QGP Royalties & Streaming Call Certificate Whitepaper

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Executive Summary

QGP Royalties & Streaming Call Certificate (QRSCC) represents a revolutionary approach to institutional digital assets through tokenized callable participation certificates in a Cayman Islands Segregated Portfolio Company (SPC). Each QRSCC token provides direct beneficial ownership of certificates held in QGP Royalties & Streaming SP, a segregated portfolio of Quorium Global Photonics SPC.

Specifically designed for capitalisation of mining companies and financing of streaming contracts, QRSCC enables institutional investors to gain exposure to a professionally managed portfolio that can include equity positions, bonds, MTNs, streaming contracts, cash, and other financial instruments. This flexibility allows the SP to optimize returns while maintaining the institutional-grade protections that sophisticated investors require.

The implementation leverages blockchain technology to provide unprecedented transparency through on-chain recording of all assets, Net Asset Value (NAV) updates, and regulatory compliance data. Unlike conventional tokenization that creates layers of abstraction, QRSCC holders maintain direct claims to underlying certificates, ensuring maximum asset protection particularly in distress scenarios.

1. Problem Statement

The institutional digital asset market faces critical challenges that have prevented widespread adoption among traditional financial institutions, particularly in the mining finance sector. Traditional mining finance requires massive capital commitments that exclude many institutional investors who could benefit from exposure to this sector. The minimum investments often reach hundreds of millions, creating an insurmountable barrier for diversified institutional portfolios.

The lack of transparency in traditional fund structures leaves investors dependent on periodic reports that may be outdated or incomplete, providing limited visibility into underlying assets, current valuations, and compliance status. This opacity creates information asymmetries that sophisticated institutional investors find unacceptable, especially when dealing with complex mining investments that may include streaming contracts, equity positions, and various debt instruments.

Regulatory uncertainty presents another significant barrier. Many tokenized instruments operate in regulatory grey areas, exposing institutional investors to compliance risks they cannot afford to take. The absence of clear regulatory frameworks and the proliferation of instruments that bypass established securities laws create an environment where prudent institutions remain on the sidelines.

Asset protection concerns compound these issues. Most tokenization schemes create mere contractual claims rather than direct ownership rights, leaving investors vulnerable in bankruptcy or liquidation scenarios. When distress events occur, token

holders often find themselves as unsecured creditors with little recourse to recover their investments. This structural weakness fundamentally undermines the value proposition of tokenization for risk-conscious institutional investors.

Operational inefficiencies in traditional fund structures impose substantial costs that ultimately reduce investor returns. Manual processes for subscriptions, redemptions, and reporting create delays and errors while requiring extensive administrative overhead. Settlement cycles measured in days or weeks tie up capital unnecessarily and create counterparty risks that modern technology should eliminate.

Finally, limited liquidity options force institutional investors into extended lock-up periods without viable exit strategies. The absence of efficient secondary markets for institutional-grade tokenized assets means investors must carefully consider their liquidity needs before committing capital, often leading them to demand liquidity premiums that reduce overall returns. This is particularly acute in mining finance, where traditional investments are highly illiquid.

2. The QRSCC Solution

QRSCC addresses these fundamental challenges through innovative contract architecture that reimagines how institutional assets can be tokenized while maintaining the protections and transparency that sophisticated investors require. The solution specifically targets the mining sector's capitalisation needs while providing the flexibility to optimize portfolio composition across various financial instruments.

Complete on-chain transparency forms the foundation of the QRSCC solution. Every asset in the portfolio, whether equity positions, streaming contracts, bonds, MTNs, or other financial instruments, is recorded immutably on the blockchain, accessible to any stakeholder at any time. This radical transparency eliminates information asymmetries and provides investors with real-time visibility into their investments. The smart contract maintains comprehensive records of all assets including their identifiers, descriptions, custodian information, and supporting documentation. Monthly NAV updates create an immutable valuation history that investors can independently verify and analyse.

The capitalisation and streaming focus provides institutional investors with sophisticated exposure to the mining sector without the complexity of direct involvement. The SP can enter into streaming agreements with mining companies, acquiring rights to future production at predetermined prices while potentially taking equity positions that align interests. This combination of streaming contracts and equity provides both current income and upside participation, optimizing the risk-return profile for institutional investors.

Portfolio flexibility distinguishes QRSCC from rigid investment structures. The SP can hold any combination of financial instruments that contribute to NAV, including corporate bonds, medium-term notes, equity positions, streaming contracts, and cash reserves. This flexibility allows professional management to optimize the portfolio

based on market conditions, capitalizing on opportunities across the capital structure while maintaining focus on mining sector capitalisation.

Regulatory compliance is built into the core architecture rather than added as an afterthought. The contract enforces KYC/AML requirements through a sophisticated whitelisting system that prevents unauthorized transfers while maintaining operational efficiency. Comprehensive metadata storage ensures all regulatory information required under Cayman Islands law is permanently recorded on-chain, from CIMA license numbers to service provider details. This approach transforms compliance from a burden into a competitive advantage, providing regulators and investors with unprecedented visibility into operations.

Direct asset ownership distinguishes QRSCC from conventional tokenization approaches. Token holders own proportional shares of actual certificates held in a legally segregated pool, not mere contractual claims against an issuer. This structure ensures that in any distress scenario, token holders maintain priority claims to the underlying assets. The segregated portfolio structure under Cayman Islands law provides additional legal protection, ring-fencing assets from claims against other portfolios or the parent company.

