FIELD SCIENCES

Review of *Earth Science* and *Science – Core* unit standards

Subfield	Domain	Id
Science	Earth Science	6356-6365, 8153, 18981, 18982, 18989
	Science – Core	6349, 6351-6355, 8951, 8952, 18973, 18976, 18983, 18986-18988

National Qualifications Services (NQS) has completed the review of the unit standards listed above that were registered in September, October, and November 1996 and in February 2002.

Date new versions published **August 2005**

New comments by date **August 2009**

Expiry date of new versions of the unit standards **December 2010**

Summary of review and consultation process

In 2004, NQS initiated a review of levels 1-3 unit standards in the domains of *Earth Science* and *Science – Core* following feedback through the moderation process that changes were needed.

A review panel, including secondary school, tertiary education, and Royal Society of NZ representation, met in July 2004 to review the unit standards. Review drafts were subsequently circulated to people who had expressed an interest in the review when it was first initiated and to subject and science experts according to NQS's quality management systems. Feedback received was considered by the panel and integrated into the review.

The National Moderator was a review panel member, and the Assessment Section of NZQA's Secondary Education Group has endorsed the review results.

Main changes resulting from the review

- Unit standards 6353, 6354, 6359, 8951, and 8952 have been designated as expiring due to significant overlap, respectively, with Achievement Standards – 90727, 90728, 90190, 90186, and 90312.
- Unit standard 6363 has been replaced by 21614 and Unit Standard 18987 has been replaced by 21611 and 21612.
- Fourteen unit standards have had changes of title to reflect their purpose, as reviewed.
- Four unit standards have had their credits changed slightly.
- Special notes have been added, removed, or adjusted. Those unit standards involving, or potentially involving, field work and/or laboratory work have had a new special note added, addressing safety.
- Elements, performance criteria, and their ranges have been modified in terms of content and, as required, structure to provide the critical evidence requirements of their purpose, as reviewed. In some cases, as a result, elements have been removed or added.
- Two new Science – Core unit standards have been developed as a result of this review and are listed in the table at the end of this report.

Unit standards categorised as category C or D expire at the end of December 2006.

Impact on existing provider accreditations

Current Accreditation for			Accreditation extended to		
Nature of accreditation	Classification or Id	Level	Nature of accreditation	Classification or Id	Level
Standard	6363	3	Standard	21614	3

Impact on Accreditation and Moderation Action Plan (AMAP)

None.

Impact on existing qualifications

The following InfraTrain New Zealand qualification is affected by the outcome of this review. The standard setting body has been advised that it requires revision.

Qualification Title	Classification or Id
National Diploma in Surveying (Level 6) with an optional strand in Mine Surveying [Ref: 0453]	6360, 6363

Summary of main changes to standards' Ids, classification, titles, levels, and credits

The following summary shows the changes made to the standards as a result of the review. All changes are in **bold**.

Key to review category

A Dates changed, but no other changes are made - the replacement standard carries the same Id and a new version number

B Changes made, but the overall outcome remains the same - the replacement standard carries the same Id and a new version number

C Major changes that necessitate the registration of a replacement standard with a new Id

D Standard will expire and not be replaced

Subfield Science
Domain Earth Science

Id	Title	Level	Credit	Review Category
6356	Report on a geological resource in New Zealand	1	3	B
6357	Identify and investigate common minerals and rocks and their uses **Identify common minerals and rocks**	1	3	B
6358	Investigate the origin of major rock types **Describe the formation of major rock types and describe the rock cycle**	1	4 **3**	B
6359	Demonstrate knowledge of the measurement of geological time	1	2	D
6360	Interpret geological information from visual information **Identify geological features from recorded visual information**	2	3 **2**	B
6361	Investigate the geological features of an area **Investigate and report on the geology in an area**	2	4	B

Id	Title	Level	Credit	Review Category
6362	Demonstrate an understanding of fossils and their use **Demonstrate an understanding of fossils**	2	3	B
6363 **21614**	Demonstrate knowledge of the geological history of New Zealand **Describe the geological history of an area in the Southwest Pacific**	3 **3**	3 **3**	C
6364	Use the theory of plate tectonics to explain the distribution of major global geological features **Use plate tectonics to explain distribution of major NZ and Southwest Pacific geological features**	3	4	B
6365	Demonstrate knowledge of geological hazards	3	3	B
8153	Discuss the main processes in the hydrological cycle and their influence on water resources **Explain factors affecting a water resource and its management, and plot and interpret hydrographs**	3	3 **4**	B
18981	Demonstrate basic knowledge of weather	1	2	B
18982	Demonstrate knowledge of Earth science	1	2	B
18989	Demonstrate knowledge of Earth and space	1	2	B

Domain Science – Core

Id	Title	Level	Credit	Review Category
6349	Investigate how knowledge of science and related technology is used by people **Gather information and report on an item of technology and its related scientific concepts**	1	4 **3**	B
6351	Produce a case study on the historical development of a scientific idea with supervision **Report on the historical development of a scientific idea, with supervision**	2	4	B
6352	Produce a scientific case study on an issue affecting the environment with supervision **Report on an issue affecting the environment from a scientific perspective, with supervision**	2	4	B
6353	Carry out an extended scientific practical investigation with guidance	3	6	D
6354	Produce a case study on a current scientific controversy with guidance	3	4	D
6355	Produce a scientific case study on a current environmental issue with guidance **Research and report on a current environmental issue from a scientific perspective, with guidance**	3	4	B
8951	Carry out a scientific practical investigation with direction	1	6	D
8952	Carry out a scientific practical investigation with supervision	2	6	D

Id	Title	Level	Credit	Review Category
18973	Demonstrate knowledge of patterns in matter **Demonstrate knowledge of matter**	1	2	B
18976	Demonstrate knowledge of science in relation to a vehicle	1	2	B
18983	Demonstrate knowledge of basic forensic science processes and techniques **Apply basic forensic science to a scenario**	1	2	B
18986	Select and use basic scientific equipment	1	2	B
18987 **21611 and** **21612**	Follow instructions to carry out, and report on, a practical investigation and research **Follow instructions to carry out a practical scientific activity, and report on the activity** **Follow instructions to process and report on supplied scientific information**	1 **1** **1**	2 **2** **2**	C
18988	Interpret information from a range of sources **Interpret information presented in tables, diagrams, and graphs to answer given questions**	1	2	B
21610	**Collect, and use computer technology to store and process, numeric data for a scientific purpose**	**2**	**4**	**New**
21613	**Research and report on a scientific sustainability issue, with guidance**	**3**	**4**	**New**