



TELLUR

Group of Companies

Geophysical, geochemical & geological exploration

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A RELIABLE PARTNER FOR MINING COMPANIES

- MINERAL EXPLORATION WITH APPLICATION OF INNOVATIVE TECHNOLOGIES
- GEOPHYSICAL SOLUTIONS IN HYDROGEOLOGY AND GEOLOGICAL ENGINEERING
- ENVIRONMENTAL GEOCHEMISTRY

St-Petersburg, Russia
2013



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Established 1992

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General information

What is TELLUR Group of Companies

TELLUR is a group of Russian companies carrying out geophysical, geochemical and geological exploration. TELLUR includes three interrelated companies:

“Tellur SPb” J.S.C. (*1st of 3 companies, established in 1992*),

“Tellur Nord-West” L.L.C.,

“Tellur North-East” L.L.C.

These are service companies for solving various problems of mineral exploration for precious, base and rare metals, diamond-bearing kimberlite pipes and other kinds of mineral commodities with the use of innovative high-level technologies, developed or updated by our specialists.

These technologies include advanced geophysical, geochemical and geological techniques of mineral exploration which have been especially designed for searching mineral deposits which are difficult to discover, including those weakly differentiated in geophysical fields, some of them with small linear sizes, deep setting, and low content of sulfides. Therefore, such mineral deposits are difficult to be revealed by means of routine geophysical, geochemical and geological techniques.

Application of our technologies leads to optimization of the geological, geophysical and geochemical exploration complex, e.g. optimal relationship of results, costs and duration of works. This approach allows achieving a real solution of exploration problems with a high degree of geological reliability.

Besides of mineral exploration with field surveying that we have been carrying out in different regions of Russia and other countries, our specialists are experienced in indoor sophisticated analysis and re-interpretation of available geological, geophysical and geochemical information on mineral prospects or licensed areas obtained in previous studies. Investigations of this kind enable, in many cases, preliminary estimation of prospects and/or areas, including estimation of inferred mineral recourses.

What technologies we develop and use are based on

- ◆ new possibilities of the differential modification of the time-domain Induced Polarization (IP) method of surface electrical exploration, with the use of high-precision measuring instruments, allowing to carry out IP surveys in complicated geologic and environmental conditions;
- ◆ surface magnetic surveys with modern precise magnetometers;
- ◆ techniques of interactive quantitative interpretation of field data, based on mathematical 2D and 3D software for solution of problems of electrical and magnetic surveys, that makes it possible to represent results of data interpretation as 2D and 3D models in real scale of depths;
- ◆ last achievements in geochemical and geoelectrochemical exploration methods;
- ◆ techniques of joint interpretation of all available geophysical, geochemical, geological, and other information.

Depending on problems being solved, these methods can be supplemented by:

- ◆ algorithms of aerial photographs and satellite slides decoding with the use of original mathematical software and application of structural-lineament analysis;
- ◆ geological exploration with field observations and surveying;
- ◆ other methods of mineral exploration.

We usually perform works of prospecting and exploration for

Precious metals (Au, Ag, Pt, Pd)

Base metals (Cu, Pb, Zn, Ni, Co, etc.)

Rare metals (Nb, Ta, Be, etc.)

Diamonds

Industrial minerals (quartz, mica and ceramic pegmatites, etc.)

Other areas of our activities

- Geophysical investigations aimed at solving problems of hydrogeology and geological engineering (in mining or urban areas).
- Environmental geochemical surveying and monitoring aimed at estimation of environmental pollution with heavy metals and other toxic components.

Although the principal area of our activities is exploration for mineral deposits, we can provide some of geochemical, geoelectrochemical and geophysical services for prospecting and exploration of oil and gas fields. Besides of that, we have working links with our partners carrying out prospecting for oil and gas with the use of geochemical and non-seismic geophysical techniques.

Leading specialists



Sergey P. Sergeev, Ph.D. (born 1948)

Founder (1992) / General Director “Tellur SPb” J.S.C. and “Tellur North-East” L.L.C.

