

## Sequence of executable works (DEEP VISION)

Technologically the remote inspection of a territory is done in 2 stages and takes 4 months usually.

Stationary equipment of the "Deep Vision" complex allows to carry out the search of mineral beds (1<sup>st</sup> stage) by the special radiation chemical treatment of aerospace photographs of the inspected territory.

Mobile portable equipment of the "Deep Vision" complex provides the detailed study of beds directly on the inspected locality (2<sup>nd</sup> stage).

An execution sequence and technological cycles is the following.

**At 1<sup>st</sup> stage** a radiation chemical processing of analogue aerospace photographs of a territory is carried out with application of the patented technology. Works are carried out within 1.5-2 months on a stationary equipment complex including research nuclear reactor IR-100 in Ukraine.

### **Sequence of executable works:**

#### 1.1. Preparatory works

- 1.1.1. Order placement and obtaining of aerospace photographs of the investigated territory,
- 1.1.2. Order placement and obtaining of ultra-pure chemical reagents,
- 1.1.3. Laboratory manufacture of test gel-wafers,
- 1.1.4. Recording of electromagnetic spectrum of the sought-for substance on test wafers.

#### 1.2. Object identification

- 1.2.1. Radiative processing of aerospace photographs on research nuclear reactor with test wafers of the sought-for substance and sensitive X-ray film,
- 1.2.2. Chemical processing of negatives that have undergone radioactive and energoinformational impact in the nuclear reactor.

#### 1.3. Contour object deciphering

- 1.3.1. Visualization of object contours and also incoming and outgoing torrents with the help of Kirlian-camera,
- 1.3.2. Obtaining of computer image with the help of digital camera connected to Kirlian-camera.

1.4. Photogrammetric calibration of computer image of the object (geographic connection of the image's points and the area).

1.5. Contour deciphering – transfer of the objects contours onto geographic map with maximum possible precision.

1.6. Object's fixation – definition of its size, shape and location in the area according to the photograph and contour transfer of an object onto geographic map.

1.7. Analytical data processing is receipt of coordinates of beds and preliminary calculation of supplies.

1.8. Preparation of express-report and providing the Customer with it.

### **The result of executed works is:**

1. During total survey of a territory we determine the following:
2. Presence of deposits on the inspected territory
3. Ground contours of discovered deposits
4. Amount of horizons and references depths of their bedding
5. Reference value of extractable reserves and also benchmark estimate of deposit's category (shallow, average, large)

Error of occurrence depth is less than 10 %. Reliability of results is > 90 %.

**The 2<sup>nd</sup> stage** is carried out directly in surveyed territory. By means of compact mobile equipment the contours and occurrence depths of deposits are specified, such parameters as pressure and oil temperature in horizons, presence of gas caps, optimal points of exploratory drilling are defined. Volumes of deposits and rough sizes of mineable resources are calculated analytically. Duration of works at this stage is as a rule 1.5-2 months.

**Sequence of executable works:**

2.1. Preparatory works

2.1.1. Calibration of mobile equipment of the “Deep Vision” complex, including THz generators, ultrahigh frequency signal receivers and other equipment,

2.1.2. Recording of electromagnetic spectrum of the sought-for substance on test wafers for mobile equipment,

2.1.3. Testing of ultrahigh frequency complex of equipment “on itself” on test wafers and substance samples,

2.1.4. Obtaining visas for a trip to the survey territory.

2.2. Conduction of resonance sounding of an object on-site with utilization of mobile equipment of the “Deep Vision” complex,

2.2.1. Arrival at the place of survey and connection of data with the help of GPS-navigator to the area’s geographic map,

2.2.2. Conduction of resonance sounding of the object on cross-cut depth sections,

2.2.3. Determination of quantitative characteristics of the object,

2.2.4. Fixation of sounding data.

2.3. Analytical processing of data array, obtaining of deposit’s geometry and calculation of its reserves.

2.4. Preparation of the report and providing the Customer with it.

Sounding in the territory of discovered deposit area defining the following **quantitative and qualitative characteristics of deposits:**

1. Exact ground contours of a deposit
2. Specified occurrence depths of gas-bearing horizons and their useful powers
3. Presence of irrigation of horizons
4. Presence of aquiferous horizons above a deposit
5. Coordinates of optimum points for exploratory drilling
6. Pressure of gas in gas horizons
7. Obtainment of deposit’s 3D shape
8. Reference volume of oil extractable from deposit

Error of ground-level contours of deposit is  $\pm 10$  m, error of occurrence depth is less than 1,5 %.