

Quarry Registration System

QRS1: Quarry Registration System outline

October 2024

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1 Introduction

The Department of Transport and Main Roads operates a Quarry Registration System (QRS) for quarry materials suppliers. The system comprises the following six documents:

- QRS1 *Quarry Registration System outline*
- QRS2 *Preparing a Quarry Assessment Report for a hard rock quarry*
- QRS3 *Preparing a Quarry Assessment Report for a natural sand and/or natural gravel quarry*
- QRS4 *Assigning quarry-specific testing frequencies for source rock tests*
- QRS5 *Quarry registration flowchart*
- *Quarry registration application form.*

'Nominated products' that are to be sourced from the department's registered quarries are detailed in the respective departmental Technical Specifications, and as summarised in Table 1 following. These specifications reference MRTS01 *Introduction to Technical Specifications* and MRTS50 *Specific Quality System Requirements*.

The objective of the QRS is to assure supply of consistent and uniform high-quality quarry products to Transport and Main Roads projects. Source rock testing frequencies are nominated as part of the Quarry Registration Certificate, whereas product testing frequencies are nominated in the respective Technical Specification.

Table 1 – Transport and Main Roads Technical Specifications

Technical Specification	Technical Specification title	'Nominated product'
MRTS04	<i>General Earthworks</i>	Rock fill ¹ and high permeability drainage material
MRTS05	<i>Unbound Pavements² (excluding Sub-types 2.5, 3.5 and Type 4)</i>	Paving material (coarse component)
MRTS06	<i>Reinforced Soil Structures</i>	Frictional fill material ¹ (for all system and steel reinforced systems)
MRTS07B	<i>Insitu Stabilised Pavements using Cement or Cementitious Blends</i>	Paving material (coarse component, refers to MRTS05)
MRTS07C	<i>Insitu Stabilised Pavements using Foamed Bitumen</i>	Paving material (coarse component, refers to MRTS05)
MRTS08	<i>Plant-Mixed Heavily Bound (Cemented) Pavements</i>	Paving material (coarse component, refers to MRTS05)
MRTS09	<i>Plant-Mixed Pavement Layers Stabilised using Foamed Bitumen</i>	Paving material (coarse component, refers to MRTS05)
MRTS10	<i>Plant-Mixed Lightly Bound Pavements</i>	Paving material (coarse component, refers to MRTS05)
MRTS11	<i>Sprayed Bituminous Treatments (Excluding Emulsion)</i>	Cover aggregate (refers to MRTS22)
MRTS12	<i>Sprayed Bituminous Emulsion Surfacing</i>	Cover aggregate (refers to MRTS22)
MRTS13	<i>Bituminous Slurry Surfacing</i>	Slurry surfacing aggregate (coarse component)
MRTS22	<i>Supply of Cover Aggregate</i>	Cover aggregate
MRTS30	<i>Asphalt Pavements</i>	Asphalt aggregate (fine and coarse components)
MRTS32	<i>High Modulus Asphalt (EME2)</i>	Asphalt aggregate (fine and coarse components, refers to MRTS101)
MRTS39	<i>Lean Mix Concrete Sub-base for Pavements</i>	Concrete aggregate (fine and coarse components)
MRTS40	<i>Concrete Pavement Base</i>	Concrete aggregate (fine and coarse components)
MRTS70	<i>Concrete</i>	Concrete aggregate (fine and coarse components)
MRTS101	<i>Aggregates for Asphalt</i>	Asphalt aggregate (fine and coarse components)

Notes:

1. Registration is not required for all such 'nominated products'. The requirement for the QRS is defined in the relevant Technical Specification.
2. Source material assessment requirements for *Unbound Pavements Sub-types 2.5, 3.5 and Type 4* are addressed in Technical Note TN140 *Source Material Assessment for Sub-type 2.5, Sub-type 3.5 and Type 4 Unbound Pavement Materials*. Refer to Clause 6 in MRTS05 *Unbound Pavements*.

QRS1 details the overarching requirements for Transport and Main Roads quarry registration.

A 'nominated product' that is sourced from a registered quarry excludes mixed products (from multiple sources) unless each quarry source is registered in Transport and Main Roads' QRS.

2 Key documents

Key documents to be submitted by the Applicant are:

- a completed *Quarry registration application form*, and
- a Quarry Assessment Report (QAR).

