

GEOLOGICAL SOCIETY OF NEW ZEALAND

NEWSLETTER

---

No. 10

June 1961

---

CONTENTS

	Page
The Society, Officers, Newsletter	1
Victoria University Geology Department	2
The International Palaeontological Union	3
International Association of Volcanology	4
Historical Notes - A letter from Sir Charles Lyell to Sir James Hector	6
Geological Exploration on the Peru - Bolivia Border	7
Antarctic Field Work, Summer, 1960-61 - Geological Recon- naissance in the Nimrod Glacier - Byrd Glacier area	9
On the Origin of Earthquakes	11
Geological News from Dunedin	12
The Responsibility of the Well-Driller	13
McKay Hammer Award for 1960	14
Membership of the Royal Society of New Zealand	14
Future Issues of the Transactions of the Royal Society of New Zealand	14
Personal Notes	14

---

THE SOCIETY

The Geological Society of New Zealand was founded in May, 1955. Its objects include fostering investigations into the various fields of earth science and serving as a medium for the expression of the views of New Zealand geologists. Membership is open to all those interested in the earth sciences, including all branches of geology, mineralogy, petrology, glaciology, geophysics, seismology, oceanography, pedology, hydrology, palaeontology, mining, and the utilization of minerals and rock products. There is only one class of members, and the annual subscription is at present ten shillings.

OFFICERS

May, 1961 to May, 1962

President	Dr R.P. Suggate
Vice-President	Mr J. Healy
Secretary	Mr D.R. Gregg
Treasurer	Mr T.L. Grant-Taylor
Committee	Mr J. Brodie (immediate past-President)
	Mr H.S. Gair
	Mr J.A. Grant-Mackie
	Mr W.F. Heinz
	Dr J.B. Waterhouse
	Mr B.L. Wood

The address of the secretary is:

C/o N.Z. Geological Survey,  
P.O. Box 2110,  
Christchurch.

THE NEWSLETTER

The Newsletter is published twice a year. Contributions in the form of personal notes, short items of geological or geophysical interest, news of the mineral industries, suggestions for Society activities, reports of meetings, descriptions of field trips, reviews or criticisms of recent publications, and similar items will be welcomed. Items for the Newsletter should be sent to the Editors, C/o N.Z. Geological Survey, P.O. Box 368, Lower Hutt, New Zealand.

Unless specifically indicated, opinions expressed in the Newsletter are not to be regarded as the official views of the Society.

VICTORIA UNIVERSITY GEOLOGY DEPARTMENT

by Paul Vella

1961 Roll

Stage I	122
" II	25
" III	6
B.Sc. Hons.	5
M.Sc.	1
Ph.D.	6
Research students	2

Staff. Professor Clark is now at Berkeley, California, and expects to be back in Wellington early in May.

Mr A. Allen has been appointed a demonstrator in the department.

Students. Keith Rhea arrived from the United States in February, on a Fulbright grant, for twelve months' study in New Zealand. He graduated B.Sc. at the Massachusetts Institute of Technology and then spent a year in a graduate class at the Colorado School of Mines. He is chiefly interested in tectonics and is working on the Wellington Fault, and at the same time is attempting to correlate Pleistocene ash showers across the Ruahine Range.

Early in March Alva Challis departed for Newnham College, Cambridge, on a D.S.I.R. National Scholarship. She has taken rocks from Tophouse for study in the Department of Mineralogy and Petrology, but intends to tackle also an area of basic lavas in Britain as part of her Ph.D. project.

Graham Gibson, having graduated to B.Sc. Hons. first class, is proceeding to Ph.D. His principal study will be the micropalaeontology of the Tongaporutuan Stage.

Two other students are studying stage faunas. Barry McInnes, now working as assistant micropalaeontologist at B.P., Gisborne, is to determine the microfaunas of the type Opoitian for an M.Sc. thesis. Jim Kennett has commenced work on the microfaunas of the Kapitean Stage, although he will not be ready to attempt B.Sc. Honours before next year.

Current Research. Some advances have been made recently in the Wairarapa. Chiefly due to mapping by G. Neef and G. Orbell, the Eketahuna upper Miocene to lower Pliocene is now fairly clearly understood to have been deposited in a deep oceanic basin. Predominant deposits are mud and turbidites. The latter were deposited in water deeper than 1000 feet.

and predominate where water was deepest (4000 to 5000 feet).

