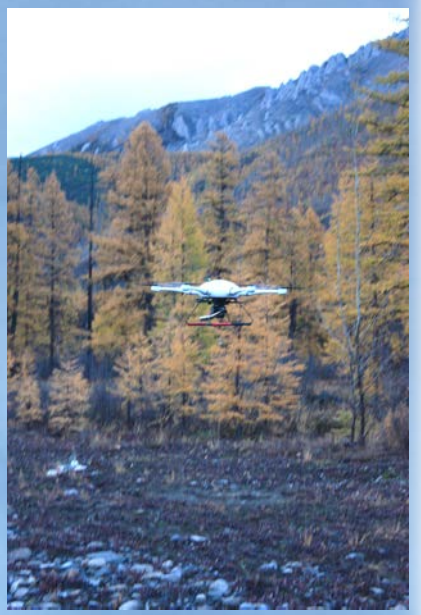
DRONE BASED ELECTROMAGNETIC SOUNDINGS

Russian Research Geological Institute & ALPOM LLC

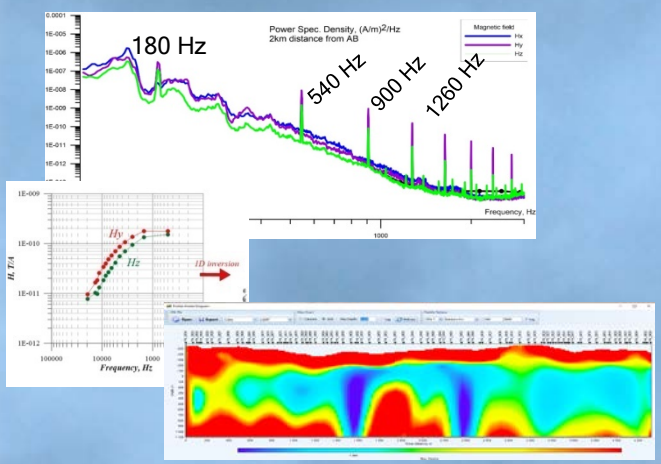
Geoelectric model investigation up to several hundreds meters depth including:



- faults delineation;
- intrusive body detection;
- metasomatic alteration mapping ;
- ore prospective sites detection

General features:

- **Surveys in the hard-to reach areas;**
- **High productivity;**
- **Operating in the mountain and difficult terrain**
- **Studying the area from the first up to the first hundreds sq.km**

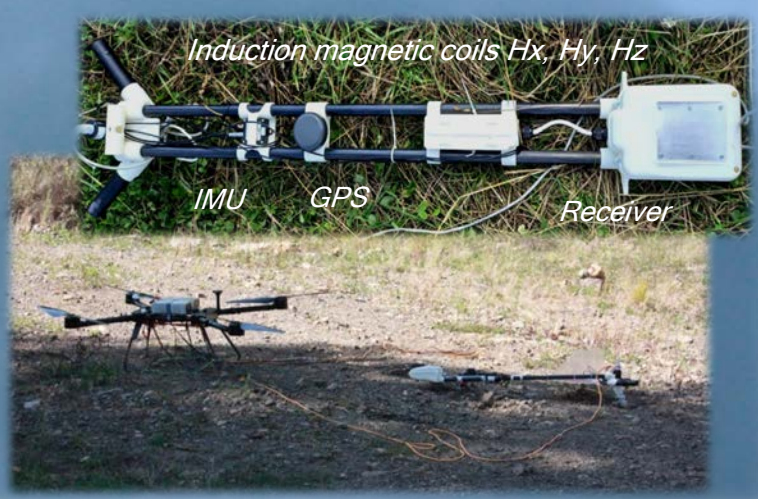


THE TECHNOLOGY:

- ❖The FD CSEM technology with horizontal electric dipole (CSEM);
- ❖Three magnetic components (Hx, Hy and Hz) measurements in the frequency range 10 Hz – 100 kHz;
- ❖ QC-QA software in receiver;
- ❖ Calculation of amplitude and phase of all magnetic components and response functions, noise filtering, 1D inversion and geolectrical model creation.

HARDWARE SYSTEM

- ❖**MEMI hardware system: receiver, three induction magnetic coils, IMU and GPS modules.**
- ❖ ***Designed to minimize the mutual influence of system components.***
- ❖**Equipment weight - 2.5 kg. Flight duration up to 3.5 hours.**



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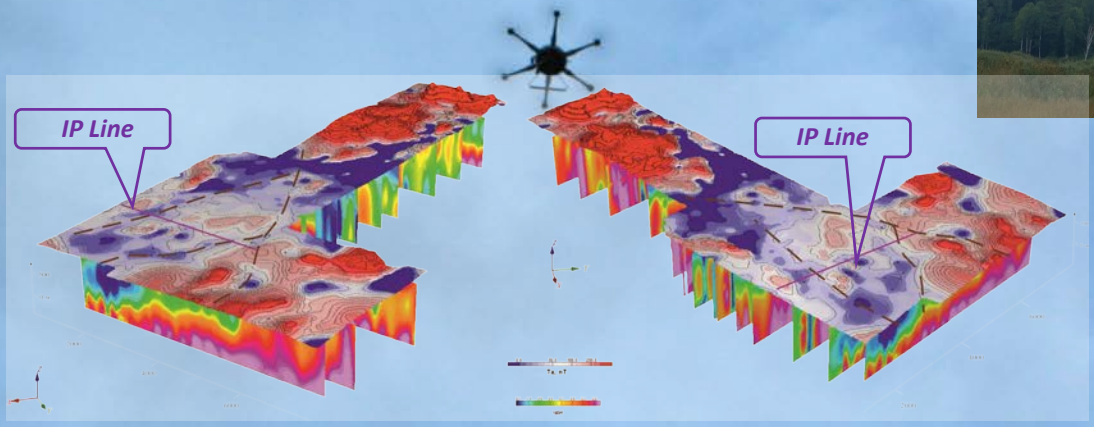
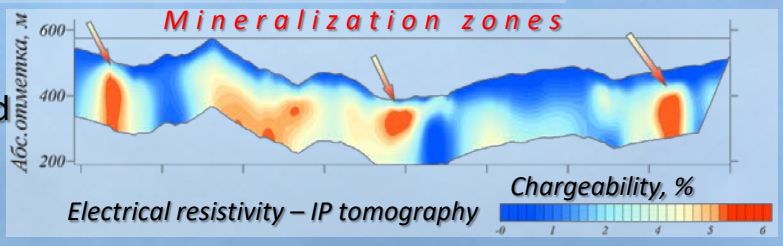
ALTAY REPUBLIC

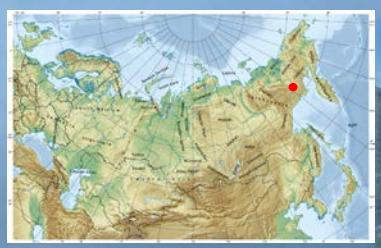
- 40 sq.km area, Scale 1:10000;
- 15 days work duration;
- Metasomatic alteration zones connected with mafic intrusions have been detected and traced up to 800 m depth. The zones are promising for the discovery of gold-quartz-sulfide mineralization.



- Mineralization zones were verified according to ERT – IP results.



MAGADAN REGION



- 100 sq.km area, Scale 1:10000;
- 40 days work duration;
- Mountain terrain and permafrost distribution;
- Thrusts were detected and traced up to 600 m depth, subthrust zone structure was clarified, The intrusion bodies were mapped, Ore prospective targets were detected.