The following documents apply to preparation of the QAR:

- QRS2 *Preparing a quarry assessment report for a hard rock quarry*
- QRS3 *Preparing a Quarry Assessment Report for a natural sand and/or natural gravel quarry*
- QRS4 *Assigning quarry-specific testing frequencies for source rock tests.*

The Director (Geotechnical) will issue a successful Applicant with a Quarry Registration Certificate including a Testing Frequency Schedule.

3 Definition of terms

Table 3 following lists the definition of terms used in QRS1, QRS2, QRS3, QRS4, QRS5 and the *Quarry registration application form*.

Table 3 – Definition of terms

Term	Definition
Applicant	The legal entity applying for Transport and Main Roads quarry registration. The Applicant usually is the quarry owner or quarry operator.
Geological Material Group	A category selected on the basis of rock classification, geological processes and rock properties (refer to AS1726). Groups include acid igneous, intermediate igneous, basic igneous, metamorphic, and sedimentary (including carbonate rocks) and duricrust.
'Nominated products'	Quarry products as specified in the department's Technical Specifications for which registration is requested by the Applicant (see Section 1 previously).
Product testing	Testing of a 'nominated product' that is required by the respective Technical Specification, but where the testing is not detailed in Appendices A to H2 of QRS4: <i>Assigning quarry-specific testing frequencies for source rock tests.</i>
QAR	Quarry Assessment Report prepared by a suitably qualified person and supplied by the Applicant.
QRC	Quarry Registration Certificate including Testing Frequency Schedule.
QRS	Quarry Registration System

Term	Definition
Quarry	Any site from which the 'nominated product' of construction materials listed in Table 1 is obtained. This ranges from sites comprising conventional hard rock quarries supplying fine and coarse aggregate products, to sites such as shallow gravel pits, mine spoil and natural sand deposits. The latter are generally fine aggregate sources only. Excavated materials from any quarry site can be used in their natural state or after processing that may include scalping, crushing, screening or combining with other materials from other registered sites under QRS.
Registered Testing Frequency Schedule (QTFS)	The quarry-specific Testing Frequency Schedule that is included as part of the Quarry Registration Certificate.
Source rock testing	Source rock testing is testing to determine the strength and durability of source material / rock. The QRS requires testing each of these properties, undertaken as part of the quarry's ongoing production. Notwithstanding this, unless specification indicates otherwise, samples for testing nominated on the Quarry Registration Certificate shall be taken from a processed product which, for all characteristics required by a departmental Contract, is consistent with the product supplied under that Contract. Source rock properties and testing frequencies are quarry-specific and detailed on the Quarry Registration Certificate issued as part of the QRS.
Supplementary materials	Material that is sourced from another quarry registered in the QRS.

4 Implications of Transport and Main Roads quarry registration

The department's quarry registration implies the following:

- The QAR submitted by the Applicant is evaluated by the department as complying with the assessment standards as outlined in the QRS.
- The source rock material properties as described in the submitted QAR meet, and are generally superior to, the requirements of the respective departmental Technical Specification for the 'nominated product/s' registered.
- The quarry operator will carry out regular source rock and product compliance testing from product stockpiles when producing material for departmental projects. The minimum frequency of testing for the source material property of the 'nominated product' shall be as assigned in the registered Testing Frequency Schedule which is a part of the Quarry Registration Certificate. Notwithstanding this, for departmental projects, the requirements of the department's Contract have precedence.
- For the registered 'nominated products', the quarry operator will forward both the source rock property test and results and the product compliance test results as a requirement of the quarry's internal quality system to Quarry Registration System (tmrquarryregistration@tmr.qld.gov.au) part of ongoing registration monitoring. The test results are required to be forwarded to Quarry Registration System (tmrquarryregistration@tmr.qld.gov.au) at no greater than six-month periods.

Note: Quarry registration does not guarantee ongoing 'nominated product' compliance with the relevant departmental Technical Specifications. This is because product properties can also be influenced by many operational factors. These include extraction and production procedures, and transportation and construction processes as well as source rock variability.