Lower Pleistocene deposits (Hautawan to Nukumeruan) show cyclic vertical changes in depth of deposition which are attributed to glacio-eustatic oscillations of sea level. The major cycles appear to correlate with similar cycles in the Wanganui district, and offer a possible new method of correlation more positive than fossils.

Antarctic Expedition. All members of the party (mentioned in the last issue of the Newsletter) returned safe and hairy. They found something different from the Beacon Sandstone at last, a marble which may be a correlative of the limestone in which the G.S. party found fossils.

---

#### THE INTERNATIONAL PALAEOONTOLOGICAL UNION

by G.A. Fleming

The International Palaeontological Union is a rather loose association of palaeontologists of all nations of institutional or individual members, with a nominal subscription, meeting at International Geological Congresses and at other suitable congresses, and administered by an executive committee with Dr Jean Roger as Secretary-General (Bureau des Recherches Geologiques et Minières, 74 Rue de la Federation, Paris). It is not one of the unions of I.C.S.U., but plans to affiliate either with the the proposed International Geological Union or the International Union of Biological Sciences or both. Its activities include sponsoring symposia at meetings, preparation and issue of the Liste des Palaeontologistes du Monde (published 1960), and other international projects mentioned below. Much of its activity stems from the enthusiasm and hard work of the secretary, whose services for international palaeontology and stratigraphy are well known (e.g. the Stratigraphic Lexicon).

New Zealand's first participation in the I.P.U. perhaps followed my attending its meetings in London in 1948, when I met Professor Howell (Princeton), its founder, and Dr Roger. The N.Z. Geological Survey is an institutional member, and as its representative I have circulated to N.Z. palaeontologists various information sent out during the past few years, compiled the New Zealand section of the Liste des Palaeontologistes du Monde, and attended the sessions of the I.P.U. at Copenhagen. For my sins I find myself a member of the executive committee, with the responsibility of informing local palaeontologists of I.P.U. activities as recorded in liaison bulletins. The I.P.U. would welcome more members from New Zealand, either institutional or individuals.

At the Copenhagen Congress the I.P.U. held (at the Mineralogical and

Geological Museum) three general assembly meetings and four scientific meetings at which papers were presented on palaeoecology, and on interpretation of primitive fossils and intermediate groups. At the first general assembly the Secretary-General described the participation of I.P.U. in the Zoological Congress in London (1958), in the Siluro-Devonian Congress held in Bonn, and at other meetings, and displayed the newly published list of palaeontologists (free to paid-up members). He also noted that the financial deficit of the I.P.U. had been wiped off by the Bureau des Recherches Geologiques et Minieres. The possibility of affiliating with a union of I.C.S.U. was discussed. At later meetings the subjects of discussion included a possible I.P.U. periodical, and supplements to the List of Palaeontologists. Another project is the preparation of inventories of fossil collections in three stages: 1. a list of published catalogues of collections; 2. a list of collections according to names of collectors (e.g. Lamarck, d'Orbigny, Sowerby); and 3. systematic lists of species in collections.

The I.P.U. has sponsored the continuation of "Paleontologia Universalis", begun in 1900 and recently continued by the Information Service of the Bureau des Recherches Geologiques et Minieres (cost thus assured). This is a method of making available revised descriptions and figures of fossils named in ancient works, and although some members commented on the immensity of the task and its cost, its continuation was approved.

On the proposal of F. Prantl a permanent commission on palaeoecology was constituted under the I.P.U., with the following members: Hantzschel, Hecker, Nowa, (president), Prantl, and Sylvester-Bradley.

The executive committee is to propose scientific themes for sessions at the 22nd International Congress and to arrange meetings of the I.P.U. between 1960 and 1964.

The new officers of the I.P.U. are: President, Chr. Poulson (Copenhagen); Secretary-General, J. Roger (Paris); Treasurer, M. Lecompte (Brussels); Executive Committee, Mme Montanado-Gallitelli (Italy), F. Prantl (Czechoslovakia), T. Kobayashi (Japan), and (by later cooption) K.E. Caster (U.S.A.), C.A. Fleming (N.Z.), R.C. Moore (U.S.A.), J. Orlov (U.S.S.R.), M.R. Sahni (India), and P.C. Sylvester-Bradley (U.K.).

