

«TASDIQLAYMAN»

Boshqaruv raisining
operatsion masalalari bo'yicha
o'rinbosari

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**Rudali kon yotqizmalari yo'qligini aniqlash uchun geologik burg'ulash, geologic
namunalar olish va laboratoriya tahlili bo'yicha
TEXNIK TOPSHIRIQ**

**Technical Specifications
For Sterilization diamond core drilling,
sampling and laboratory analysis**

Чирчик 2026 г

1	<u>Introduction</u> The purpose of this technical specification document is to determine the conditions and requirements for drilling operations, logging, sampling drill core, multielement chemical analysis and creating the project database within the framework of the sterilization program for the potential processing plant area, TSF and dump sites of Sarikul project.	<u>Kirish</u> Ushbu texnik topshiriq hujjatining maqsadi Sarikul loyihasi uchun qayta ishlash zavodi, TSU va chiqindi poligonlarining potentsial maydonini sterilizatsiya qilish dasturi doirasida burg'ulash, burg'ulash jurnalini yuritish, kern namunalarini olish, ko'p elementli kimyoviy tahlil va loyiha ma'lumotlar bazasini yaratish shartlari va talablarini belgilashdir.
2	<u>Research objects</u> Sterilization work for potential processing plant area, TSF and dump sites of Sarikul project; Geological and geographical location: Paleozoic and Cenozoic sedimentary-metamorphic formations and Paleozoic magmatic complexes participate in the geological structure of the region. The absolute elevations of the area range from 900 to 1500 m, the relative elevations are from 100 to 500 m. Administratively, the Sarykul deposit district belongs to the Nurabad district of the Samarkand region of the Republic of Uzbekistan. The Sarykul tungsten deposit is located on the northern slope of the Karatyubin Mountains and covers the northern contact zone of the Sarykul intrusive.	<u>Tadqiqot obyekti</u> Sarikul loyihasi doirasida potentsial qayta ishlash zavodi, texnogen chiqindilar maydoni (отвал) va axlatxonalar (хвост) hududini sterilizatsiya qilish; Geologik va geografik joylashuvi: Hududning geologik tuzilishi Paleozoy va Kanozoy davrlarining cho'kindi va metamorfik tog' jinslaridan, shuningdek, Paleozoy davrining magmatik komplekslaridan iborat. Hududning mutlaq balandligi 900 dan 1500 m gacha, nisbiy balandligi esa 100 m dan 500 m gacha o'zgaradi. Ma'muriy jihatdan Sarykul koni O'zbekiston Respublikasining Samarkand viloyatining Nurabad tumanida joylashgan. Sarykul volfram konlari Karatyube tog'larining shimoliy etagida joylashgan bo'lib, Sarykul intruziyasining shimoliy kontakt zonasini qamrab oladi.



3	<u>Tasks</u> • Constructing drill pads (locations) and access roads to the drill locations • Conducting diamond drilling operations • Photographing and logging the drill core • Sampling the drill core • Multielement chemical analysis of diamond core samples • Ensuring the accuracy and reliability of the obtained data. • Data documentation and creating database	<u>Vazifalar</u> • Burg'ulash maydonlari va burg'ulash joylariga borish yo'llarini qurish • Burg'ulash ishlarini bajarish • Kernni suratga olish va tavsiflash Kern namunalarini olish • Kern namunalarining ko'p elementli kimyoviy tahlili • Olingan ma'lumotlarning aniqligi va ishonchliligini ta'minlash • Ma'lumotlarni hujjatlashtirish va ma'lumotlar bazasini yaratish
4	<u>Drilling requirements</u> • Drilling type: surface diamond drilling • Number of Rigs: 4 rigs. • Drill Rig Type: Crawler-mounted, wireline-type drill rig • Drilling depth: Maximum depth: 500 m Average depth : 230 m; • Total Meters of Drilling: 2300 m; • Total locations: 10; • Diameter: HQ/ Core size 63.5 mm, bit size 96 mm; • Angle of inclination: 60 • Perform azimuth and inclination measurements in every borehole	<u>Burg'ulash talablari</u> • Burg'ulash turi: er usti olmosli burg'ulash • Burg'ulash uskunalar soni: 4 ta • Burg'ulash uskuna turi: kabel (канатная система) tizimi bilan paletli (гусинечная) burg'ulash qurilmasi • Burg'ulash chuqurligi: Maksimal chuqurlik: 500 m O'rtacha chuqurlik: 230 m • Umumiy burg'ulash hajmi: 2300 m • Quduqlarning umumiy soni: 10; • Diametri: HQ / kern diametri-63,5 mm, toj diametri-96 mm • Burg'ulash burchagi: 60-80° • Har bir quduqda azimut va burchak o'lchovlarini bajaring