5 Transport and Main Roads quarry registration process

5.1 General

The department's quarry registration process involves:

- submission of a QAR with a *Quarry registration application form* with all supporting documents
- evaluation of the QAR, and possible site inspection by a departmental Assessor (where required)
- consultation of Transport and Main Roads regional / district office by the departmental Assessor, and
- a successful Applicant will be issued a Quarry Registration Certificate including a registered overall testing frequency schedule by the Quarry Registration System.

A simplified diagram of the registration process is shown on the Transport and Main Roads *Quarry registration flowchart* (QRS5).

If the Applicant provides a complete submission, it generally takes up to 30 working days to process the submission. An incomplete submission will likely extend this period. This time commences from Transport and Main Roads' receipt of a completed submission.

5.2 Federal, State and local government legislative requirements

All quarries shall comply with all relevant federal, State and local governments' legislative requirements (for example – licenses, permits and approvals) before applying for Transport and Main Roads quarry registration. Failure to obtain any necessary documents will result in a rejection of the application to Transport and Main Roads. If the department becomes aware that a registered quarry has failed to maintain all relevant licences / permits / approvals during the registration period, the department can deregister the quarry.

5.3 Submission of a Quarry Assessment Report and Quarry Registration Application Form

The Applicant shall submit a QAR and *Quarry registration application form* to the Quarry Registration System (tmrquarryregistration@tmr.qld.gov.au), along with all supporting documents. The submission can be in electronic format (email, CD, USB) or a hard copy. A submission shall not be deemed complete until all required information and data have been submitted.

5.4 Evaluation of the Quarry Assessment Report and site inspection

The evaluation of the QAR consists of two steps:

- verification that the QAR addresses the elements detailed in QRS1 to QRS4, and
- a possible site visit by a departmental Assessor (where required), in attendance with the Applicant's representative.

5.5 Transport and Main Roads regional and district consultation

Where a quarry has previously supplied to departmental projects, as part of the quarry registration process, the Quarry Registration System will consult the relevant Transport and Main Roads region / district regarding the quarry's past performance in relation to:

- material / product quality compliance
- material / product quality consistency
- quarry supply capability
- material / product in-service performance, and
- any other relevant information.

Where the Transport and Main Roads region / district raises concerns, the department may require the quarry to provide additional information and data to demonstrate performance.

5.6 Acceptance of the Quarry Assessment Report and issue of Quarry Registration Certificate

Where the application is successful, the Quarry Registration System shall notify the Applicant in writing and issue a Quarry Registration Certificate.

The Quarry Registration Certificate will be specific to the quarry and current operator and contain the following:

- quarry name and reference number
- registration certificate number
- registered overall testing frequency level
- quarry location
- Applicant (operator and/or owner)
- major rock or material types and appropriate material groups or origins (for specification compliance purposes)
- comments (if required)
- registered 'nominated product(s)'
- issue date and expiry date of certificate
- signature of Director (Geotechnical)
- a schedule showing the registered source rock Testing Frequency Schedule showing minimum registered source rock testing frequency levels for all 'nominated products' from the quarry.

An example of a Quarry Registration Certificate together with a registered overall Testing Frequency Schedule is shown in Appendix A.

5.7 Rejection of the quarry assessment

Where the submission is unsuccessful, the Quarry Registration System shall notify the Applicant, in writing, outlining the deficiencies identified in the QAR.

The Applicant may resubmit with those deficiencies addressed.

5.8 Interim quarry registration

An Applicant who applies for quarry registration of an undeveloped quarry source will be given a maximum of six months' interim registration with quarry-specific conditions, provided that sufficient information and data are provided in the submitted QAR, as determined by the Quarry Registration System in the submitted QAR, to confirm source rock quality and properties, material reserves and relevant quarry permits, approvals and licenses of federal, State and local agencies are held. The interim registration will be reviewed once production begins, and the final registration certificate will be issued following site inspection and review of source and product compliance test results for production lots that are manufactured within the interim period.

5.9 Temporary extension of existing quarry registration

A temporary extension of registration for a registered quarry will be issued only under the following two circumstances:

- a full QAR submission including all reregistration paperwork, compliant with all requirements, is provided at least six weeks prior to the date of the current expiry
- a Transport and Main Roads Assessor is unable to carry out the review of the QAR submitted, prior to the current expiry.

No extensions will be issued to any quarries for any reason other than the abovementioned circumstances.

