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Ivan Golturenko¹, Volodymyr Manyuk²

¹ Prichornomorske state regional geological enterprise

² Dnipropetrovsk national university of O.Gonchar

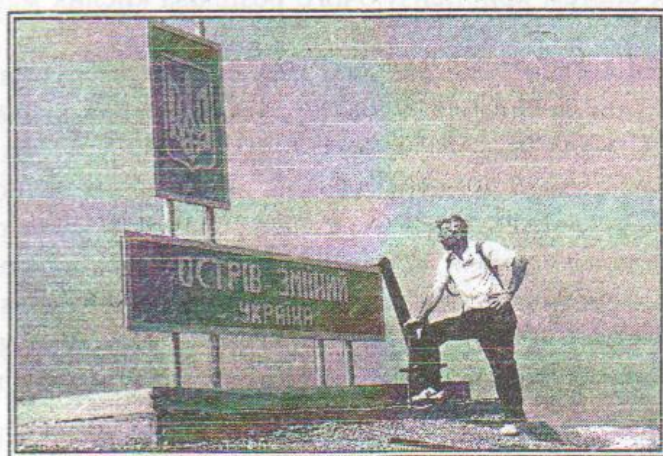
GEOLOGICAL HERITAGE OF THE SOUTH-WESTERN UKRAINE (ODESA, MYKOLAIV AND KHERSON REGION)

Розглядається проблема проведення попередньої оцінки геологічної спадщини Одеської, Миколаївської та Херсонської областей. Висвітлюються результати інвентаризації, каталогізації та створення комп'ютерної бази даних геологічних пам'яток природи цих областей.

Wherever we live we are surrounded by, observe and enjoy the aesthetics of the landscape around us. Geodiversity is the link between people, landscapes and their culture through the interaction of biodiversity, minerals, rocks, and geological processes.

For understanding the history of our planet's development people must study the geodiversity with the help Earth memory by writing in the rocks. It is contains information about Earth development during millions of years.

Nowadays the geological organizations of Ukraine conduct research and monitoring of geological heritage and geosites very actively. In May, 2003 in Kiev the «Complex Program of works on Scientific-methodical Maintenance of Regional Geological Researches in Ukraine»



was inaugurated whose main aim is the inventory and the creation of a computer database of geosites. In 2003-2004, within the framework of this program the geological service of Ukraine carried out research, inventory and creation of a database of geosites.

In concordance with Program Prichornomorske state regional geological enterprise (PSRGE) conducts works on the territory of

the North-west Fore-Black Sea (Odessa, Mykolaiv and Kherson regions). In the tectonic plan this is the *boundary* of Eastern-European Platform and the Skiphean Plate. PSRGE has been monitoring geological landmarks since 2003.

Mykolaev region. Mykolaiv region has a great recreation potential. There are 126 objects of the nature-protected fund of Ukraine. In the tectonic plan the territory of the region is situated at the boundary of Ukraine Shield and Prychornomorska depression. The territory of region is characterized by a rather complex geological-tectonic structure which includes the most part of known folding epochs: from Precambrian up to Alpine. The age sequence of the rocks is extremely wide. The section begins by complex

Achaean and Proterozoic formations and is finished by a varied complex of sedimentary rocks of some Phanerozoic systems. The stratigraphic subdivisions of various ages and their fragments can be observed in numerous outcrops, which explain the plenitude, significant value and variety of the geosites of Mykolaev region.

The outcrop of Ukraine Shield (AR-PR absolute age 3400-570 Ma) makes it possible to understand process which have been taking place on Earth millions of years ago. Rocks of Prychornomorska depression demonstrate deposition processes in the period from Cretaceous to Quaternary (absolute age from 135 Ma to now). Because of this factor the territory is very interesting and has many geological monuments.



The next geosites and some candidates for the role of potential geological objects of geological heritage Mykolaev region are offered.

