

1974 - 2024

No. 70
SRK Consulting's
International
Newsletter



SRK began in 1974 as a small group of engineers and scientists and has grown into an independent consultancy serving the earth and water resource sectors across the globe.

Over the past 50 years, SRK has worked on more than 30,000 projects covering all stages of the mining life cycle—from exploration and development to production and mine closure—across Africa, Asia, the Australia-Pacific region, Europe, North America, and South America.

In this anniversary issue, we spotlight over 50 projects that reflect the breadth of technical challenges addressed and the types of work our teams have supported. The issue covers disciplines such as mineral exploration, mining project evaluation, environment and social responsibility, geology and resources, mine engineering, water management, geotechnics, waste management, metallurgy and mineral processing, and civil and structural engineering. Corporate advisory services have been part of SRK's work for many years, encompassing mining operation assistance, due diligence and project reviews, and mining risk assessment—providing comprehensive guidance for technical, financial, and social challenges.

Group CEO Tim McGurk captured our evolving work scope when he stated, “Because the projects we undertake with our clients are becoming increasingly complex, it is inevitable that we renew our commitment to innovation in our work, as we reflect on our past and future.” Takeaways from our recent global leadership meetings have reinforced this idea and affirmed our collaborative approach, rooted in local insight and global expertise, is essential to navigate today's challenges.

As we celebrate this milestone, we look ahead with a continued focus on delivering practical, technically grounded support that responds to the mining industry's changing needs globally. Innovation remains essential—not only to meet current demands, but to advance sustainability in ways that balance economic, environmental, and technical priorities for the future.

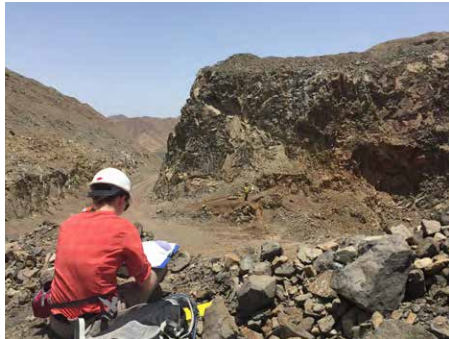
Africa



Drilling programme in Guinea

SRK was contracted to conduct an assessment of a gold exploration asset portfolio in the Republic of Guinea. This required the analysis of historical exploration data along with remote sensing data to map inferred geology and artisanal mining sites. Prospective targets were identified, followed by soil sampling and mapping programmes across two properties. SRK planned and implemented a drilling programme combining air core and diamond core holes to assess targets with coincident geochemical and geophysical anomalies, geological mapping and known artisanal workings. The drilling results were modelled in 3D and recommendations for future work were made.

By SRK Exploration



Geological logging in Egypt

Between 2018 and 2022, SRK provided field services and technical consulting to the Abu Ghalaga titanium project in the Eastern Desert of Egypt. SRK's initial involvement included geological mapping, a ground magnetic survey and the acquisition of a high-resolution satellite-derived digital elevation model. This work led to two phases of diamond drilling totalling 7,700 m in 35 holes, with SRK undertaking all geological logging and sampling, and management of all contractors and service providers. A mineral resource estimate was produced for the project, reported in compliance with the JORC Code (2012), which included indicated and inferred mineral resources.

By SRK Exploration



Foskor independent technical report

SRK prepared an independent technical report on the Foskor operations in Phalaborwa, South Africa, following the 2016 SAMREC Code. The project involved a full technical review and an unaudited cashflow model to assess profitability. SRK assisted the Foskor geologist with resource estimation tasks such as database review, sample preparation, variography, and modeling, serving as training. SRK managed the mineral reserve process, covering pit optimization, design, scheduling, and cashflow modeling. The report's effective date was December 31, 2019. SRK has provided yearly updates since, completing a full review in 2024 as part of a five-year update.

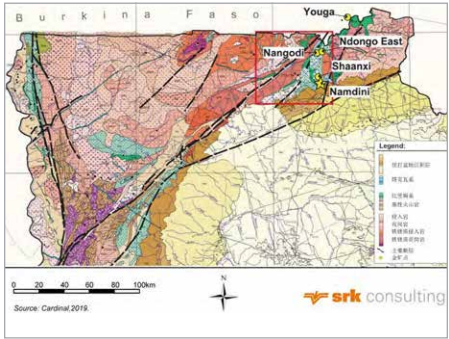
By SRK South Africa



Gold and iron ore exploration

Since 2021, SRK has assisted Alpha Centauri Mining SA (ACM) to advance its early-stage gold and iron projects in Gabon. ACM has been actively exploring two properties to secure supplies of mineralisation for its successful gold production business. For each project, SRK has generated targets by interpreting regional geophysical and geochemical datasets, supplemented by high-resolution ground magnetic and induced polarisation / resistivity surveys, and soil sampling grids. SRK provided an independent QA/QC of the drilling programme that tested these geophysical targets, and trained ACM geologists and field technicians. Drilling designed by SRK at the Minkébé iron ore project started in Q2 2025.

By SRK Exploration



Due diligence review

In 2020, Shandong Gold Co., Ltd. tasked SRK China with a comprehensive due diligence review of the Summer Gold project in Ghana, owned by Cardinal Resources. SRK's work included a desktop review of the data provided and the preparation of an independent technical report summarising all findings. Working together with the SRK South Africa team, SRK China completed the project, submitted the report to the client, and assisted the client during the merger and acquisition process. In 2021, Shandong Gold successfully acquired the asset and announced it on the Hong Kong Stock Exchange.

By SRK China



Jadu water supply

The project's objective was to assess the yields of two existing weirs, which provide potable water to a nearby town and rural villages, against the 2033 future demand. Construction of a new weir/dam was also assessed for several different reservoir capacities with different upstream catchment areas. Each scenario included and excluded the ecological water requirement, which is the volume of water that needs to remain in the river to sustain the ecological integrity of the river and cannot be allocated for use.

By SRK South Africa



Kayelekera air quality assessment

An Air Quality Impact Assessment (AQIA) was undertaken for the planned restart of a uranium mine situated in northern Malawi. This AQIA was undertaken in compliance with Malawian legislation.