5.10 Currency of quarry registration

A quarry shall retain its registration for two years, provided that it continues to satisfy the following conditions:

- there is no change in the source rock material and its properties as detailed in the original QAR
- if quarry ownership or the operator changes, there is no major change in quarry operations, and
- the product continues to meet the relevant departmental Technical Specifications.

5.11 Withdrawal of quarry registration

A quarry's registration may be immediately withdrawn, or the 'nominated product' list amended if:

- there is ongoing poor performance with repeated Nonconformances
- the department receives written advice that the quarry does not have current operating licenses, permits and approvals
- relevant information requested is not provided in a timely manner (that is, within 30 days)
- Transport and Main Roads has not been notified of the impending sale of a quarry by its current owners / operators

- the new quarry owners / operators do not contact Transport and Main Roads within 30 days of purchasing the quarry
- quarry management refuses departmental staff or their representative access to the quarry site at short notice
- there are violations relating to QRS, Workplace Health and Safety, National Association of Testing Authorities (NATA), or other mandatory compliances
- quarry owners / operators seek to deliberately mislead, modify, fabricate, manufacture, manipulate, distort and/or provide fraudulent information and unrepresentative test reports to Transport and Main Roads or other relevant stakeholders – quarries that mislead Transport and Main Roads will be deregistered for a minimum period of four years
- there is failure to register or comply with the requirements of the Transport and Main Roads Construction Materials Testing (CMT) Supplier Registration System and registered Testing Frequency Schedules (QTRS) at the discretion of the Quarry Registration System, or
- if requested to do so by the registered operator.

6 Quarry Assessment Report

A suitably qualified person should prepare the QAR in accordance with supporting QRS2, QRS3, and QRS4.

The degree of detail in the report will depend on the size of the site, the stage of development and the products that the Applicant intends to provide.

The submitted QAR is regarded as a confidential document and it will not be released outside the department without permission from the Applicant.

7 Quarry reregistration

The quarry reregistration procedure will also be in accordance with the requirements of this QRS1 Sections 5.2 to 5.5, whereby prior to the end of the two-year registration period, quarries must apply for reregistration as follows:

- two months before expiry, the department forwards a reregistration (renewal) reminder to the relevant quarry address that was provided at the time of the last registration. This allows the Applicant to compile the required data for the QAR and submit his or her reregistration applications before the expiry dates
- where an application, including all supporting information, for reregistration meeting the requirements of QRS2 or QRS3 is submitted 30 working days prior to the expiry date, existing quarry registration shall remain current until the application has been assessed, and
- if no renewal application is received prior to the expiry date, then registration ceases at the expiry date.

Applications for reregistration shall include an abbreviated QAR in accordance with QRS2 or QRS3. At this time, the Applicant may also make an application to change the source rock testing frequency level in accordance with QRS4.

8 Quarry-specific source rock testing frequency levels

8.1 General

The department's Quarry Registration System registers the source rock testing frequency levels applying to all quarries supplying materials to Transport and Main Roads and QRS4 *Assigning quarry-specific testing frequencies for source rock tests* describes the procedures to be followed when nominating, determining and administrating the source rock testing frequency levels.

When a material from a registered quarry is used in departmental projects, the following applies:

- unless otherwise stated in the project Contract, frequencies for source rock testing are as stated on the Quarry Registration Certificate's Testing Frequency Schedule (these can be either at the *Default* frequency level, *Medium* frequency level or *Low* frequency level as described in QRS4)
- notwithstanding the QRS and/or agreed project Contract testing frequencies, the Contractor shall be responsible for carrying out sufficient testing to ensure the property / product complies with the requirements of the Technical Specification and may conduct testing additional to QRS and/or the Contract in order to achieve this, and
- test results shall be traceable to individual stockpiles (either lots or sub-lots) with the source rock in the lot then being traceable to a location in the area in the quarry.

8.2 Application of QRS4 to assigning quarry-specific testing frequencies

Quarry-specific testing frequencies shall be assigned in accordance with the principles outlined in QRS4 as in the following steps:

- Step 1 – the Applicant shall, at the time of registration or reregistration, carry out a self-assessment of his or her operation and nominate proposed source rock testing frequency levels for 'nominated products'. The levels can be unique and specific to individual source rock test.

