*

It is formed by the operation of quarry machinery and mechanisms. The collection of waste oils is expected to be performed at repair sites or service stations during maintenance and repair of quarry equipment.

In accordance with the "Collection of specific indicators of waste production and consumption" (Moscow, 1999), the amount of used motor oil is 25% of the amount of lubricant used in construction equipment. In this case, the amount of waste oil will be calculated in the working project of the development of the Southwest section of Horodenkovsky field of brick raw materials.

Oils and motor oils, transmission oils damaged or waste - it is envisaged to accumulate on the site with a hard surface in a metal reservoir and then to use partially for own needs LLC "Gorodenkivsky Quarry of Brick Raw Materials" -

lubrication of units and mechanisms of agricultural machinery. Oil, fuel filters should be stored in a metal box.

Excess lubricants must be disposed of for disposal by specialized companies. Among the following companies you can recommend:

1. LLC "KALUSSKAYA SALT COMPANY", EDROPOU code 39193691, located at: 77300 Ivano-Frankivsk region, Kalush, vul. Builders, building. 1 (License Issue Date 31.07.2014, Unlimited License)

2. PJSC “PETROCHEMIST PRIKARPATTYA” (00152230 - EDRPOU code), 78400, Ivano-Frankivsk region, Nadvirna, vul. Maydanskaya, building. 5 (License of the Ministry of Environmental Protection of Ukraine series AE No. 288620 of 25.04.2014 No. 121).

- *Tires damaged before commissioning, exhausted, damaged during operation*

The average annual cost of tires for a career is determined by the project data and averages 1 set. For quarry equipment, the average annual weight of worn pneumatic tires will be 0.1 t.

Tires that have been damaged prior to start-up, used, damaged during operation are to be stored on a hard surface. Spent car tires must be transferred for disposal to a specialist company. Among the following companies you can recommend:

PJSC "PETROCHEMIST PRIKARPATTYA" (00152230 - EDRPOU code) located at: 78400, Ivano-Frankivsk region, Nadvirna str. Maydanskaya, building. 5 (License of the Ministry of Environmental Protection of Ukraine series AE No. 288620 of 25.04.2014 No. 121).

- *Lead batteries are defective or used up*

By order of the Ministry of Transport of Ukraine from 08.12.97. No. 417 approved "Rules for the supervision and maintenance of the starter lead-acid batteries" ND 7214 95120-157-97 according to which the average life of the batteries is 2 years.

The calculation of the normative amount of spent batteries will be given in the working project of development of the Southwest section of Horodenkovsky clay field. It is planned to collect and store lead-acid batteries in an enclosed space, then

plan to dispose of them on specialized shelves for disposal. Among which you can recommend:

PJSC "PETROCHEMIST PRIKARPATTYA" (00152230 - EDRPOU code) located at: 78400, Ivano-Frankivsk region, Nadvirna str. Maydanskaya, building. 5 (License of the Ministry of Environmental Protection of Ukraine series AE No. 288620 of 25.04.2014 No. 121).

- *Solid household waste*

The calculation was made in accordance with the Order of the Ministry of Housing and Communal Services of Ukraine of March 22, 2010 No. 75 "On approval of recommended rules for the provision of services for the removal of household waste" and "Sanitary rules and regulations at industrial enterprises" M.83 (for workers). The rate of solid waste accumulation for workers per workplace is 75 kg / year or 0.205 kg / day.

The clay extraction company will operate year-round - 165 working days a year. The rate of waste accumulation at the enterprise per worker per year is: 0,205 kg / day * 165 days = 33,82 kg / year.

The number of people involved in the enterprise is 7 people, and therefore the regulatory and acceptable amount of waste generation is:

7 people * 33,82 kg / year = 236,74 kg / year or 0,236 t / year.

The solid household waste is supposed to be collected in garbage containers and placed on the territory of the industrial site, to be transferred to the specialized enterprise.

- *Waste from scum*

The sanitary and hygienic service of the workers of the quarry of the Southwest section of Horodenkivsky field of brick raw materials will be carried out by establishment of cubicles of a toilet in the sanitary zone. Faecal waste is stored in the Mobile Toilet Cabin (MTK).

The drains from the wash basin are to be drained (by means of a portable container) into the tank of a mobile toilet cabin (MTK). Fecal waste and waste water

from the wash basin is recommended to be treated with Septonik, which in contact with natural waste turns them into a stable sediment.

According to the design decisions, the precipitate from the MTC is exported to its own GRSh burt.

Such a sewage treatment scheme is conditioned by a small amount of sewage and complies with the recommendations of the State Sanitary Rules for the Planning and Development of Settlements, paragraph (7.12) and DBN B.2.5-75: 2013 "Sewage. External Networks and Structures".

- *Assessment of the effects of the planned activity on the social environment*

Risk assessment of planned activities for public health

Assessment of the risk of the planned activity on public health from atmospheric air pollution is carried out on the basis of calculations of the risk of non-carcinogenic and carcinogenic effects at the stage of "Project" in accordance with the methodological recommendations of MR 2.2.12-142-2007 . Approved by the Order of the Ministry of Health of Ukraine dated April 13, 2007 No. 184, Kyiv, 2007 ».