The AQIA included a description of the baseline air quality and meteorology of the study area, impact assessment (using dispersion modelling techniques) and provided recommended mitigation measures to reduce emission impacts on the surrounding environment.

By SRK South Africa

...Africa

Mineral exploration strategy

Since 2020, SRK has been assisting a client in Egypt with exploration strategy and planning, fieldwork, technical auditing and training. The client's orogenic gold exploration assets in the Red Sea Hills of eastern Egypt contain extensive artisanal excavations, some suspected of being over 2,000 years old. SRK has used remote sensing technologies and geological mapping to generate targets, and worked with the client's geologists to get the most from trenching, and diamond core and reverse circulation drilling programmes.

By SRK Exploration



SADC groundwater programme

Monitoring and evaluation of environmental and social safeguards were performed during the implementation of small-scale water infrastructure projects as part of the Sustainable Groundwater Management Programme (SADC-GMI) (2016 – 2021). This entailed capturing lessons learned and obtaining stakeholder input. A 10-year bankable project plan (2021 – 2031) was developed to support funding submissions to donors by SADC-GMI. An environmental and social management framework, aligned with good international industry practice, was developed for managing risks during the future implementation of the programme.

By SRK South Africa



Kibi testwork and MRE

This project involved two main aspects. The first covered the determination of the optimal processing route for gold and compilation of Kibi Goldfields' maiden mineral resource estimate for the Saaman and Office Shear-hosted gold deposit. The processing route included gravity concentration, and an inferred mineral resource footprint was delineated with upside potential down dip and on strike.

The second aspect addressed other exploration targets located along strike and offset from the delineated mineral resource footprints. SRK is currently reviewing the trench data from these targets as a basis to implement a diamond drilling campaign at depth and on strike.

By SRK Ghana

4



2022 global land review

A Global Land Outlook (GLO) thematic report was prepared for Southern Africa on evidence-based, policy-relevant information and trends. The report was prepared in consultation with the United Nations Convention to Combat Desertification (UNCCD) secretariat and member states of the Southern African Development Community (SADC), who are actively responding to the growing challenge of land degradation. This GLO focuses on the cross-sectoral linkages of land-water-energy systems or nexus points that can be used to leverage progress towards achieving Land Degradation Neutrality (LDN). The report highlights gaps that need to be addressed and good practices that could be scaled up and out to ensure sustainable land management across the region.

By SRK South Africa



Modikwa TSF geotechnical study

A comprehensive field investigation programme was conducted using novel techniques to support further geotechnical characterisation of the tailings and foundation materials of the tailings storage facility (TSF). The investigation was supported by extensive laboratory testing, conducted on-site and at commercial laboratories. The geotechnical characterisation was completed through a detailed evaluation and analysis of all in situ data and laboratory results. The quantum of data collected allowed for significant advancement in the understanding of the behaviour and the state of the tailings and foundation clay, and enabled bracketing of updated material parameters used in the stability assessment, increasing confidence in the results.

By SRK South Africa



Competent person's report

SRK compiled the Competent Person Report (CPR) for Sibanye Stillwater Limited's mineral assets, effective December 31, 2022. The CPR covered PGM, gold, uranium, copper, and lithium assets in South Africa, Europe, and the Americas, including strategic but non-material assets like lithium (USA), zinc (Australia), nickel-smelting (France), and PGM exploration (South Africa). A multidisciplinary team of 72 consultants from SRK's South Africa, Canada, UK, and Australia offices prepared the 1,689-page report, meeting the requirements of both Johannesburg Stock Exchange (JSE) and South African Code for the Reporting of Mineral Asset Valuations (SAMVAL Code).

By SRK South Africa

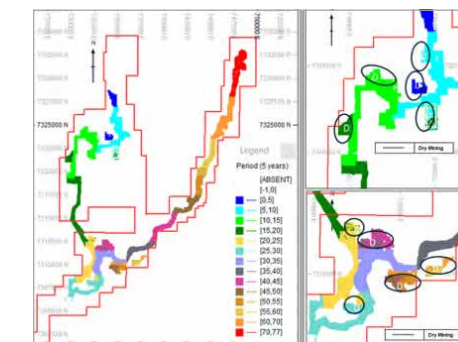


Nioka pre-feasibility study

SRK completed Phase 1 of a pre-feasibility study on the Nioka project, owned by Lerexcom through its subsidiary Compagnie Minière de Tondo SAS (CMT) in the Democratic Republic of Congo (DRC). SRK was responsible for geology, geotechnics, groundwater, open-pit mining, surface water, metallurgical test work supervision, mineral processing review, tailings, ESG, infrastructure, capital and operating costs, risk, financial modeling, and report compilation. A team of over 30 consultants from SRK South Africa and SRK Congo carried out the work. The project was found to be economic and the team was appointed to carry out the full feasibility study on the project.

By SRK South Africa

5



Heavy minerals scoping study

SRK conducted a 2024 scoping study for a heavy minerals project on Mozambique's coast, covering 25,000 ha across three permit areas. The project's expected life is 50–75 years, with production of 30–40 Mtpa of concentrate (65%–70% ilmenite, zircon, and rutile). SRK managed the project with marine, processing, and engineering specialists. Challenges included low-grade ore, complex topography, infrastructure design, climate change, and environmental and social impacts, leading to over 160 costing options. SRK collaborated with the client's mine optimization team on dredge path optimization and delivered a detailed report with cost estimates, risks, opportunities, and recommendations.

By SRK South Africa

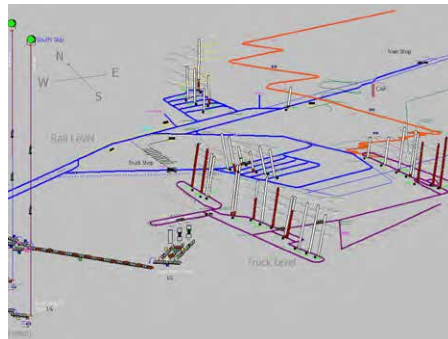
Asia



Exploration drilling programmes

In 2022, SRK Kazakhstan completed the first mineral resource estimate (MRE) reported according to the JORC Code for the Kyzyl-Alma epithermal gold mine in Uzbekistan. Kyzyl-Alma is an operating underground mine which commenced production in 1976. Mining is carried out by sublevel caving. In 2020, SRK was commissioned to design and to manage underground exploration and infill drilling programmes. The work also included structural geology studies and mineral processing reviews. Afterwards, the MRE mining team undertook optimisation studies, mine planning and costing for the pre-feasibility study.