---

INTERNATIONAL UNION OF GEODESY AND GEOPHYSICS  
INTERNATIONAL ASSOCIATION OF VOLCANOLOGY

A National Committee for the I.U.G.G. has now been formed on which the National Correspondent for the International Association of Volcanology is Mr J. Healy of the Geological Survey, Rotorua. This opportunity is being

taken to bring to the attention of geologists generally the aims and functions of the Association (= I.V.A.).

Constitution. The International Association of Volcanology is one of eight constituent associations of the International Union of Geodesy and Geophysics, which holds triennial assemblies, the last having been at Helsinki in July-August, 1960. Matters of general interest are published in "Chronique de l'I.U.G.G.", which has 8-10 issues per annum, but the official publication of the Association (I.A.V.) is the Bulletin Volcanologique, published by the Bureau Central International de Volcanologie, at Naples. The present secretary is:

Prof. F. Penta,  
Istituto di Geologia Applicata,  
Facoltà d'Ingegneria,  
Via Rudossiana 18,  
Roma, Italy.

The Association includes four sections, as follows:

1. Active volcanoes
2. Volcanophysics
3. Physics and chemistry of magma
4. Palaeovolcanology

National correspondents are invited to form local sub-committees, and the New Zealand committee is:

Mr J. Healy, Geological Survey, Rotorua (Convenor)  
Mr F.E. Studd, Geophysics Division, Wellington  
Mr C.J. Banwell, Geophysics Division, Taupo  
Professor R.H. Clark, Victoria University, Wellington

Aims. The aims of the Association are to co-ordinate volcanological research and to facilitate the dissemination of information. Decisions and recommendations in this respect are made at the triennial meetings of the Association.

Functions. The sub-committee is in no way an administrative body. Its duty is to bring to the notice of New Zealand scientists the projects of the International Association of Volcanology, to assist in their furtherance, and to assist in its co-ordination. The National Correspondent serves as the liaison between New Zealand volcanological workers and the Association, and as its representative on the National Committee.

Currently the catalogue of Active Volcanoes of the world is under publication by the Association. The New Zealand volume is being compiled by Messrs D.R. Gregg, A. Steiner and J. Healy, and with it will be published the catalogue of the Kermadec and Tonga volcanoes by J.J. Richard.

Information is also being sought and disseminated on the habits of active

volcanoes, methods of prediction of eruptions, and steps that are being taken to deal with these matters.

Suggestions. At the first meeting of the local sub-committee the decision was made to bring the existence of the committee and Association to the notice of New Zealand geologists and allied scientists, and to suggest that use be made of the Bulletin Volcanologique for the publication of papers of volcanological interest.

One suggestion is that where work of volcanological interest is being carried out and where early publication is not anticipated, or where it is "buried" in work of greater scope, a short paper could be written for publication in the Bulletin.

Papers should be forwarded through the National Correspondent, from whom any further information can be obtained.

- J. Healy

---

#### HISTORICAL NOTES

##### A LETTER FROM SIR CHARLES LYELL

The original of the following letter from Sir Charles Lyell to Sir James Hector was purchased in Wellington recently. Hector noted it as "Last letter received from Sir Chas Lyell" and added at the foot "Ansd. with enclosed paper on subject, Jan 3, 1874. Ans. reached England after Sir Chas Lyell's death. J.H." It appears that the letter was written by an amanuensis, as it is in a different handwriting from Lyell's signature.

- C.A.F.

73 Harley Street,  
London, 24 Oct. 1873.

Dear Dr Hector,

I have sent you from my Publisher by post, carriage prepaid a copy of my "Principles of Geology" 11th Edn. in two volumes - wishing you to have the kindness to refer to what I have said on the authority of Messrs. Roberts, Mantell and Weld respecting the earthquake of 1855, p. 82 - Vol. II. Any criticisms will be welcome and you will see more particularly the bearing of the facts stated by the gentlemen above cited when you read the new Edition of the "Students Elements" which I am now printing & a copy of which I hope to be able to send you before the end of this year, or in the beginning of 1874.

During a late tour in Switzerland I found reason to suspect that the

changes in the levels of the Alps & Jura & the great valleys between them consisted by no means of general movements or in one direction & that it is far more likely that as in N. Zealand the same great shocks which were attended by upheaval in one region were accompanied at the moderate distance of twenty or thirty miles by a movement in an opposite direction. To you who are acquainted with the application to geology of the forces now in action I need not suggest the application which may be made to the glacial and other ancient periods of the convulsions witnessed in your country: & therefore any letter from you would be much prized. If you ever see or correspond with my old friend Sir George Grey give him my kindest regards and tell me anything you can about him.

