

GNS SCIENCE
2022 HALF YEAR REPORT
31 DECEMBER





**THE BOARD OF GNS SCIENCE IS PLEASED TO PRESENT
THE ORGANISATION'S FINANCIAL STATEMENTS AND
REPORTS FOR THE SIX MONTHS ENDED
31 DECEMBER 2022.**

Cover photo: A GNS Science Paleoseismologist performing silica gel column chromatography that is used in paleoclimate studies and also to understand past earthquakes.

Inside front cover: Remote monitoring sites are vital for keeping a close eye on our active volcanoes, requiring regular upgrades and maintenance. At this site, communications upgrades allow for a more robust data signal back to our data centres.



FINANCIAL SUMMARY

GNS Science recorded a net loss after tax of \$2.1m for the first six months of the 2022/23 financial year, compared to a net loss of \$0.9m for the same period last year. Revenue performance for the six months was \$54.1m, compared to \$50.3m for the same period last year. This growth in revenue has been achieved in a period of continued disruption due to COVID-19. Operating expenses were \$54.4m for the half year, which represents an increase of \$5.6m over last year. This reflects an increase in the number of scientists employed by GNS Science to support our growth in revenue, as well as current pressures on employee costs. The result also includes the one-time implementation costs of \$0.7m for the new enterprise system currently being installed. The consolidated balance sheet position of GNS Science continues to be positive, with current liquidity (bank and short-term investments) of \$32.2m, and a liquidity ratio of over 3. GNS Science is forecasting continued improvement in the level of research and commercial activities over the next six months but recognises that this may be disrupted due to the impacts of COVID-19 and the response requirements to Cyclone Gabrielle.

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DIRECTORS' REPORT

■ New Chief Executive appointed

Chelydra Percy has been appointed as the new Chief Executive for GNS Science. Chelydra is currently Chief Executive of BRANZ (Building Research Association of New Zealand), a role she has held since 2013. Before that she was at Callaghan Innovation, AgResearch and Scion. Peter Benfell, General Manager, Science, will continue as the Interim Chief Executive until Chelydra starts at the beginning of May.

We would like to thank Ian Simpson, who resigned in September after five years as Chief Executive, for his valuable contribution to GNS Science.

■ RiskScape named Best Hi-Tech Solution for the Public Good

The RiskScape team were named winners of the Best Hi-Tech Solution for the Public Good in the NZ Hi-Tech Awards in August. RiskScape is a software tool that enables users to assess risk to buildings, infrastructure and people from natural hazards such as volcanic eruptions, earthquakes, landslides, tsunami and floods. The award celebrates not-for-profit tech innovations that are focused on improving the lives of the people they serve. It also acknowledges years of hard work by GNS Science and our partners at NIWA, as well as our collaborators Toka Tū Ake EQC and Catalyst.

■ Recognised at the Geoscience Society of New Zealand Awards

At this year's awards, Regine Morgenstern was awarded the Kingma Award – presented to the most outstanding Earth Science technician of the year in Aotearoa New Zealand. In addition, Rose Turnbull was awarded the Werner F. Giggenbach Prize, which is presented to a young New Zealand-based geochemist who is the first author of the most outstanding publication in the field of geochemistry in the preceding calendar year.



■ BLAKE Leader Award

Richard Levy, our Environment and Climate Theme Leader, was recognised with a BLAKE Leader Award at the 2022 BLAKE Awards.

Richard has delivered decades of scientific research and leadership investigating key climate change issues for Aotearoa New Zealand and the world. Currently he is leading two important climate research projects – NZ SeaRise, and SWAIS 2C looking at how marine-based ice sheets respond to a 2°C increase in global temperature.

■ Released the revised National Seismic Hazard Model

The internationally endorsed update of the National Seismic Hazard Model, developed for Aotearoa New Zealand, was released publicly in October, allowing access to the latest hazard knowledge. It incorporates new scientific insights from the last decade and represents a monumental effort across many researchers and agencies. This new view of Aotearoa New Zealand's earthquake hazard will be an important input to how we collectively improve the resilience of buildings and infrastructure and plan resilient urban development.