By SRK Kazakhstan



ERG ShDNK-2 simulation study

SRK developed a simulation model for the Eurasian Resources Group (ERG) ShDNK-2 project as part of the FEL3 study, focusing on material movement from development headings and stopes to crushers and ore bins. It included load-haul-dump machines (LHDs) mucking from draw points, battery-electric truck haulage, train haulage, crushing, conveying, and skipping to the surface. The model validated production targets, estimated truck and train needs, analyzed bin capacities, orepass diameters, and waste haulage for backfill. A bottleneck involving the production of LHDs and orepasses was identified and resolved by optimizing orepass numbers and locations.

By SRK Canada



Jilin Fuli peridot mine review

Since 2017, SRK China has been commissioned by Fuli Mining Co., Ltd. as the independent technical consultant for a peridot mine located in Jilin province, China. In the following years, SRK conducted several site visits and report updates. The project is currently under construction, with commercial production anticipated to commence around Q4 of 2025. In line with industry norms, the client plans to conduct further exploration works concurrently during the commercial production phase, which may lead to the conversion of the Peridot Inferred Resources into Indicated Resources and extend the mine's life beyond the initial estimated 21 years.

By SRK China



Bakuta tungsten due diligence

In 2019, SRK China was commissioned by China Civil Engineering Construction Corporation to carry out a technical due diligence review for a tungsten mine located in Kazakhstan. The project consists of the Bakuta Tungsten mine, a proposed processing plant, and its auxiliary facilities. The project was located in the Almaty Oblast of Kazakhstan, approximately 180 kilometers west of the capital of Almaty Oblast and approximately 160 kilometers east of the Khorgos border crossing in Xinjiang, China. The report prepared by SRK was used for the client's internal decision-making for investment decisions regarding the project.

By SRK China



Competent person's report series for Huangtun

Since 2019, SRK China has been commissioned by Pizu Group Holdings Limited (Pizu Group), a listed company on the Hong Kong Stock Exchange (HKEx), to prepare an annual update of a Competent Persons Report (CPR) for the Huangtun polymetallic project in Lujiang County, Anhui Province, China. Consequently, between 2019 and 2023, SRK supported the Pizu Group with annual CPR updates, as well as disclosure obligations for HKEx reporting.

The Huangtun project is divided into two underground parts: the East Zone, characterized by high sulfide and iron mineralisation with lower gold and

copper content; and the West Zone, enriched in gold and copper with lower sulfide and iron levels.

Development and mine construction have reached six levels, providing access to ore bodies in both zones and connecting them through extended infrastructure. Mining activities are currently underway in the West Zone, targeting gold and copper recovery.

By SRK China



Huayou nickel laterite exploration

In 2023, SRK China was commissioned by Huayou International Mining (Hong Kong) Limited to carry out an exploration verification program in the Sulawesi region of Indonesia.

During the period of August through October 2023, 99 drill holes were completed by SRK, including mapping and logging. A resource report was prepared and submitted to the client for internal use.

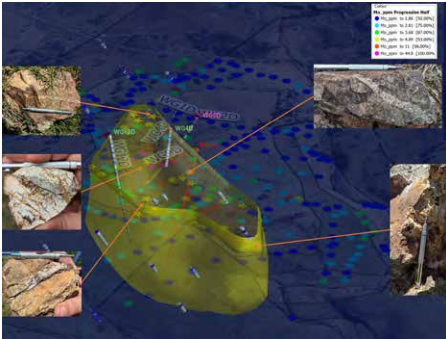
By SRK China

Australia Pacific

Saracen mineral asset valuations

An independent specialist report was prepared for Saracen Mineral Holdings Limited, as part of a proposed merger with Northern Star Resources Limited. The report, integrated into Ernst and Young's independent expert report, assessed Saracen's mineral assets in Western Australia's Goldfields region, including the Kalgoorlie, Carosue Dam, Thunderbox, and Exploration Portfolio operations. The report adhered to the VALMIN and JORC Codes, providing technical assessments and valuations of the mineral assets.

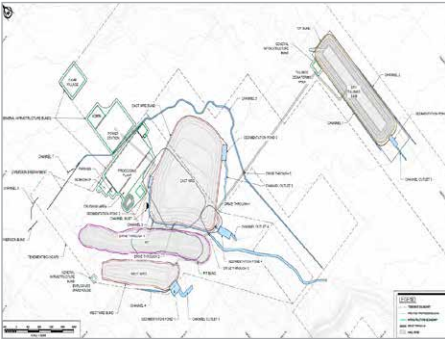
By SRK Australia



Willow Glen porphyry targeting

An independent geological review was conducted for Earth AI at the Willow Glen project, focusing on porphyry-style molybdenum mineralisation. The study included data analysis, field inspections, and exploration strategy development. SRK's expertise in porphyry systems, combined with Earth AI's geological and geochemical datasets, provided a solid foundation for assessing the project's potential. A four-day field trip helped refine exploration targets by analyzing quartz-molybdenum veining, geochemical ratios, and structural orientations. The review delivered a comprehensive geological framework and key recommendations, enabling Earth AI to advance the project by focusing on areas with the highest economic mineralisation potential.

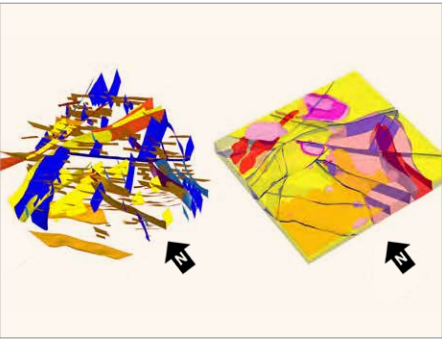
By SRK Australia



Yogi bankable feasibility study

SRK contributed significantly to FI Joint Venture's bankable feasibility study (BFS) for the Yogi magnetite project in Western Australia. The BFS outlined a large economic open pit with a 16-year mine life. SRK's work included mineral resource exploration and estimation, geotechnical design, open pit optimisation, life of mine scheduling, and mining cost estimation. Additional tasks included designing a dry stack tailings storage facility, managing surface water and site water, and characterizing geochemical and asbestiform mineralogy. The BFS began in November 2020, with SRK completing its components by November 2021.