Smart contract automation revolutionizes operational efficiency by eliminating manual processes and reducing settlement times from days to minutes. The minting process automatically links new tokens to specific underlying assets, creating an unbreakable chain of ownership. Redemption processes execute through predetermined pathways, ensuring consistent and predictable outcomes. Role-based permissions enable delegation of specific functions while maintaining overall control and security.

The integration with QRS perpetual options creates a unique value multiplication mechanism. The SP can issue QRS tokens representing perpetual options on subsidiary equity, generating additional capital that enhances the balance sheet beyond traditional structures. This innovative approach allows the SP to monetize future upside while maintaining the underlying assets, creating value for QRSCC holders through enhanced NAV.

Flexible redemption options provide liquidity while maintaining the institutional character of the instrument. The dual redemption mechanism allows investors to exit through asset liquidation or certificate transfer to other qualified investors. Settlement occurs primarily in USD through the professionally managed OTC desk backed by JP Morgan and Fidelity, with optional settlement in QGP's suite of digital assets for investors seeking to enhance their treasury management through digital asset exposure.

3. Technical Implementation

The QRSCC smart contract represents a sophisticated evolution in tokenization technology, implementing features specifically designed for institutional requirements while accommodating the diverse asset base necessary for mining sector capitalisation.

Smart Contract Architecture

The contract architecture implements a multi-role permission system that mirrors traditional fund governance while leveraging blockchain's security properties. The Owner role maintains ultimate control over contract parameters and emergency functions, ensuring responsible governance while preventing unauthorized modifications. This role can update regulatory metadata, control minting operations, and implement emergency procedures when necessary.

The NAV Poster role, typically delegated to the fund administrator, handles valuation updates and regulatory reporting. This separation of duties ensures that valuations remain independent while maintaining operational efficiency. Each NAV update includes comprehensive metadata including timestamps, USD values with six decimal precision, and links to detailed supporting documentation stored on distributed systems like IPFS. The NAV calculation must accommodate various asset types, from liquid securities to complex streaming contracts, requiring sophisticated valuation methodologies.

Asset Managers, usually the segregated pool directors, control the underlying portfolio through functions that add, remove, or replace assets. Every asset operation requires detailed information including unique identifiers, asset descriptions, custodian details, and proof documentation. This granular tracking ensures complete transparency while maintaining the flexibility needed for active portfolio management across diverse asset classes including equity positions, streaming contracts, bonds, MTNs, and other financial instruments.

AML Officers handle investor compliance through whitelist and blacklist management functions. This role can respond quickly to regulatory requirements or sanctions updates while maintaining clear audit trails of all compliance actions. The ability to freeze and burn tokens from sanctioned addresses provides powerful enforcement mechanisms that exceed traditional finance capabilities.

Asset-Backed Minting Process

The minting process exemplifies QRSCC's commitment to transparency and asset backing. Unlike simple token generation, QRSCC minting requires specific assets to be identified and documented before any tokens can be created. The mintWithAssets function accepts detailed information about each backing asset, creating permanent on-chain records that link tokens to their underlying value.

Each minting operation generates a certificate series that documents the relationship between tokens and assets. The series includes certificate numbers that increment sequentially, providing clear identification for each token batch. The contract calculates the number of tokens to mint based on the total asset value and current NAV, ensuring consistent valuation across all minting operations. This mechanism prevents dilution while maintaining flexibility for portfolio growth.

The anti-dilution protection embedded in the minting process ensures existing token holders cannot be disadvantaged by new issuances. When NAV falls below the minimum threshold of $100,000 per token, new minting requires contributions sufficient to maintain this institutional threshold. This creates natural market mechanisms that protect value while allowing organic growth.

Comprehensive On-Chain Data Storage

The contract's approach to data storage balances transparency with efficiency. Regulatory metadata is stored in a structured format that captures all information required for Cayman Islands compliance. This includes CIMA license numbers, details of all required service providers, and current regulatory status. Updates to this metadata trigger events that create permanent audit trails, ensuring changes cannot occur without detection.

NAV history storage creates an immutable record of all valuations since inception. Each NAV entry includes not just the value but also the timestamp, the address that posted the update, and links to supporting documentation. This comprehensive approach enables sophisticated analysis of NAV trends while providing the documentation needed for regulatory reviews or investor due diligence.

Asset inventory management maintains detailed records of every asset that has ever been part of the portfolio. Assets marked as inactive remain in the historical record, providing complete visibility into portfolio evolution. This approach exceeds traditional fund transparency by making the entire investment history permanently accessible, particularly important for complex assets like streaming contracts that may have varying terms and conditions.

4. Operational Framework

The operational framework of QRSCC transforms traditional fund operations through blockchain automation while maintaining the controls and procedures that institutional investors expect, with specific adaptations for mining sector investments.

Progressive Intervention Model

The contract implements a sophisticated three-tier operational model that responds automatically to changing market conditions. During normal operations, the contract functions with full capabilities, allowing transfers between any whitelisted parties and

processing both minting and redemption requests. This mode provides maximum flexibility while maintaining all compliance controls.

When market stress causes NAV to decline, the contract can transition to Redemption-Only mode. In this state, token transfers are restricted to the designated redemption address, effectively freezing secondary market activity while allowing orderly exits. This mechanism prevents panic selling while encouraging redemption of tokens, which helps stabilize the NAV for remaining holders. The restriction on transfers except for redemptions creates a natural circuit breaker that protects long-term investors from short-term market volatility.

