

REPORT TO CEP IV ON THE QUESTION OF COLLECTION OF ANTARCTIC METEORITES BY PRIVATE EXPEDITIONS

SUMMARY AND RECOMMENDATION

Recent collecting efforts by private expeditions are reported and the requirement that all meteorites found should be described and documented according to national protocols is accepted. The collection of Antarctic meteorites for reasons other than scientific is considered to be in violation of the protocol, and a recommendation is proposed in order to encourage ATCM to act on this concern. The recommendation reads:

RECOMMENDATION CEP IV- 00 On the collection and disposition of Antarctic meteorites

Noting the potential loss to Antarctic scientific research through the collection, inadequate characterisation and handling methods, and possible sequestration or sale of meteorites by private expeditions or individuals

CEP recommends that

ATCM asks Parties to review the administration of their legislation putting into effect the Protocol on Environmental Protection with a view to

- i) ensuring that their citizens are aware of their obligations to preserve the worth of collected material of scientific value, and freedom of access to that material, through proper curation according to nationally accepted protocols,
- ii) ensuring that there are appropriate remedies and penalties for violations of the Protocol, and
- iii) ensuring that their nationals refrain from actions that could be interpreted as mineral resource activity

INTRODUCTION

At CEP III SCAR introduced Working Paper XII SATCM WP 19 on Antarctic Meteorites in which it expressed serious concern at the potential for the loss of meteorites to the scientific community through their collection by private (non-governmental) expeditions. Antarctic meteorites collected through national Antarctic programmes are taken in a consistent and unbiased manner and curated with agreed protocols. Hence they serve as well-preserved and representative samples of the full spectrum of material arriving from space, and on that account have unique scientific value. This value is compromised when meteorites are collected without following established procedures and held in collections inaccessible to the scientific community. Particular concern was expressed at the risk that collecting by private expeditions would lead to the sale of Antarctic meteorites, creating a commercial incentive for collecting them and thus exacerbating the problem.

Discussion of the issue at CEP III indicated considerable sympathy for SCAR's concern, with members noting that the collection of meteorites for non-scientific purposes might constitute a violation of Article 3.2b.5 of the Protocol in so far as it would lead to "degradation of ...areas of... scientific..significance". It was agreed that these were issues that needed further consideration, and New Zealand undertook to do this.

Section 1 of this report briefly outlines the current procedures for the collection and handling of Antarctic meteorites by national Antarctic programmes and the reasons for these. More detail can be found in SCAR Working Paper XXX to CEP III. Section 2 provides a brief review of private expeditions, past and planned, and includes some new information. Section 3 considers the protection offered by the Protocol on Environmental Protection for material of value to scientific research. Section 4 addresses the legal issues. The report concludes with a recommendation to CEP for addressing the problem.

SECTION 1. PROCEDURES FOR COLLECTION AND INVESTIGATION OF ANTARCTIC METEORITES

Meteorites are routinely collected, curated, and studied through the National Antarctic Programmes of the United States, Japan and several European countries. In the USA, government-supported scientists work as part of a collaborative effort between the National Science Foundation (NSF), the National Aeronautics and Space Administration (NASA) and the Smithsonian Institution. Under this program meteorites are collected in Antarctica, and then taken to the Johnson Space

Center where an initial description is made as a joint effort of NASA and the Smithsonian Institution. Thus NSF, NASA and the Smithsonian manage a process, with technical advice from experts, that provides for the long term curation as well as the well-informed and managed allocation of samples for bona fide research and educational purposes.

Other countries have similar systems, and there is active collaboration between them. The scale of research on Antarctic meteorites is indicated by the scientific publication record. GEOREF, the on-line Earth Sciences bibliography, lists 2250 publications since 1972. The US programme alone receives currently around 250 requests each year for meteoritic material for study. The approach of the US and other national programmes has resulted in consistent and unbiased collections with sustained curation of high quality from individual ice fields providing a well-preserved and representative sample of the full spectrum of materials arriving from space.