By SRK Australia



BHP Oak Dam structural modelling

SRK collaborated with BHP on structural geology data collection, interpretation, and 3D modelling at the Oak Dam iron oxide copper-gold (IOCG) deposit. Leveraging SRK's expertise in IOCG exploration and 3D modelling, the project included bespoke training for BHP teams on structural geology and modelling. The collaboration resulted in a tectonic evolution framework, regional structural interpretation, and integrated 3D models at both regional and deposit scales. These models aligned with the region's broader evolution, aiding BHP in meeting stakeholder needs for future brownfields targeting, resource geology, hydrogeology, and geotechnical studies.

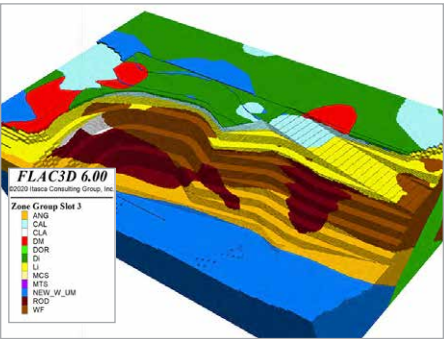
By SRK Australia



Pilbara independent asset review

An independent specialist report (ISR) was prepared for Red Hawk Mining Limited's iron ore assets in Western Australia, covering the Blacksmith project (173.8 Mt at 60% Fe resource; 46 Mt at 60.5% Fe reserve) and the nearby Anvil project, held under retention licence R47/21. The ISR provided a comprehensive technical assessment, valuation, and financial model inputs to support a potential off-market transaction. SRK verified compliance with the JORC Code (2012) and VALMIN Code (2015). Also, findings included exploration potential and detailed cost estimates for life-of-mine schedules.

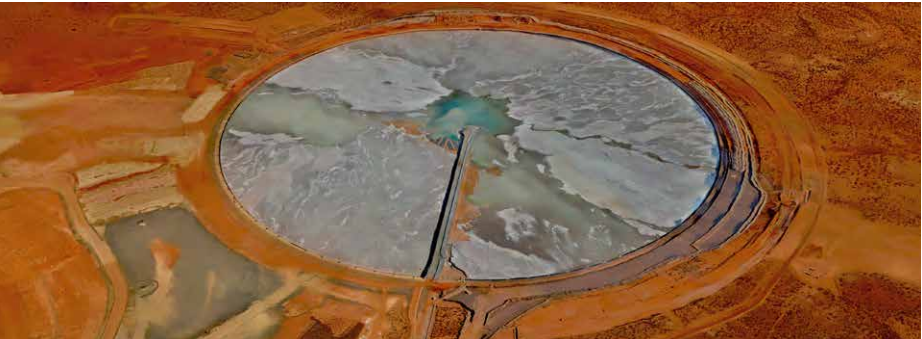
By SRK Australia



Pilbara slope stability analysis

SRK helped Rio Tinto Iron Ore (RTIO) develop methods to safely steepen pit walls in Pilbara iron ore deposits. The project aimed to increase inter-ramp angles by identifying conservative design elements and implementing robust design pathways. SRK conducted 2D and 3D slope stability sensitivity analyses, focusing on key levers for steepening. Using selected open pits for trials, SRK created technically defensible designs applicable to other RTIO sites. Initial re-designs have shown significant financial benefits, including increased ore access and reduced mined waste volumes.

By SRK Australia



Engineer of Record for the Gruyere joint venture gold mine

SRK is the Engineer of Record for the tailings storage facility (TSF) at the Gruyere Gold Mine, located in the Yamarna Greenstone Belt in north-eastern Western Australia. The mine includes an open pit, an ore processing facility, and a TSF designed to store around 10 Mt of tailings annually. The embankment is being progressively raised by downstream methods, over six stages using material from the nearby pit.

In addition to operational support, SRK has undertaken several investigations and projects, including a geotechnical and laboratory testing programme to assess embankment stability. Our tailings team is also assisting the

mine in achieving compliance with the Global Industry Standard on Tailings Management —a requirement for all International Council on Mining and Metals members.

SRK is managing construction quality control for the ongoing embankment raises and has also completed the associated designs and geotechnical studies. A tailings dam breach assessment and dam failure consequence classification were conducted during Stage 3 to inform the TSF's risk profile and design criteria.

By SRK Australia

Europe



Norsk Hydro GISTM review in Germany

Norsk Hydro (Hydro) operates and maintains three bauxite residue facilities at the Schwandorf legacy site in the eastern part of Bavaria, Germany. The site holds around 3.5 million tons of residue from operations by German aluminium producer VAW in the period 1930s-1990s.

All three facilities are considered to be in the 'aftercare period' or 'passive care closure' phase and are classified as closed landfills according to German regulations.

Hydro commissioned SRK to undertake a conformance assessment against Global Industry Standard on Tailings

Management (GISTM) at Schwandorf and to provide ongoing implementation support. SRK took a risk-based approach to prioritising the key actions and sought opportunities to synchronise activities and interdependencies to have the greatest impact.

This centred around an updated and comprehensive risk assessment, a stakeholder engagement programme to facilitate meaningful engagement and building trust with interested parties, and identifying ways to formalise and document existing site processes.

Not only will this work help Hydro conform with GISTM requirements, but it will also enhance Hydro's resilience to change both in site conditions and personnel. As GISTM represents an ongoing process of improvement, SRK's work sets solid foundations for the Hydro team to build on and update as required.

By SRK United Kingdom



Zinnwald lithium trade-offs

SRK provided ad hoc technical services to Zinnwald Lithium Plc for the Zinnwald Lithium project in Germany from 2022 to May 2024. Work included geotechnical and mining method trade-off studies, mine planning support, and assessments of mining assumptions, stope optimisation, material handling systems, and high-level mine design and scheduling. The preferred mining method was longhole open stoping, with a bottom-up sequence and underground backfilling. Key infrastructure, including the primary crusher and backfill plant, was located underground to minimise surface impact. Material handling options were evaluated to inform development requirements and support the conceptual mine plan and three-year production schedule.

