

Ref: EIR2022-033

[REDACTED]
2nd December 2022

Dear [REDACTED],

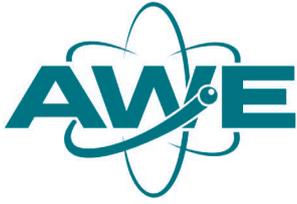
Further to our letter of 2nd November 2022 regarding your request for the following information:

In your letter, you mention that there is a second category of files which cannot be disclosed at all. Do you see any prospect of these opening in the near future? In the meantime, please may I ask the names of those files? It is helpful to at least know what exists, even if one cannot access the content of files. For instance, I am sure there must be correspondence between Dawson and Clackson about how the report of fallout from the first French test (13 February 1959) should be published. There should also be internal discussions at Aldermaston (and between Aldermaston and Whitehall) about how to deal with France & fallout monitoring in Nigeria. Finally, do you happen to hold files related to broader relations between Aldermaston/Harwell and Nigeria? For instance, Dr B. N. C. Agu, from University College Ibadan (Nigeria) was quite keen to bring the whole fallout monitoring process under the authority of the Department of Physics of that University (instead of having samples sent to Aldermaston for analysis). Is there correspondence about this? Agu also went to Aldermaston for advice on acquiring equipment for research in nuclear science in the early 1960s. I am trying to see how the stories of radioactive fallout monitoring and the development of Nigerian nuclear science link up.

Your request has been considered under the Environmental Information Regulations 2004 (EIR). The information requested is 'environmental information' as it meets the definition set out in regulation 2(1)(c) of the EIR.

We can confirm that the Atomic Weapons Establishment (AWE) holds some information in scope of your request. As previously recommended, you may wish to contact the Nuclear Decommissioning Authority (NDA) at enquiries@nda.gov.uk for information relating to Harwell, who are now owned by the NDA. AWE is a separate public authority.

Attached are the documents which we have identified as being in scope of this request. Once again these have been redacted under regulations 12(3) and 13(1), relating to third party personal data, and 12(5)(a), relating to international relations, defence, national security and public safety. Regulations 12(3) and 13(1) are not subject to the Public Interest Test (PIT). However, regulation 12(5)(a) is a class-based exception and is subject to the PIT. This regulation provides that information can be withheld where disclosure would adversely affect international relations, defence, national security or public safety. Building numbers are routinely redacted from documents as it is deemed that providing this level of detail could assist our adversaries in building up a picture of the sites' layouts and potentially allowing them to target specific areas. Any disruption to the activities undertaken at AWE would ultimately impact on the ability to safeguard the defence of the nation.



We are also withholding some documents in their entirety under regulation 12(5)(a) of the EIR. The Public Interest Test (PIT) for these documents has been conducted and has fallen in favour of applying the exception and withholding the remaining documents in full. You asked if these documents will be released in the near future, we can confirm they will not, and are of a technical nature. The documents held at The National Archives which are currently under review will be released in the future, probably next year, but we cannot guarantee this or be precise about the date.

AWE recognises that the Regulation make a presumption towards disclosure wherever possible and includes a general obligation to promote openness and transparency. We acknowledge that the documents date from more than 50 years ago.

However, the documents in question are correspondence written by the Nigerian government and sent to AWRE (at the time owned by the UK Ministry of Defence) concerning the French nuclear tests. Releasing these documents would risk prejudicing the relationship between both the UK and Nigeria, and the UK and France. There is an expectation of confidentiality of communications between governments, and we would be betraying that confidentiality if we were to release them. Disclosure would undermine the trust other countries have in the UK to maintain confidentiality.

On balance, for these reasons, this information is being withheld.

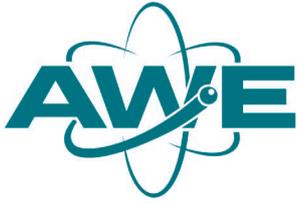
One document is being withheld under Regulation 12(4)(b); it would be manifestly unreasonable for AWE to review this document with a view to release.

The Ministry of Defence (MOD) are currently undertaking a review of nuclear information held in records that were released to The National Archives (TNA). As part of the review process, a collection of records has been temporarily withdrawn from general access to mitigate any potential national security risk. AWE is providing the specialist Subject Matter Expert (SME) knowledge required to conduct the review.

The information you have requested is contained within a file that has been previously reviewed for release in accordance with the Public Records Act 1958 (PRA) and found to contain sensitive material. As such, this document, along with a number of others, has been withheld from public release and retained by the MOD under the Lord Chancellor's Instrument 118, which allows for the retention of records relating to the defence applications of atomic and nuclear energy. A rolling review is undertaken of these files by AWE, and all have been consistently withheld in their entirety under this instrument.

Whilst the file in scope of this request was not released to the TNA and therefore not withdrawn from public access as part of the ongoing security review, it is very closely related to the documents under review. Consequently, as the effort to fully assess the contents of the files falls to the same small cadre of suitably qualified and experienced people it is our belief that this request will impose a disproportionate burden on the public authority.