The Liquidation mode represents the final protective mechanism, activated during severe distress events. In this mode, the underlying assets undergo orderly liquidation with proceeds distributed proportionally to token holders. The automatic activation of this mode when predetermined thresholds are breached ensures that value preservation takes precedence over operational continuity. Even in liquidation, the settlement process maintains its institutional character through the QGP OTC desk and payment in digital assets.

Asset Lifecycle Management

Portfolio management through the smart contract provides unprecedented transparency into asset operations. When assets are acquired, they are immediately recorded on-chain with comprehensive details including unique identifiers, descriptions of the underlying instruments, custodian information, and links to proof of ownership documentation. This real-time recording eliminates the information lag inherent in traditional quarterly reporting.

For streaming contracts specifically, the contract records detailed terms including commodity type, volume commitments, pricing formulas, and duration. As streaming payments are received through the subsidiary structure, they are tracked as income flowing into the portfolio. The contract maintains separate accounting for different revenue streams, whether from streaming contracts, equity dividends, bond coupons, or MTN payments.

As assets mature or require replacement, the contract provides sophisticated functions for portfolio updates. The replacement function allows atomic swaps where old assets are deactivated and new assets are recorded in a single transaction, maintaining portfolio continuity. Income from various sources is recorded as separate assets, providing clear tracking of portfolio yield. When bonds or MTNs mature, the principal receipts are recorded as cash assets, maintaining the complete audit trail from investment through liquidation.

The granular tracking extends to custody arrangements, with each asset linked to specific custodian information. This approach enables investors to verify not just what assets exist but where they are held and under what arrangements. Changes in custody

arrangements trigger new documentation requirements, ensuring the on-chain record always reflects current reality.

Mining Sector Operations

The operational framework includes specific provisions for mining sector investments. Due diligence on mining companies involves verification of reserves, production capacity, and regulatory compliance in operating jurisdictions. The smart contract can record links to technical reports, feasibility studies, and other mining-specific documentation that institutional investors require.

Streaming contract negotiations and structuring occur at the SP level, with professional management ensuring terms align with institutional requirements. The subsidiary structure facilitates clean ownership of equity positions while receiving streaming payments, creating operational efficiency and clear accounting. The framework supports various streaming structures, from simple fixed-price arrangements to complex formulas tied to commodity prices and production volumes.

Portfolio diversification across different commodities, mining companies, and geographic regions is tracked on-chain, providing investors with clear visibility into concentration risks. The system can accommodate exposure to precious metals, base metals, battery metals, and other commodities as market opportunities arise.

Redemption Mechanisms

The redemption framework provides institutional investors with flexible exit options while maintaining operational efficiency. The primary redemption path operates through a sophisticated process that begins when investors transfer their tokens to the designated redemption address. This transfer triggers automated workflows that calculate redemption values based on the most recent NAV and initiate settlement procedures.

Settlement occurs through the QGP OTC desk, with USD as the primary settlement method. The OTC desk maintains deep liquidity pools backed by JP Morgan and Fidelity based on real-time NAV values, ensuring institutional-grade USD settlements within 48 hours via traditional banking rails.

As additional options to enhance treasury management, investors may choose settlement in QGP digital assets. QUSD offers immediate stable value with one-to-one redeemability for USDC. QGOLD provides exposure to digital gold for portfolio diversification. QBTC and QETH offer cryptocurrency exposure with institutional-grade custody and staking capabilities, allowing investors to generate additional yields on their redemption proceeds. These digital asset options provide flexibility for institutions seeking to maintain or diversify their digital asset exposure beyond traditional USD settlement.

The alternative redemption path activates when third parties wish to acquire positions from existing holders. In these cases, the OTC desk facilitates certificate transfers where new qualified investors can purchase tokens at negotiated prices that may include premiums above NAV. This mechanism creates natural secondary market dynamics while maintaining compliance through whitelist requirements for all parties.

5. OTC Desk Operations

The QGP OTC Desk provides institutional-grade redemption services for QRSCC token holders. Operating as the exclusive redemption facility referenced in the QRSCC smart contract, the OTC Desk ensures seamless conversion of tokenized certificates primarily into USD within 48 hours of token receipt. With liquidity backing from JP Morgan and Fidelity based on real-time NAV values, the desk maintains deep liquidity pools capable of handling large institutional redemptions without market impact. Digital asset settlement options are available for investors seeking to enhance their treasury management beyond traditional fiat.

Redemption Process Overview

Request for Redemption Procedure

Institutional clients initiate the redemption process by sending a formal Request for Redemption to OTC-Desk@qgphotonics.com. This request must include the wallet address holding QRSCC tokens, the number of tokens to be redeemed, and the preferred settlement method. USD settlement via traditional banking is the standard option, with alternative settlement available in digital assets (QUSD, QGOLD, QBTC, or QETH) for treasury enhancement purposes. Settlement can only occur to pre-authorized destination wallets or bank accounts that have been registered and verified during the client onboarding process.

The OTC Desk maintains a secure database of authorized settlement instructions for each institutional client, established through rigorous verification procedures during initial KYC/AML onboarding. Any request to settle to a destination not previously authorized triggers enhanced due diligence procedures, requiring written confirmation from multiple authorized signatories and potentially a cooling-off period before execution. This segregated approval workflow ensures that redemption proceeds can only flow to verified, pre-approved destinations, protecting against unauthorized transfers or social engineering attempts.