The risk of developing non-carcinogenic effects is determined by calculating the hazard index (NO) by the formula:

$HI = \sum HQi,$

where HQ1, is the hazard coefficient of the influence of a substance determined by the formula, where $HQ1 = Cu / RfCi,$

where C is the estimated average annual concentration of the ith substance on the verge of residential development, mg / mS;

RfCi is the reference (safe) concentration of the i-th substance, mg / mS;

HQi = 1 - limit of accepted risk (according to clause 4.4.1 of Methodological recommendations of MR 2.2.12-142-2007 "Risk assessment for public health from atmospheric air pollution".

Criteria for characterizing the hazard coefficient (table 3.2.):

Table 3.2

Criteria for characterizing the hazard coefficient

Risk characteristics	Hazard Ratio (HQ)
The risk of adverse effects is considered to be negligible	< 1
threshold that does not require urgent action but cannot be considered as sufficiently acceptable	1
e likelihood of adverse effects increases in proportion to the increase in HQ	> 1

The hazard ratio of each substance is less than one, ie the non-carcinogenic risk of adverse health effects is extremely low, which is considered acceptable.

3.6. Description of envisaged measures aimed at preventing, preventing, avoiding, reducing, eliminating significant negative environmental impacts

Description of envisaged measures aimed at preventing, preventing, avoiding, reducing, eliminating significant negative environmental impacts, including (if possible) compensatory measures;

Atmospheric air (emissions).

During the planned activity of the Southwest section of Horodenkovsky field of brick raw material, the air environment will be affected.

According to Article 10 of the Law of Ukraine "On the Protection of Atmospheric Air", enterprises, institutions, organizations and citizens are subjects of entrepreneurial activities that carry out emissions of pollutants into the air and whose activity is related to the influence of physical and biological factors on its state, are obliged to:

1) carry out organizational, economic, technical and other measures to ensure compliance with the requirements stipulated by the standards and norms of environmental safety in the field of atmospheric air protection, permits for emissions of pollutants, etc .;

2) take measures to reduce the amount of pollutant emissions and reduce the impact of physical factors;

3) ensure uninterrupted efficient operation and maintenance of facilities, equipment and facilities for the purification of emissions and reduction of the levels of influence of physical and biological factors;

1) to control the volume and composition of pollutants emitted into the air and the levels of physical exposure and to keep a constant record of them;

2) to develop in advance special measures for the protection of atmospheric air in case of emergencies of anthropogenic and natural character and take measures to eliminate the causes, consequences of air pollution;

3) ensure the implementation of instrumentation and laboratory measurements of the pollutant emission parameters of stationary and mobile sources and the efficiency of gas purification plants;

4) ensure the development of measurement techniques that take into account specific pollutant release conditions;

5) use metrologically certified measurement methods and certified measuring instruments to determine the parameters of gas-dust flow and concentrations of pollutants in the atmospheric air and emissions of stationary and mobile sources;

6) to control the design, construction and operation of structures, equipment and apparatus for purification of gas and dust flow from pollutants and to reduce the influence of physical and biological factors, equipping them with the measuring equipment necessary for continuous monitoring of the efficiency of cleaning, observing the emission limits substances and levels of influence of physical and biological factors and other requirements of the legislation in the field of protection of atmospheric air.

The implementation of measures to protect the air must not lead to contamination of soil, water and other natural objects.

- *Waste*

In accordance with Article 55 "On the protection of the environment", the subjects of ownership of the waste must take effective measures to reduce the generation of waste and to dispose of it, dispose of it or dispose of it.

To control changes and innovations in the environmental legislation, including on waste management, to organize environmental work at the enterprise taking into account these changes and innovations.

Timely enter into contracts for the transfer of waste with specialized organizations that have the necessary licenses in the field of hazardous waste management for the collection, transportation, disposal of waste, if they are generated.

Ensure integrated use of raw materials. Ensure complete collection, proper storage and transfer of waste for disposal / disposal.

To equip storage sites for temporary storage of waste in accordance with the applicable sanitary standards for waste management.

To constantly monitor the condition of temporary storage facilities:

- prevent waste from being stored in unauthorized locations;

- avoid mixing of different hazard classes;

Provide sufficient waste collection containers.

Submit a “Declaration of Waste” (PESMU dated February 18, 2016 No. 118 “On Approval of the Procedure for Submission of a Declaration of Waste and its Forms” (according to the results of waste inventory, if the total waste generation ratio is from 50 to 1000 conventional units).

- *Geological environment*

To reduce the adverse impact on the geological environment, the following measures should be taken:

- adherence to project slopes of ledges;

- conducting systematic survey and mining and technical control over the field development.

- *Soils*

In order to reduce the damage from the quarry activity, soil remediation measures are planned, and compensation for the damage in the form of pasture reduction will be the establishment of afforestation in the degraded territory after the end of the field exploitation.

- *Surface and groundwater*

In order to reduce the harmful effect on groundwater during the construction works, the following measures are foreseen:

- the field will be mined above groundwater level;

- a separate trench will be created for precipitation of atmospheric precipitation;

- the contour of the deposit will be laid up a ditch for removal of atmospheric and melt water.