	• Perform azimuth and inclination measurements in every borehole	• Har bir quduqda azimut va burchak o'lchovlarini bajaring
5	<u>Drill Pads(Locations) and Access Roads</u> • Constructing Drill Pads 15x15m using appropriate heavy equipment • Total pads: 10 • Constructing Access Roads to Drill locations with width of 5-7m using appropriate heavy equipment • Total length of roads: 1250m	<u>Burg'ulash maydonchalari va kirish yo'llari</u> • Tegishli og'ir texnikadan foydalangan holda 15x15 m burg'ulash maydonchalarini qurish • Burg'ulash maydonchalarining umumiy soni: 10 • Tegishli og'ir texnikadan foydalangan holda 5-7 m kenglikdagi burg'ulash joylariga kirish yo'llarini qurish • Yo'llarning umumiy uzunligi: 1250 m
6	<u>Photographing and Logging Drill Core</u> • Taking the photos of each core box wet and dry under appropriate light and conditions. • Taking photos of the representative's parts of the mineralized zones. • Logging the drill core by qualified personnel in accordance with internationally recognized client-specified guidelines geologically and geotechnically. • Identifying Scheelite-bearing zones using a short-wave ultraviolet (SWUV) lamp operating at approximately 254 nm	<u>Kernning fotosuratlarini va tavsifi</u> • Har bir kern qutisini nam va quruq holda, tegishli sharoitlarda (yorug'lik) suratga olish • Minerallashtirilgan zonalarning namunaviy joylarini suratga olish • Buyurtmachi tomonidan belgilangan xalqaro miqyosda tan olingan ko'rsatmalarga muvofiq malakali xodimlar tomonidan kernning geologik va geotexnik tavsifini amalga oshirish • To'lqin uzunligi taxminan 254 nm bo'lgan qisqa to'lqinli ultrabinafsha (SWUV) chiroq yordamida scheelitni o'z ichiga olgan zonalarni aniqlash

7	<u>Sampling</u> • Sampling representatively the drill core designated for chemical analysis using the mechanical core splitting method (e.g., diamond saw). Collecting and analyzing geochemistry samples. • Inserting CRM (standard and blank) and duplicate samples for external QA/QC purposes	<u>Namuna olish</u> • Mexanik kern bo'linish usuli yordamida kimyoviy tahlil qilish uchun mo'ljallangan kerndan namuna olish • Geokimyoviy namunalarni yig'ish va tahlil qilish. • Tashqi sifat nazorati (QA/QC) maqsadlari uchun nazorat namunalarini (standartlar va bo'sh)va dublikatlarni kiritish
8	<u>Multielement Chemical Analysis</u> • The laboratory shall carry out the full preparation of samples, including: ▪ Drying, crushing, splitting, and pulverizing to a minimum of 85% 75 microns (200 mesh), unless otherwise specified. ▪ Appropriate cleaning protocols between samples to avoid cross-contamination. ▪ Storage and return of rejects and pulps to the client after analysis. • The following elements must be analyzed in each sample: W, Ag, Au, Al, As, Ba, Be, Bi, Ca, Cd, Co, Cr, Cu, Fe, Ga, K, La, Li, Mg, Mn, Mo, Na, Ni, P, Pb, Sb, Sc, Se, Sn, Sr, Te, Ti, Tl, U, V, Zn Each element shall be reported in ppm	<u>Ko'p elementli kimyoviy tahlil</u> • Laboratoriya namunalarni to'liq tayyorlashni amalga oshirishi kerak, shu jumladan: ▪ 75 mikron (200 mesh) elakdan o'tadigan fraktsiyaga quritish, maydalash, bo'lish va yanchish, kamida 85%; ▪ O'zaro ifloslanishni oldini olish uchun namunalar o'rtasida tegishli tozalash chora tadbirlarni qo'llash; ▪ Tahlildan so'ng namunalarning qoldiq qismini (chiqindilar va kukunlarni) mijozga saqlash va qaytarish. • Har bir namunada quyidagi elementlarni tahlil qilish kerak: W, Ag, Au, Al, As, Ba, Be, Bi, Ca, Cd, Co, Cr, Cu, Fe, Ga, K, La, Li, Mg, Mn, Mo, Na, Ni, P, Pb, Sb, Sc, Se, Sn, Sr, Te, Ti, Tl, U, V, Zn Har bir element konsentratsiya darajasi va sanoat standartlariga qarab ppm (million⁻¹) yoki foiz (%) birliklarida ifodalanishi kerak.

or %, depending on the concentration level and industry standards.