NZ SeaRise projections included in Ministry for the Environment's coastal hazards guidance

The NZ SeaRise projections of future sea-level rise around the coast of Aotearoa New Zealand have been included in the Ministry for the Environment's "Interim guidance on the use of new sea-level rise projections". This interim guidance provides updates to parts of the Ministry's 2017 "Coastal hazards and climate change: Guidance for local government" to reflect the latest sea-level rise scenarios from the Intergovernmental Panel on Climate Change and NZ SeaRise.

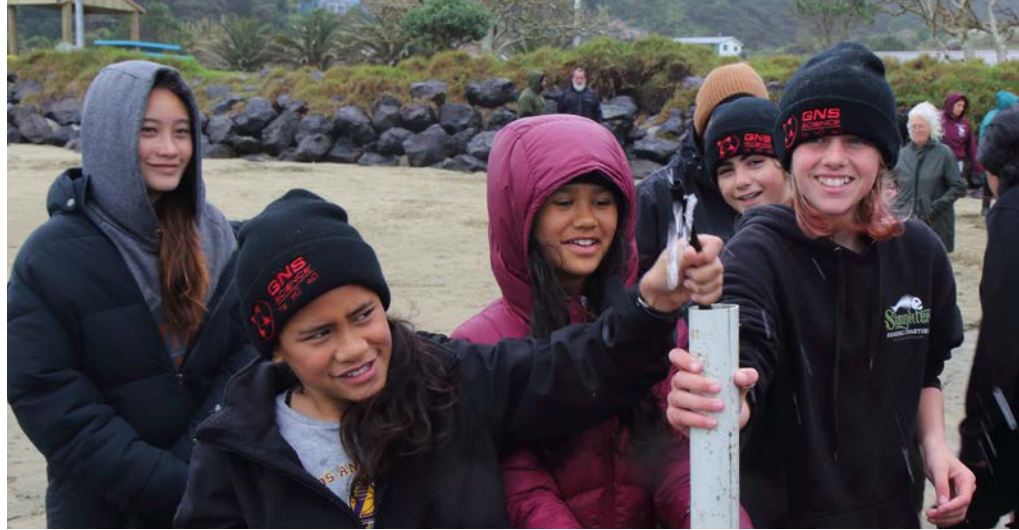
Supported Māori participation in science

In partnership with Te Herenga Waka – Victoria University, this year we welcomed three new Ahunuku Scholars under our Vision Mātauranga scholarship programme, alongside 20 summer interns. The Ahunuku Scholars and summer interns are working for three months at our Gracefield, Avalon and Wairakei sites on a variety of projects. We are especially proud that two of our previous Ahunuku Scholars have taken up full-time employment with GNS Science as Laboratory Technicians.

We continued our work with iwi in the Far North (Te Rarawa) and the Bay of Plenty (Ngāti Awa), co-leading Tūhura Papatūānuku Geo Noho and a Kura Taiao camp. The camps aim to provide science opportunities to local (predominantly) Māori students, with mātauranga and Te Ao Māori as a central element. In December, the Tūhura Papatūānuku team (a collaboration between GNS Science, Te Aho Tū Roa – Toimata Foundation, Te Rarawa Anga Mua and Far North REAP) were awarded funding from the MBIE Unlocking Curious Minds fund, to deliver more wānanga in the Far North in 2023.

Progressed GNS Science Property Strategy

Ministerial approval was given for a new GNS Science facility in Wairakei to replace an old and unsafe building that we are currently unable to use. The new facility will include a new Volcanology and Visitor Centre, and we are working with architects to progress the design. Ministerial approval to submit a business case for a Geothermal



Innovation Centre at Wairakei as Stage 2 of the Campus Development Plan was also received, and work on this is well advanced.

GNS Science continues to be actively engaged with the Wellington Science City Proposal (WSCP), an MBIE-led initiative to consider co-location of science organisations in the Wellington region. This process has involved collaborative planning with science teams and leadership across the region, leading to a number of options being considered by the government.