Graduated from St-Petersburg Mining Institute (1976).

Principal specialization: electrical and other geophysical methods of prospecting and exploration for mineral deposits, especially development of the Induced Polarization method (IP).

He has great experience of leadership and management of exploration works in Russia, other states of the former USSR and oversees countries (Morocco, Angola, Egypt, Guinea, Namibia, Mozambique, Liberia, and Peru). He represented “Tellur” at exhibitions and professional meetings in Turkey, Republic of South Africa, Brazil, Ecuador, Peru, and other countries.



Alexey G. Marchenko, Ph.D., D.Sc., Professor (born 1954)

Deputy General Director, Chief Geochemist

Graduated from St-Petersburg Mining Institute (1977).

Principal specialization: geochemical prospecting and exploration for mineral deposits. He visited the United States Geological Survey as a participant of the scientific exchange program (1987-1988), was a lecturer at St-Petersburg Mining Institute (1988-2007, courses on exploration geochemistry and geophysics). He carried out exploration in various regions of Russia and in Peru, represented “Tellur” at exhibitions and professional meetings in Republic of South Africa, Brazil, Peru, Ecuador, Finland, and New Zealand.



Konstantin V. Blinov, Eng. (born 1955)

General Director “Tellur Nord-West” L.L.C., Chief Geophysicist

Graduated from St-Petersburg Mining Institute (1977).

Principal specialization: geophysical prospecting and exploration for mineral deposits, especially magnetic, electrical methods and borehole logging. He has large experience of management and performance of geophysical exploration in Russia, Armenia, and Uzbekistan. He took part in 4 expeditions to Antarctica, carried out geophysical exploration in Africa (Angola, Guinea) and Peru.



Viktor A. Butenko, Ph.D. (born 1952)

Deputy General Director, Chief Geologist

Graduated from Kharkov State University (1974).

Principal specialization: geological prospecting and exploration for mineral deposits. He carried out geological surveying, prospecting and exploration in Siberia and other regions of Russia, took part in exploration works in Peru. He has large experience of geological works in Africa (Namibia and Mozambique).

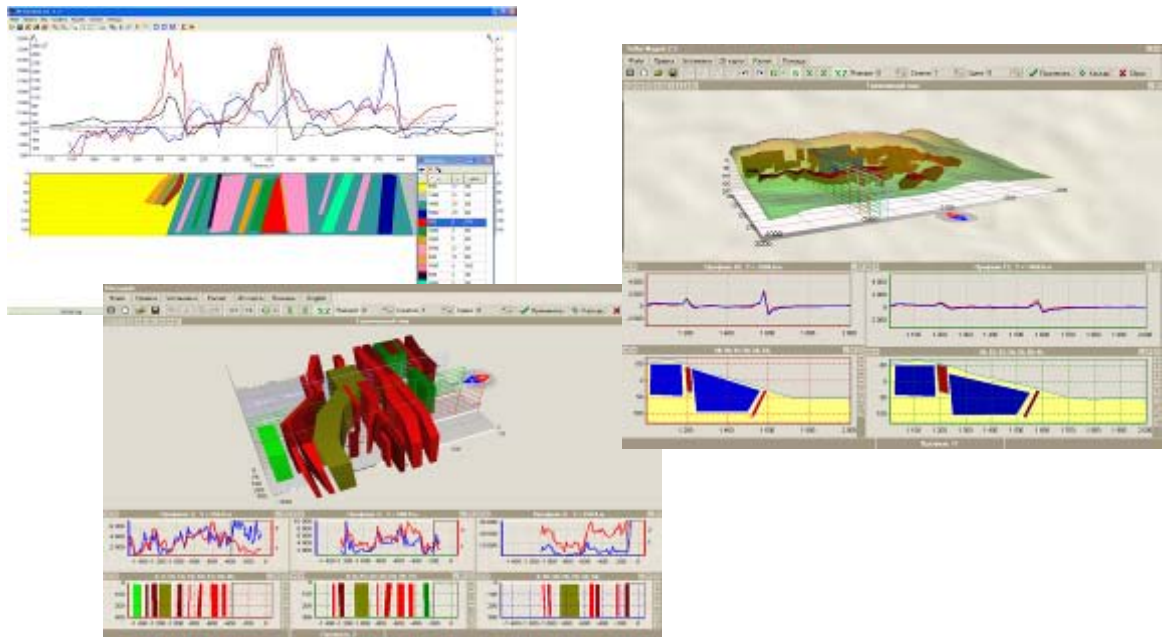
The staff of TELLUR includes more than thirty professionals permanently working at our companies, six of them hold Ph.D., and three of them hold D.Sc. in geology/geophysics/geochemistry. If necessary, we often engage other specialists for solving special tasks or taking part in field works.