Upon receipt of the redemption request, the OTC Desk performs comprehensive verification through multiple checkpoints. First, the desk confirms the requesting email originates from authorized contacts at the institution. Second, verification ensures the wallet holding QRSCC tokens appears on the smart contract whitelist. Third, the system validates that the requested settlement destination matches pre-authorized instructions on file. Finally, for redemptions exceeding predetermined thresholds, a callback to verified phone numbers provides additional authentication.

Only after all verification steps are successfully completed does the desk provide the client with a unique deposit wallet address specifically generated for this redemption transaction. This is accompanied by formal written confirmation detailing the redemption terms including the current NAV per token, estimated settlement value, and explicit confirmation of the pre-authorized settlement destination to be used.

48-Hour Settlement Guarantee

The OTC Desk operates under a strict 48-hour settlement timeline from the moment QRSCC tokens are received in the designated deposit wallet. This institutional-grade service level ensures predictable liquidity for token holders while maintaining operational efficiency. The settlement clock begins when blockchain confirmation of the token transfer is received, not when the initial email request is sent.

During the 48-hour processing window, the OTC Desk executes the redemption at the NAV recorded in the QRSCC smart contract at the time of token receipt. This protects clients from NAV fluctuations during processing while ensuring fair value for all redemptions. The final settlement amount is calculated by multiplying the number of tokens by the applicable NAV, with settlement occurring primarily in USD via traditional banking channels. Clients opting for digital asset settlement for treasury diversification receive their chosen QGP digital asset.

Liquidity Infrastructure

JP Morgan and Fidelity Backing

The OTC Desk maintains institutional-grade liquidity through strategic partnerships with JP Morgan and Fidelity. These premier financial institutions provide liquidity pools that dynamically adjust based on the total NAV of outstanding QRSCC tokens. This ensures the OTC Desk can always meet redemption obligations, even during periods of elevated redemption activity.

The backing arrangement operates through a sophisticated collateral management system where JP Morgan and Fidelity commit liquidity equivalent to predetermined percentages of the total QRSCC NAV. As the NAV fluctuates with underlying asset values, the committed liquidity automatically adjusts, ensuring adequate coverage at all times. This dynamic system provides confidence to institutional investors that their redemptions will be honored regardless of market conditions.

Multi-Asset Liquidity Pools

The OTC Desk maintains separate liquidity pools for each settlement option to ensure efficient execution. The USD liquidity pool, backed by JP Morgan and Fidelity commitments tied to NAV values, represents the primary infrastructure supporting institutional redemptions. These tier-one banking partners provide deep liquidity and global reach for fiat settlements.

For digital asset settlements, which serve as treasury enhancement options, separate pools are maintained. The QUSD pool maintains direct access to USDC liquidity through automated market making arrangements. The QGOLD pool leverages dedicated reserves, while QBTC and QETH pools utilize institutional-grade custody solutions with integrated staking capabilities. The desk employs sophisticated hedging strategies to manage price risk across all settlement options.

Operational Framework

Compliance and Verification

Every redemption request undergoes comprehensive compliance verification before processing. The OTC Desk integrates directly with the QRSCC smart contract to verify whitelist status in real-time. Additional AML checks ensure compliance with international sanctions and regulatory requirements. This automated compliance framework operates within minutes of request receipt, enabling rapid processing while maintaining institutional standards.

The desk maintains detailed records of all redemption activity, creating an immutable audit trail that satisfies regulatory requirements across multiple jurisdictions. Each redemption generates comprehensive documentation including timestamp verification, NAV confirmation, compliance check results, and settlement confirmation. These records integrate with the on-chain transparency of QRSCC to create unprecedented visibility into redemption operations.

Smart Contract Integration

The OTC Desk operates as an authorized participant in the QRSCC ecosystem, with dedicated integration to the smart contract infrastructure. Real-time monitoring of the redemption address ensures immediate detection of incoming tokens. Automated NAV queries guarantee redemptions always execute at the correct valuation. The desk can also facilitate certificate transfers for qualified investors seeking to acquire positions at negotiated prices above NAV.

During different operational modes of the QRSCC contract, the OTC Desk adjusts its procedures accordingly. In Normal mode, all redemption options remain available with standard processing times. In Redemption-Only mode, the desk prepares for elevated volumes by increasing liquidity reserves and staffing. In Liquidation mode, the desk works closely with portfolio administrators to ensure orderly distribution of liquidation proceeds.

Risk Management

Comprehensive risk management protocols protect all stakeholders in the redemption process. Liquidity risk is mitigated through the JP Morgan and Fidelity backing arrangements, ensuring sufficient depth even during stress scenarios. Operational risk controls include redundant systems, automated reconciliation, and real-time

monitoring of all critical processes. Market risk between token receipt and settlement is managed through dynamic hedging strategies.

The desk maintains strict exposure limits for each settlement asset, automatically rebalancing when approaching thresholds. Counterparty risk with liquidity providers is managed through collateralized arrangements and daily mark-to-market procedures. Regular stress testing validates the desk's ability to handle extreme redemption scenarios without compromising service quality or settlement timing.

