Life full of surprises, Branch visits, volunteers needed for the Federal Executive, geology vs geophysics



Phil Schmidt

When I agreed to stand for the role of President for 2015/16, close to three years ago, I had no idea what the future held. The industry was going gang-busters, I was entrenched as a post-retirement fellow at CSIRO and an adjunct professor at Macquarie University and I had a flow of contracts and research papers to write that was going to keep me off the streets, but then it started to unravel. While my CSIRO and Mac Uni relationships held together, contracts dried up and, dangerously, I was 'on the street' with time to kill. Then my wife began browsing certain websites, sniffing out opportunities to move closer to her Queensland roots, and so it came to pass. Remarkably swiftly I was led, somewhat dumbfounded, to become a guava farmer just south of Newrybar, inland from Byron Bay on the north coast of NSW. Newrybar is a delightful village close to Bangalow, where one can drop into a cafe and find the likes of Kerry O'Brien, aka Red Kez, enjoying the local coffee. Apart from my wife, my first CSIRO Chief, Ken McCracken, is also blameworthy. He inculcated in everyone he could influence the idea that they should change their career direction at least once in their life. Ken was always right - especially in his analysis of how the last year went, 'it was average, not as good as the previous year but better than

next year' (an epithet for the industry of late?!).

As President I also undertook (personally) to visit as many Branches as I could, to meet the local Branch Executives and Members. One of the reasons the ASEG is in a healthy financial position is that many trips by FedEx Members are underwritten by the companies for whom the Members work, and this is a policy that I support. First, in September, I visited the WA Branch and later, in October, I went to Adelaide. The Adelaide trip was for a face-to-face FedEx meeting, not a Branch meeting, but I did get to meet some SA Members for drinks afterwards. Last month I visited the ACT and Victoria Branches, before finally making it to Queensland at the beginning of March. All these visits were thoroughly enjoyable and my company was happy to cover the costs despite the downturn in the industry (keeping me off the streets). Thanks to all involved, it was a privilege. I am sorry my time and resources did not extend to NT and Tasmania, although I was in Tassie and visited UTAS to flog my Qmeter at the end of 2014.

The next few months will see several long-term Members of the FedEx step down. While I have another 12 months on the FedEx, as the Immediate Past-President, after my Presidency expires at the AGM next month, some Members are reaching the point where other calls on their time are more pressing. We desperately need a Publications Chair, a role that Greg Street and I have been sharing for the past year. The other key positions are pretty much covered for the short term, but in another 12 months the FedEx could be in dire straits unless we have an influx of new talent. Both the Honorary Treasurer, Theo Aravanis, and the Honorary Secretary, Barry Drummond, will step down at the AGM, and the irrepressible International Chair, Koya Suto, has signalled his intentions to

leave – but not before one last combined International/Publications task, which is to further expand *Exploration Geophysics*.

Recently my attention was caught by an article in the Weekend Australian Magazine (12-13 March) on the Nobel laureate; Professor Brian Schmidt, becoming the next vice-chancellor of ANU. My interest was piqued not just because ANU is my alma mater, but because I have met Brian. We were getting name tags at a meeting and he noticed that we had the same surname. Being the gregarious person he is, we ended up having a conversation about how CSIRO and the universities were about to lose even more funding, despite protestations to the contrary in the lead-up to the last Federal election. I sincerely hope he can make a difference at ANU, and that other universities take his lead, but the article did emphasise that despite Brian's personal generosity university funding is what it is and unless he can learn to say 'no' straitened times will continue. Many universities use the previous year's student intake to allocate departmental funds. Without intervention at the vice-chancellor level this practice does not bode well for the earth sciences in coming years. In the same article Brian is quoted as saying that he introduces himself as an astronomer if he is on for a chat, but as an astrophysicist if he wants to be left alone. This reminded me of the times I say I'm a geologist versus the times that I admit to being a geophysicist - and wait for the inevitable questions about what geophysicists do. It is worse in the USA where being a geophysicist is usually taken to mean that you are a seismologist and you have two levels of explaining to do, after which you resolve that in future you will only confess to being a geologist or a guava farmer!

Phil Schmidt ASEG President president@aseg.org.au

Welcome to new Members

The ASEG extends a warm welcome to 31 new Members approved by the Federal Executive at its February and March meetings (see table).

