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CAOG 12/35

G270

1959 - 1961

SOUTH AFRICAN NATIONAL ANTARCTIC EXPEDITION

CLOSED UNTIL

1992

G270

Subject: South African National Antarctic Expedition
Earliest paper : 29.9.59
Sent to Records : 25.1.68
Marked "Refer to G before destruction"
"Bring up Jan. 1970"

30.9.59 Note of discussion with representatives on
expedition requirements

Office Notice 6.10.59 of agency for SANAE

(CA extended to this body, which had taken over the base vacated by Norway in Queen Maud Land, the benefit of their experience on FIDS and similar work. CA services were acknowledged with appreciation 28.11.59. Subsequently, Jan.1961, there was an enquiry to Dr. Fuchs about provision of hutment accommodation for a new base, on which CA commented in detail 24.1.61).

Reasons for retention in terms of P.R. Acts

Value for Dept.'s purposes : None

Value for research purposes : None

Opinion : There seems insufficient reason for
preserving this file

File needed - renumbered

called for index

RSD:R 4 10 62

KW

Mr. Galtman
For your records
2

Sir Vivian Fuchs,
Falkland Islands Dependencies
Scientific Bureau.

Antarctic Buildings for the
South African Government.

You asked for our comments on the letter dated 6th January, 1961, from the Department of Public Works, Cape Town, concerning a proposal for buildings to be constructed for the South African Government at Maudheim Base in the Antarctic.

It is regretted that it has not been possible to make an early reply. The comments are as follows :-

It was the report on the Maudheim Base published in Polar Record (Vol.6 No. 45 January 1953 - Alan Reece) which was studied before the design of the Transantarctic Expedition Hut was undertaken.

The Maudheim Huts were of Scandinavian design and were substantially constructed. According to Polar Record they were subjected to very heavy snow loading after only two years occupation, the average load on the roof of one Hut being estimated at 168 lbs. per sq.ft. There was an even greater concentration of loading over the lower two metres of roof slope on each side and this was estimated at 416 lbs. per sq.ft. The article states that the framework was designed to carry twice that loading but this statement was difficult to accept and the loadings finally adopted for the Transantarctic Expedition Hut were 150 lbs. per sq.ft. over the upper part of the roof and 300 lbs. per sq.ft. over the lower part of the roof.

The article in Polar Record goes on to record that a structural failure occurred in the Maudheim Huts after 2/3 years occupation. Failure took place at the junction of the walls and the floor owing to weakness of a bolted scarf joint at that point.

It is apparent from the article that the snow loading conditions at Maudheim are exceptionally severe and unless conditions have changed since 1953 then the South Africans should take account of this in preparing their designs.

General Comments on Paras. 2.0, and 2.1. of the
District Representative's Letter.

For the resources described it appears that timber construction is to be recommended or a combination of timber and steel framing if the heavy loading mentioned above is to be accommodated.

For construction on a snow surface the Hut should preferably be carried on a timber grillage supported on expanded metal sheeting laid on the levelled snow surface; the grillage designed to transmit a loading of approximately 100 lbs. per sq.ft. to the surface.

/The

The framework of the Hut must be fully prefabricated to ensure speedy assembly and the general fabric can either be (a) partly prefabricated or (b) fully prefabricated in the form of stressed skin panels for assembly by sections at site.

With the alternative (a) the construction time at site will be longer but this form of construction may be better suited to the resources described in the letter since the manufacture of prefabricated framework and partly prefabricated cladding, insulation and lining is simpler and quicker and also much less costly than the alternative (b). Furthermore, less bulky sections for handling are involved and jointing and weathering problems are simplified. For external cladding in part prefabricated construction, resin bonded plywood sheets (8' x 4') can be used instead of boarding which is laborious to fix, and for lining thinner plywood or proprietary building boards can be nailed at site to precut framing. A suitable insulation material would be resin bonded fibreglass slab cut to size or other suitable material and a vapour barrier in the form of a polythene sheet can be introduced although this is of doubtful value unless properly sealed at the joints.

It should be possible to erect partly prefabricated Huts of this description within six weeks on a snow foundation.