Believe me,

ever most truly your's

Chas Lyell

P.S. Please reply without waiting for the arrival of my "Elements"

---

GEOLOGICAL EXPLORATION ON THE PERU - BOLIVIA BORDER

by A. Ewart

(Editors' Note: Dr Ewart recently joined the Lower Hutt office of the Geological Survey from London, and is at present working mainly on the petrology and mineralogy of some of the ash shower deposits of the central part of the North Island).

Between July and September, 1959, I was fortunate enough to be one of six members of a University of London expedition to a range of mountains - the Mudo de Apolobamba - on the border of Peru and Bolivia, about 100 miles north of Lake Titicaca. The range is little known and, indeed, rarely visited by Europeans. A reconnaissance topographical map of part of the region had been made in 1910 by a Boundary Survey Commission team, and this map proved not only extremely valuable to us but also remarkably accurate. Our job was to complete the topographical survey, to undertake as complete as possible a geological investigation of the region, and finally to climb several new peaks - the Soral and Matchu Socho peaks - which form two very distinct ridges nearly 20,000 feet high within the range. We were fortunate in being able to accomplish all these objects.



Before arriving we had made contacts with the Bolivian Climbing Club and the British Embassy, both in La Paz, which was our starting point after the collection - by various techniques - from the Customs of our crates of equipment and special dehydrated food sent out from England. Members of the Bolivian Climbing Club took us in a small truck to the "foothills" of the area, the route following Indian tracks across the great flat Pampa and taking us gradually to a height of about 14,000 feet. Here we were able to use some old stone buildings at an abandoned gold mine to store our equipment and use as a base camp.

From this base, it was necessary for the party to split up for three weeks, two of us making a geological reconnaissance of the Pampa and the "foothills", while the rest went into the main mountain range to commence the topographical survey by plane table. After the party had re-assembled the geologists continued the geological mapping of the mountain range, using the newly completed plane table map, and the climbing program was also completed.

Below the 17,000 foot level we encountered no extensive permanent snow, so that conditions for geological work were excellent, with fresh exposures recently bared by retreating ice. On the other hand, the Pampa area, extending up to 15,000 feet in places, originated from former vast glacial lakes and are consequently composed of glacial debris, with occasional more regular lacustrine and fluvial deposits. Above the snow line we had to rely on sharp ridges for exposures, and a further difficulty met with here was that on all south-facing slopes the snow was extremely soft and thick, making much of the geological and climbing work difficult. We soon realised that the geological mapping had to be approached from a structural angle, as the area consisted mainly of a very thick series of remarkably uniform Palaeozoic argillaceous sediments which have been intensely folded between two great blocks of a younger, massive sandstone series.

Acclimatization to the altitude was a problem during the first few days, when we all suffered from severe headaches. These, however, quickly improved, and we had very little further trouble except for the occasional sore throat. We found the climate during our stay fairly good, with dry and often warm days. Nights, however, were extremely cold, even well below the snow line. Snow falls were not extensive, but towards the end of our stay we felt a few of the dreaded winds from which the region suffers - bitterly cold and of gale force.

There are a few small Indian villages in the Pampa country. The people belong to the Aymara Tribe, and although fairly primitive they must be among the hardiest and fittest people in the world. They have an incredibly hard life, keeping semi-domesticated llama and alpaca herds for their wool. The only other animals seen in this bleak part of South America are the viscacha, a small rabbit-like animal, the vicuna, noted for its excellent meat and fine wool, and the very occasional puma, which stray from the tropical forests at lower altitudes.

ANTARCTIC FIELD WORK, SUMMER, 1960-61GEOLOGICAL RECONNAISSANCE IN THE NIMROD GLACIER - BYRD GLACIER AREA

by M.G. Laird and D.N.B. Skinner

Two field parties, using two dog sledges each, and both consisting of two surveyors, a geologist, and a field assistant, were operated by the Antarctic Division, D.S.I.R., in the 1960-61 summer season. The area mapped and explored - both topographically and geologically - covered about 6,000 square miles, and lay between the Nimrod Glacier and the Byrd Glacier, between 150 and 300 miles south of Scott Base. One party (the Northern) worked in the area from the Byrd Glacier (Barn Inlet) to Beaumont Bay, and to this Dave Skinner was attached as geologist. The other party (the Southern) studied the area between Beaumont Bay and the Nimrod Glacier (Shackleton Inlet). Malcolm Laird accompanied this party as geologist. Both geologists were M.Sc. students from the University of Auckland.