In order to prevent the flow of quarry oil into the environment, the project provides:

- control and maintenance of the proper technical condition of the equipment;

- periodic monitoring of the quality of quarry water that will enter the environment.

- In case of emergency oil spills, they must be collected with the soil. It is recommended to treat the collected soil for the destruction of petroleum products with the preparation “Ekonadin”;

Measures to prevent intense noise generation and isolation of the noise source are carried out directly on the site of the planned activity. The following noise and vibration control measures will be applied:

• All mechanisms will be kept in good working order. Their noise and vibration characteristics will match the specifications;

• permanent contact with vibrating surfaces is excluded;

• workers will be provided with personal protective equipment (shoes, gloves, etc.) to prevent the harmful effects of vibration;

• according to LTO 3.3.6.039-99, a set of therapeutic and preventive measures will be carried out, namely, the mode of work, vitaminization; persons under the age

of 18 who have undergone a previous medical examination, have the appropriate qualification, have made the technical minimum of the labor protection rules and are familiar with the nature of the effect of vibration on the body.

Noise reduction landscaping can be used for effective and relatively inexpensive noise reduction measures from process equipment. A 25 m wide planting strip helps reduce noise by 10-12 dB, with conifers mostly deciduous. The height of the trees should be at least 7-8 m, shrubs - up to 1.5-2 m.

3.6. A description of the expected significant adverse environmental impact due to the project's vulnerability to emergency risks, measures to prevent or mitigate the effects of environmental emergencies and emergency response measures

Accidents during the implementation of the planned activity may occur on separate production processes:

- in case of inadequate maintenance of a stable condition of the sides of the quarry throughout its life, the stability of ledges and heaps - the destruction of the sides, landslides, collapsing of the rock mass, exceeding the angles of slopes, exceeding the height of the ledges, failure to observe the width of work platforms and safety berms;

- when repairing mining equipment - details of machines and mechanisms, falling people from a height;

- when operating, repairing and servicing quarry electric consumers - electric shocks and falling people from a height;

- in case of atmospheric air pollution by harmful gases - during operation of internal combustion engines of machines and mechanisms;

- dust formation on quarries and quarry highways - machines and mechanisms;

- fires.

Open-pit mining should be conducted in accordance with the NPAOP 0.00-1.24-10 "Labor protection rules for open-pit mining" and approved by the project.

The enterprise must also have installed geological and mining documentation, a mining plan, approved by the head of the enterprise and agreed with the local authorities of the State Forestry Inspectorate, a special permit (license) for the exploitation of mineral deposits.

Technical management of opencast mining can be conducted by persons with completed higher or secondary mining education. Managers and engineering workers of open-pit mining enterprises, as well as organizations developing projects for such enterprises, machines, appliances, must be tested at least once every three years for knowledge of safety rules and other regulatory documents in accordance with with the requirements of state supervisory bodies for labor protection.

When introducing new technological processes or introducing new rules, all employees undergo unscheduled training.

Each workplace is inspected before the commencement of work or during the change by the master of the change or, on his or her behalf, by the foreman, and during the day by the head of the station or his deputy, who must prohibit the work in case of breach of safety rules until such violations are eliminated.

A work outfit is issued in writing. It is inadmissible to issue a work order in violation of labor safety rules. Issuing of outfits is carried out in accordance with the "Regulation on the emergency system", which is valid at the enterprise.

Every worker must be sure of the safe state of the workplace before starting work, having checked the safety of safety devices, tools, appliances, mechanisms. In the case of deficiencies that cannot be eliminated by itself, the worker must immediately inform the supervisor or the person responsible for the safety of the work, without starting the job.

It is forbidden to rest or stay directly in the face and at a distance of less than two meters from the lower edge of the ledge, near working machines and mechanisms, on railway tracks or roads.

Before starting the mechanisms or starting the movement of transport, it is necessary to give sound, and at night, light signals, which are known to all employees of the career. The signals should be clear and loud.

Before starting work or driving, the operator must ensure the safety of crew members, crews or nearby people. For this purpose tables of the corresponding signals on mechanisms and machines are displayed in a prominent place.

Anyone who notices a hazard (broken wire or damage to insulator, fire, etc.) should take the necessary steps and immediately notify the person responsible for the safety of the work.

Mining quarries in dangerous places where people may fall (dips, wells) should be fenced or overlapped, marked with warning signs illuminated in the dark.

It is forbidden to clutter up jobs and approaches to them.

During off-hours, mining, transport and other machinery must be pulled out or turned away, the working body must be lowered to the sole, the cabin doors must be locked; remove the voltage from the cable that feeds the machine.

If the process of open development is accompanied by the release of dust or gases, the concentration of harmful substances in the workplace must be measured quarterly. Sampling sites shall be determined in accordance with a plan approved by the Chief Quarry Engineer. In cases where the concentration of harmful or toxic substances exceeds the permissible sanitary standards, measures should be taken to remove people and reduce their concentration to the limit values.

In the event of a fire, all work in hazardous places is stopped, except for work related to its elimination. All structures in the quarry must be constructed in compliance with fire regulations. The locations and the number of primary fire extinguishers shall be set by the technical manager of the enterprise.