1. Kaolinized rocks of the Trikratskiy granite massif.
2. The canyon of kirovogradsky complex granites, the north outskirts of Ahtovo village (absolute age 2000 Ma)
3. Pivdenniy Bug River, fracture cross.
4. Gneiss outcrops (absolute age 3400Ma) near Migiya village.
5. The quarry near Konespol village characterizing Pervomaysk fractured zone.
6. The large crystals of almandine.
7. One of the basic sections of Quaternary sediments (Rybakivka village).
8. The basic section of migmatized gneisses of Checheliivska Suite near Sofiivka village (absolute age 2100-1800Ma).
9. Biotite gneisses of Checheliivska Suite (quarry, east outskirts of Sofiivka village).
10. Aesthetically attractive kaolin primary outcrop (Kamennovatka village).
11. Changes of mountain rocks under the influence of tectonic factors in the region of dikes diabases introduction (Kamennovatka village).
12. Gard island, the former administrative center of Bugo-gardskaya palanka of the Zaporozhians Great Army the ukrainian cossacs medieval state.
13. Pivdenniy Boug River rifts in the region of Yuzhnoukrainsk town.
14. The beginning of the lowering on a water slalom route at the north-west outskirts of Mygiya village.
15. Sunrise on the South Bug river (the region of Grushivka village).
16. Operating hydroelectric power station on the South Bug river (Yuzhnoukrainsk town).

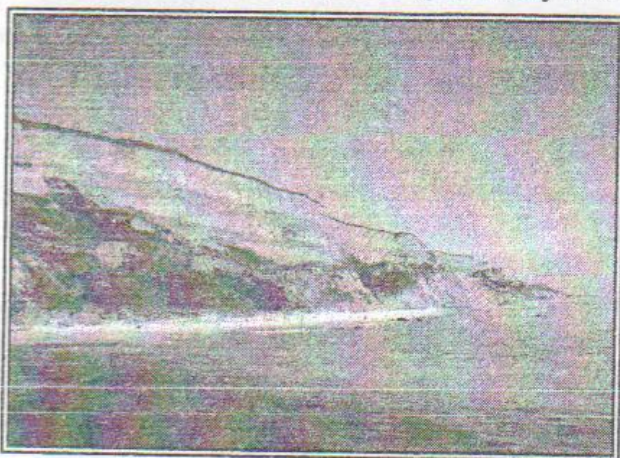


Odessa region. Odessa region is situated at the boundary of the southern

part of Eastern-European Platform in its junction zone with Skiphean Plate. Eastern-European Platform is introduced by such geosubstructural blocks as the Ukraine Shield in the north part of the region (AR-PR absolute age 3400-570 Ma). In the central part the Ukraine Shield overlaps by the rocks of Prychornomorska depression (from Cretaceous to Quaternary age). Skiphean Plate on the territory of the region is represented by Prutskiy ledge of Dobrudza folded zone (absolute age from 370 Ma to now). Odessa region borders on the Black Sea that causes the denudation of the offshore part and forming basic sections of Quaternary deposits. There are 12 more best geological monuments is considered.

1. The outcrop of terrigenous-carbonate rocks of Devonian Period (Orlovka village), (absolute age 370-350 Ma).

2. The basic section of Quaternary subaerial deposits (Sanzheyka village).

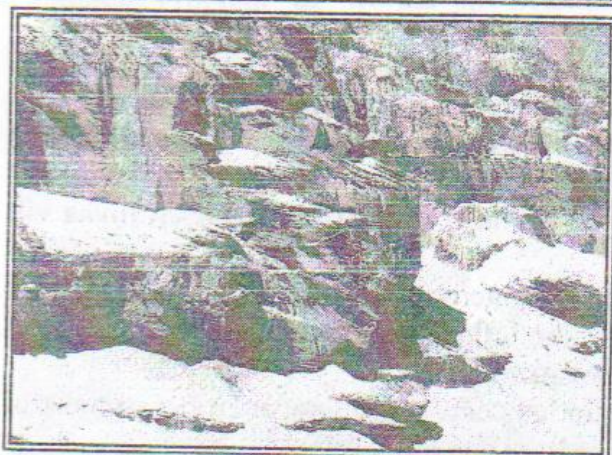


3. The outcrop of Quaternary sediments of the Danube V terrace (Babelsky horizon).

4. The basic section of Quaternary subaerial deposits (Primorskoe village).

5. The basic section of Quaternary sediments (north-western outskirts Roksolan village).

6. The basic section of Quaternary sediments (north-western outskirts Roksolan village).



7. The outcrop of fine-grained mica sands (sandpit near Dolinskoe village).

8. The outcrop of migmatite in the quarry (Vilshanka village).

9. The sandpit brightly showing the processes of fragmental material sedimentation in the ancient Dniester river-bed (western outskirts of Mologa village).