The members of the field parties were assembled in Antarctica by mid-October, but owing to bad weather conditions and a lengthy radio "black-out" essential equipment did not arrive at Scott Base for several weeks after that. The first field party (the Northern) was finally flown out to the field by an American VX6 Dakota on 10 November. The other field party remained at Base to await further supplies and to train huskies newly arrived from Greenland. This party (the Southern) was flown in to the field, again by an American Dakota, on 30 November.

The Southern Party. Led by Captain Peter Hunt, R.E., surveyor, this party was landed in a broad inland valley which opened into the northern side of the Nimrod Glacier, about 15 miles up the glacier from Cape Wilson. From this point the party examined the inland side of the coastal range near Cape Wilson, before sledging westward, where 40 miles from the Ice Shelf coast the way was barred to further travel by a major mountain range and an icefall on the Nimrod Glacier. The range was climbed at its southernmost extremity (6200 ft), and a magnificent view of further ranges extending towards the Polar Plateau was obtained.

Proceeding northwards until the interior of Beaumont Bay was reached, the party explored to a depth of 20 miles from the coast both banks of a large, hitherto unmapped glacier, which discharged into the Ice Shelf immediately south of Cape Parr. After this the coastal survey was carried out and completed by 8th February, when the party was flown back to base.

The going in general was difficult, with much crevassing, and deep, soft snow in the inland valleys. The weather, which had been perfect for the first two or three weeks, deteriorated just before Christmas, and from then on many days of work were lost.

The geology was relatively simple, and Ross System sediments and associated intrusives were the only rocks seen at close quarters. Contact metamorphosed geosynclinal sediments, intruded in many places by granites

and granitic dykes, predominated in the coastal range. Further inland were shallow-water, current-bedded sandstones and siltstones and heavy, largely quartzose conglomerates. The main inland range is composed almost entirely of relatively pure limestone, locally complexly folded, and intruded in many places by dolerite. Archæocyathids, most of them well preserved, were discovered in three localities in this range. Beacon Sandstone and dolerite sills were seen at a distance capping the higher peaks of the inland range, the Kukri Peneplain being at an altitude of about 10,000 ft.

Block faulting is characteristic of the region, the blocks striking N.N.W., roughly parallel with the coast. Structural trends were found to be obscure, but in the southern half of the area the folds have a N.N.W. strike. To the north there appeared to be a swing in strike to an east-west direction.

The Northern Party. Led by Garth Matteson, chief surveyor, the party was landed at the ice strain gauge, at 80° S., from which it sledged the 95 miles to Cape Selbourne. The weather was good up to Christmas, but very bad afterwards, and we spent a considerable part of our time in our sleeping bags. Nevertheless we were able to sledge 600 miles during our 88 days in the field, and we covered an area of about 2500 square miles. Every 25 days or thereabouts we were re-supplied by a U.S. Navy Otter or Dakota landing.

Outcrops were scattered, although plentiful, and were found to consist mainly of various basement limestones, often oolitic. Some sandstones, siltstones and slates also crop out, as well as a very conspicuous conglomerate. Beacon rocks were seen only on and west of the main range, forty miles from the coast, and above 8000 feet. Because of this only two localities could be reached. In the north a dolerite sill was seen on the peneplain, but farther south the only sill is over 2000 feet above the peneplain, at about 11,000 ft on Mt Albert Markham.

There are no large granitic intrusions, but Cape Selbourne in the north shows evidence of a probable subjacent intrusion. The rock found is a very coarse-grained marble showing contact mineralogy. Very small dykes from four inches up to six feet wide are seen, but only in the north. To the south no evidence for intrusives was observed.

Block faulting is apparent although the actual trace could not be seen in the field. From aerial photos, however, a fault trace on the east side of the main range could be followed for 25 miles, and other smaller faults could also be seen.