Launched Phase One of our new enterprise system – a collaboration with ESR

Our new enterprise system to manage finance, human resources and project management went live at the beginning of July. This is a shared system between GNS Science and ESR, and we are now working on Phase Two which includes the provision of additional modules for analysis and planning, learning management, and talent optimisation.

WorkSafe New Zealand charge dismissed

The primary charge against GNS Science related to the 2019 Whakaari/White Island eruption was dismissed in October, following GNS Science's section 147 application. We continue to work with our lawyers with respect to the defence of the second charge. The trial is expected to take place in 2023.

GNS Science is planning its first return trip to Whakaari/White Island since the December 2019 eruption. The trip is critical in order to repair and maintain monitoring equipment, to allow us to continue to monitor volcanic activity on the Island. We have been working alongside, and guided by, Te Rūnanga o Ngāti Awa and kaumōtua to ensure that every aspect of our return is respectful of all involved and is guided by tikanga.

Those impacted by the 2019 Whakaari/White Island eruption remain in our thoughts.

Launched the new GNS Science website

In August, we launched our new website. The new structure makes it easy for our staff, stakeholders and the public to find the content they are looking for within a completely new user experience. It puts our people front and centre, connecting our research and stories to the people behind them. Staff are proud to have their science shared in a bold new digitally friendly format across desktop, tablet and smartphone.

Continued planning for sustainable funding for GeoNet and other hazards platforms

We continued working with the Ministry for Business, Innovation and Employment and the National Emergency Management Agency to complete a budget bid for a science and resilience multi-agency platform for GeoNet and the National Seismic Hazard Model (NSHM) in the 2023 year, and to develop the case for other parts of the hazard risk management system for future funding. GNS Science's feedback on Te Ara Paerangi – Future Pathways Green Paper relating to the need to address core research and functions (like GeoNet and the NSHM) and rapid response in the funding structure has been incorporated in Te Ara Paerangi White Paper.

Left: GNS Science's Richard Levy (left), Environment and Climate Theme Leader, and Peter Benfell, GNS Science Interim Chief Executive, at the 2022 BLAKE Awards. Above: Tūhura Papatūānuku Geo Noho, Waimamoni Marae (Ngāi Takoto), Far North.

FINANCIAL STATEMENTS

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME

For the six months ended 31 December 2022

<i>in thousands of New Zealand dollars</i>	Unaudited 6 Months Dec-22	Unaudited 6 Months Dec-21	Audited 12 Months Jun-22
Revenue			
Research contracts	33,365	32,769	68,386
Commercial	9,379	8,995	18,390
GeoNet services	10,355	8,555	18,919
Other income	1,005	-	2,585
Total revenue	54,104	50,319	108,280
Operating expenses			
Employee benefit expense	30,660	27,333	54,830
Other operating expenses	22,973	20,163	47,576
Enterprise system implementation costs	745	1,273	-
Total operating expenses	54,378	48,769	102,406
Profit before interest, tax, depreciation and amortisation	(274)	1,550	5,874
Depreciation	3,101	2,727	7,325
Amortisation	49	80	151
Loss before interest and tax	(3,424)	(1,257)	(1,602)
Interest income	432	74	250
Interest expense	-	-	-
Loss before tax	(2,992)	(1,183)	(1,352)
Income tax benefit	839	331	329
Net loss after tax	(2,153)	(852)	(1,023)
Other comprehensive income	-	-	-
Total comprehensive loss attributable to owners	(2,153)	(852)	(1,023)

The accompanying notes form part of these financial statements.

CONSOLIDATED STATEMENT OF CHANGES IN EQUITY

For the six months ended 31 December 2022

<i>in thousands of New Zealand dollars</i>	Share capital	Equity reserves		Total equity
		Retained earnings	Cash flow hedge reserve	
Balance at 1 July 2021	6,167	34,959	-	41,126
Loss after tax	-	(852)	-	(852)
Balance as at 31 December 2021	6,167	34,959	-	41,126
Loss after tax	-	(171)	-	(171)
Balance at 30 June 2022	6,167	33,936	-	40,103
Loss after tax	-	(2,153)	-	(2,153)
Balance at 31 December 2022	6,167	31,783	-	37,950

The accompanying notes form part of these financial statements.