Full prefabrication described at (b) above involving prefabricated framing and stressed skin panels demands a higher degree of accuracy in manufacture and care in levelling and plumbing during erection. Thermal insulation and a vapour barrier under the inner skin are incorporated in the panels during manufacture and the inner and outer skins form the outer cladding and the inner lining of the Hut respectively. The size of panels is limited by handling facilities and as it is normally necessary to employ relatively small panels on that account joints become frequent and these have to be cramped together and sealed with hair felt, mastic and cover strips.

With panel construction the floor panels are generally similar to the wall and roof panels but are of heavier construction on the wearing surface. Floors can be covered with linoleum. Fully prefabricated construction (b) offers the advantage of quicker assembly at site.

With both forms of construction (a) and (b) a pitched roof is to be preferred as the sloping roof is easier to weather (against melt water) and the shape of the roof offers better scope in designing the supporting framework. The roof space can also be used for storage. Roof ventilation should be provided together with inlets for fresh air at or below the floor and fed from external air shafts. Windows, if required should be double glazed. It is essential to provide two or more access doors with entrance porches and escape hatches in the roof. Fire resistant materials have recently been employed for lining purposes and for partitions.

It is very essential to have the components for the buildings accurately prefabricated or precut as the case may be also trial erected before shipment if time permits. All parts

must be clearly marked for re-erection and easily read erection drawings and instructions should be supplied. It is usual to supply a proportion of spare material covering the range of sizes and descriptions employed in the manufacture of the buildings.

The attached drawings and specifications will give some idea of the buildings which have been supplied and the drawings illustrate the internal planning.

Dec 31/59
pp P.E.

EXISTING HUTS -

Doc No 13669C } Existing Hut - Halley Bay
" " 13670A }

Doc No 14505A

14506

14507

CONTRACT SPECIFICATION

} New Base Hut - Halley Bay

* Doc No 14414 A

14414/1/1

CONTRACT SPECIFICATION

} 14 Man Hut - Stonington Island.

* Copy of this Dtg sent to Mr. Smith, Dept of Transport - Pretoria in October 1959.

Telegraphic Address:
Telegrafiese Adres:
"DISWORKS."

P.O. Box 2002 // Pte. Bag,
Postbus
Phone } 2-7311
Foon }



In reply please quote:
Vermeld in u antwoord asb.:

No.

UNION OF SOUTH AFRICA.—UNIE VAN SUID-AFRIKA.

AIRMAIL:

DEPARTMENT OF PUBLIC WORKS,
DEPARTEMENT VAN PUBLIEKE WERKE,
OFFICE OF THE DISTRICT REPRESENTATIVE,
KANTOOR VAN DIE DISTRIKSVERTEENWOORDIGER,
CAPE TOWN,
KAAPSTAD.

Sir Vivian Fuchs,
Faulkland Island Dependencies,
Scientific Bureau,
LONDON, S.W.1.

6. 1. 1961

Dear Sir Vivian,

1.0. You probably know, being interested in Antarctic affairs, that the South African Government has taken over the meteorological station in the Maudheim area, previously used by Norway for the I.G.Y.

1.1. The buildings at that base are unsuitable for several reasons, and we are considering the erection of a new base, nearer the sea.

1.2. Mr. Hannes Le Grange has asked me to convey to you his regards, and he has suggested that you, with your experience in the Antarctic and other cold climates, would perhaps give us some guidance. We are of course relatively inexperienced in this type of venture.

2.0. The proposed plan is to erect temporary buildings in position 70° 16'S by 02° 21' West (approx.) These will last about 5 years and then be replaced by new ones. The buildings have to be constructed for quick erection, six weeks being the limit in which time the (say) ten men should have the buildings in an habitable state. The station will house twelve men.

2.1. The main guidance we need is:

- (a) Foundation suitable on ice,
- (b) Floors,
- (c) Wall construction and windows, especially system of jointing of sections.
- (d) Roof construction,
- (e) Divisions inside for sleeping - bunks?
- (f) Domestic services:-
 - (i) Disposal of excretia,
 - (ii) " " rubbish,
 - (iii) Power supply,
 - (iv) Water supply,
 - (v) Heating arrangements and fuel,
 - (vi) Ventilation.

I must mention of course that we are a young country not geared industrially as is for example the U.S.A., and we have to use simple construction using common or garden materials.

2.3. Would you assist me in whatever way you can, please? Opinions, recommendations, and especially drawings would be appreciated.