ON THE ORIGIN OF EARTHQUAKES

Geophysicists and geologists interested in the origin of earthquakes should read this letter, dated 17/2/61, received by the Geological Survey office, Rotorua.

- J.H.

"Dear Sir,

"As I see Things.

"There is to be quiet a large dustavence  
On Thursday Next with gail force wind's over  
a wide area.  
Bringing with it a quiet sisable quake  
the quake how ever will begun an  
Wensday, Today But the main force  
of the dustervance shall be Thursday  
The gail force wind's may last some day's.

"It would apper to me that a quake  
has accored long before we feel the real thing  
it would therefore take place some where in  
outer space, the Sun may-be or some how  
conecket with the Magnetic poal. causing  
earthquakes to take place.

"I still maintain, one day we shall  
be able to predict a quake day's before it  
has taken place on Earth and of which acria  
it is to be, also its force,

"I have read where they have in reacent  
Month's been probing into the middle of our earth  
to find out what they can regarding quaks.

"but it would apper to me they are looking  
in the rong dierition, The same thing as  
a erepturne is caused from a mass of force  
directed at a surtain point,

"The Sea's, Sun, Magnetic poal, the Earth  
all these I think a past to play in the making of  
or braking power of our earth. Thy even a fallen  
Star, will bring fluid's to some places so I have noticed  
or at least that is my beleif.

"May be Im rong may-be Im wright, who knowe's. "

(Well, who does know, anyway ?)

---

GEOLOGICAL SURVEY NEWS FROM DUNEDIN

Staff at the Dunedin office of the Geological Survey have been engaged during the past field season on work for the 4-mile to an inch map series. Work commenced in the Haast sheet (19) with parties in the lower Landsborough-Haast Pass-Makarora districts, in the Paringa-Haast, and the Jackson's Bay-Arawata areas. Field work in the Arawata Valley was curtailed because of an accident to a jet-boat which was being used to transport food and personnel into the upper part of the valley. The boat was wrecked and sank in the Arawata River, and the persons concerned, L.W. McConnell, D.G. Bishop (field assistants) and J. Preston (owner-driver), were fortunate to escape with nothing worse than a ducking and an uncomfortable night in the open. The field work has revealed more of the complex structures in the schist that have been mapped during the previous two seasons.

Work on the north-western end of the Olivine Range ultrabasic belt was carried out by two expeditions under Mr A.R. Mutch; the later one, in March, which encountered the first snow fall of the year on Red Hill, was for the purpose of a prospecting reconnaissance as well as for regional mapping. A number of interesting chrome-bearing rocks were found.

A party under Mr B.L. Wood, and including Mr R. Fratten, a mining geologist from Broken Hill, in February visited the central part of Fiordland lying west of the Middle Fiord of Lake Te Anau, to examine mineralized metamorphic rocks which had been previously detected from the air. Well bedded calc-gneisses and other rocks, mapped as the Long Sound Formation, were found to contain low grade disseminated sulphides. Depending on the results of analyses of the samples obtained, mineral prospecting over large areas may be warranted. At present the most attractive feature of the occurrences is their size and wide extent.

Mr I.C. McKellar sailed for Canada with his family early in March, to further studies in glaciology at the University of British Columbia under Dr Richard Goldthwaite. Mr McKellar wrote that he would have started field work later in April with members of the University of Alberta physics department on the Athabasca Glacier, near Jasper. He expects to return to New Zealand next December.

- B.L.W.

THE RESPONSIBILITY OF THE WELL-DRILLER

by J. Healy

A judgement by Mr G.J. Donne, S.M., in the Magistrate's Court at Rotorua on 15/3/60 is of particular interest to geologists dealing with water supplies. In a civil claim Mr E.F. Lloyd sought damages from Lawsons Machinery Service Ltd in connection with a well which had been drilled by the latter and had proved unsatisfactory.

The well was first sunk to 87 ft and cased to 80 ft, but, proving unsatisfactory, was deepened to 129 ft and cased to 87 ft, that being all the casing available at the time. The casing was later inserted to 96 ft, but the water was cloudy and during 9 to 10 months of pumping the discharge gradually fell from 300 gallons per hour to zero when the pump seized up. The defendants were approached, but they suggested that an earthquake had caused the well to fail, and suggested drilling another, whereupon the plaintiff approached another firm of drillers. This firm pulled the pump and pipes and deepened the well to 135 ft and cased to 125 ft, since when the well has produced clear water without further trouble.