CONSOLIDATED BALANCE SHEET

As at 31 December 2022

<i>in thousands of New Zealand dollars</i>	Unaudited Dec-22	Unaudited Dec-21	Audited Jun-22
Equity			
Share capital	6,167	6,167	6,167
Retained earnings	31,783	34,107	33,937
Total equity	37,950	40,274	40,104
<i>Represented by:</i>			
Non-current assets			
Property, plant and equipment	41,475	28,151	39,094
Intangible assets	497	169	546
Deferred tax	2,857	-	2,857
Investments	30	30	30
Total non-current assets	44,859	28,350	42,527
Current assets			
Cash and cash equivalents	18,876	15,709	19,277
Short-term investments	13,320	13,104	13,171
Trade receivables	5,335	5,415	7,460
Prepayments	4,214	3,912	3,853
Current tax	1,160	331	-
Deferred tax	-	1,907	-
Work in progress	2,567	3,079	1,826
Total current assets	45,472	43,457	45,587
Total assets	90,331	71,807	88,114
Non-current liabilities			
Non-current provisions	1,738	1,413	1,417
Capital Grants from Crown (long-term portion)	11,390	-	11,390
Total non-current liabilities	13,128	1,413	12,807
Current liabilities			
Trade and other payables	9,274	5,824	8,103
Current provisions	4,175	3,886	4,107
Revenue in advance	22,085	20,410	20,546
Capital Grants from Crown (current portion)	3,719	-	1,991
Provision for income tax	-	-	456
Total current liabilities	39,253	30,120	35,203
Total liabilities	52,381	31,533	48,010
Net assets	37,950	40,274	40,104

The accompanying notes form part of these financial statements.

For and on behalf of the Board:



Dr Nicola Crauford, Chair
24 February 2023



Wendy Venter, Chair, Audit and Risk Committee
24 February 2023

CONSOLIDATED STATEMENT OF CASH FLOWS

For the six months ended 31 December 2022

<i>in thousands of New Zealand dollars</i>	Unaudited 6 Months Dec-22	Unaudited 6 Months Dec-21	Audited 12 Months Jun-22
Cash flows from operating activities			
<i>Cash was provided from:</i>			
Receipts from customers	59,405	55,570	112,707
Interest received	-	45	139
	59,405	55,615	112,846
<i>Cash was applied to:</i>			
Payments to suppliers and employees	(57,426)	(54,893)	(107,846)
Interest paid	-	-	-
Income tax paid	(234)	(2,259)	(2,424)
	(57,660)	(57,152)	(110,270)
Net cash flows from operating activities	1,745	(1,537)	2,576
Cash flows from investing activities			
<i>Cash was provided from:</i>			
Sale of property, plant, equipment and intangible assets	-	-	93
Receipts of capital funding in advance	-	-	3,803
Maturity of short-term investments	-	6,065	8,079
	-	6,065	11,975
<i>Cash was applied to:</i>			
Purchase of property, plant, equipment and intangible assets	(2,146)	(3,502)	(7,875)
Placement of short-term investments	-	(11,089)	(13,170)
	(2,146)	(14,590)	(21,045)
Net cash flows from investing activities	(2,146)	(8,526)	(9,070)
Net increase/(decrease) in cash and cash equivalents	(401)	(10,062)	(6,494)
Effect of exchange rate changes on cash held in foreign currency	-	-	-
Opening cash and cash equivalents	19,277	25,771	25,771
Closing cash and cash equivalents	18,876	15,709	19,277

The accompanying notes form part of these financial statements.