Settlement Options

USD Fiat Settlement

USD settlement is the primary redemption method, providing institutional clients with traditional fiat liquidity through established banking channels. The OTC Desk maintains correspondent banking relationships with major financial institutions to facilitate wire transfers globally, backed by the JP Morgan and Fidelity liquidity pools. USD settlements follow standard banking timelines within the 48-hour window, with funds arriving in client accounts via SWIFT or domestic wire transfer depending on jurisdiction.

This primary settlement option aligns with institutional treasury requirements and regulatory expectations. The deep liquidity backing from JP Morgan and Fidelity ensures that even large redemptions can be processed without market impact or delays. The OTC Desk handles all operational aspects of the redemption process, providing a seamless experience that matches traditional institutional standards.

Digital Asset Settlement Options

For institutions seeking to enhance their treasury management through digital asset exposure, the OTC Desk offers settlement in various QGP digital assets as alternatives to USD settlement.

QUSD Settlement provides immediate stable value through one-to-one backing with USDC. The fungibility between QUSD and USDC enables seamless integration with existing digital asset infrastructure while maintaining the benefits of the QGP ecosystem.

QGOLD Settlement offers exposure to digital gold backed by bullion and in-ground gold reserves, providing treasury diversification into precious metals within a digital framework.

QBTC and QETH Settlement provide institutional access to Bitcoin and Ethereum with integrated staking capabilities. These options appeal to institutions seeking to maintain or establish digital asset positions as part of their treasury strategy, with immediate staking setup available to generate yields on redemption proceeds.

These digital asset options complement the primary USD settlement method, giving institutions flexibility in managing their redemption proceeds according to their specific treasury policies and investment strategies.

Service Standards

Institutional Support

The OTC Desk provides dedicated institutional support throughout the redemption process. A specialized team handles redemption requests, providing personalized service for large or complex transactions. Direct communication channels ensure rapid resolution of any questions or concerns. Support operates across global time zones to accommodate institutional clients worldwide.

Transparency and Reporting

Complete transparency defines the OTC Desk operations. Clients receive real-time updates throughout the redemption process, from initial request acknowledgment through final settlement confirmation. Detailed transaction reports document every aspect of the redemption, including exact timestamps, applicable NAV rates, and settlement calculations. Monthly statements aggregate all redemption activity for institutional reporting requirements.

Continuous Improvement

The OTC Desk continuously evolves to meet changing institutional needs. Regular client feedback drives service enhancements and new feature development. Technology investments focus on reducing settlement times and improving execution quality. The desk actively monitors market developments to ensure redemption services remain best-in-class as the digital asset ecosystem matures.

6. QRS Integration and Value Multiplication

The QRS Mechanism

A unique feature of the QRSCC structure is its integration with QRS tokens, which represent perpetual options on equity held by the SP's subsidiary. This innovative mechanism creates value multiplication opportunities that enhance returns for QRSCC holders while maintaining clear separation of rights and risks.

QRS tokens are issued separately from QRSCC and represent perpetual call options on the equity positions held by QGP Royalties & Streaming Company Ltd, the subsidiary that owns equity stakes in mining companies and receives streaming payments. These options provide retail investors with democratized access to mining sector upside, starting from just $150, while generating immediate capital for the SP.

Value Multiplication Effect

The issuance of QRS creates a powerful balance sheet enhancement mechanism. When the subsidiary holds $100 million in equity value, the SP can issue QRS tokens with a notional value of up to $100 million. The proceeds from selling these tokens flow directly to the SP as cash, effectively doubling the balance sheet impact of each equity acquisition.

This multiplication effect works because QRS purchasers are buying optionality on future appreciation rather than current assets. The perpetual nature of these options means they never expire, creating sustained value that persists as long as the underlying equity positions exist. From an accounting perspective under IFRS, the sold QRS tokens create a financial liability offset by cash assets, while the underlying equity remains as a separate asset on the balance sheet.

Treasury QRS as Liquidity Reserve

Not all QRS tokens need to be sold immediately. The SP can retain a portion as treasury tokens, which do not appear on the balance sheet but represent significant off-balance sheet value. These treasury tokens function as a liquidity reserve that can be monetized when market conditions are favourable or held as a buffer against future capital needs.

This flexibility provides the SP with multiple strategic options. During strong markets, treasury QRS can be sold to fund new acquisitions without diluting QRSCC holders. During weak markets, the SP can repurchase QRS tokens if they trade below intrinsic value, creating value through market timing. The presence of this shadow liquidity enhances the credit profile of the SP and provides additional comfort to institutional QRSCC investors.

Direct Benefits to QRSCC Holders

QRSCC holders directly benefit from the QRS issuance mechanism as the SP itself issues these perpetual options. When QRS tokens are sold, the proceeds immediately become part of the SP's NAV, directly increasing the value backing each QRSCC token. This means QRSCC holders have claims on the entire enhanced NAV, which includes both the underlying assets and the cash generated from QRS sales.

The SP manages the issuance and treasury management of QRS tokens as an integral part of its capital optimization strategy specifically designed to benefit QRSCC holders. Every dollar raised through QRS sales directly increases the NAV that backs QRSCC tokens. Additionally, unsold QRS tokens held in treasury serve as an off-balance sheet backstop liquidity pool, providing QRSCC holders with additional security through potential future liquidity that can be accessed when needed.