By SRK United Kingdom, United States



Keliber lithium due diligence

The Keliber project, now a 'strategic project' under the EU's Critical Raw Material Act, aims to mine and concentrate several lithium hard rock spodumene deposits near Kaustinen, Finland. Refining to a battery grade lithium hydroxide product will be done at a new facility within Kokkola Industrial Park, adjacent to the Port of Kokkola. Since 2018, SRK's multidisciplinary team has provided independent technical, environmental and social due diligence to support project financing decisions by the company, its advisors, its owners and, more recently, the lender group providing green funding for the project.

By SRK United Kingdom



Lithium mineral system analysis

The growing global demand for lithium to support the energy transition led to SRK working with Albemarle Corp. in 2023/2024 to identify new deposits through generative exploration. SRK used a mineral system approach to identify and map the key processes instrumental in the formation of hard rock lithium deposits. Knowledge-led and machine learning techniques were used to map relative potential and absolute prospectivity for these deposits across the globe at 400 km² cell size to generate regional targets, and then at 1 km² resolution across the most prospective provinces. The client then used absolute prospectivity outputs to prioritise projects/companies for acquisition.

By SRK Exploration



Penouta tin-tantalum mine

Located in Spain's Central Iberian Zone, this project historically produced tin and tantalum from open-pit mining. Mineralisation, primarily cassiterite and tantalite, occurs in alkaline granite intrusions and greisenised, gneiss-hosted quartz veins.

In recent years, the project restarted by reprocessing of historical tailings and later re-established exploitation of hard rock sources.

SRK has delivered mineral resource estimates (2014, 2021) ahead of the restart and later assisted with comminution studies to guide operational development throughout the transition to primary ore extraction.

By SRK United Kingdom



Bjerkreim exploration drilling

Since 2018, SRK has provided a turnkey exploration service to Norge Mineraler AS at the Bjerkreim phosphate-titanium-vanadium-iron project in southern Norway. Commencing with an ESG review, geological mapping and channel sampling, SRK geologists subsequently managed airborne and drone-magnetic surveys, and planned and supervised over 80,000 m of diamond core drilling. The project has seen multiple mineral resource estimations and other technical studies produced for the Øygrei, Storeknuten and Skeipstad deposits, the latter of which was a previously unknown massive ilmenite-magnetite deposit. SRK was a major contributor to the project's recent pre-feasibility study.

By SRK Exploration



Zijin report for Serbia mines

In 2022, through its sub-companies, Zijin Group commissioned SRK China for a Competent Persons Report for two copper mines located in Serbia. The project's purpose was to provide independent professional opinions on the target assets for internal decision-making, especially focused on the copper mine which plans to use block caving extraction methods.

SRK China worked together with SRK Australia's experts to join the team for a site visit and technical review.

By SRK China

North America



Rainy River tailings management area advancements

SRK is the Engineer of Record (EoR) for the tailings management area (TMA) and 14 water management structures at New Gold's Rainy River mine. This site is at the forefront of innovation in instrumentation monitoring, employing over 500 instruments for dam monitoring. These instruments are integrated with data loggers, telemetry, and advanced GIS platforms.

The project includes exciting technical challenges, for example, designing dam raises on weak, compressible soils, conducting finite element modeling,

developing closure concepts, and planning TMA expansions.

Our team leads TMA construction programs in collaboration with engineers and technologists from Tulloch Engineering who assist with construction QA/QC. A key part of this successful project is the partnership approach between the EoR team and New Gold, which enables optimized designs and faster turnarounds, providing solutions that are ready for implementation.

By SRK Canada



Restart of historic gold mine

A preliminary economic assessment was conducted for the Rowan property, situated 80 km from the Madsen Mill in Red Lake, Ontario. Ore sorting was evaluated to enhance project economics and reduce transportation costs. A heterogeneity analysis indicated potential benefits, prompting sample collection for analysis using SRK's dual-energy X-ray transmission (XRT) sensor. This equipment scans samples to determine the presence of waste and ore. Extrapolating the "waste in ore" data identifies the amount of removable waste material, effectively pre-concentrating the ore before shipment to the mill. This process reduces transportation expenses by minimizing the amount of waste transported.

By SRK Canada



Aerojet waste consolidation

Aerojet Rocketdyne, now part of L3Harris, is constructing the Aerojet Waste Consolidation Unit, a 50-acre Class II Landfill with a 1,000,000 cubic yard capacity, on a former 100-acre dump in Sacramento County, California. The project involves building a new landfill on an old, unregulated dump, using on-site materials, and minimizing the impact on existing waste. The landfill will feature a double liner system with a volatile organic compound collection layer. The project required extensive regulatory approval and documentation, with construction of the first cell beginning in late 2023 and ongoing as of November 2024.

By SRK United States



Miami copper mine mitigation

Since 2015, SRK has led efforts to mitigate 118 years of mining impact at the Miami Unit, focusing on sustainable closure practices. The site includes a pit lake, subsidence zone, underground workings, tailings facilities, and a leach dump. SRK conducted field investigations, adding 25 borings for water and geotechnical analysis. A flexible data management system by SRK data services manages over 1 million water levels and 130,000 water chemistry readings. SRK developed SRK-PHYDRUS for unsaturated flow analysis and advanced 3D groundwater modeling. The next phase aims to guide closure investments, aligning with ESG goals and reducing long-term liabilities.

By SRK United States



La Ciénega TSF buttress design

SRK designed a stabilizing buttress for the main embankment of a tailings storage facility (TSF) at La Ciénega mine, 206 km northwest of Durango, Mexico. The design meets stability and freeboard criteria, supported by site characterization and piezometer installation, following best practices and international standards. Construction, which began in 2021, is organized in three stages to align with operational needs and budget. The final stage, now underway, includes surface water management and long-term stability into closure. SRK has provided support through field observation during construction and operations.

