**Laboratory Name: Laboratory " Metallurgy of Non-Ferrous metals"**

1. **Objectives of the Scientific Laboratory: Conducting hydrometallurgical processes**
2. **List of Laboratory Equipment**

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| **№** | **Equipment Name** | **Brief Equipment Description** | **Tasks Performed on the Equipment** | **Year of Manufacture** | **Certification (yes/no)** | **Verification Date** | **Equipment Notes** |
|  | **Top-Drive Mixer** | **Maximum volume, H2O, liters: 20**  **Viscosity range of the sample, mpas: 0-10000**  **Rotational torque range, rpm: 100-2500**  **Control type: Digital**  **Internal diameter of the chuck, mm: 0.5-10**  **4-blade attachment**  **Dimensions of the working unit, mm: 90×240×148**  **Overall dimensions, m: 300×410×800**  **Stand dimensions, mm: 200×300**  **Height of the stand, mm: 800**  **Power supply frequency, Hz: 50/60**  **Power supply voltage, V: 100-240**  **Weight, kg: 7.4** | **Conducting the mixing of solutions of different media** | **2023** | **no** | **May 2023** | **no** |
|  | **Rotary Evaporator** | **Evaporating flask: 1000 ml**  **Receiving flask: 1000 ml**  **Rotational speed range: 20-280 rpm**  **Heating temperature: RT – 180 °C**  **Type of vertical refrigerator**  **Bath lifting: automatic**  **Lifting height: 150 mm**  **Rotation direction: reversible**  **Timer: 1-999 min**  **Dimensions: 465×457×583 mm**  **Weight: 15 kg** | **The device performs the distillation of liquids with different boiling temperatures or solvents under reduced nominal pressure conditions** | **2023** | **No** | **2023** | **no** |
|  | **Small Induction Furnace** | **Temperature in the crucible – 500-1500°C**  **Crucible capacity – 70 cubic cm** | **For melting colored and precious metals** | **2013** | **no** | **from 12.06.2013** | **no** |
|  | **Orbital and Linear Shaker** | **Weight: 13.5 kg**  **Speed control range: 100-350 rpm**  **Time setting range, min: 1 min – 19 h 59 min**  **Display: LCD display**  **Additional relative humidity: 80%**  **Additional ambient temperature: 5 - 40 °C**  **Protection class: IP21**  **Maximum load: with platform 7.5 kg** | **performs uniform rotational movements, used for working with solutions** | **2023** | **no** | **2023** | **no** |
|  | **Magnetic Separator** | **Maximum productivity on material with particle size -4 +1 mm, kg/h, not less than: 20**  **Particle size of separated materials, mm: -4 +0.1**  **Rotation frequency of the magnetic system, rpm: 44 ± 5**  **Stroke (vertical displacement magnitude) of the magnetic system, mm: 10**  **Amplitude of vibrations of the vibrohammer, mm: from 0 to 2**  **Maximum power consumption from the AC power supply voltage (220±20)V at a frequency of (50±0.5)Hz, VA, not more than: 100**  **Voltage of the AC power supply, V: 220±22**  **Frequency of the AC power supply, Hz: 50±1**  **Weight of the product, kg, not more than: 15**  **Overall dimensions of the product, mm, LWH, not more than: 560270340** | **Used for separating the metallic component from ore materials (enrichment)** | **2023** | **no** | **-** | **no** |
|  | **Flotation Machine** | **Chamber capacity, useful, liters: 0.5; 0.75; 1.0**  **Impeller diameter, mm: 55**  **Impeller rotation frequencies, s-1: 15-40**  **Air intake by the impeller at the maximum rotation frequency, l/s, not less than: 0.05**  **Drive power, kW: 0.18**  **Voltage of the power supply network, V: 220**  **Overall dimensions, mm:**  **Length: 460**  **Width: 380**  **Height: 630**  **Weight, kg: 28** | **Conducting enrichment by flotation in laboratory conditions** | **2023** | **no** | **2023** | **no** |
|  | **Nutsche Filter** | **Net weight, kg: 3**  **Filtration surface area, sq.m: 0.015**  **Volume of suspension receiver, liters: 1.5**  **Volume of filtrate receiver, liters: 3**  **Dimensions, (WxDxH), mm: 190x210x350**  **Connection to vacuum, Du, mm: 6** | **Nutsche filters are designed to purify solutions from impurities by filtration** | **2023** | **No** | **May 2023** | **no** |
|  | **Muffle Furnace** | **Automatic temperature control range – from 50 to 1300 °C**  **Time for electric furnace to heat up to nominal temperature without residue – 75 minutes**  **Temperature stability in established thermal mode without residue - ± 1 °C** | **For heat treatment, drying various samples** | **2015** | **no** | **October 2015** | **Muffle Furnace** |

**Responsible person: Kulumbayev N.K.**

**Contacts: Tel. 8(7182)67-36-23, email**