Circular Value Creation and Risk Mitigation

The most elegant aspect of the QRSCC structure is its circular value creation mechanism that benefits all participants. When mining companies receive QRSCC tokens as payment for their equity stake and streaming contracts, they effectively pool their 4.9% ownership with an ever-growing portfolio of other mining and streaming operations. This creates a powerful risk mitigation tool for the mining companies themselves.

By accepting QRSCC as a form of payment for capitalisation, mining companies can transform their illiquid treasury holdings into diversified exposure across the entire mining sector. If a mining company holds 50% of its treasury in QRSCC tokens, it spreads its risk across multiple mining and streaming operations while reducing dependence on its own operational performance. This diversification occurs while the company continues to work alongside other miners in building the collective value of the portfolio.

This circular structure creates aligned incentives: mining companies contribute assets to the pool and receive liquid tokens backed by a diversified portfolio that includes their own operations plus many others. As each new mining company joins the ecosystem, it strengthens the value proposition for all existing participants. The SP's professional management ensures optimal portfolio construction while individual mining companies benefit from both their own success and the success of their peers.

The structure effectively transforms competitive mining companies into collaborative partners in value creation, while maintaining their operational independence. This represents a fundamental innovation in mining finance - creating a liquid, diversified treasury asset backed by the very sector in which these companies operate.

7. Regulatory Compliance Framework

QRSCC's regulatory framework demonstrates how blockchain technology can enhance rather than circumvent regulatory compliance, setting new standards for transparency and accountability in institutional digital assets.

Cayman Islands SPC Structure

The foundation of QRSCC's regulatory compliance rests on its establishment as a segregated portfolio within a Cayman Islands SPC. This structure provides internationally recognized legal frameworks that institutional investors understand and trust. The SPC law creates statutory segregation between different portfolios, ensuring that QRSCC assets remain ring-fenced from any claims against other portfolios or the parent company. This legal protection combines with blockchain transparency to create unprecedented investor safeguards.

All required Cayman entities are documented directly on the blockchain, from the resident director to the approved auditor and administrator. Changes to any service

provider require updating the on-chain metadata, creating permanent records of who was responsible for various functions at any point in time. This approach transforms regulatory compliance from a paper-based exercise into a living, transparent system that regulators can monitor in real-time.

The contract enforces CIMA reporting requirements through dedicated functions for regulatory submissions. Quarterly and annual reports are stored on-chain with cryptographic proofs of authenticity. The ability to amend reports while maintaining complete version history ensures accuracy while preserving audit trails. This systematic approach to regulatory reporting exceeds traditional compliance standards while reducing administrative burden through automation.

Investor Protection Mechanisms

The whitelist system implements sophisticated investor protections that go beyond simple access control. Every address must be explicitly authorized before it can receive or transfer tokens, ensuring that only verified institutional investors can participate. The verification process, while occurring off-chain, results in on-chain records that create permanent compliance documentation.

The blacklist functionality provides powerful tools for sanctions compliance and enforcement. When regulatory requirements or international sanctions demand action, AML officers can immediately freeze assets and prevent prohibited transfers. The ability to destroy tokens held by sanctioned entities exceeds the enforcement capabilities available in traditional finance while maintaining due process through role-based controls and audit trails.

Transfer restrictions work in conjunction with operational modes to provide layered protection. During normal operations, transfers between whitelisted parties proceed freely. As market conditions deteriorate, transfer restrictions automatically tighten, preventing activities that might harm remaining investors. This dynamic approach to transfer control provides protection that adapts to circumstances rather than relying on static rules.

Continuous Compliance Monitoring

The transparent nature of blockchain operations enables continuous compliance monitoring that would be impossible in traditional structures. Every transfer, every NAV update, and every asset change creates permanent records that regulators can review at any time. This real-time visibility transforms regulatory oversight from periodic examinations to continuous monitoring, reducing both compliance risks and regulatory burden.

The smart contract's event system creates comprehensive audit logs that capture not just what happened but when and by whom. These logs cannot be altered or deleted, providing forensic capabilities that exceed traditional financial systems. Regulators can

trace the complete history of any token or asset, understanding exactly how it moved through the system and under whose authorization.

Integration with existing regulatory frameworks occurs through careful structuring that respects established law while leveraging new technology. The contract does not attempt to bypass securities regulations but rather implements them through code. This approach demonstrates how blockchain technology can strengthen rather than weaken regulatory oversight, paving the way for broader institutional adoption.

8. Risk Considerations

Investment in QRSCC tokens requires careful consideration of various risk factors that, while mitigated through structure and technology, cannot be entirely eliminated.

Market and Valuation Risks

The value of QRSCC tokens directly depends on the underlying portfolio, which remains subject to various market risks. For equity positions, market volatility can cause significant NAV fluctuations. Streaming contracts are exposed to commodity price risk, as the value of future production streams varies with market prices for gold, silver, copper, and other metals. While streaming contracts typically provide downside protection through fixed or discounted pricing, severe commodity price declines could still impact valuations.

Credit events involving issuers of bonds, MTNs, or counterparties to streaming contracts could result in permanent capital losses that flow through to token holders proportionally. While diversification within the portfolio provides some protection, concentrated positions or correlated assets could amplify these risks. The focus on mining sector investments creates sector concentration risk that investors must carefully consider.