Special instruments and software produced by TELLUR

When we apply advanced technologies to mineral exploration, we use special instruments for electrical IP exploration, designed and produced at TELLUR. For geophysical data processing, interpretation and visualization, we mainly use special software developed and produced by our specialists. We can produce and sell these instruments and software for other companies under special contracts. During last years, we had sold several units of instrumentation and software to partner companies in Armenia, Uzbekistan and Guatemala, and users responded that our products proved to be easier to use and more reliable than similar products from other producers.



Instruments for IP electrical method produced by TELLUR



Examples of screenshots of software produced by TELLUR for processing, interpretation and visualization of the electrical and magnetic surveys data

Our Clients in Russia and abroad

More than for 21 years we have been working with well-known mining and exploration companies. For last years, among our customers of exploration works for precious and base metals in different territories of Russian Federation, mainly in Eastern Siberia and North-Western Russia, have been such biggest Russian companies as **“MMC Norilsk Nickel”**, **“Severstal-Resources”**, **“Polymetal”**, **“Zapadnaya Gold Mining Ltd”**. We also performed exploration for precious metals in Russia under contracts with **“VSEGEI”**, **“Pana”** (a subsidiary of **“Barrick Gold”**), **“BHP-Minerals”** (now **“BHP-Billiton”**) and other Clients. Short information about works, performed by “Tellur” in foreign countries, you can see in the table on the next page.



Geophysical surveying in Liberia (2009)



Electrical IP exploration in Namibia (2007)

Exploration works carried out by TELLUR in foreign countries of Africa, Latin America and Asia

Country	Client company	Year(s)	Mineral deposits searched or explored
Morocco	Sokomis	1994	Cu (porphyry copper ores)
Angola	Zarubezhgeologiya	2002	Kimberlite pipes (diamonds)
Angola	Zarubezhgeologiya	2003	Kimberlite pipes (diamonds), Au
Namibia	Namslavic	2002 - 2008	Kimberlite pipes (diamonds), Au, PGE, Ta, Nb
Egypt	National Research Institute of Astronomy and Geophysics	2006	Regional forecasting of Au -bearing objects on the base of satellite slides decoding and interpretation
Guinea	International Diamond Group (IDG)	2006	Kimberlite pipes (diamonds)
Guinea	SRK Consulting	2007	Kimberlite bodies (diamonds) and diamond -bearing placers
Mozambique	OBB Maria Limitada	2008	Rare metals (Be, Li, Ta, Nb), industrial minerals and gems (in pegmatites); Au
Peru	Sociedad Minera Baya S.R.L.	2007 - 2008	Au
Peru	Hochschild Mining PLC	2008	Au, Ag
Peru	Pan American Silver Peru S.A.C.	2008	Zn, Pb, Ag, Au
Peru	Volcan Compania Minera S.A.A.	2008	Au, Cu, Zn, Pb, Ag
Mexico	Private Client	2009	Forecasting of Mn ores on the base of satellite slides decoding and interpretation
Liberia	AmLib United Minerals	2009	Au (veins and placers)
Republic of South Africa	Alfa Prospecting and Mining Company Pty Ltd	2010	Diamonds (placers and kimberlite pipes)
Guatemala	Compania Guatemalteca de Niquel (CGN)	2012- 2013	Ni (lateritic nickel ores)
Armenia	«Vallex Group»	2010- 2013	Cu, Mo, Au, Ag