By SRK United States



US EPA remedial design review

SRK was engaged by the US Environmental Protection Agency (EPA) Region 10 to assist in reviewing the remedial design for the closure of the Formosa mine, Oregon and Ballard mine Superfund sites, Idaho. The Ballard mine, a historical phosphate mine, operated from 1951 to 1969, spans 534 acres with multiple open pits and waste rock dumps. Past mining led to elevated selenium levels in various media. A remedial investigation and feasibility study were completed, resulting in a 2016 Record of Decision. SRK reviewed percolation analyses and cover designs, including a four-layer enhanced cover to limit percolation and prevent contact with waste rock.

By SRK United States



Idaho Cobalt due diligence

In 2017, Mesnac Co., Ltd. planned to acquire part or all interest of the Idaho Cobalt project located in Idaho, United States.

The client commissioned SRK China to carry out a due diligence study, including a site visit and a technical review of the project. SRK was requested to provide an independent technical review report to summarize the technical aspects of the project for the client's decision-making.

By SRK China

...North America



Velardeña stability analysis for upstream raise design

Velardeña, a polymetallic mine in Durango, Mexico, produces zinc, lead, and copper, and operates two upstream-constructed tailings storage facilities. In 2020, cone penetration tests (CPTu) with pore pressure dissipation (PPD) and sonic boreholes were conducted to evaluate tailings and develop a geotechnical model for stability analysis to support additional upstream raise designs. In 2022, after two more upstream raises, a new CPTu investigation aimed to validate and update the geotechnical model. Parallel borings and geophysical surveys assessed compressional and shear wave velocities at similar locations.

The results showed improved geotechnical conditions and increased CPTu parameters, potentially due to partial saturation and suction. Low pore pressure ratio (Bq) with increased tip resistance (qc) and sleeve friction (fs) suggested lower moisture content. Shear wave velocity values allowed microstructure assessment, confirming the link between increased CPTu parameters and material aging. Phreatic conditions indicated a drier environment, observed through pore water pressure profiles from CPTu soundings and PPD tests, even during active deposition cycles.

By SRK Canada



Santo Tomás structural geology

As part of SRK's involvement with the mineral resource estimation and PEA-level assessment Santo Tomás project, SRK's structural geology team was contracted to undertake an extensive geological and structural mapping campaign on the Santo Tomás property. This work, done in close collaboration with the Oroco's geology team, involved detailed structural mapping integrated with geophysical data sets, core logging, and new radiometric age data of host rocks and mineralisation, and 3D lithostructural modelling. This resulted in significant new understanding to the project in terms of the controls and timing of mineralization, and the regional tectonomagmatic setting.

By SRK Canada



Gold mine environmental support

SRK developed fact sheets for a large gold mine expansion's environmental impact statement. These sheets summarized historical and recent documents, regulatory backgrounds, and ongoing and upcoming studies, helping preparers and reviewers access key information on individual resources. The fact sheets were updated over the four-year permitting process to ensure current data was available. This supported the project proponent, third-party contractor, and reviewing agencies in assessing baseline conditions and potential environmental impacts.

By SRK United States



WIPP safety ventilation system

SRK's mine ventilation team has supported the U.S. Department of Energy's Waste Isolation Pilot Plant (WIPP) for over 35 years. WIPP is the only U.S. facility for permanent disposal of transuranic nuclear waste. Following a 2014 incident, SRK helped redesign the underground and surface ventilation system, including airflow distribution and numerical model calibration through semi-annual field checks. SRK's modelling informed the design of the world's largest high-efficiency particulate air (HEPA) filtration system. The new Safety Significant Confinement Ventilation System will filter up to 540,000 cfm, supported by a dust extraction system with six 100,000 cfm filtration units.

By SRK United States



TSF deconstruction and design

The project involved the deconstruction of an upstream raised tailings storage facility (TSF) in Mexico, involving the relocation of 145,000 m³ of tailings. Due to missing construction records, a "digital twin" was created from field data to model the TSF, assess risks, and plan safe deconstruction. Tailings were moved using excavators and dump trucks with sealed tailgates. Engineers monitored the dam's performance and collaborated with stakeholders to adapt deconstruction methods as conditions varied. Tailings relocation rates ranged from 820 m³/day to 1,810 m³/day, with challenges and adaptations discussed and addressed throughout the process.

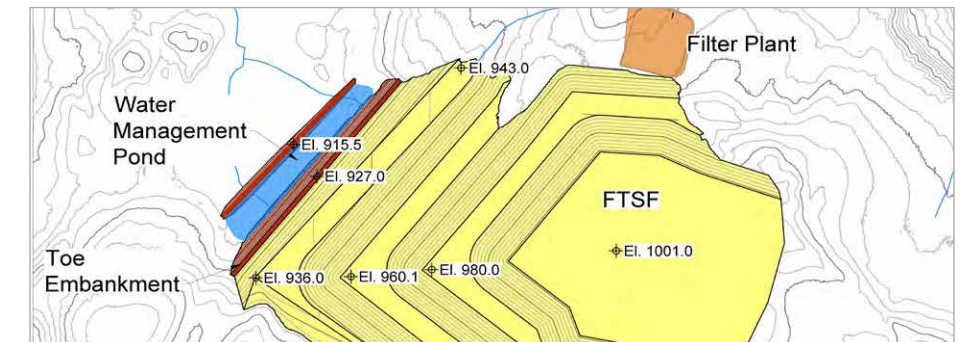
By SRK Canada



Longwall ventilation optimization

SRK's mine ventilation team supported Canyon Fuel Company, LLC in major ventilation upgrades at the Skyline and SUFCO mines. At Skyline, SRK helped reconfigure the system for mines 3, 4, and 5, commissioning and decommissioning four major fans and adding a new shaft. At SUFCO, the transition from the West Lease to the Lower Hiawatha seam required reversing the primary portal fan and converting to a push-pull system with a new shaft. For both sites, SRK's team developed and validated detailed ventilation models, confirmed through on-site surveys, which were critical for effective ventilation planning.

By SRK United States



Wicheeda FTSF design

SRK completed the design of a filtered tailings storage facility (FTSF) as part of a pre-feasibility study for the Wicheeda Rare Earth Element project. As part of this study, a tailings alternatives assessment was also completed to support the selection of the preferred tailings management approach.

The FTSF is designed with a 15 m high starter toe embankment with tailings placed behind and upslope of it in several large benches, each approximately 20 to 25 m high and 50 m wide. The overall height of the stack will be in the order of 90 m and the foundation of the stack will be fully lined.