Liquidity risks manifest differently than in traditional markets. While the redemption mechanism provides exit options, the actual liquidity depends on the underlying portfolio's ability to be liquidated efficiently. Streaming contracts and private equity positions may be particularly illiquid, potentially requiring negotiated sales at discounts to fair value. During stressed market conditions, asset sales might occur at disadvantageous prices, reducing redemption proceeds.

Currency risks arise from the USD denomination of NAV calculations while underlying assets might be denominated in various currencies. Mining companies often operate in multiple jurisdictions with local currency exposures. Although professional management includes hedging strategies, currency movements could still impact returns. For investors choosing digital asset settlement options as treasury enhancement tools, additional currency risk exists as the value of QBTC, QETH, or QGOLD relative to traditional currencies may fluctuate significantly.

Operational and Technical Risks

Smart contract risks, while minimized through auditing and testing, represent a fundamental consideration for digital assets. Potential vulnerabilities in code could theoretically be exploited, leading to loss of assets or operational disruptions. The immutable nature of blockchain means that certain errors cannot be easily corrected, requiring careful design and thorough testing before deployment. The upgradeable architecture provides some flexibility but introduces its own risks around upgrade authorization and implementation.

Custodian risks persist despite the blockchain's transparency. While the smart contract records which custodian holds each asset, the actual custody occurs off-chain in traditional financial infrastructure. Custodian bankruptcy, operational failures, or fraud could impact asset recovery despite the on-chain records. The quality and regulation of custodians therefore remains crucial to overall security.

Blockchain infrastructure risks include network congestion that could delay transactions, particularly during market stress when rapid execution might be most needed. Gas fees on Ethereum or compatible networks could spike, making operations expensive. Network forks or technical failures, while rare, could disrupt operations or create confusion about the canonical state of holdings.

Mining Sector Specific Risks

The focus on mining sector investments introduces unique risks that investors must understand. Operational risks at mining companies can impact both equity values and streaming contract performance. Mine closures, production shortfalls, or technical failures could reduce or eliminate expected streaming payments. Environmental incidents or regulatory changes in mining jurisdictions could severely impact asset values.

Geopolitical risks are particularly acute in the mining sector, as operations often occur in jurisdictions with varying political stability. Nationalization, changes in royalty regimes, or restrictions on foreign ownership could impact the value of both equity positions and streaming contracts. The SP's due diligence process considers these factors, but risks cannot be entirely eliminated.

The inherent leverage in the QRS structure amplifies both gains and losses. While the value multiplication effect enhances returns in positive scenarios, it also means that equity value declines impact both the direct holdings and the option liability, potentially accelerating NAV deterioration in adverse conditions.

Legal and Regulatory Risks

The evolving regulatory landscape for digital assets creates inherent uncertainties. While QRSCC operates within existing Cayman Islands law, regulatory interpretations could change. New regulations might impose additional requirements or restrictions

that affect operations or token value. Cross-border regulatory conflicts could arise as different jurisdictions develop incompatible frameworks for digital assets.

The integration of traditional mining finance structures with blockchain technology may face scrutiny as regulators develop frameworks for such hybrid instruments. Streaming contracts themselves have varying regulatory treatment across jurisdictions, and combining them with tokenized structures adds complexity. The SP works with experienced legal counsel to navigate these challenges, but regulatory risk remains present.

Tax treatment uncertainties affect both the fund and investors. Different jurisdictions may characterize QRSCC tokens differently for tax purposes, potentially as securities, commodities, or entirely new asset classes. The tax implications of redemptions, whether settled in USD through traditional banking or in digital assets for treasury diversification, vary by jurisdiction. Investors must carefully consider their own tax situations and seek appropriate advice.

Legal enforcement across borders presents challenges despite the strong Cayman Islands framework. While the SPC structure provides clear legal rights, enforcing those rights against assets or parties in other jurisdictions may prove complex. The pseudonymous nature of blockchain addresses could complicate legal proceedings, even though KYC requirements provide some identification infrastructure.

9. Future Development Roadmap

The evolution of QRSCC follows a carefully planned roadmap that balances stability for existing investors with innovation to enhance functionality and accessibility.

Technical Enhancements

The planned migration to the ERC3643 standard represents a significant technical advancement that will enhance compliance capabilities while maintaining backward compatibility. ERC3643 provides native support for transfer restrictions, identity management, and compliance rules directly within the token standard. This migration will reduce gas costs for compliance operations while providing richer functionality for managing institutional requirements. The transition will be carefully managed to ensure no disruption to existing holders while providing immediate benefits once completed.

Multi-chain deployment strategies will expand accessibility for institutional investors who operate across different blockchain ecosystems. By deploying compatible versions on multiple chains, QRSCC can accommodate investors with preferences for specific networks while maintaining unified operations through cross-chain bridges and coordinated management. This expansion requires careful consideration of security and operational consistency across chains.

Enhanced automation features will progressively reduce operational overhead while improving response times. Automated NAV calculations based on oracle price feeds

could supplement manual administrator updates, providing more frequent valuations. Smart rebalancing functions could optimize portfolio composition based on predetermined parameters. These enhancements maintain human oversight while leveraging technology for efficiency.

Mining Sector Integration

Deeper integration with mining sector participants will create additional value for QRSCC investors. Direct connectivity with mining companies for real-time production data could enhance streaming contract monitoring and valuation. Partnerships with technical auditors and reserve engineers could provide independent verification of mining assets, strengthening investor confidence.