First name	Last name	Organisation	State	Country	Membership type
Sabry	Abdallah	Hokkaido University		Japan	Active
Abid	Ali	Kangwon National University		South Korea	Student
Tim	Archer	Reid Geophysics		UK	Active
Roman	Beloborodov	Curtin University	WA	Australia	Student
Jack	Chanmala	Rio Tinto	WA	Australia	Active
Thomas	Davies	Curtin University	WA	Australia	Student
Steve	de Boer	Gap Geophysics Australia Pty Limited	QLD	Australia	Active
Julia	Dos Santos Maia Correa	Curtin University	WA	Australia	Student
Tom	Emelyanenko	Griffith University	QLD	Australia	Student
Jonathan	Fitzgerald	Total Scan & Survey	WA	Australia	Corporate
Jeremy	Fitzpatrick	Woodside	WA	Australia	Active
Elizabeth	Grange	The University of Melbourne	VIC	Australia	Student
Aaron	Heugh	University of Adelaide	SA	Australia	Student
Afzal	Iqbal	The University of Western Australia	WA	Australia	Student
Wenping	Jiang	Geoscience Australia	ACT	Australia	Active
Harrison	Jones	Macquarie University	NSW	Australia	Student
Dorte	Macrae	Self employed	VIC	Australia	Active
Mahyar	Madadi	Curtin University (lecturer)	WA	Australia	Associate
Andrew	Mc Pherson	Geoscience Australia	ACT	Australia	Active
Nazanin	Nourifard	Curtin University	WA	Australia	Student
Jason	Nycz	Hellas 470	ALB	Canada	Active
Siddharth	Pandey	UNSW Canberra, Space Department	ACT	Australia	Student
Declan	Radford	University of Tasmania	TAS	Australia	Student
Monica	Rasmussen	Ikon Science	SA	Australia	Associate
Xiuyan	Ren	Royal Melbourne Institute of Technology University	VIC	Australia	Student
Hamish	Stein	University Of Melbourne	VIC	Australia	Student
Bheni	Supriyanto	Lampung University	Supriyanto	Indonesia	Student
Lisa	Tannock	University of NSW	NSW	Australia	Student
Tayallen	Velayatham	University of Adelaide	Selangor	Malaysia	Student
Yu	Wu	Institute Of Geology And Geophysics Chinese Academy Of Sciences		China	Student
Sabin	Zahirovic	University of Sydney	NSW	Australia	Active



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ASEG Federal Executive 2014–15

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Greg Street: Past President (Publications and History Committees) Tel: (08) 9388 2839 Email: pastpresident@aseg.org.au

Koya Suto: Vice President (International Affairs Committee Chair, **Research Foundation**) Tel: (07) 3876 3848 Email: vicepresident@aseg.org.au

Kim Frankcombe: Past President (AGC Representative, Conference Advisory Committee and Technical Standards Committee) Tel: (08) 6201 7719 Email: kfrankcombe@iinet.net.au

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Marina Costelloe Tel: (02) 6249 9347 Email: marina.costelloe@ga.gov.au

Danny Burns Tel: (08) 8338 2833 Email: danny.burns@beachenergy.com.au

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Secretary: Michael Dello Tel:

NT Representative: Tania Dhu

Victoria

Western Australia

Executive Brief

Since the last issue of *Preview* in February, the Federal Executive has met twice, on 18 February and 17 March. The following is a brief summary of key issues discussed by the Federal Executive.

Society finances

The last issue of Executive Brief noted that the Society ended 2015 in a sound financial position. The accounts for 2015 have been audited and the audit report has just been delivered. At the end of 2015 the Society had net equity of \$1291774. At the end of February, two months into the new financial year, which for the Society matches the calendar year, the net assets were \$1370308.04, mostly reflecting membership renewals while branch activities were still ramping up for the new year. All Branches now have positive bank balances after the allocation of capitation fees due to a decision by the Federal Executive in late 2015 to forgive a long term deficit in the WA accounts. Branches should therefore be able to offer their Members a healthy technical programme in 2016.

Membership

Membership renewals were sent out at the end of 2015. At the time of the March Federal Executive meeting, 913 or 76% of our 2015 Members had renewed and 288 had not; this compares with a figure at the same time last year of 62% who had renewed. Why some Members have not renewed at this time is not known. Some may not have renewed because of the state of the exploration industry, but others may simply be late in

renewing. Those who have not renewed will soon receive individual follow up emails reminding them to renew.