All analytical work must be carried out in accordance with internationally recognized standards, such as **ISO/IEC 17025**, **ASTM**, and other relevant codes. The applied methods must achieve industry-acceptable detection limits and precision levels suitable for the geochemical characterization and economic evaluation of tungsten-bearing deposits.

The following analytical techniques shall be used:

4-Acid Digestion (HNO₃-HClO₄-HF-HCl) followed by:

ICP-MS or **ICP-OES** for multielement determination.

Fire Assay with ICP or AAS Finish for **Au** (gold), with a detection limit ≤ 0.005 ppm preferred.

- All methods shall ensure low detection limits, high precision, and accuracy appropriate for exploration and resource delineation.
- All procedures shall comply with internationally recognized codes and standards such as JORC Code, NI 43-101 and CIM Best Practices.
- The laboratory shall perform internal QA/QC procedures including the

Barcha tahliliy ishlar ISO/IEC 17025, ASTM va boshqa tegishli standartlar kabi xalqaro miqyosda tan olingan standartlarga muvofiq amalga oshirilishi kerak. Qo'llaniladigan usullar volfram o'z ichiga olgan konlarni geokimyoviy tavsiflash va iqtisodiy baholash uchun zarur bo'lgan sanoatda qabul qilinadigan aniqlash chegaralari va aniqlik darajasini ta'minlashi kerak.

Quyidagi analitik usullardan foydalanish kerak:

To'rt kislotali parchalanish (HNO₃-HClO₄-HF-HCl) keyingi bilan:

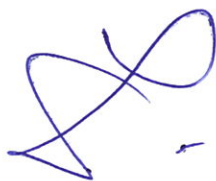
Ko'p komponentli aniqlash uchun **ICP-MS** yoki **ICP-OES**.

Oltin uchun ICP yoki AAS (Au) usuli bilan yakuniy analiz olovli ajratish (Огневое ассагирование), aniqlash chegarasi $\leq 0,005$ ppm afzal.

- Barcha usullar qidiruv va resurslarni konturlash talablariga javob beradigan past aniqlash chegaralarini va yuqori aniqlikni ta'minlashi kerak.
- Barcha protseduralar JORC kodeksi, NI 43-101 va CIMning amaliyotlari kabi xalqaro miqyosda tan olingan standartlarga javob berishi kerak.
- Laboratoriya ichki sifat nazorati protseduralarini (QA/QC), shu jumladan bo'sh namunalar, dublikatlar va sertifikatlangan

	insertion of blanks, duplicates, and certified reference materials (CRMs). • QA/QC reports must be provided periodically, and at minimum with each analytical batch, including: ▪ Control charts ▪ Sample failures and re-runs ▪ Method performance summaries	nazorat materiallarini (CRM) joriy etishni amalga oshirishi kerak. • QC hisobotlari kamida har bir tahlil partiyasi uchun muntazam ravishda taqdim etilishi va quyidagilarni o'z ichiga olishi kerak: ▪ Контрольные графики ▪ Некачественные пробы и повторные анализы ▪ Сводные данные по эффективности методик
9	<u>Documentation, Reporting and Database</u> • Documenting data • Reporting periodically • Creating Project Database	<u>Документирование, отчётность и база данных</u> • Nazorat jadvallari • Past sifatli testlar va takroriy testlar • Texnikaning samaradorligi to'g'risida qisqacha ma'lumotlar
10	<u>Fuel</u> All fuel costs associated with the operation of equipment, vehicles, and machinery used in the work are borne solely by the contractor.	<u>Yoqilg'i</u> Ishlarni bajarishda ishlatiladigan uskunalar, transport vositalari va mashinalarning ishlashi bilan bog'liq barcha yoqilg'i xarajatlari faqat pudratchi tomonidan qoplanadi.
11	<u>Execution deadlines</u> No more than 2 months	<u>Muddati</u> 2 oydan oshmasligi kerak
12	<u>Security</u> Compliance with all safety norms and rules during the drilling and sampling process. Conducting briefings for employees.	<u>Xavfsizlik</u> Burg'ulash va namuna olish jarayonida barcha xavfsizlik qoidalari rioya qilish. Xodimlar uchun brifinglar o'tkazish.
13	<u>Responsible</u> Project manager: M.Usmanov	<u>Mas'ul</u> Loyiha menejeri: M. Usmonov

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