The stack will be constructed bottom-up within a valley depression, with material hauled by truck from the filter plant and spread into thin lifts before compaction.

The preferred site is across a river from the mine, so pumping slurry tailings to a filtration facility located near the stack was chosen as a more economical solution than long-haul trucking from the mine's plant area.

The stack is designed to handle approximately 5,000 tonnes per day of tailings over the 15-year mine life, with space available for additional capacity if needed.

By SRK Canada

South America



Rincon lithium construction CQA

Rincon is a lithium brine project located in the Puna arid region of Salta, Argentina.

Since 2022, SRK Argentina has been involved in the conceptual, feasibility and detailed design of a spent brine depositional facility needed for the Rincon project. SRK is currently carrying out the construction quality assurance (CQA) for the pilot plant's facility. It is also conducting complementary site investigations, laboratory testing, and materials characterization to advance the detailed design for the larger facility. It will sustain 53 ktpa lithium carbonate equivalent during the life of mine.

By SRK Argentina



Buriticá mine waste management

Planning and design involved two years of fast-tracked pre-feasibility and feasibility studies. Start of operations challenges due to unexpected climate and topographic differences, ownership changes, processing shifts, pandemic restrictions, limited underground backfill, restricted starter cell footprints, and filter plant issues. These factors led to poor dewatering efficiency, high moisture, and compaction issues in the first cell of the tailings storage facility (TSF), creating a steep learning curve for operations and construction teams. SRK has been involved since 2017, providing construction quality assurance, supervision, and recently becoming the Engineer of Record. The team designed a TSF expansion and successfully presented it for local authority permitting.

By SRK Colombia



Slope stability for Zaldívar mine

Zaldívar is a copper deposit located at 3,200 m above sea level in northern Chile's Antofagasta region. For over eight years, SRK Chile has collaborated with Minera Zaldívar with geological and geotechnical studies, including material characterization and 2D/3D slope stability analysis. Support has also covered hydrogeological and geotechnical risk management, with a key focus on the structurally complex south wall, where major faults and minor fracture systems impact rock mass stability.

These conditions have required ongoing stability analysis, supported by numerical modeling tools, and sustained geotechnical monitoring to anticipate and manage any critical conditions, ensuring safe, reliable, and sustainable operations.

By SRK Chile 16



Fruta del Norte resource update

Fruta del Norte (FDN), located in Zamora Chinchipe, Ecuador, features mineralization with quartz-sulphide carbonate stockwork veining and brecciation, including chalcedonic to crystalline quartz, manganese-carbonates, calcite, adularia, barite, marcasite, and pyrite. Most gold is microscopic, linked to quartz, carbonates, and sulphides. The scope of work includes a site visit, database validation, modeling check, and mineral resources estimate update. SRK updated the FDN mineral resources estimates using Leapfrog Geo models provided by Lundin Gold, based on drilling data as of November 2024, comprising 2,835 drill holes and 220,780 assayed samples.

By SRK Brazil



Sistema Riachuelo engineering

The project is part of the Sistema Riachuelo, the first major expansion of Buenos Aires' main sewer system in over 70 years. It includes a bypass channel to divert effluents from the main collector to the emissary tunnel, bypassing the treatment plant during maintenance or emergencies. Located in a coastal area with fill material and Pampeano formations, SRK provided detailed structural and geotechnical engineering, covering support structures, foundations, and material specifications. Complex excavations required 2D and 3D geotechnical models. A study on thermal and rheological cracking in concrete was validated through a scaled model.

By SRK Argentina



Conceptual closure plan for the Chapada mine

SRK was contracted by Lundin Mining in 2024 to review the conceptual closure plan for the Chapada Mine in Goiás.

The multidisciplinary assessment focused on risk management, uncertainties, and opportunities to ensure sustainable closure while mitigating liabilities. The review adhered to Lundin's data, international best practices, and Brazilian regulations.

Key aspects included redefining closure concepts, proposing socio-environmentally responsible alternatives, and prioritizing risk minimization. The plan involves partial backfilling of the pit, the creation of a pit lake, decommissioning of

structures, the remediating of waste rock piles, and implementing of drainage and safety measures.

A risk analysis identified residual risks and future land-use options, highlighting gaps in geochemistry, water management, and geotechnics.

Closure cost estimates, including asset retirement obligation costs, were developed, and additional studies were proposed to refine these estimates and ensure financial sustainability.

By SRK Brazil

...South America



Cerro Vanguardia TSF management

SRK Argentina is involved in the design and management of a tailings storage facility (TSF), including an embankment raise and tailings deposition plan. The SRK team ensures ongoing production is accommodated during construction. Since 2021, SRK has provided Engineer of Record services, aligned with GISTM. Their role includes quality assurance, operational support, risk assessments, and coordination with corporate and independent reviewers. Additionally, from 2021 to 2022, SRK conducted geochemical assessments of open pits, waste rock dumps, and heap leach pads, following best international practices.

By SRK Argentina



Lithium brine projects

Since 2010, SRK has been involved in lithium brine projects across Argentina, Bolivia, and Chile, most notably the globally significant Atacama Lithium project. These projects have presented complex hydrogeological and geochemical challenges, some of which required the application of SRK's innovative approach. SRK's contributions include resource and reserve estimation, hydrogeological and solute transport modelling, pumping and production plant design, infrastructure planning, economic evaluations, and environmental impact assessments, comprehensively supporting the long-term success of these projects.

By SRK United States, Argentina, Chile



San José TSF independent audit

The HEMCO mining complex features an underground gold mine producing fine gold tailings, which are hydraulically deposited as slurry in a downstream tailings storage facility (TSF) since 2016. SRK Colombia was engaged to perform a dam safety inspection and an audit including site visits, and workshops to assess safety and compliance with Global Industry Standard on Tailings Management (GISTM) and Canadian Dam Association (CDA) standards. SRK continues to support the project by identifying gaps and developing an action plan to implement updated GISTM and CDA guidelines for the operation and closure of tailings storage facilities.