The frequency levels nominated must be based on the minimum criteria shown in Sections 4 and 5 of QRS4 and supported by documented evidence including test results and quality system procedural documentation relevant to the achievement and maintenance of product quality.

This information should be provided to the Quarry Registration System (tmrquarryregistration@tmr.qld.gov.au) either as part of the Quarry Assessment Report or as a separate document.

- Step 2 – The Quarry Registration System shall assess the application including testing frequency levels in the Quarry Registration Certificate Testing Frequency Schedule.

Note: If the quarry owner / applicant declines to nominate proposed testing frequency levels at the time of reregistration, then:

- the existing registered testing frequency levels will apply, or
- where there are no pre-existing registered testing frequency levels, the quarry will be assigned the *Default* testing frequency level.

If the application is for a new quarry, then in accordance with QRS4, the *Default* testing frequency will apply.

8.3 Acceptance and issue of registered overall Testing Frequency Schedule

Where the testing frequency level submission is successful, the Quarry Registration System shall notify the Applicant and issue a Quarry Registration Certificate. The Testing Frequency Schedule will be specific to the quarry and current operator and contain a table showing Transport and Main Roads quarry reference number, date of issue, date of expiry, 'nominated products', source rock testing properties, and assigned testing frequency levels.

An example of a Quarry Registration Certificate Testing Frequency Schedule is shown in Appendix A.

8.4 Movement between testing frequency levels within the quarry registration period

Promotion

After a quarry has been on the *Default* level for 12 months or the *Medium* level for six months, the Applicant may apply to the Quarry Registration System (tmrquarryregistration@tmr.qld.gov.au) to move to the next lowest testing frequency level. The submission must contain the relevant data to support the move as detailed in Sections 6.1 and 6.2 of QRS4.

Demotion

If any test Nonconformance is obtained and confirmed as per Section 6.3 in QRS4, the quarry will immediately drop back one frequency level for this particular test / property; for example, if a quarry on the *Low* testing frequency level has a Nonconformance for the 10 % fines strength property test, it would move back to the *Medium* level for this property test only. The other conforming test properties would remain at the *Low* level.

If a demotion occurs, the quarry operator must notify in writing within three working days:

- Quarry Registration System (tmrquarryregistration@tmr.qld.gov.au), and
- all Administrator(s) of departmental projects that are using the quarry product.

8.5 Provision of testing results

In addition to Contract test result requirements, registered quarries must supply to the Quarry Registration System (tmrquarryregistration@tmr.qld.gov.au) all test results (including Nonconforming test results) that are relevant to departmental projects.

a) Source rock tests

The source rock test results must be delivered to the Quarry Registration System (tmrquarryregistration@tmr.qld.gov.au) either:

- at the same time as they are forwarded to the department's Project Contractor or Administrator, or
- at a minimum of six-monthly intervals

whichever comes first.

The following result formats are required:

- electronic pdf format for individual NATA-endorsed test reports
- identification of each departmental project job number / identifier, test method, 'stockpile lot' identifier / number, lot identifier / number, date tested, property tested, and 'nominated product'
- for each property of each 'nominated product', Microsoft Excel™ or similar spreadsheets for test result summaries as specified by the Quarry Registration System.

b) Product tests

Product test results shall be accumulated and delivered to the Quarry Registration System (tmrquarryregistration@tmr.qld.gov.au) as part of the next quarry reregistration application documentation (maximum two years). The format for delivery shall be Microsoft Excel™ or similar spreadsheets with 'nominated products', 'stockpile lot' or 'stockpile sub-lot' identifier / number, lot identifier / number, property tested and test property value.

c) Control charts

Control charts are a common method of quality control. They are usually based on the following minimum requirements:

- all individual test results are included and identified by a unique sample number, test number or test report identification and a date that can be used to trace the sample and its test result to the date of production of the product
- the test results are plotted in chronological order
- the chart includes at least one set of control / compliance levels (for example, mean or single sample limits).

If the registered quarry operates with control charts, it is desirable (but not mandatory) that copies of these charts be forwarded to the Quarry Registration System (tmrquarryregistration@tmr.qld.gov.au) every two years at the time of quarry reregistration.