3.8. Concise content of the environmental monitoring and control programs during the planned activities and (if necessary) the post-project monitoring plans

According to the environmental impact assessment, it is determined that during the implementation of the planned activity in the Southwest section of Horodenkivskoye field of brick raw materials, it is expected to have a permissible impact on the environment and health of the population, caused by emissions of pollutants into the atmospheric air, noise pollution and noise pollution. waste management. No significant environmental impact is expected during the planned activity.

Enterprises, institutions and organizations, irrespective of their subordination and forms of ownership, the activity of which leads or can lead to the deterioration of the environment, are obliged to carry out ecological control of production processes in the state of industrial zones.

Monitoring and control over the implementation of environmental measures in accordance with the requirements of legislative and regulatory documents is carried out by the head of the enterprise or his deputy.

The organization of sanitary control over the harmful factors of the production environment is carried out in accordance with the requirements of Part 2 of Article 7 of the Law of Ukraine "On Ensuring Sanitary and Epidemic Well-being of the Population".

The monitoring of compliance with the established standards of pollutant emissions into the atmosphere is carried out by the enterprise. Production control is carried out by the bodies of the Ministry of Ecology and Natural Resources of Ukraine and the Ministry of Health of Ukraine, in accordance with the provisions of this body.

The control of pollutant emissions into the atmosphere involves:

- control of emissions, including: retention (mass concentration) and quantity of emissions (mass flow rate) of pollutants;

- comparison of the amount of emissions and the content of pollutants with the emission limit values and technological standards;

- emission accounting and emission control reporting.

The emission control system shall ensure compliance with the requirements of the Law of Ukraine "On the Protection of Atmospheric Air", industry normative documents, permits for emissions of pollutants and also obtain:

- systematic data on emissions, baseline data for reporting in the form No. 2-TP (air);

- information on compliance with the established emission limit values and technological standards;

- data to identify and analyze the causes that caused the exceedance of standards.

Pollutants emitted by machines and mechanisms used in the planned activity and subject to control include: substances in the form of inorganic dust containing 20-70% silicon dioxide, inorganic dust containing more than 70% silicon dioxide, oxide carbon, nitrogen dioxide and oxide, sulfur dioxide, soot, methane, ammonia, benzene (a) pyrene.

At the same time, the annual quality control of atmospheric air at the boundary of the sanitary-protective zone of the enterprise will be carried out.

The main task in the field of waste management is to ensure the proper collection, transportation and transfer of waste generated from the planned activities, in accordance with applicable legislation for storage, treatment, recycling, disposal, disposal and disposal, as well as compliance with environmental safety rules for waste management.

CONCLUSIONS

1. Climate and microclimate - no impact;

2. Air environment - air pollution by dust, emissions from quarry mechanisms and vehicles;

3. Water environment - closed cycle of water supply, development will not affect the hydrological regime of adjacent lands.

4. Soil - alienation of land for a quarry;

5. Flora and fauna, protected areas - impact due to the removal of land, increased noise during the career;

6. The social environment (population) - the positive impact of the construction of an industrial facility, as a result of job creation and payment of taxes and contributions to social funds;

7. Technogenic environment - no impact. The likelihood of a man-made catastrophe, subject to the conditions of proper use of equipment - is absent.

8. Ecological restrictions of planned activity of development of section of Horodenkovsky field of brick raw materials:

- compliance with the standard size of the sanitary-protective zone of the object;

- not exceeding the maximum permissible concentration (MAC) of harmful substances in the air outside the sanitary protection zone;

- not exceeding the permissible noise level in the inhabited territory;

- protection of lands from erosion, flooding, waterlogging, re-drainage, compaction,

pollution of production waste;

- restoration of lands disturbed by mining operations, their reclamation.

LIST OF REFERENCES

1. Water Code of Ukraine.
2. The Law of Ukraine “On Environmental Impact Assessment”.
3. The Law of Ukraine “On Environmental Protection”.
4. The Law of Ukraine “On Waste”.
5. The Law of Ukraine “On the Protection of Atmospheric Air”.

Multi-volume editions

1. Law of Ukraine “On Ensuring Sanitary and Epidemic Well-Being of the Population”.
2. "State Sanitary Rules for Planning and Development of Settlements", approved by the Decree of the Ministry of Health of Ukraine of 19.06.96 No. 173.
3. Methodological recommendations of MR 2.2.12-142-2007 "Risk assessment for public health from atmospheric air pollution", approved by the Order of Ministry of Health of Ukraine of April 13, 2007 No. 184, Kyiv, 2007 ".
4. "Methods of calculation of harmful substances from internal combustion engines", RD 238 USSR 84001-106-89, USSR Ministry of Transport, Kiev, 1989.
5. "Collection of methods for calculating the content of pollutants in emissions from unorganized sources of atmospheric pollution", CJSC "UkrNTEK", Donetsk, 2000.
6. Collection of Methods “Calculation of Contaminant Content in Emissions from Unorganized Atmosphere Pollution Sources”, UkrNTEK, Kiev, 2000.
7. "Method of calculation of emissions of harmful substances into the atmosphere in seaports", RD 31.06.06-86. Moscow, 1986.
8. “Methodological guidelines for emission control at NMU” (RD 52.04.52-85, Leningrad, 1987).
9. "Labor protection rules for open pit mining", NAPPP 0.00-1.24-10.