By SRK Colombia



Tianqi Lithium due diligence

In October 2023, Tianqi Lithium commissioned SRK China to conduct a technical due diligence review of the Salares 7 project, a lithium brine asset in northern Chile. The review aimed to provide unbiased technical opinions to support internal decision-making and potential bidding, identifying material gaps, deficiencies, and project risks.

After completing the site visit, the SRK China team met in Santiago with SRK Chile consultants, whose hydrogeological and environmental expertise supported the due diligence review.

By SRK China, Argentina, Chile



Caylloma production rate increase

In 2022, Minera Bateas S.A.C requested SRK Peru to conduct a conceptual evaluation to increase the production rate of the Caylloma mine. Five scenarios were analyzed at a conceptual level, including mineral resource and mine planning issues.

Operational aspects were also analyzed, covering the capacity and distribution of the process plant, energy capacity, and the availability of mine and domestic water. It also considered auxiliary services such as ventilation, pumping, and drainage, along with personnel, the hydraulic fill plant, mine equipment, and transportation. Finally, the assessment addressed the capacity of surface components, as well as permits and legal and environmental restrictions.

By SRK Peru



Escondida geotechnical modelling

Escondida is a copper porphyry deposit located in the Atacama Desert in northern Chile, 170 km south-east of Antofagasta. In the last five years, SRK Chile has been involved in several tasks, including geotechnical characterisation, procedure updates, QA/QC of core logging data, structural model updates, geotechnical block models, and stability analysis through numerical modelling. SRK established how the clay content controls the rock mass strength and the stability behaviour in the pit. New technologies have been implemented in geotechnics, such as hyperspectral analysis, to correlate rock strength with mineral content.

By SRK Chile



La Cobartera district exploration and geological prospectivity

SRK supported a private equity client with their strategy and investor relations for an advanced-stage exploration project in Chile's La Cobartera district, targeting cobalt-copper mesothermal vein systems. Historically productive, the district is now undergoing its first modern exploration.

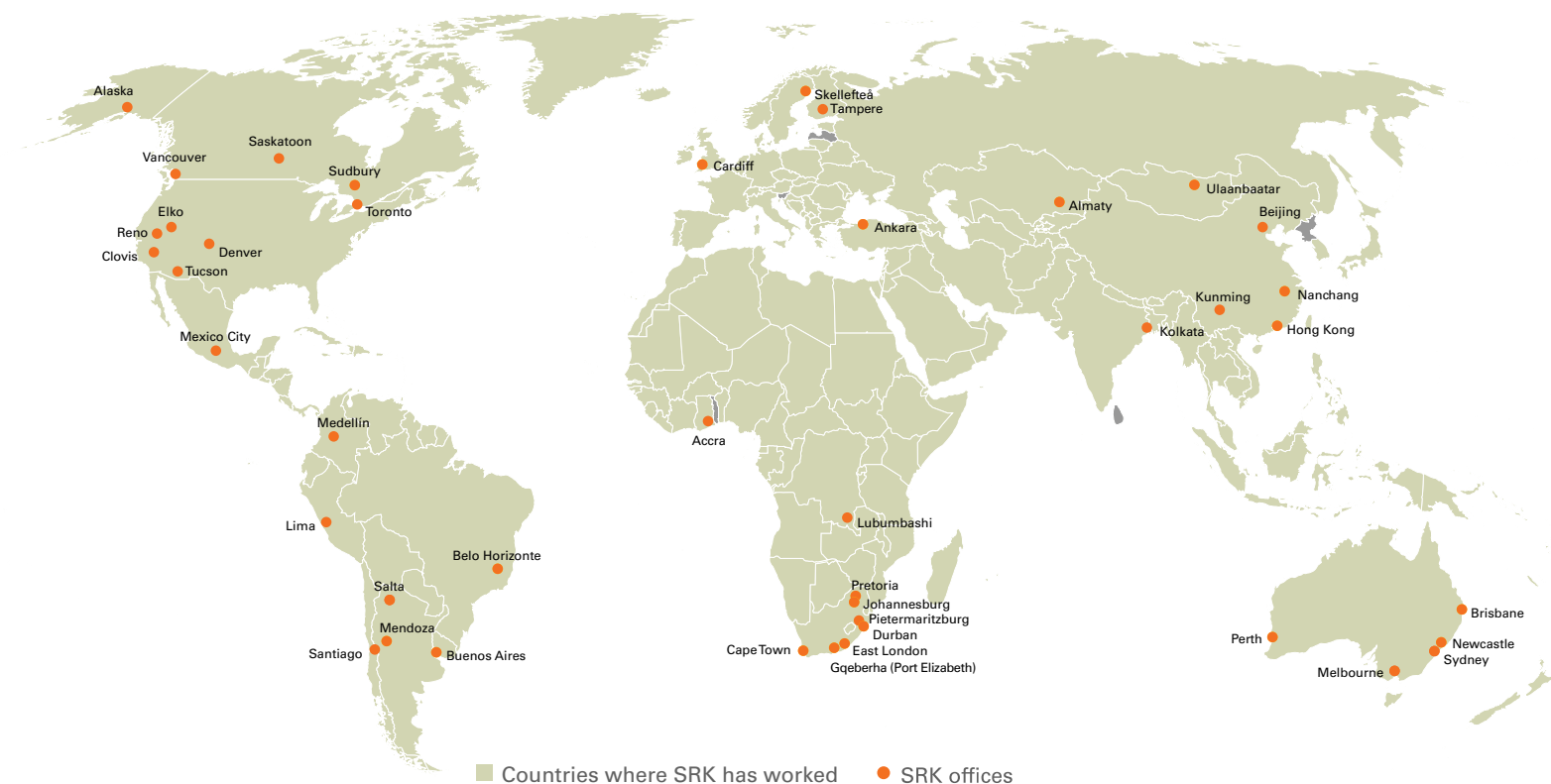
SRK's services included drilling audits, geological prospecting, data reviews, and exploration planning using synthetic modelling.

Economic analyses were conducted to rank exploration targets and identify opportunities and risks. SRK assisted

with corporate planning and supported the company with investor due diligence.

The project culminated in a technical report compliant with Canadian NI 43-101 standards. SRK provided a phased drilling plan and budget, aiding the Chilean Cobalt Corporation in prioritizing high-potential targets for future exploration.

By SRK United States



Specialist advice for mining projects in all global environments.

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