Membership numbers always increase during the year as old Members renew and new Members join. Figure 1 illustrates this point:

WA remains the largest Branch, while our cohort of international Members is larger than any Branch other than WA. Figure 2 illustrates the evolution of Branch numbers over the last 4 years. The blue bars for 2016 are likely to get higher as the year progresses.

The Membership Directory is developed from our database of financial Members, so Members who did not renew their membership and pay their membership dues by the end of March should note that they will not be listed in the 2016 Membership Directory as a consequence.

Conferences

Planning is well underway for our 2016 Conference and Technical Exhibition to be held in Adelaide. The meeting is being held jointly with the Petroleum Exploration Society of Australia (PESA) and the Australian Institute of Geoscientists (AIG). We have held a number of meetings with PESA but this is our first meeting jointly with the AIG. AIG have confirmed that they will also be joining us and PESA to run the 2018 meeting in Sydney.

Planning for the Asia-Pacific Near Surface 2017 meeting in Cairns is underway. A team led by ASEG Members is putting together the technical

programme. Negotiations continue principally with SEG, as the other major society jointly hosting the meeting, over the split of the other responsibilities.

Education Programme

Details of the courses being offered under our Education programme are given elsewhere in this issue of Preview. At the March meeting the Federal Executive had quite a discussion about geophysics courses that was triggered by a request for financial support, firstly to provide geophysics courses in Myanmar, and secondly for advice on how to establish geophysics education and practice in Myanmar. Although the need was clear and the cause was considered worthy, the proposal did not receive funding at this stage. In part this was because the initial proposal needed more development, but, of greater concern, was that this was one of a number of requests of this nature that the Society has received. Undertaking this course could set a precedent for a whole programme of activities that might unbalance our overall education programme and potentially bring our tax free status into question, not necessarily because of any financial gain but because our not-for-profit status is dependent on having the majority of our Members' funds spent within Australia. The matter was referred to our Education Committee for across-the-board advice and policy development to provide a context in which we can assess our response to this and future requests.

Research Foundation

The ASEG Research Foundation has advised the Society that it has received

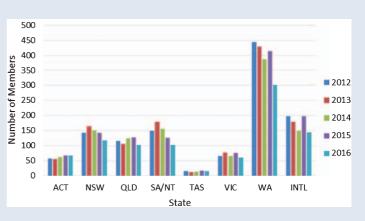
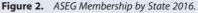
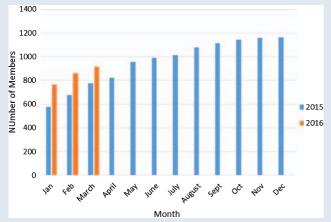


Figure 1. ASEG 2015/2016 Membership.









Executive Brief

ASEG News

17 grant proposals in the 2016 round. The assessment of the applications is underway and should be completed by the end of April. The outcome will be announced by the Research Foundation subsequently. The ASEG Research Foundation was established in 1989 and remains largely funded by the ASEG but it operates independently of the ASEG as a condition of it tax free status as a research foundation. Given the growing number of applications each year, the limited funds available, and the value that grass roots research provides to the science of our profession, Members might consider making a donation to the Research Foundation by logging into https://aseg.org.au/research-foundation or by using the donation facility provided next time they renew their Society membership.

Honour for Koya Suto

Koya has been honoured with his selection by the Society of Exploration Geophysicists as their Pacific South Honorary Lecturer 2017. He will be giving lectures in the region in the first half of 2017 that will focus on students studying or considering a career in geophysics. A detailed schedule of presentations is yet to be confirmed. Koya joined the ASEG in 1975. He has served the Society in a number of capacities, including as a long term member of the Federal Executive and as editor of the Membership Directory. He was made an Honorary Member in 2010 and was Society President in 2013.

Barry Drummond Honorary Secretary fedsec@aseg.org.au

Final call to nominate a colleague for an ASEG Honour or Award for 2016

NOMINATIONS CLOSING 8 JUNE 2016



The ASEG acknowledges the outstanding contributions of its individual Members both to the profession of geophysics and to the ASEG, through the presentation of the Society's Honours and Awards across a range of categories. The next Awards are scheduled to be presented at ASEG-PESA 2016: 25th Geophysical Conference & Exhibition, 21–24 August 2016 – Adelaide, South Australia.