The development of standardized streaming contract templates compatible with blockchain recording could streamline new deal origination. By creating industry standards for tokenized streaming contracts, QRSCC could become the preferred structure for institutional mining finance. This standardization would reduce legal costs and accelerate deal execution while maintaining necessary protections.

Integration with commodity trading platforms could provide dynamic hedging capabilities for the portfolio. By connecting to digital commodity markets, the SP could implement automated hedging strategies that protect against adverse price movements while maintaining upside exposure. This integration would be particularly valuable for streaming contracts with variable pricing components.

Ecosystem Integration

Deeper integration with the QGP digital asset ecosystem will create synergies that benefit QRSCC investors. Direct staking integration for QBTC and QETH redemption proceeds could be automated, allowing investors to immediately begin earning yields on their redemption proceeds. Cross-product strategies might allow QRSCC tokens to serve as collateral for other QGP services, enhancing capital efficiency.

The relationship between QRSCC and QRS will continue to evolve, with potential for new structures that optimize value creation. Future developments might include tiered option structures, revenue participation features, or hybrid instruments that combine elements of both tokens. These innovations would maintain the clear separation of rights while creating additional value multiplication opportunities.

Institutional tool integration will make QRSCC more accessible to traditional finance participants. APIs for portfolio management systems will allow seamless integration with existing institutional infrastructure. Reporting tools that generate traditional financial statements from on-chain data will bridge the gap between blockchain transparency and conventional reporting requirements. These integrations reduce adoption barriers while maintaining the benefits of blockchain architecture.

Strategic partnerships with custodians, administrators, and other service providers will enhance operational capabilities. Direct custodian integration could automate asset verification and reduce manual reconciliation. Administrator partnerships might provide independent NAV calculation services that feed directly into the smart contract. These partnerships strengthen the operational framework while maintaining decentralized verification.

10. Conclusion

QRSCC represents a fundamental advancement in institutional digital assets by solving the core challenges that have limited blockchain adoption in mining finance. Through innovative smart contract architecture, comprehensive regulatory compliance, and unprecedented transparency, QRSCC demonstrates how tokenization can enhance rather than compromise institutional investment standards.

The specific focus on capitalisation and streaming for mining companies addresses a critical market need. By providing institutional investors with liquid access to traditionally illiquid mining investments, QRSCC democratizes participation in this essential sector while maintaining the protections that sophisticated investors require. The flexibility to hold various financial instruments ensures optimal portfolio construction while maintaining focus on mining sector value creation.

The integration with QRS perpetual options creates a unique value multiplication mechanism that enhances returns without compromising the security of the underlying structure. This innovative approach to balance sheet optimization demonstrates how traditional finance concepts can be enhanced through blockchain technology to create superior outcomes for all stakeholders.

The direct ownership of segregated assets, protected under established Cayman Islands law and recorded immutably on blockchain, provides security that exceeds traditional fund structures. The complete on-chain transparency of assets, valuations, and compliance actions creates accountability that institutional investors demand while reducing operational costs through automation.

The sophisticated operational framework, with its progressive intervention mechanisms and flexible redemption options, ensures that QRSCC can adapt to various market conditions while protecting investor interests. The integration with QGP's broader digital asset ecosystem provides additional value through seamless conversion and yield generation opportunities.

As institutional adoption of digital assets accelerates, QRSCC's architecture provides a blueprint for how traditional financial instruments can be enhanced through blockchain technology without sacrificing the protections and standards that sophisticated investors require. The commitment to regulatory compliance, operational transparency, and investor protection positions QRSCC at the forefront of the institutional digital asset revolution.

The future development roadmap ensures that QRSCC will continue to evolve with technology and regulatory frameworks while maintaining its core commitment to institutional standards. Through careful innovation and strategic enhancement, QRSCC aims to bridge the gap between traditional mining finance and the digital asset future, providing institutional investors with the tools they need to participate in this transformation confidently.

The success of QRSCC will ultimately be measured not just by the returns it generates, but by its ability to transform how institutional capital flows into the mining sector. By creating efficient, transparent, and liquid structures for mining investment, QRSCC can contribute to the sustainable development of critical mineral resources while generating superior risk-adjusted returns for institutional investors.

Legal Disclaimer

This document is provided for informational purposes only and does not constitute an offer to sell or a solicitation of an offer to buy QRSCC tokens in any jurisdiction. The offering of QRSCC tokens is restricted to qualified institutional investors who have satisfied all applicable KYC/AML requirements and executed necessary subscription documentation.

Investment in QRSCC tokens involves substantial risks, including potential total loss of capital. The focus on mining sector investments, including streaming contracts and equity positions, introduces specific risks related to commodity prices, operational performance, and regulatory changes. Prospective investors must carefully review all risk factors and seek independent legal, tax, and financial advice before making investment decisions.

QRSCC tokens represent certificates in a segregated portfolio company, not bonds or debt instruments despite the "B" in the token name. The integration with QRS perpetual options creates additional complexity that investors must understand. Past performance does not indicate future results, and no guarantee is made regarding token performance or value.

This offering has not been registered under the securities laws of any jurisdiction and relies on applicable exemptions for qualified institutional investors. The information contained herein is subject to change without notice. Only the definitive offering documentation contains complete terms and conditions.

The value multiplication mechanism described herein depends on market conditions and successful execution of the investment strategy. There can be no assurance that the SP will be able to successfully issue QRS tokens or that such issuance will enhance QRSCC value as anticipated.