Title	**Explain aggregate source property tests in a civil engineering laboratory**		
Level	**5**	**Credits**	**18**

Purpose	People credited with this unit standard are able to explain, in a civil engineering laboratory: aggregate source property test methods; and the application and reporting requirements of aggregate source property test results.

Classification	Infrastructure Civil Engineering > Infrastructure Laboratory

Available grade	Achieved

Prerequisite	Unit 26634, *Describe aggregate source property tests in a civil engineering laboratory*, or demonstrate equivalent knowledge and skills.

Guidance Information

1 Evidence presented for assessment against this unit standard must be consistent with safe working practices and be in accordance with applicable organisational and legislative requirements.

2 Applicable legislation, regulations, rules, standards and codes include but are not limited to the: Health and Safety at Work Act 2015, Hazardous Substances and New Organisms Act 1996 and their associated regulations and subsequent amendments; ISO/IEC 17025:2018 *General requirements for the competence of testing and calibration laboratories*, available from https://www.iso.org/store.html; NZS 4407: 2015 *Methods of sampling and testing road aggregates,* available from https://standards.govt.nz.

3 Evidence is required for three aggregate source property tests used in a civil engineering laboratory, which may include but are not limited to – crushing, weathering, LA – Los Angeles Abrasion, soundness, solid density, density and absorption (fine), density and absorption (coarse), clay index, polished stone value.

4 Definitions
Explain refers to describing the components within tests at a specialised technical scientific level, and the relationships between them. It may also include describing the interaction between tests in the context of the process or project for which the tests are being completed. Components will vary between tests and may include but are not limited to – the project and/or process specifications, sample specifications, equipment requirements, environmental requirements, sequence of tests, units of measurement, limitations, suitability and uncertainty of measurement for the tests.

Explanations demonstrate an understanding of the scientific principles underpinning the test and the implications of test results on downstream client processes and projects. Client processes refer to one or more of the client's quality management, construction and production processes.
Organisational requirements refer to instructions to staff on policy and procedures which are formally documented or generally accepted at the worksite. This may include legislation; industry standards and methods; national and international standards and methods; standard operating procedures; specifications; manuals; and manufacturer's information. *Samples* may include but are not limited to – prepared materials and test materials such as standards and reagents.

Outcomes and performance criteria

Outcome 1

Explain aggregate source property test methods in a civil engineering laboratory.

Performance criteria

1.1 The factors that influence the outcome of the test are explained in accordance with scientific principles.

Range may include but is not limited to – temperature, equipment, apparatus, material, technique, calibration, environment.

1.2 The quality assurance of the test is explained.

Range may include but is not limited to – signatories, recording requirements.

Outcome 2

Explain the application and reporting requirements of aggregate source property test results in a civil engineering laboratory.

Performance criteria

2.1 The application of test results is explained in terms of process implications.

Range may include but is not limited to – out of specification results, in specification results, reporting.

2.2 The reporting requirements for non-conforming test results are explained.

Range may include but is not limited to – equipment, apparatus, reagents, samples, technique, calibration, environment.

Planned review date	31 December 2024

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	21 January 2011	31 December 2016
Review	2	19 February 2015	31 December 2021
Review	3	23 January 2020	N/A

Consent and Moderation Requirements (CMR) reference	0101

This CMR can be accessed at http://www.nzqa.govt.nz/framework/search/index.do.

Comments on this unit standard

Please contact Connexis - Infrastructure Industry Training Organisation qualifications@connexis.org.nz if you wish to suggest changes to the content of this unit standard.