All ASEG Members, as well as State and Federal executives, are invited to nominate those they consider deserving of these awards. The available awards are:

- ASEG Gold Medal For exceptional and highly significant distinguished contributions to the science and practice of geophysics, resulting in wide recognition within the geoscientific community.
- **Honorary Membership** For distinguished contributions by a Member to the profession of exploration geophysics and to the ASEG over many years.
- Grahame Sands Award For innovation in applied geophysics through a significant practical development in the field of instrumentation, data acquisition, interpretation or theory.
- Lindsay Ingall Memorial Award For the promotion of geophysics to the wider community.
- Early Achievement Award For significant contributions to the profession by a Member under 36 years of age. Prior to 2016, the award was determined solely on publications in *Exploration Geophysics* or similar reputable journals by the nominee, but has now been expanded to include overall contributions to geophysics, ASEG Branch activities, Committees, or events.
- ASEG Service Awards For distinguished service by a Member to the ASEG.

ASEG Members are eligible for all award categories. Non-members also are eligible for the Lindsay Ingall and Grahame

Sands awards. Under exceptional circumstances, the other awards may be offered to a non-member of the ASEG who has given appropriate service to the ASEG or to the profession of geoscience, and who has been duly nominated by the Federal Executive.

Nomination procedure

Any Member of the Society may submit nominations for an award. These nominations are to be supported by a seconder, and in the case of the Lindsay Ingall Memorial Award by at least four geoscientists who are Members of an Australian geoscience body (e.g. ASEG, GSA, AusIMM, AIG, PESA, or similar).

Details of all award criteria and nomination guidelines can be found on the ASEG website at: https://aseg.org.au/ honours-and-awards. Proforma nomination forms are available from the website or by contacting the Committee Chair directly. Nominations including digital copies of all relevant supporting documentation are to be sent electronically to:

Nominations close Wednesday 8 June 2016.

Andrew Mutton ASEG Honours and Awards Committee Chair awards@aseg.org.au

ASEG Branch news

South Australia & Northern Territory

The SA/NT Branch had a relatively relaxed start to 2016 with only one event since taking a break after the Christmas Party and Honours Student night that rounded off 2015. We started the year with our AGM, where a new Committee was voted in to take the lead for 2016. **Josh Sage** will stay on as President, **Adam Davey** will remain Treasurer for another year, and the majority of last year's general Members have agreed to continue as well as a few newcomers. Thanks to all the people who have volunteered to help out in 2016.

Following our AGM we were joined by Dr Stephan Thiel from the Geological Survey of South Australia, who presented results from some of his recent work. His excellent talk, entitled 'Magnetotellurics across scales: an informed approach to mineral exploration,' was very well received by a very diverse audience. The update on the progress of AusLAMP (The Australian Lithospheric Architecture Magnetotelluric Project) over the prospective edges of the Gawler Craton in South Australia was not only fascinating in its scope and endeavour but also thought provoking with a lively Q&A session following.

Our technical meetings are made possible by our very generous group of sponsors, which in 2015 included Beach Energy, the Department of State Development, Geokinetics, Minotaur Exploration, Petrosys, Santos, Schlumberger, Borehole Wireline and Zonge. We will be in touch shortly hoping they will return in 2016. Of course, if you or your company are not in that list and would like to offer your support, please get in touch at the email below.

As usual, further technical meetings will be held monthly, at the Coopers Alehouse on Hurtle Square in the early evening. We invite all Members, both SA/NT and interstate to attend, and, of course, any new Members or interested persons are also very welcome to join us. For any further information or event details, please check the ASEG website under SA/NT Branch events and please do not hesitate to get in touch at joshua.sage@ beachenergy.com.au or on 8338 2833.

Josh Sage (SA/NT Branch President)

Tasmania

An invitation to attend Tasmanian Branch meetings is extended to all ASEG Members and interested parties. Meetings are usually held in the CODES Conference Room, University of Tasmania, Hobart. Meeting notices, details about venues and relevant contact details can be found on the Tasmanian Branch page on the ASEG website.

Interested Members and other parties should also keep an eye on the seminar program of the University of Tasmania's School of Earth Sciences, which regularly delivers presentations of geophysical as well as general earth science interest. Contact **Mark Duffett** taspresident@aseg. org.au for further details.