10. Temporary methodological manual for the calculation of emissions from unorganized sources in the building materials industry.

11. Methods of calculation of pollutant and greenhouse gas emissions into the air from vehicles, order of the State Statistics Committee of Ukraine from November 13, 2008 No. 452.

12. DSanPin 2.2.4-171-10 "Hygienic requirements for drinking water intended for human consumption".

Other editions

1. Minutes No. 4666 of the meeting of the Ukrainian Territorial Commission on Mineral Resources of the Ministry of Geology of the Ukrainian SSR of August 27, 1987.

2. Regional report on the state of the environment in the Ivano-Frankivsk region in 2017.

APPENDICES

Appendix A

Newspapers with the publication of the ATS message

Городенківська газета

№27 (1464)
5 липня 2018

kray_gorodenka@ukr.net

Край

І пам'ятай,
якій землі ти син.
Країн багато,
Рідний край – один

Крайні заходи

У понеділок мешканці серафинецької вулиці Івана Франка повторно перекрили дорогу на виїзді із села в напрямку Заліщиків. Люди обурені станом дорожнього полотна й рухом великовагового транспорту, що стає особливо інтенсивним під час жнив. «Єдиний важель впливу – перекрити дорогу під час жнив, бо тоді нас почують», – вважають протестувальники

СТОР. 3

Ода простій людині

Ви знаєте, яка найдорожча медаль «За заслуги»? Не думаю, що перед районом чи областю. Радше невидима, видана на небесах.

А яке, міркуєте, звання почесного найпочесніше? Не якогось там села чи міста, видане якоюсь там радою, проголосоване серед інших, подекуди геть нелічесними депутатами. Направду почесний – той, добра пам'ять про кого залишається надовго в душах людей. Той, хто не потребує якихось штучних голосувань.

Добре ім'я неможливо штучно зробити чи

6 грн за 1 см кв. – на внутрішніх сторінках;
12 грн за 1 см кв. – на 1 стор.
9 грн за 1 см кв. – на 12 стор.
Знижки для учасників АТО – **15%**.
• оголошення – **6 грн за 1 см²**;
• співчуття – **130 грн**;
• співчуття із фото – **160 грн**;
• співчуття від організацій – **150 грн**;
• річниця пам'яті – **від 210 грн**;
• вітання без фото – **130 грн** (4 рядки вірша);
• вітання із фото – **160 грн** (4 рядки вірша);
• подяка – **210 грн**;
• вітання для юридичних осіб – **210 грн** (4 рядки вірша).

Оплату за послуги, оголошення, поздоровлення, співчуття проводити на р/рахунок **26006589783 Райффайзен банк "Аваль"**, м. Київ, МФО 380805, ЄДРПОУ 20553758, отримувач ПП **"Медіацентр "Край"**..

Замовлення в черговий номер на рекламу, оголошення, вітання та співчуття приймаємо до 12.00 год. понеділка

З приводу реклами звертайтеся за телефоном: 2-26-75

РОБОТА В ПОЛЬЩІ
097-016-13-41; +487-85-48-74-20; +485-32-26-69-36 (viber).

Пропала собака! Відгукується на – Джері! Просимо повернути за винагороду.
097-23-26-126.

Втрачений Державний акт на землю серії І-ІФ 009688 від 20.06. 2002 р. №34 Кітури Василя Миколайовича вважати **недійсним.**

Втрачене свідоцтво на право власності на квартиру по вул. Гагаріна, 20, кв. 5 від 18.08.1994 р., реєстраційний №2228 згідно розпорядження №232 від 23.06.1994 р., видане на Фрасовір М. А., Фрасовір Л. И., Фрасовір В. М., Фрасовір Н. М., вважати **недійсним.**

Раковецька сільська рада
має намір отримати Дозвіл на викиди забруднюючих речовин в атмосферне повітря стаціонарними джерелами офісних опалювальних конвекторів.
Юридичне, місцезнаходження