NOTES TO AND FORMING PART OF THE CONDENSED CONSOLIDATED INTERIM FINANCIAL STATEMENTS

For the six months ended 31 December 2022

1. REPORTING ENTITY AND ACTIVITIES

The Institute of Geological and Nuclear Sciences Limited (trading as GNS Science) is established under the Crown Research Institutes Act 1992 and the Companies Act 1993. Its subsidiary companies are established under the Companies Act 1993. These financial statements have been prepared in accordance with the Crown Research Institutes Act 1992, the Public Finance Act 1989, the Companies Act 1993, the Crown Entities Act 2004, the Financial Reporting Act 2013 and New Zealand generally accepted accounting practice (NZ GAAP).

The principal activities of the Group are to undertake geoscience and isotope science research, development and commercial projects, predominantly in New Zealand. GNS Science International Limited holds a 50% interest in EDDI Project, an unincorporated joint operation formed to undertake a contract for dam hazard management in Vietnam.

The wholly owned subsidiaries of the Institute of Geological and Nuclear Sciences Limited (the Parent) are:

- Isoscan Limited
- Isoscan Food Limited
- Geological Surveys (New Zealand) Limited
- Geological Risk Limited
- GNS Science International Limited

These unaudited condensed consolidated interim financial statements are for the six months ended 31 December 2022 and were approved by the Board on 24 February 2023.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

These unaudited condensed consolidated interim financial statements for the six months ended 31 December 2022 do not include all the notes of the type normally included in an annual financial report but have been prepared using the same accounting policies and methods of computation, and should be read in conjunction with, the financial statements and related notes included in the Group's Annual Report for the year ended 30 June 2022.

The financial statement figures for the six-month period ended 31 December 2022, and for the comparative six-month period to 31 December 2021 are unaudited. The figures for the year ended 30 June 2022 are audited.

The same significant judgments, estimates and assumptions included in the notes to the financial statements in the Group's Annual Report for the year ended 30 June 2022 have been applied to these unaudited condensed consolidated interim financial statements.

These financial statements are presented in New Zealand dollars, which is the Group's functional currency. Amounts have been rounded to the nearest thousand dollars.

3. RELATED PARTY TRANSACTIONS

The New Zealand Government is the ultimate shareholder of the Parent. No other transactions with New Zealand Government owned entities are considered as related party transactions in terms of NZ IAS 24 *Related Party Disclosures*.

The Group purchases directors' and officers' insurance for the benefit of key management personnel in relation to the services they provide to the Group.

Key management personnel

Key management personnel, considered to be the Directors and Executive Leadership Team, are those people with responsibility and authority for planning, directing and controlling the activities of the entity. A number of key management personnel also provide directorship services to other third-party entities that have transacted with the Institute during the reporting period, in all circumstances on commercial terms.

<i>in thousands of New Zealand dollars</i>	Unaudited 6 Months Dec-22	Unaudited 6 Months Dec-21	Audited 12 Months Jun-22
Key management personnel compensation comprised:			
Directors' fees	84	67	164
Benefits for the Executive Leadership Team	1,139	1,020	2,259
Total key management personnel compensation	1,223	1,087	2,423

4. RECONCILIATION OF PROFIT AFTER TAX TO NET CASH FLOWS FROM OPERATING ACTIVITIES

<i>in thousands of New Zealand dollars</i>	Unaudited 6 Months Dec-22	Unaudited 6 Months Dec-21	Audited 12 Months Jun-22
Profit/(loss) after tax	(2,153)	(852)	(1,023)
<i>Add/(less) items classified as investing activities:</i>			
Net gain on disposal of property, plant and equipment	30	30	(93)
	30	30	(93)
<i>Adjust non-cash items:</i>			
Depreciation	3,101	2,727	7,325
Amortisation	49	80	151
Decrease in credit allowance for doubtful debts	-	-	(49)
Decrease in provision for income tax	(300)	(300)	(1,803)
Decrease in deferred tax	-	-	(950)
Increase in non-current provisions	321	134	138
	3,171	2,641	4,812
<i>Add/(less) movements in working capital items:</i>			
Decrease/(increase) in trade receivables and prepayments	1,764	(963)	(2,900)
Increase/(decrease) in payables, current provisions, revenue in advance	(336)	(1,621)	1,287
Change in trade payables relating to investing activities	10	10	22
Increase/(decrease) in work in progress	(741)	(782)	471
	697	(3,356)	(1,120)
Net cash flows from operating activities	1,745	(1,537)	2,576

5. DIVIDEND

No dividends were declared by the Group for the six months ended 31 December 2022 (31 December 2021: Nil).