2.4. Because these buildings have to be prefabricated this year, I should be most grateful if you would reply early,

Yours faithfully,

F. M. McAll
DISTRICT REPRESENTATIVE.



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DEPARTMENT OF TRANSPORT

DEPARTMENT OF TRANSPORT

S.A.N.A.E. SHIPMENTS 1960

South Africa House want this seasons requirements to arrive in Cape Town between 1st and 15th November and to be shipped on one vessel (preferably UNION CASTLE). Foreign orders should be placed f.o.b. and S/F will arrange shipment as required (conversation Sims/Hill refer to). Shipping address as last year.

Gentlemen,

SOUTH AFRICAN NATIONAL ANTARCTIC

G.2.

15th July, 1960.

1. With reference to your letter No. G.2/270 of 17 November 1959, it will be appreciated if the order for the radio transmitter and spares could please be cancelled.

2. I and my staff would like to thank you most heartily for the efficient manner in which you assisted this Department in regard to ordering and shipping supplies for the expedition.

Yours faithfully,


 SECRETARY FOR TRANSPORT

Fuchs and Mr. Heap when with the T.A.E.

/5

The Secretary of Transport,
 Department of Transport,
 Fountain Lane,
 Private Bag 193,
 PRETORIA,
 Union of South Africa.

DEPARTMENT VAN VERVOER
DEPARTEMENT VAN VERVOER.



DEPARTMENT OF TRANSPORT.
DEPARTMENT OF TRANSPORT.

UNIE VAN SUID-AFRIKA - UNION OF SOUTH AFRICA.

9

Telegrafiese Adres: | "TRANSPORT"
Telegraphic Address: |
Navrae Enquiries: | Mr. F.D.R. Viljoen.
Telefoon Telephone: | 3-3081
Uitbr. Ext.: | 29
Verwysings Reference No.: | AE.40/1

Alle korrespondensie moet gerig word aan:
All correspondence to be addressed to:
SEKRETARIS VAN VERVOER, / SECRETARY FOR TRANSPORT,
PRIVAATSAK, / PRIVATE BAG, 193.
VERVOERGEBOU, / TRANSPORT BUILDING,
FOUNTAINLAAN, / FOUNTAIN LANE,
PRETORIA.

AIR MAIL.

The Crown Agents,
4 Millbank,
LONDON, S.W.1.

Sir,
Gentlemen,

SOUTH AFRICAN NATIONAL ANTARCTIC EXPEDITION.

1. With reference to your letter No. G.2/270 of 17 November 1959, it will be appreciated if the order for the radio transmitter and spares could please be cancelled.

2. I and my staff would like to thank you most heartily for the efficient manner in which you assisted this Department in regard to ordering and shipping supplies for the expedition.

Yours faithfully,

[Signature]
SECRETARY FOR TRANSPORT.

Fuchs and Mr. Heap when with the T.A.S.

The Secretary of Transport,
Department of Transport,
Fountain Lane,
Private Bag 193,
PRETORIA,
Union of South Africa.

27. 11. 1959
28. 11. 1959
17 DEC 1959
17 DEC 1959

[Handwritten notes]
G.2
8/12

[Handwritten note]
8/12

DEPARTEMENT VAN VERVOER.



DEPARTMENT OF TRANSPORT.

UNIE VAN SUID-AFRIKA.—UNION OF SOUTH AFRICA.

Alle korrespondensie moet gerig word aan:
All correspondence to be addressed to:

SEKRETARIS VAN VERVOER./ SECRETARY FOR TRANSPORT,
PRIVAATSAK, / PRIVATE BAG, 193,
VERVOERGEBOU, / TRANSPORT BUILDING,
FOUNTAINLAAN, / FOUNTAIN LANE,
PRETORIA.

Telegrafiese Adres: } "TRANSPORT"
Telegraphic Address: }
Adres van Aanvrae: } Mr. van Rensburg.
Inquiries: }
Telefoon } 3-3081 Uitr. } 47.
Telephone } Ext. }
Verwysings No. } WB.28/1.
Reference }

The Manager,
Crown Agents,
4 Millbank,
LONDON S.W.1.

27. 11. 1959



Sir,

ICE HUT.

- I wish to thank you for your letter of 26 October 1959 making available detailed drawings of living huts suitable for use on ice.
- No definite decision has yet been taken regarding specific huts to be used as living quarters for the Trans-Antarctic Expedition. When the question has been finalised I shall be pleased to write to you again if further information is required.