про планову діяльність, яка підлягає оцінці впливу на довкілля

ТОВАРИСТВО З ОБМЕЖЕНОЮ ВІДПОВІДАЛЬНІСТЮ "ГОРОДЕНКІВСЬКИЙ ЦЕГЕЛЬНИЙ ЗАВОД", код ЄДРПОУ 24679516

інформує

про намір провадити планову діяльність та оцінку її впливу на довкілля

1. Інформація про суб'єкт господарювання.
78100, Івано-Франківська область, м. Городенка, вул. Будівельна, 1
Тел.: (098) 252-27-80, e-mail: ceh_zavod@ukr.net
2. Планова діяльність, її характеристика, технічні альтернативи.
Кар'єр видобування глин на Городенківському родовищі, які відповідають вимогам ДСТУ Б В.2.7-61:2008 "Цегла та камені керамічні рядові, лицьові і придатні для виробництва способом пластичного формування цегли керамічної рядової повнотілої марок 100 – 125 за міцністю.
3. Місце провадження планової діяльності, територіальні альтернативи.
Городенківське родовище розташоване на південно-західній околиці м. Городенка Городенківського району Івано-Франківської області. Запаси корисних копалин затверджені протоколом ДКЗ №3850 від 23.02.2017 р. Територіальні альтернативи відсутні.
4. Соціально-економічний вплив планової діяльності.
Соціально–економічний вплив від даної планової діяльності визначається створенням робочих місць для населення, сплатою податків в місцеві бюджети. Планована діяльність є безпечна для місцевого населення і відповідає діючому природоохоронному законодавству.
5. Загальні технічні характеристики, у тому числі параметри планової діяльності (потужність, довжина, площа, обсяг виробництва тощо).
Ділянка, що планується до розробки площею 3,9 га, знаходиться на території Городенківського родовища цегельної сировини Городенківського району Івано-Франківської області. Родовище розташоване на вододільній підвищеній ділянці на приблизно рівній відстані від населених пунктів: м. Городенка, с. Чернятин, с. Глушків. Запланований річний видобуток корисної копалини складає 8785 м³.
Корисна копалина являє собою глину зеленувато-жовту коломийських шарів верхньотортонського під'ярусу, яка розвинута на всій площі родовища. Розкривними породами є лише грунтово-рослинний шар.
Видобування корисної копалини здійснюватиметься відкритим способом по транспортній системі із застосуванням кар'єрної техніки: екскаватор Атек-4321 із ємністю ковша 0,75 м³, бульдозер ДТ-75, автосамоскид КамАЗ 5511 вантажопідйомністю 10,0 т.
6. Екологічні та інші обмеження планованої діяльності за альтернативами.
• дотримання нормативного розміру санітарно-захисної зони об'єкта;
• не перевищення гранично допустимих концентрацій (ГДК) шкідливих речовин в повітрі за межами санітарно-захисної зони;
• не перевищення допустимого рівня шуму на заселеній території;
• захист земель від ерозії, підтоплення, заболочування, переосушення, ущільнення, забруднення відходами виробництва;
• відновлення порушених гірничими роботами земель, їх рекультивація.
7. Необхідна еколого-інженерна підготовка і захист території за альтернативами.
Підприємство діюче. В ході попередньої розробки, відповідно до спеціального дозволу на користування надрами №4474 від 29.10.2007 р., породи розкриву знімались та складались в тимчасовий бурт розкривних порід у відробленому просторі гірничої виробки, вплив на грунтові води здійснюватись не буде, оскільки проектний кар'єр розташований вище рівня грунтових вод.
8. Сфера, джерела та види можливого впливу на довкілля.
В процесі розробки Городенківського родовища цегельної сировини можливі наступні види впливу на:
• клімат і мікроклімат – вплив відсутній;
• повітряне

Appendix A continue

впливу теплотехнічного устаткування на забруднення атмосферного повітря відноситься до третьої групи об'єктів.

Валовий викид забруднюючих речовин становить: Азоту діоксид 0,008 т/р; Вуглецю оксид 0,001 т/р.

Обсяги викидів забруднюючих речовин відповідають діючому законодавству.

За більш детальною інформацією звертатись в організацію або до органів держадміністрації за адресою: **м. Городенка, вул. І. Богуна, 11.** Адреса ел. скриньки: **rda_horodenka@i.ua.** Тел.: **(03430) 2-15-12; 2-25-67.**

Терміни подання громадськістю зауважень – **30 календарних днів** від дня публікації повідомлення про намір отримати Дозвіл на викиди.

промислового об'єкту, внаслідок створення нових робочих місць та сплати податків та відрахувань до соціальних фондів;

• навколишнє техногенне середовище – вплив відсутній. Імовірність техногенної катастрофи, при дотриманні умов правильного використання обладнання – відсутня.

9. Процедура оцінки впливу на довкілля та можливості для участі в ній громадськості.

Планована суб'єктом господарювання діяльність може мати значний вплив на довкілля і відтак підлягає оцінці впливу на довкілля згідно Закону України "Про оцінку впливу на довкілля". Оцінка впливу на довкілля - це процедура, що передбачає:

1) підготовку суб'єктом господарювання звіту з оцінки впливу на довкілля;

2) проведення громадського обговорення Закону;

3) аналіз уповноваженим органом звіту з оцінки впливу на довкілля, будь-якої додаткової інформації, яку надає суб'єкт господарювання, а також інформації, отриманої від громадськості під час громадського обговорення, під час здійснення процедури оцінки транскордонного впливу, іншої інформації;

4) надання уповноваженим органом мотивованого висновку з оцінки впливу на довкілля, що враховує результати аналізу, передбаченого попереднім підпунктом;

5) врахування висновку з оцінки впливу на довкілля у рішенні про провадження планованої діяльності, вказаного у пункті 14 цього повідомлення.

У висновку із оцінки впливу на довкілля уповноважений орган, виходячи з оцінки впливу на довкілля планованої діяльності, визначає допустимість чи обгрунтовує недопустимість провадження планованої діяльності та визначає екологічні умови її провадження.