9 Quarry surveillance or audit

During any period of registration, the quarry's performance may be subject to random (not necessarily project-related) surveillance or audit by the Quarry Registration System or Transport and Main Roads regional / district staff. Specifically, these activities will focus on adherence to the quarry's procedural documentation relevant to maintaining product quality and product compliance. The quarry shall allow departmental staff access to the quarry site for this purpose, even at short notice. On these visits, departmental staff shall abide by and conform to the quarry site Safety Management Plan.

Actual or perceived performance / compliance issues recognised during surveillance or audit activities will be recorded and provided to the registered quarry operator for investigation and rectification. A flowchart detailing the surveillance process is shown in Appendix B.

10 Resolution

Unresolved quarry registration issues may be elevated to the Deputy Chief Engineer (Pavement Materials and Geotechnical), Engineering and Technology Branch, Brisbane via email at ET_PMG@tmr.qld.gov.au.

If an appeal to the Deputy Chief Engineer (Pavement Materials and Geotechnical) is unsuccessful, the normal administrative appeal process may be followed.

11 General enquiries and submissions for registration (statewide)

Email: tmrquarryregistration@tmr.qld.gov.au

Postal address: Quarry Registration System
Geotechnical Section
Department of Transport and Main Roads
PO Box 119
Pinkenba Qld 4008

Appendix A

Department of Transport and Main Roads

Quarry Registration Certificate

TMR Quarry Reference No.	RQ007	Issue Date	26 May 2019
Certificate Number	2019-007	Expiry Date	26 May 2021
Quarry Name	Example Quarry		
Registered Overall Testing Frequency Level	Medium		
Real Property Location	Lot 1 on RP996120. Parish of Gladstone, County of Heather		
Quarry Address	100 Example Road, Smithton QLD 4075		
Local Government	Gladstone Regional Council		
Latitude	-26.510	Longitude	151.825
Rock/Material Types	Hornfels		
Rock Material Group	Metamorphic		
Nominated Products:	Concrete Aggregate (Coarse) Cover Aggregate (A, B, C & D) Unbound Paving Material (Type 2 & Type 3)		
Comments	Nil		
Applicant Name	Example Quarry Pty Ltd		
Applicant Address	PO Box 720, Brisbane QLD 4000		
Quarry Operator	Example Quarry Pty Ltd		
Approvers Signature			

Director (Geotechnical)

Notes:

1. This registration certificate should be read in conjunction with the attached Quarry Registration Certificate Testing Frequency Schedule.
2. Departmental Quarry Registration indicates the following:
 - The source rock properties submitted are generally superior to those required in the relevant departmental technical specifications.
 - The quarry operator will at a minimum, carry out regular source rock testing at frequency levels listed on the attached registered Testing Frequency Schedule.
3. Quarry Registration does not guarantee ongoing product with relevant departmental technical specifications. This is because product properties can also be influenced by many day to day operational factors. These include extraction and production procedures, transportation and construction processes as well as source rock variability.
4. TMR Quarry Registration is conditional on quarry compliance with all relevant Federal, State and Local Government legislation.



Quarry Registration Certificate Testing Frequency Schedule

Quarry Name: Example Quarry

TMR Quarry Ref No: RQ007

Quarry Certificate No: 2019-018

Approved by: Technical Manager (QRS)

Issue Date: 26 May 2019

Expiry Date: 26 May 2021

Registered Overall Testing Frequency Level:

MEDIUM

Relevant Specifications	Nominated Product (Refer Note 1)	Source Rock Test Property	Registered Minimum Testing Frequency Level (Refer Note 2)
<u>MRTS05/08/07B/07C/</u> <u>MRTS08/09/10</u> Unbound Paving Material	Type 2	Petrographic analysis	LOW
		Wet strength	MEDIUM
		Wet/dry strength variation	MEDIUM
		Degradation factor	MEDIUM
	Type 3	Petrographic analysis	LOW
		Wet strength	MEDIUM
<u>MRTS11/12/22</u> Cover Aggregate	Type A, B, C and D	Petrographic analysis	LOW
		Wet strength	MEDIUM
		Wet/dry strength variation	MEDIUM
		Degradation factor	MEDIUM
		Water absorption/Particle density	DEFAULT
<u>MRTS70</u> Concrete	Concrete Aggregate (Coarse)	Petrographic analysis	LOW
		Wet strength	MEDIUM
		Wet/dry strength variation	MEDIUM
		Degradation factor	MEDIUM
		Weak particle	LOW
		Water absorption / Particle density	DEFAULT
		Sulphate content	DEFAULT
		Chloride content	DEFAULT
Weighted Percent Loss	DEFAULT		