Mark Duffett (Tasmanian Branch President)

Victoria

The ASEG Victoria Branch started the year with our traditional 'Joint ASEG/ PESA/SPE 'Mid-Summer Social' held on Wednesday 10 February at the Henry and Fox. The event was well attended and gave Members the opportunity for some networking and catching up with familiar faces while enjoying a cold drink and a bit of food.

On 18 February we had the pleasure of hosting a technical meeting with **Dr Phil Schmidt**, owner of Magnetic Earth and the outgoing ASEG president, presenting 'Magnetic Exploration Projects in CSIRO from 1978 to Now'. This interesting presentation was followed by quite a few questions and some comments on the evolution of HSE regulations.

The technical meeting was preceded by the Victorian Branch AGM, where the Branch Committee was renewed. I would like to take this opportunity to give **Asbjorn Christensen**, who stepped down this year, a big thank you for all his hard work and dedication as President of the ASEG Victoria Branch for the past seven years.

Our next technical meeting will be on 27 April from 6 pm, with a presentation by **Peter Betts** about 'Structural Geophysics: Geological principles applied to geophysical data'. It will be held as usual at the Kelvin Club, accompanied by drinks and nibbles.

Man Man Man Man Man Man Man Man Mana Mana

Seda Rouxel (Victorian Branch President)

Western Australia

The WA Branch commenced the year with a technical evening on February 10 when **Todd Mojesky** presented a talk titled 'A NWS 4D Time-lapse Case Study: Mixing Broadband and Conventional Streamer Data'. The talk was based on a paper co-authored with **Fong Cheen Loh** of CGG and **Paul Bouloudas** of Quadrant Energy Pty Ltd and titled 'Full shot and receiver deghosting for Broadband and Conventional streamer 4D studies: How close can we get?'

A workshop for the oil and gas sector is scheduled for 15 March on the topic of 'Rock physics and geomechanics of fluid-induced seismicity: hydraulic fracturing, stimulation of geothermal systems and hazard assessment'. The course will be presented by **Dr Serge A. Shapiro.**

On 18 March a technical session will be delivered by **Joe Dellinger**, the SEG Distinguished Lecturer, entitled 'Forensic data processing – revealing your data's hidden stories'.

The first event for April is on 13 April when a technical session will be combined with the FEDEX AGM. The talk scheduled for this evening will be presented by **Mark Baigent** on 'Horizon Mapping and Fault detection using Airborne Gravity Gradiometer and magnetic data – Canning Basin Study'.

Prue Leeming

(WA Branch Preview correspondent)

Australian Capital Territory

The ACT Branch kicked off 2016 with the announcement of the ACT Branch Travel Scholarship. This year's recipient is **Manon Dalaison**, an honours student at the Australian National University. She will be using her grant to attend the 2016 ASEG Conference. Keep an eye out for her poster. The ACT Branch Student scholarship is still open and will close on 15 April.

The ACT Branch had the honour of hosting the outgoing ASEG President Phil Schmidt in February. Phil spoke about 'Magnetic Exploration Projects in CSIRO 1978 to now'. About 20 ASEG Members attended the talk and a lucky few had Phil's company over dinner where many good old time stories were shared. We thank Phil for taking time out of his busy schedule to travel to Canberra to remind us of the importance of magnetic exploration.



Phil Schmidt speaking to the ACT Branch in February.

March saw significant innovative modifications to Geoscience Australia's National Magnetic Calibration Facility at the Canberra Observatory by expert staff - some of who are ASEG Members.

By the time this edition of Preview goes to press, we will have hosted the ASEG One Day short course: Rock physics and geomechanics of fluid-induced seismicity: hydraulic fracturing, stimulation of geothermal systems and hazard assessment by Dr Serge Shapiro with attendance expected to hit 20.

We will have also had our AGM with a talk on the collaborative greenfields pre-drilling geophysics program in the Southern Thomson presented by James Goodwin.