Забороняється розпочинати провадження планованої діяльності без оцінки впливу на довкілля та отримання рішення про провадження планованої діяльності.

Процедура оцінки впливу на довкілля передбачає право і можливості громадськості для участі у цій процедурі, зокрема на стадії обговорення обсягу досліджень та рівня деталізації інформації, що підлягає включенню до звіту з оцінки впливу планованої діяльності на довкілля, а також на стадії розгляду уповноваженим органом поданого суб'єктом господарювання звіту з оцінки впливу на довкілля.

На стадії громадського обговорення звіту з оцінки впливу на довкілля протягом щонайменше 25 робочих днів громадськості надається можливість подавати будь-які зауваження і пропозиції до звіту та планованої діяльності, а також брати участь у громадських слуханнях. Детальніше про процедуру громадського обговорення на стадії звіту з оцінки впливу на довкілля буде повідомлено в оголошенні про початок громадського обговорення.

10. Громадське обговорення обсягу досліджень та рівня деталізації інформації, що підлягає включенню до звіту з оцінки впливу планованої діяльності на довкілля.

Впродовж 20 робочих днів від дня офіційного оприлюднення цього повідомлення на веб-сайті Єдиного реєстру з оцінки впливу на довкілля громадськість має право надати уповноваженому органу, зазначеному в пункті 12 цього повідомлення, зауваження і пропозиції до планованої діяльності, обсягу досліджень та рівня деталізації інформації, що підлягає включенню до звіту з оцінки впливу на довкілля.

Подаючи такі зауваження й пропозиції, вкажіть унікальний номер, присвоєний справі щодо плановної діяльності при реєстрації цього повідомлення у Єдиному реєстрі з оцінки впливу на довкілля (зазначений у шапці повідомлення). Це значно спростить процес реєстрації та розгляду ваших зауважень та пропозицій.

У разі отримання таких зауважень і пропозицій громадськості вони будуть розміщені у Реєстрі та передані суб'єкту господарювання (протягом трьох робочих днів від дня їх отримання). Особи, що подають зауваження і пропозиції, своїм підписом засвідчують свою згоду на обробку їх персональних даних. Суб'єкт господарювання при підготовці звіту з оцінки впливу на довкілля зобов'язаний врахувати повністю, врахувати частково або обгрунтовано відхилити зауваження і пропозиції громадськості, надані в процесі громадського обговорення обсягу досліджень та рівня деталізації інформації. Детальна інформація про це включається до звіту з оцінки впливу на довкілля.

11. Рішення про провадження планованої діяльності.

Згідно чинного законодавства України, рішенням про провадження даної планованої діяльності буде отримання спеціального дозволу на користування надрами Ділянки №1 Городенківського родовища цегельної сировини, що видається Державною службою геології та надр України.

12. Усі зауваження та пропозиції громадськості до плановної діяльності, обсягу досліджень та рівня деталізації інформації, що підлягає включенню до звіту з оцінки впливу на довкілля необхідно надсилати до Управління екології та природних ресурсів Івано-Франківської ОДА: **76014, м. Івано-Франківськ, вул. Сахарова 23а.** Тел./факс: **(0342) 52-61-50**. E-mail: **ifecobez@gmail.com**