SECTION 2. CONCERNS FOR RECENT AND PLANNED PRIVATE EXPEDITIONS

The first private expedition with a specific goal of recovering meteorites visited the Patriot Hills in 1998. This expedition found nothing, but a further expedition to the nearby Thiel Mountains in January 2000, recovered 20 specimens (www.aad.gov.au Antarctic Tourism ANAN 18/14 29/3/2000). The expedition leaders were approached by the US Meteorite Working Group, representing the government science community, to catalogue their material through the ANSMET program. This offer was declined, though reports refer to examination in a US laboratory, and subsequent public display. This area had been partially collected by ANSMET in 1982/83 and 1991/92, and further collection was planned when time and logistics allowed. As a consequence of the private expedition about 1/3 of the meteorites known from this area were collected and transported with unknown controls and are not routinely available to scientists. Plans for another expedition in 2002 have been announced (ANAN 40/9 31/1/2001).

In January 2001 members of another group spent two weeks in Dronning Maud Land to search for meteorites, but reportedly found none (ANAN 41/10 14/2/2001). Other adventure-oriented hunters have also indicated their interest, with one announcing an expedition to the Queen Fabiola Mountains of Dronning Maud Land for climbing, snow-boarding and a hunt for meteorites (ANAN 40/9 31/1/2001).

More recently (April 18, 2001) a piece of an Antarctic meteorite was sold by electronic auction for \$32. This is a tiny fragment of a number of pieces found in 1976-77, prior to the setting up of ANSMET, and some are known to be in private hands. The auctioneer's description recognised that Antarctic governments have agreed that "Antarctic meteorites are solely for the scientific community and none can be traded outside the scientific establishment". However he goes on to say that when technology improves it won't cost so much for private collectors to put together an Antarctic search trip, which might lead to more coming onto the market.

These reports provide a sound basis for concerns expressed by Antarctic scientists and reported by SCAR at CEP III.

SECTION 3. POINTS IN THE PROTOCOL ON ENVIRONMENTAL PROTECTION RELEVANT TO THE PRIVATE COLLECTION OF METEORITES

Protection for material of value to scientific research is made clear in three sections of the Protocol:

- i) Article 3 (1) "The protection of the Antarctic environment... and its value as an area for the conduct of scientific research... shall be fundamental considerations in the planning and conduct of all activities in the Antarctic Treaty area.",
- ii) Article 3 (2) "To this end.. b) activities in the Antarctic Treaty Area shall be planned and conducted so as to avoid...(v) degradation of, or substantial risk to, areas of...scientific....significance, and
- iii) Article 3 (4) "Activities shall be planned and conducted in the Antarctic Treaty area so as to accord priority to scientific research and to preserve the value of Antarctica as an area for such research.."

These three sections taken together make it quite plain that the collection and sequestration of scientifically valuable material in a way that makes it inaccessible to the scientific community violates the Protocol.

Article 7 provides that any activity relating to mineral resources, other than scientific research, shall be prohibited". Some jurisdictions may consider the collection of meteorites for sale as the exploitation of a mineral resource. In such cases the intention of the collector is relevant. Where scientific research is not the primary purpose of collector then the collection of meteorites might constitute mineral resource activity, and hence violate the Protocol.

SECTION 4. LEGAL ISSUES

The remedy for violations of the Protocol on Environmental Protection is an issue for governments, who have passed legislation for that purpose following their signature to become Parties to the Protocol. Protection of scientific values, like all other values described in the Protocol, is normally achieved through the environmental assessment process that is now part of all national programmes operating in the Antarctic. In terms of adherence to the Protocol, national programmes of Parties have the responsibility for assessing activities such as the collection of meteorites, and approving or not approving depending on whether the activity represents a degradation of, or substantial risk to, an area of scientific significance. Even where an expedition or an individual is not part of a government-sponsored programme, there is still a requirement that they will conform to the Protocol or face the penalties provided by their national legislation.

SECTION 5. RECOMMENDATION TO CEP IV

Recalling that CEP is charged with providing advice and formulating recommendations to the Parties in connection with the implementation of this Protocol for consideration at Antarctic Treaty Consultative Meetings (Article 12-1), the following draft recommendation is proposed:

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CEP recommends that

ATCM asks Parties to review their legislation putting into effect the Protocol on Environmental Protection with a view to

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