Marina Costelloe (Outgoing ACT Branch President)

New South Wales

In February Mike Dentith from the University of Western Australia gave a two day workshop entitled 'Geophysics for the Mineral Exploration Geoscientist' based on the 2014 textbook of the same name. This was a joint initiative with the GSA and AIG, with close to 30 attendees gaining a good solid introduction to geophysics (please refer to the larger article in this issue). Mike then fronted up for our monthly meeting and gave a presentation on 'Assessing terrain-scale prospectivity using geophysical data: lessons learned in Western Australia.' Mike took us through various ways that prospectivity can be assessed using geophysical data. Mike's talk was



Andrew Lewis, Bill Jones, Peter Crosthwaite, Marina Costelloe and Patrick Burke at Geoscience Australia's National Magnetic Calibration Facility.

enjoyed by all with much discussion ensuing.

An invitation to attend NSW Branch meetings is extended to interstate and international visitors who happen to be in town at the time. Meetings are generally held on the third Wednesday of each month from 5:30 pm at the Rugby Club in the Sydney CBD. Meeting notices, addresses and relevant contact details can be found on the NSW Branch website.

Mark Lackie (NSW Branch President)

Queensland

The Queensland Branch held its first Branch meeting for the year on February 16. Mal Cattach, the Chief Geophysicist for the Gap Geo Group of companies based in Brisbane, talked on 'Sub-Audio Magnetics'; a proprietary rapid acquisition geophysical method which provides high spatial definition and/or deep penetration data related to both the electrical and magnetic properties of the earth. It was a very interesting talk with some great examples shown, in particular the results of a HeliSAM FLEM trial over the Lalor VMS Deposit in Manitoba, Canada.

At another minerals focused talk in March, the outgoing ASEG President **Dr** Phil Schmidt spoke about 'Magnetic Exploration in the CSIRO from 1978 to now'. It was another very informative talk that highlighted the invaluable contribution made to the scientific community by CSIRO scientists like Phil over the past 40 years.

April's meeting, to be held on 5 April, will also be the QLD AGM. Our very own Qld Branch Treasurer Mr Henk van Paridon will be presenting a talk entitled 'Coal Seismic is Not Easy'. An invitation to attend Queensland's Branch meetings is extended to all ASEG Members and interested parties.

Details of upcoming events will be posted to the ASEG website.

Megan Nightingale (QLD Branch Secretary)



ASEG calendar: technical meetings, courses and events

Date	Branch	Event	Presenter	Time	Venue
2016					
13 Apr	WA	2016 ASEG AGM and technical presentation on Horizon mapping and fault detection using Airborne Gravity Gradiometer and magnetic data in the Canning Basin	Various including technical presenter Mark Baigent	1730–2000	Minespace, 1292 Hay Street, West Perth
19 Apr	SA	Technical evening: Coal Seismic is Not Easy	Henk van Paridon	1730	Coopers Alehouse, 316 Pulteney Street, Adelaide
27 Apr	VIC	Technical evening: Structural Geophysics: Geological principles applied to geophysical data	Peter Betts	1800	The Kelvin Club, 14–30 Melbourne Place (off Russell Street), Melbourne
28 Apr	SA	Student pizza night with presentations from industry professionals on their careers and the opportunities for geophysicists	Various	1800	Sprigg Room, Mawson Laboratories, The University of Adelaide
21 Aug	SA	SEG DISC: 3C Seismic and VSP: Converted Waves and Vector Wavefield Applications	James Gaiser	ТВА	ТВА
26 Aug	ACT	SEG DISC: 3C Seismic and VSP: Converted Waves and Vector Wavefield Applications	James Gaiser	TBA	ТВА
29 Aug	WA	SEG DISC: 3C Seismic and VSP: Converted Waves and Vector Wavefield Applications	James Gaiser	TBA	ТВА

TBA, to be advised (please contact your state Branch Secretary for more information).

A proton magnetometer sensor 'bird' held in the ASEG historic instruments collection. This bird was commonly used in airborne magnetic surveys during the 1960s and 1970s. Associate instrumentation was located in the aircraft, which usually flew at 80 to 100 m with the bird towed on the end of a 50-80 m line. Needless to say, the occasional bird was lost in trees, on the ground or, in at least one case, in a communications tower. Sampling of the magnetic field using these early proton magnetometers was around 1 second, which translated to 60 to 70 m along track. The bird position was not monitored and could vary significantly with wind and turbulence resulting in a reduction of data quality - something to remember when reviewing old magnetic survey data. Modern birds carry a caesium vapour or Overhauser sensor and the sample spacing is 1–5 m.