Geophysical and geochemical prospecting in Andes, Peru (2008)



Geological sampling in Republic of South Africa (2010)

Complex of methods we usually apply to green-field exploration

- Topographic works (positioning of lines and points on the ground for geophysical and supplementary methods of surveying).
- Surface magnetic survey aimed at solving structural and mapping tasks.
- Surface electrical prospecting by means of the Induced Polarization (IP) method aimed at finding zones with increased contents of sulfides, including both massive and disseminated sulfides.
- Electrical IP soundings and tomography.
- Geochemical prospecting with sampling soils and outcrops, within the whole territory or within local zones with geophysical anomalies.
- Geological support to geophysical and geochemical exploration.
- Treatment and complex interpretation of the geophysical and other data obtained, with final representation of results as geophysical and geochemical maps, geomagnetic and geoelectrical 2D cross-sections and, if possible, 3D models. Finally, the predictive map of mineral deposits is prepared to show location of forecasted ores. Recommendations for positioning drill holes, pits and trenches are also given to the customer in a final report.

Geologic reliability of results of our works

Geological reliability of our results was officially evaluated by experts of the companies “Pana” and “MMC Norilsk Nickel” within the range from 66 to 85 %. Below you can see two documents containing assessments of results of our exploration works (texts within bodies of these letters translated from Russian to English).

In the final section of this brochure you can also see the letter from “Alfa Prospecting and Mining Company” Pty Ltd with assessment of our exploration carried out in South Africa.

Открытое
акционерное общество
«ГОРНО-МЕТАЛЛУРГИЧЕСКАЯ КОМПАНИЯ
"НОРИЛЬСКИЙ НИКЕЛЬ"»



КОЛЬСКАЯ ГМК

Открытое
Акционерное общество
«Кольская Горно –
Металлургическая Компания»

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e-mail: info@kolsk.ru

To: Mr. S.P. Sergeev
Director General
"Tellur SPb" Co.

Since 1999, the "Tellur SPb" Co. has been carrying out geoelectrical exploration for copper and nickel, platinum group metals, and titanium by means of induced polarization method at the objects belonging to "Kolskaya GMK" Co., under contracts.

By 2001-2002, the "Tellur SPb" Co. has developed new instrumental, methodical, mathematical and software complex, having no analogies, on the basis of its own precise measuring instruments produced by this company. This enables effective solving of exploration problems, including exploration for low-sulfide PGE ores with sulfide content less than 0.5%.

High effectiveness of this geoelectrical exploration complex was proved by results of drilling in 2002, conducted by Pechenga division of the "Kolskaya GMK" Co., in course of exploration for low-sulfide PGE ores in layered massifs of Kola Peninsula: the Mountain Generalskaya and Vuruchuaivench massifs.

After geophysical exploration, carried out by the "Tellur SPb" Co. in the Mountain Generalskaya and Vuruchuaivench areas, 11 sites for drilling were recommended (see protocols of the Scientific and Technical Council of the "Kolskaya GMK"). Ores, predicted by the IP data, were discovered in 9 boreholes from 11 boreholes drilled, that equals 81.8%.

The similar exploration works were carried out by the "Tellur SPb" Co. in the area of Fedorovo-Pansky massif under contracts with "Pana" and "BHP Minerals" companies, and positive results were achieved as well, that has been proved by the corresponding documents from these client companies.

"Kolskaya GMK" Co recommends using of the geoelectrical exploration complex, developed by the "Tellur SPb", in mineral exploration for platinum group metals and other mineral commodities.

Head of the Geology and Mine
Surveying Office of the "Kolskaya
GMK" of the "Norilsk Nickel"

S.Z. Sokolov

**ОТКРЫТОЕ
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25 February 2003.

**Генеральному директору
ЗАО «Теллур СПб»
Сергееву СП**

To: S.P. Sergeev
Director General
“Tellur SPb” Co.