10. Sandy sediment with the expressly fixed recurrence of deposition (Mologa village).

11. Outcrop of red-brown loams containing gypsum crystals of different types (crystals and roses) (Buldynka village).



Kherson region. In the tectonic plan the territory of the Kherson region is situated in Prychornomorska depression. Apart from the basic section of the Quaternary deposits the territory is also interesting because the main river of Ukraine the Dnieper passes through it

and runs into the Black Sea. Sweeping downward over the Dnieper on the border of the Black Sea and the Dnieper-Bug Estuary the alluvial material deposits forming the unique geomorphology object – the Kinburnska spit. The Kinburnska spit has saved its primary look – sandy dunes, fresh and salt lakes, feather-grass steppe, forests. Kherson region contains 8 important geosites.

1. Sand dunes (quarry near Zburyivka village).
2. The basic section of Miocene sediments (Lvovo village).
3. The outcrop of limestone in western outskirts of Lvovo village.
4. The basic outcrop of Pleistocene sediments near Stanislav village.
5. Kinburnskaya spit (view from a helicopter).
6. Lakes with high maintenance of salts.
7. Steppe herbages near Pokrovka village.
8. Remains of the old forest with various kinds of trees (oak, fir, pine, ash ets).

The geologists of the Prichornomorske state regional geological enterprise in conjunction with representatives Ukrainian group of ProGEO are engaged in discovering, revealing, describing, inventorising, cataloguing and creating a computer database of the natural geological



monuments of the South-Western Ukraine, creating and improving the typological classification of geosites, developing methodological bases for estimation of objects of geological heritage, participating in the international project GEOSITES, studying opportunities for tourist use of geosites with the purpose of popularizing and protecting them.

The following real task may be revealing, the all-round scientific characteristics and possibly making a more complete estimation of major territorial objects of geological heritage as potential national Geoparks on both state and international levels.

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В. В. Манюк, Вад. В. Манюк

Днепропетровский национальный университет им. Олеся Гончара

О НЕОБХОДИМОСТИ СОХРАНЕНИЯ ТЕХНОГЕННЫХ ОБЪЕКТОВ ГЕОЛОГИЧЕСКОГО НАСЛЕДИЯ В СРЕДНЕМ ПРИДНЕПРОВЬЕ

Серед великої кількості категорій геологічних пам'яток природи чільне місце посідають техногенні об'єкти геологічної спадщини. Це геологічні пам'ятки створені або змінені втручанням людини, але які характеризують геологічну будову певної території, породи, мінерали, викопні рештки часто не гірше за природні відслонення.

Прошло 17 лет с момента проведения во Франции Первого Международного симпозиума по охране геологического наследия и осознания человечеством необходимости сохранения для потомков не только живой, но и так называемой неживой природы. Давно перестали быть экзотикой понятия «геологические памятники природы», «геосайты», ПроГЕО и др., связанные с созданием Европейской ассоциации по сохранению геологического наследия. Исторический девиз симпозиума «Память Земли в наших руках» и положения «Международной декларации об охране Земли» успешно воплощаются в жизнь усилиями представителей рабочих групп ПроГЕО в Украине и в России [2;4;6].

Положение Среднего Приднепровья в области сочленения Украинского щита с Днепроовско-Донецкой и Причерноморской впадинами определяет богатство и разнообразие минеральных ресурсов этого региона, большой стратиграфический диапазон породных ассоциаций, хорошую палеонтологическую охарактеризованность стратонев, величолепие минеральных комплексов и пр.

Здесь расположены крупнейшие месторождения докембрийских железных руд (Криворожское, Кременчугское,); месторождения марганцевых руд (Никопольское); одна из крупнейших в мире Приднепровская титаноносная провинция, большие запасы каменного угля Западного Донбасса; месторождения нефти и газа в бассейне р.Орели (Перещепинское и др.); Днепровский бурогольный бассейн; одно из крупнейших в СНГ Просяновское месторождение каолинов; Токовское и Кудашевское месторождения облицовочных гранитов; небольшие, но перспективные месторождения золота Сурской и Чертомлыкской зеленокаменных структур; Сухохоторские руды силикатного никеля; Высокопольское месторождение бокситов и многие другие [5].