Yours faithfully,

Hussels
SECRETARY FOR TRANSPORT.

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G2/270

17th November, 1959.

Sir,

For the attention of Mr. Smit

I am directed to refer to the arrangements made for the ordering and shipment of supplies for the South African National Antarctic Expedition, and am pleased to report that shipment of all outstanding orders was made on the s.s. "WINCHESTER CASTLE" as planned.

2. As reported in the Crown Agents' letter of the 27th October, an earlier shipment of some of the goods was made on the s.s. "CITY OF HULL" which was due to arrive in Cape Town on the 12th November.

3. With regard to the Radio Transmitter and Spares, however, as reported to Mr. de Villiers of South Africa House, London, certain items of major spares could not be made available in time to send them to you this year. They are being retained on order for shipment when available, however, and you will no doubt be able to send them to the Antarctic next season. It is understood that these are large components and miscellaneous items which are most unlikely to be required and are not normally supplied to more accessible destinations. The following items are involved:

- Transformers T1, T2, T3, T5.
- Switch S6 of Power limit
- Coil L2 and Switches S1 and S2 of Aerial Coupling Unit.

It is hoped that this will not cause any inconvenience. Further details of costs, etc. will be found on the Advice of Order Placed and Amendments, under reference G2/SE2/SANAE 2/1.

4. The McArthur Microscope which is being supplied under reference G2/SANAE 5/11, together with the 45 rolls of film and the "Manual for Observation of Ice" recently ordered, is being despatched by Air Freight on the 17th November. In this connection please note that there is only one Manual which has been used both by Sir Vivian Fuchs and Mr. Heap when with the T.A.E.

/5

The Secretary of Transport,
Department of Transport,
Fountain Lane,
Private Bag 193,
PRETORIA,
Union of South Africa.

5. Details of the 14 man hut used by F.I.D.S. were sent to you on the 26th October, and it is hoped were safely received. Should you require further information on this or any other matter in connection with future requirements the Crown Agents will be pleased to supply it on receipt of your request.

6. The Crown Agents are glad to have been of assistance, and would like to take this opportunity to convey to Mr. La Grange and his party their very best wishes for the success of the Expedition.

I am, Sir,
Your obedient servant,



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6

26th October, 1959.

G2/S.A.N.A.E. 270

For the attention of Mr. Smit.

Sir,

I am directed to refer to the discussions with the South African delegation which was in the United Kingdom during October, and enclose detailed drawings of the living huts supplied this year to the F.I.D.S. for one of their bases. The design has been developed from the small South Ice Hut supplied to the Trans-Antarctic Expedition. The hut components are intended to be transported to the building site.

The construction comprises a steel and timber framework with the floor and exterior cladding to the walls and roof composed of prefabricated panels faced on both sides with resin bonded plywood. Resin impregnated fibre glass slab is employed as an insulating medium.

The cost of the hut delivered F.O.B. U.K. Port including internal furniture and fittings will be in the region of £3,900. The hut can be constructed either upon hard snow in which case an expanded metal bearing mat is first laid to support floor bearers or alternatively if the hut is to be constructed on an exposed rock or shingle site tubular steel framework or concrete piers can be employed to afford support.

Should you require any further information, please do not hesitate to make further enquiries.

I am, Sir,
Your obedient servant,

The Secretary of Transport,
Department of Transport,
Fountain Lane,
Private Bag 193,
PRETORIA.

S. AFRICA GETS POLAR BASE

QUEEN MAUD LAND

By A Diplomatic Correspondent

South Africa is taking over Norway's only base on the Antarctic Continent, that of Maudheim, in Queen Maud Land. This was announced yesterday at the opening of the 12-nation Antarctic Conference in Washington.

This base will be the first to be manned by an all-African expedition. The decision has been welcomed by the United States.

During the International Geophysical Year Russia established bases in the Australian sector of the continent. Earlier this year the Soviet Government, which recognises no territorial claims in Antarctica, set up a station on the Princess Astrid coast, in the Norwegian sector. It was thought that this might be the first of a chain.

The South African Expedition will be led by Mr. Hannes Le Grange, who was meteorologist in the Transantarctic Expedition led by Sir Vivian Fuchs.

ANTARCTIC PARLEY OPENS IN AMITY

FROM OUR OWN CORRESPONDENT
WASHINGTON, Thursday.