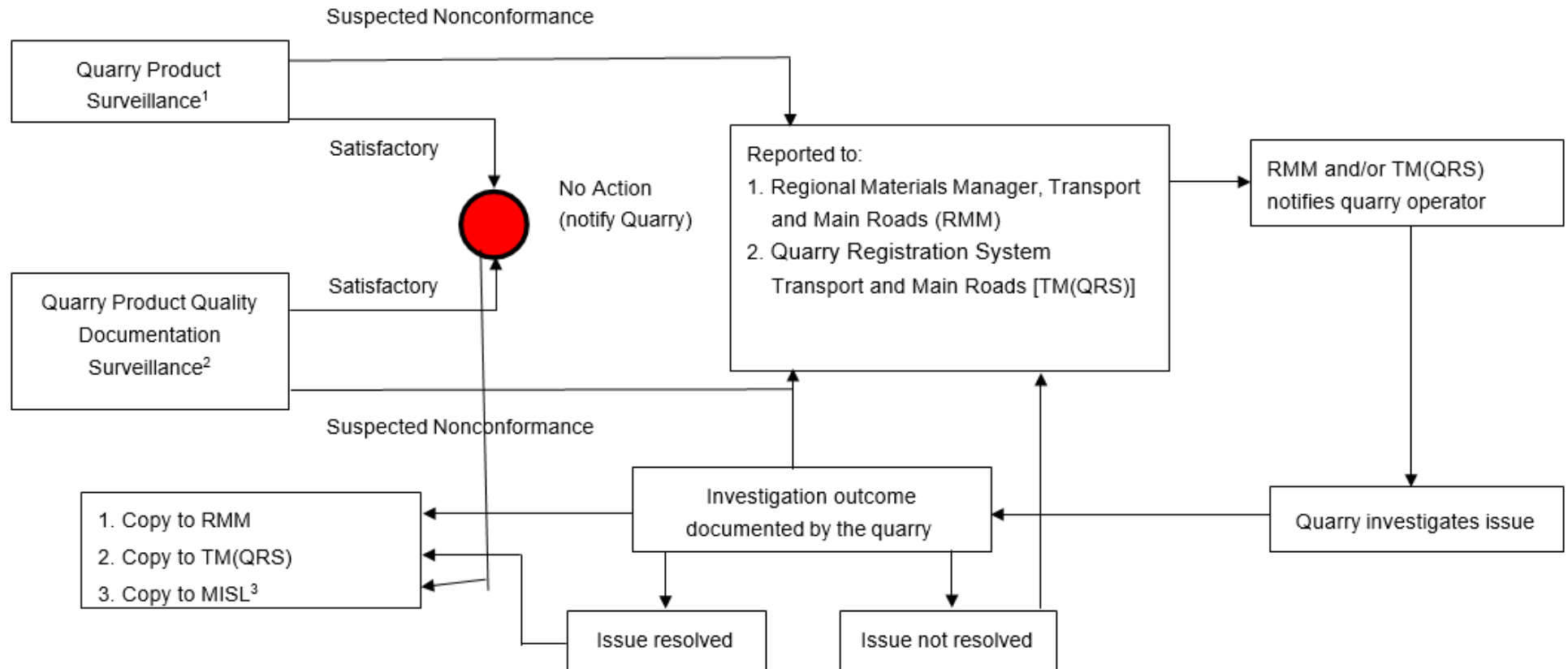
Note 1: Detailed source rock property testing frequency tables for nominated products are listed in QRS4:

Assigning Quarry- Specific Testing Frequencies for Source Rock Tests and detailed product property tests are identified within each respective TMR Technical Specification.

Note 2: Testing frequency levels can be varied by application. To ensure this attachment contains the most recent levels, contact TMR Manager (QRS).

Appendix B

Quarry surveillance flowchart



Notes:

1. To be undertaken by Regional Materials staff. Can include either specific project or program quarry surveillance.
2. To be undertaken by Regional Materials staff and/or Geotechnical Unit staff.
3. Advise Management Information System for Laboratories of any changes.