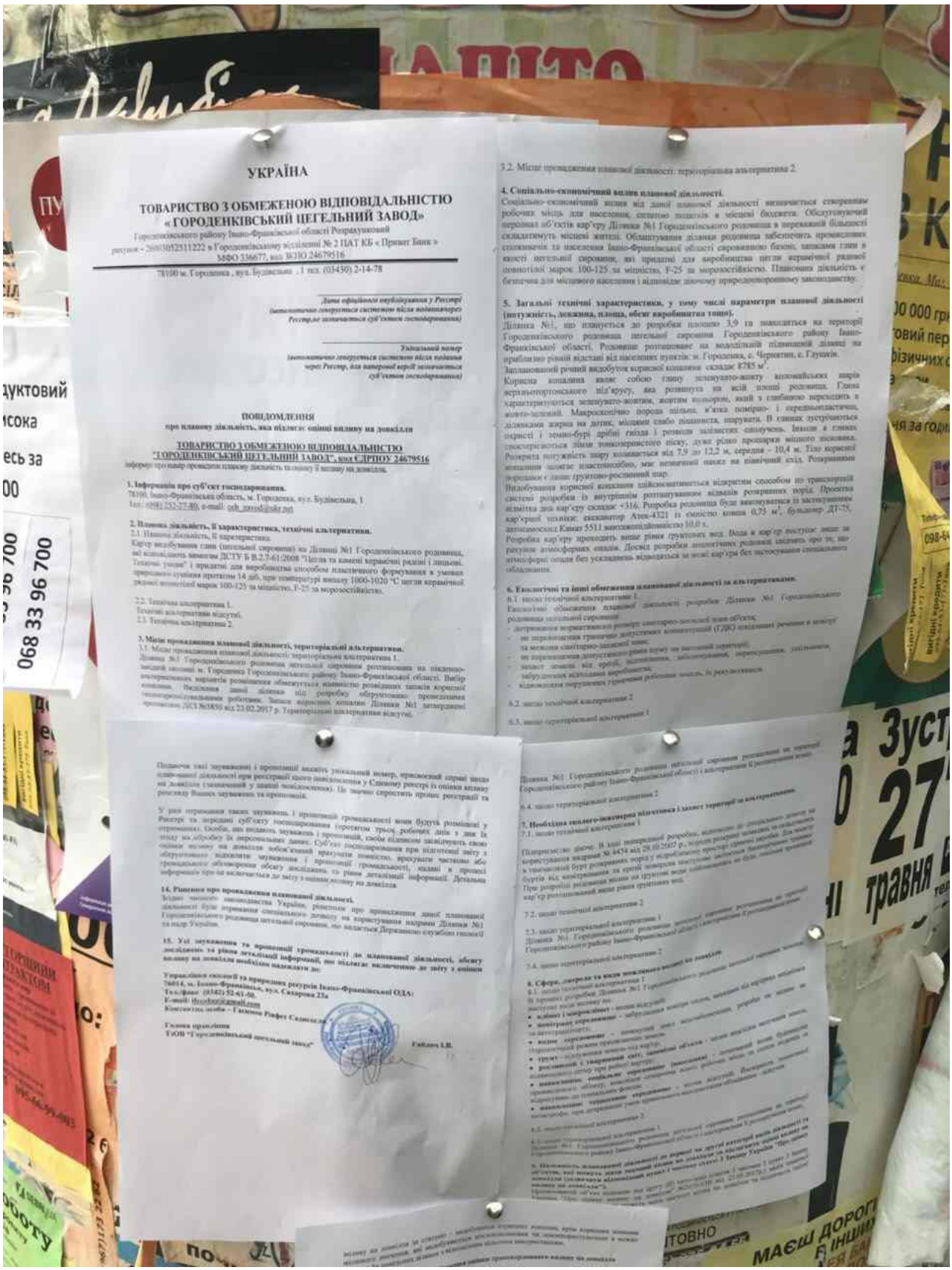
Контактна особа – Гасимов Ріяфет Садигогли.

І. В. ГАЙДИЧ.

Голова правління ТзОВ "Городенківський цегельний завод".

Appendix B

Photo report on the placement of the ATS message in public places on bulletin boards


УКРАЇНА
ТОВАРИСТВО З ОБМЕЖЕНОЮ ВІДПОВІДАЛЬНІСТЮ
«ГОРОДЕНКІВСЬКИЙ ЦЕГЕЛЬНИЙ ЗАВОД»
ПОВІДОМЛЕННЯ
про планову діяльність, яка підлягає оцінці впливу на довкілля
ТОВАРИСТВО З ОБМЕЖЕНОЮ ВІДПОВІДАЛЬНІСТЮ
"ГОРОДЕНКІВСЬКИЙ ЦЕГЕЛЬНИЙ ЗАВОД", код ЄДРПОУ 24679516
1. Інформація про суб'єкт господарювання.
2. Планова діяльність, її характеристика, технічні альтернативи.
3. Місце провадження планової діяльності, територіальні альтернативи.
4. Соціально-економічний вплив планової діяльності.
5. Загальні технічні характеристики, у тому числі параметри планової діяльності (потужність, довжина, площа, обсяг виробництва тощо).
6. Екологічні та інші обмеження планованої діяльності за альтернативами.
7. Необхідна еколого-інженерна підготовка і захист територій за альтернативами.
8. Сфера, джерела та види можливого впливу на довкілля
14. Рішення про провадження планованої діяльності.
15. Усі зауваження та пропозиції громадськості до планованої діяльності, обсягу дослідження та рівня детальної інформації, що підлягає включенню до звіту з оцінки впливу на довкілля необхідно надсилати до:
Голова правління
ТОВ "Городенківський цегельний завод"
Гайдич І.В.

Appendix C

Information on the placement of the ATS message on the bulletin board of the Horodenka City Council

УКРАЇНА
ГОРОДЕНКІВСЬКА МІСЬКА РАДА
ГОРОДЕНКІВСЬКОГО РАЙОНУ ІВАНО-ФРАНКІВСЬКОЇ ОБЛАСТІ
ВИКОНАВЧИЙ КОМІТЕТ

78100, м. Городенка, вул. Шевченка 77, тел. (03430) 2-23-82, тел./факс 2-22-15, e-mail: gmr.if.ua@gmail.com

від 21.11. 2019 р. №499

Директору ТОВ
"Городенківський цегельний завод"
78100, Івано-Франківська область,
м. Городенка, вул. Будівельна, 1
Тел.: (098) 252-27-80,
e-mail: ceh_zavod@ukr.net
Д.П.Дземану

ДОВІДКА

Повідомляємо, що товариством з обмеженою відповідальністю "Городенківський цегельний завод" 05.07.2018 р. на дошці оголошень Городенківської міської ради було розміщено ПОВІДОМЛЕННЯ про планову діяльність, яка підлягає оцінці впливу на довкілля з одночасним його розміщенням у районній газеті «Край».

Довідка видана для пред'явлення за місцем вимоги.

В.о. міського голови **Л.Музичка**