APART from minor disagreement over rules procedure, the 12-nation Antarctic Conference opened here to-day with a display of clockwork harmony.

There was unanimous agreement that Mr. Herman Phleger, United States Assistant Secretary of State and legal adviser, should be permanent chairman, that an American should act as secretary-general and that Russia should be on the three-member credentials committee.

More important, there was agreement on the two chief goals of the conference. These are the demilitarisation of Antarctica and a co-operative approach there to scientific research.

Mr. Nash, the New Zealand Prime Minister, found himself unable to attend at the last minute.

To-day was occupied by a general presentation of views by each country, which followed much the same pattern. There was first a history of national Antarctic expeditions and discoveries, if any.

TERRITORIAL CLAIMS

Cold Storage

There was secondly an outline of reasons for national interest in Antarctica. Finally came an expression of conditional readiness to allow all claims to be put into cold storage.

Some nations attending the conference, such as Chile and Argentina, have made it clear that they did so because it was not attempting to "internationalise," or set up international institutions to control Antarctica. Others, such as Britain and New Zealand, would have welcomed a more ambitious conference approach.

These different views are being expressed in the introductory speeches. Some countries, such as the United States and Japan, while ranking among the exploring nations (Japan had an expedition in the Ross Sea area under Capt. Shirase from 1910 to 1912) have indicated that they were not asserting territorial claims to the areas explored.

But the United States representative, Mr. Phleger, pointed out to-day that among the rights to be placed in cold storage was the American right to assert territorial claims based on past discovery if she wished.

Other countries, such as Britain, Australia and New Zealand, Chile and Argentina, have emphasised the legal validity of the territorial claims they are prepared to have frozen for the duration of the proposed treaty.

COMMON GROUND

Communications and Weather

The three British Commonwealth countries, Australia, South Africa and New Zealand, have two things in common with Chile and Argentina. Antarctica is only a few hours' flying time from their territory, so they have a great interest in its demilitarisation.

Mr. Luow, of South Africa, also pointed out in his speech to-day that the ocean area between South Africa and Antarctica provided the only safe and natural pathway between the Eastern and Western Hemispheres. It should there be kept free from possible military domination from Antarctica.

The second interest these five nations have in common is that Antarctica makes their weather. They have an interest in meteorological observations there.

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16.10.59

7

7th October, 1959.

7th October, 1959.

Dear Mr. de Villiers,

I am enclosing the first batch of copies of orders which we have placed for the S.A.N.A.E. These are usually referred to as Advices of Orders Placed and you will note that, on some occasions, we have amended the original contract.

For your information, we have opened five requisition files, which are as follows:-

- S.A.N.A.E. 1 - Clothing.
- do- 2 - Radio.
- do- 3 - Meteorological Equipment.
- do- 4 - Food.
- do- 5 - Medical Supplies.

The suffix after the reference refers to the actual contract number in the requisition file.

Things are so far proceeding quite smoothly, but I will let you know if we have any difficulties.

Yours sincerely,

I. F. A. de Villiers, Esq.
South Africa House,
Trafalgar Square,
LONDON, W.C.2.

TDS

inserted immediately before the page for "Sarawak"

M.P.F.
O/Secretariat
6th October, 1959.

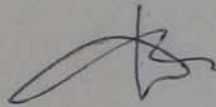
G.2/270.

7th October, 1959.

Dear Sir,

I am directed to refer to the arrangements made for the purchase of stores for the South African National Antarctic Expedition, and enclose copies of orders placed on behalf of the Expedition subsequent to the departure of Mr. la Grange. Copies of orders which were placed before he left the United Kingdom have already been handed to him. Some of these original contracts, however, have been amended and advices of these amendments are also enclosed.

Yours faithfully,



The Secretary for Transport,
Department of Transport,
Fountain Lane,
Private Bag 193,
PRETORIA,
South Africa.

DHH/TDS

inserted in

M.F.
O/Secretariat
6th October, 1959.

G/780

Cops for G/270

(4)

2

O/S.A.N.A.E.1.

DEPARTMENTS

South African National Antarctic Expedition
Principals' Address List Amendment No.50/59

At the request of the South African Government the Crown Agents have agreed to act as their agents in the purchase and shipment of special stores and equipment required for fitting out the Norwegian Base in the Antarctic, which they are taking over.