6. COMMITMENTS

Non-cancellable operating lease commitments

Operating lease payments are recognised on a systematic basis representing the pattern in which economic benefits from the leased asset are consumed over the lease term.

Leases are classified as finance leases whenever the terms of the lease transfer a significant portion of all of the risks and rewards of ownership to the lessee. All other leases are classified as operating leases. The Group has no leases which would be classified as finance leases.

Operating lease commitments

<i>in thousands of New Zealand dollars</i>	Unaudited 6 Months Dec-22	Unaudited 6 Months Dec-21	Audited 12 Months Jun-22
Within one year	140	162	159
Between one and five years	82	161	82
Over five years	7	7	7
	229	330	248

Capital commitments

<i>in thousands of New Zealand dollars</i>	Unaudited Dec-22	Unaudited Dec-21	Audited Jun-22
Contracted and on order	5,242	1,676	-
Authorised but not yet contracted	2,241	4,791	3,148
	7,483	6,467	3,148

7. CONTINGENT LIABILITIES

WorkSafe filed two charges against the Institute of Geological and Nuclear Sciences Limited on 30 November 2020 for offences under the Health and Safety at Work Act 2015. These charges relate to the volcanic eruption on Whakaari/White Island on 9 December 2019. The Group has had the primary charge against it dismissed and continues to defend the secondary charge.

The impact of these proceedings cannot be reliably quantified due to uncertainty around the outcome. However, as of 31 December 2022, the second charge is upheld and the maximum fine the Group may incur is \$1.5m (31 December 2021: Nil).

8. EVENTS AFTER THE BALANCE DATE

There were no significant events after the balance date (31 December 2021: Nil).

STATEMENT OF RESPONSIBILITY

The Board is responsible for the preparation of the Group's half year financial statements and statement of performance and for the judgements made in them.

The Board through management is responsible for establishing and maintaining a system of internal control designed to provide reasonable assurances as to the integrity and reliability of the financial reporting.

In the opinion of the Board, the financial statements and statement of performance for the six months ended 31 December 2022 fairly reflect the financial position and operations of GNS Science.

For and on behalf of the Board:



Dr Nicola Crauford
Chair

24 February 2023



Wendy Venter
Chair, Audit and Risk Committee

24 February 2023

DIRECTORY

PHOTOGRAPH ACKNOWLEDGEMENTS

Jeff Brass, GNS Science

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Kyle Bland, GNS Science

Andrew Boyes, GNS Science

Front cover,
Inside front cover

P2

P3

Inside back cover

DIRECTORS

Dr Nicola Crauford
Chair

Dr John Sharpe
Deputy Chair

Felicity Evans

Paul White

Andrew Cordner

Wendy Venter

EXECUTIVE LEADERSHIP TEAM

Peter Benfell
Interim Chief Executive

Dr Gary Wilson
General Manager,
Research Strategy and Partnerships
& Chief Scientist

Dr Lucia Roncaglia
Interim General Manager,
Science

Andrew Simpson
General Manager,
Business Services

Rose Macfarlane
General Manager,
People and Culture

Tania Gerrard
General Manager,
Māori and Stakeholder Relations

BANKERS

ANZ

AUDITOR

Silvio Bruinsma
Deloitte Limited
On behalf of the Auditor-General

SOLICITORS

Chapman Tripp

WEBSITES



www.gns.cri.nz

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Right: Shore Platform at Uruti Point, Wairarapa.

Our Half Year Report is also available in digital format at www.gns.cri.nz

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