The claim was for the cost of the work carried out by the second firm to make the bore serviceable, owing to negligence on the part of the defendant because of "insufficient casing of the bore, the supplying of an inadequate screen therefor, and non-completion of the job." The claim was allowed less the cost of additional casing and drilling.

The magistrate ruled that "the cause of the bore becoming unserviceable was due to the fact that the strainer which had been inserted was completely clogged with sand and mud, thereby preventing the pumping of water, and then the ultimate seizure of the pump. I find that this clogging of the strainer was caused primarily by the insufficient casing of the bore."

In evidence, the foreman of the defendant firm had admitted that "apart from the information as to the water table obtained for the plaintiff, he did not know the type of country in which he was drilling. Nor did he enquire." The magistrate then added: "I consider it is the duty of any person undertaking well drilling to make sure he is acquainted with the type of country in which he is working." The ruling was not disputed by appeal, and it stands as a legal precedent for other cases where drillers, because of insufficient appreciation of the character of the strata they have drilled, have left wells in an unsatisfactory state.

---

McKAY HAMMER AWARD FOR 1960

At the Annual General Meeting of the Society, held in Te Anau in May, it was announced that the McKay Hammer Award for 1960 had been made to Professor D.S. Coombs, Geology Department, University of Otago, for his paper, "Lower Grade Mineral Facies in New Zealand", published in the report of the 21st International Geological Congress. Our congratulations are extended to Professor Coombs, who was unfortunately not able to be present at the meeting.

MEMBERSHIP OF THE ROYAL SOCIETY OF NEW ZEALAND

At the last meeting of the Council of the Royal Society of New Zealand admission of the Geological Society of New Zealand as a Member Body of the Royal Society was formally approved.

FUTURE ISSUES OF THE TRANSACTIONS OF THE ROYAL SOCIETY OF NEW ZEALAND

For the information of members of the Society the Transactions will in future be issued in four distinct series, dealing respectively with Botany, Zoology, Geology, and General subjects.

PERSONAL NOTES

At its meeting on 19 May the Council of the Royal Society of New Zealand elected as Fellows

DR MAXWELL GAGE, Geology Department, Canterbury University.  
 PROF. A.R. LILLIE, Geology Department, Auckland University.  
 MR R.W. WILLETT, N.Z. Geological Survey, Lower Hutt.

Our congratulations are extended to these members of the Society on the honour bestowed upon them.

MR I.G. SPEDEN, Palaeontology Section, N.Z. Geological Survey, Lower Hutt, has been awarded a D.S.I.R. National Research Fellowship. He will leave in August to study at Yale University, where he has also been awarded a Yale University Scholarship for tuition fees.

MR AMORN METHIKUL, of the Royal Department of Mines, Bangkok, Thailand, spent five months with the Geological Survey, between November, 1960, and April, 1961, on a grant from the International Atomic Energy Agency, Vienna.

MR B.W. COLLINS, who was the first editor of the Newsletter, returned to New Zealand in February from London, where he had been Scientific Liaison Officer for  $3\frac{1}{2}$  years.

MR W.M. BILLINGHURST is now attached to Albright and Wilson (Aust.) Pty Ltd, Yarraville, Melbourne.

MR G.A. EIBY, Seismological Observatory, Wellington, is overseas at present with a UNESCO mission studying seismological research in various countries in South-East and East Asia.

PROF. D.S. COOMBS, Geology Department, University of Otago, and MR J.C. SCHOFIELD, N.Z. Geological Survey, Otahuhu, attended the recent ANZAS meeting held in Brisbane.

DR J. GUEST, formerly of the Geological Survey in Suva, is now with the Kenya Geological Survey.

MR N.T. MOAR, Botany Division, D.S.I.R., Lincoln, left in April for Cambridge University where he will be working at the Sub-Department of Quaternary Studies under Professor H. Godwin.

MR I.D. DICK, Head Office, D.S.I.R., Wellington, is at present attached as technical officer to the special company investigating the feasibility of establishing an iron and steel industry in New Zealand based on the iron sands of the west coast of the North Island.

---

It is hoped that a considerably larger Newsletter will be produced in late November or early December. Please send any items to the Editors, C/o N.Z. Geological Survey, P.O. Box 368, Lower Hutt, New Zealand.