A new account has been opened for the Expedition, and its name should be added to your copies of the List of General and Suspense Accounts.

Indents for stores are being registered in a new series "S.A.N.A.E." numbered from 1 upwards and the following particulars should be noted in handling these requisitions:-

1. Stores are to be cross banded orange and the Shipping Mark is:-

SANAE DEPT OF TRANSPORT CAPE TOWN

cross banded orange.

2. Maximum weight of cases - 80 lbs.
3. Shipping advices:-
 - a) The Chief Storekeeper,
Bulk Stores,
Department of Transport,
Wingfield, CAPE TOWN.
 - b) The Secretary of Transport,
Department of Transport,
Fountain Lane,
Private Bag 193,
PRETORIA.
4. No insurance is required.

The attached new sheet for the Expedition should be inserted immediately before the page for "Sarawak"

M.P.F.
O/Secretariat
6th October, 1959.

6.270

1 2

Mr. Dent

See above. I assume you will note O'ne AOP Adhanseti. 22/30/9

Your minute below and Mr. Cook's minute on O/SANAE 1. The leader of the expedition Mr. Le Grange and another member of the S. African delegation called on 29th September on their return from Norway and the arrangements which have been concluded or are in hand are as follows:-

1. FINANCE

The estimated cost of Stores being purchased through the CAA is £15,000 and this sum has been authorised for credit to the Crown Agents. We shall hear from S.A. House soon.

2. SHIPMENT

The Norwegian chartered vessel POLAR BJORN will not call at Southampton and it will therefore be necessary to tranship at Cape Town. Mr. Sayers, in Mr. Bowden's absence has agreed that S4 (who normally handle F.I.D.S. shipments) will handle this expedition.

The POLAR BJORN arrives in Cape Town on the 24th November and is required to leave there on the 28th. The best shipping opportunity is the WINCHESTER CASTLE which closes in Southampton on the 3rd November and arrives Cape Town on the 19th, it was agreed therefore as far as possible to work to this vessel.

3. STORES

The two most difficult items from the delivery angle were clothing and radio equipment. To ensure maximum time, Mr. Trenwith of G.1, Mr. Gipps of G.2 and I attended on Saturday morning the 19th September, and it was possible for one contractor to attend to deal with special items of clothing design. As a result, all orders for clothing have been placed except additional items discussed with Mr. Le Grange today 29th September, much of which will be purchased from Norway through CAA.

Details of the radio equipment required was also obtained on the 19th September and as a result of an early quotation obtained by EE.2, it was possible to contact S.A. House on the 23rd September. Mr. De Villiers authorised us to contact the delegation at their expense in Stockholm, as it was necessary to give a firm order by the 25th September to ensure delivery. Full details of requirements were telephoned to CAA from the delegation the following day and the order was placed verbally by EE.2. This equipment will cost in the region of £3,000. The delegation has since agreed that it should be inspected by CAA before shipment.

A provisional order was also placed early for dog food as this has to be specially made.

Today's discussion also covered Scientific Equipment which is being purchased in Germany and Medical Equipment details of which are not yet finalised.

It is hoped tomorrow to conclude discussions on all equipment which will be required and orders will then be placed immediately. It is unlikely that fuel will now be required.

/ Details

DETAILS OF ORDERS

Proposed shipping mark is as follows:-

:	SANAE	:
:	DEPT OF TRANSPORT	:
:	CAPE TOWN	:

CROSS BANDED ORANGE.

Shipping Advices to:-

- a) The Chief Storekeeper,
Bulk Stores, ~~W~~
Department of Transport, WINGFIELD.
Cape Town.
- b) The Secretary for Transport,
Department of Transport,
Fountain Lane,
Private Bag 193,
Pretoria.

AOP's

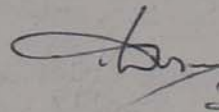
- a) Mr. de Villiers
South Africa House.
- b) The Secretary for Transport,
Department of Transport,
Fountain Lane,
Private Bag, 193,
Pretoria.

MAXIMUM WEIGHT OF CASES - 80 lbs.

The serial numbering of cases has been arranged with
Mr. Shipp.

The delegation returns to S. Africa on Friday 2nd October.

INSURANCE NOT REQUIRED


D.H.H.

G.2
30.9.59

DH/JA