Since 1995, the “Tellur SPb” Co. has been carrying out geoelectrical exploration for platinum group metals in the Fedorovo-Pansky massif area under contract with “Pana” Co. The goal of IP method application is the direct revelation of low-sulfide disseminated mineralization, perspective for PGE. We compared the IP technology, developed by the “Tellur SPb” Co., with other domestic technologies (INFAZ-IP and IPF with MG scheme, RS-IP with small asymmetric array, Strobe-IP with 3-electrode array), and with foreign technologies (Phoenix Scintrex, dipole-dipole configurations, Geosoft software).

1. During exploration for Platreef-type mineralization (thick zones of disseminated sulfides with their content 1-5%), 13 boreholes were drilled according to IP data. The predictions based on “Tellur SPb” data were confirmed in 85% cases, whereas the confirmation of predictions based on other technologies was less than 60%. Since 1996, the “Pana” Co. has been placing orders for IP exploration to “Tellur SPb” Co. exclusively.

2. During exploration for Stillwater-type mineralization (thin zones with their width less than 1 m with sulfides content about 1%), 17 boreholes had been drilled by 2002, according to various IP data. The confirmation of predictions in poorly studied territories was about 20-30%. After that, when the “Tellur SPb” Co. proposed new measuring IP instruments and software, the confirmation of predictions increased up to 66%.

3. We are on the opinion that IP technology, proposed by the “Tellur SPb” Co., is the best among all having been applied. This technology is better than domestic and foreign analogs, and highly effective in exploration for the Platreef-type PGE mineralization. The Stillwater-type mineralization is much more difficult for revelation, but recently obtained results evidences that this technology is perspective in this case as well. The “Pana” Co. is going to continue usage of the IP technology proposed by the “Tellur SPb” Co., in exploration for PGE in the Fedorovo-Pansky massif area.



Director General
Geophysicist

“Pana” Company

A.U. Korchagin
K.O. Dudkin



Alfa Technologies

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17 January 2011
TELLUR SPB JSC
8 Sovetskaya St, 21, lit.A
191036, St-Petersburg
Russian Federation
Attention: Mr S. Sergeev

Dear Sir,

Re: Geological and geophysical prospecting for diamond bearing placers in Beauhill and Sweet House areas, Free State Province, RSA. (Approximate 1,000 hectares)

I would like to use this opportunity to thank you and your staff for the successful completion of the prospecting phase in the above mentioned areas. Company's senior geologist and two geophysicists within a period of about two months had completed the following tasks:

- Covering of 20 linear km of geological routes with geomorphologic and geological observations
- Development of 3 lines of pits 0,5m deep with sampling to determine the composition of the upper part of unconsolidated deposits;
- Heavy concentrate sampling of temporary and permanent streams;
- Conducting of 3 lines of vertical electrical sounding with resultant data indicating maximal thickness of drift, correlation of geoelectrical and lithological characteristics;
- Conducting of the follow up geophysical measurements with electrical sounding VES-IP method in areas most productive for placers.

As a result we received Final Report which incorporates the following:

- predictive estimation of diamond bearing placers with localisation of the most prospective ones;
- determination of cover thickness in points of soundings as well as of geological objects worth further exploration as potential primary sources of productive kimberlites;
- providing maps showing variations of thickness of unconsolidated deposits and 3D models of bedrock roof;
- explanatory notes to the maps and methods mentioned above

Based on the resultant data the owners of the above licensed areas took a decision to conduct bulk sampling exercise and further geophysical scanning to identify more accurately positioning, depth and potential productive volumes of the searched areas. We are looking forward to further fruitful cooperation with Tellur in South Africa and neighbouring countries.

Truly yours,

Piet Groenevald, Director

*In TELLUR Group of Companies,
developments of technologies for geophysical,
geochemical and geological exploration are
in progress.*

*We continue cooperation with exploration
and mining companies in Russia and over the
world, and ready to make services for new
customers.*

*To those who would like to know more about
TELLUR, we can present more information
under request.*



Sincerely,

Sergey P. Sergeev, Ph.D.

General Director, TELLUR Group of Companies

December 2013