Therefore, based on the rationale for the security review currently underway, and the fact that previous PRA reviews have found that the file contains sensitive information, we can be satisfied that any potentially exempt information is spread throughout the document, and not easily isolated. To comply with this request under the terms of the Regulations would require AWE to divert resource from other tasks, specifically those SMEs



Aldermaston ▪ Reading
Berkshire ▪ RG7 4PR

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working on the wider security review, to conduct a line-by-line assessment to identify any potential harm from disclosure before release can be authorised. In the circumstances of this case, such action would have a significant impact on the current schedule and effectiveness of the review process and the ability of the SMEs to work on other tasks associated with the nuclear programme.

The work required to review this file is disproportionate when balanced against the public interest in ensuring that the security review of the files, including those which have been withdrawn from public view at TNA, is completed at its earliest opportunity, enabling as many records as possible to be opened to the public again. Adjustments to the schedule and diversion of resources to consider requests made through the EIR would undoubtedly place a significant burden on the Authority and disrupt the wider security review.

Please remember to quote the reference number above in any future communications. If you have any queries regarding the content of this letter, please contact this office in the first instance.

If you are unhappy with the way your request has been handled you have a right to request an internal review within 40 days of receiving this letter, by writing to information.requests@awe.co.uk or our postal address: Information Requests Team, AWE Aldermaston, Reading, RG7 4PR. If you are still unhappy after an internal review has been completed, under the provisions of Section 50 of the Freedom of Information Act 2000 and Regulation 18 of the EIR you have the right to take your complaint to the Information Commissioner's Office. Please note the Commissioner will generally not consider a complaint until you have exhausted AWE's internal complaints process.

Yours sincerely,

AWE Information Requests Team

709913

Diary of Visit to W. Africa to Set Up
Fallout Monitoring Stations

September-October 1959

by █

Diary of Visit to West Africa to install Fallout Stations

(24th September - 17th October, 1959)

In response to a request by the Nigerian Government which was relayed to the Authority by the Colonial Office, it was decided to set up stations in Nigeria to sample the local fallout which might occur subsequent to the French atomic test. The offer was also made to the Governments of Sierra Leone, The Gambia and Ghana, of which the first two accepted. It was decided to install these stations at six places in Nigeria, two in Sierra Leone and one in The Gambia. These were respectively:- Lagos, Port Harcourt, Kano, Sokoto, Maiduguri, Kaduna; Freetown, Bo; Bathurst. It was also decided that two representatives of A.W.R.E. should visit Nigeria, Sierra Leone and The Gambia to carry out the installation of these stations, and to help allay by discussion, the fears existing there concerning the fallout.

On the 15th of September, equipment was sent by sea, to Sierra Leone and The Gambia, and on the 17th of September, equipment was sent, by air, to the H.Q. of the British West African Meteorological Service at Lagos.

On the 26th September, █ and █, the two A.W.R.E. representatives left London for Lagos, and what follows here is an account of the visit.

Sunday 27th September - Arrived Lagos.

Monday 28th September -

At █ Office, the Director of Meteorology, a meeting was held with █, of the Radiation Health Panel, Lagos. Also present was █, █, Federal Ministry of Health.

█ said he wanted advice on the setting up, and running, of a programme to measure herbage, bone and tissue activities, and in particular, to measure thyroid uptakes.

█ strongly opposed the whole programme, on the grounds that there was no-one to do the measurements but █ himself, and the Radiography programme would thus suffer, and that the equipment bought for this programme would be wasted if █ resigned in the near future.

██████████ agreed to drop the idea, but it was suggested that ██████████ and ██████████ might pass on to him data relating to deposition levels and food uptakes. This request was noted, and a "half-promise" made to supply the information. It was suggested to ██████████ that he write to ██████████ at Wantage, but he replied that he had already done this, with no positive results. He agreed to write again, being more specific in his requests for information.

The question then arose concerning what action could be taken to safeguard the population in the very unlikely event of high levels of contamination being detected, and ██████████ said that in his opinion, nothing could be done. It was also noted that no action could be taken to prevent nomads from Algeria - who may be "sick" - entering Nigeria. The question of contaminated aircraft arriving in Nigeria was discussed. See Appendix 1.

The itinerary for Nigeria was then arranged with ██████████, and an inventory drawn up of the two boxes of sampling equipment supplied to each station. The itinerary is reproduced in a letter that was sent to each of the Nigerian stations, and a copy is attached as Appendix 2. The inventory is attached as Appendix 3.

A meeting was then held with ██████████ of the Communications Office, to discuss the procedure to be followed in the transmitting of the samples to the Colonial Office as diplomatic mail. He agreed to consider the matter and issue a set of instructions. These are attached as Appendix 4.

That afternoon, the equipment for the Lagos station was installed at Ikeja Airport. The installation went smoothly.

Tuesday 29th September -

At ██████████ office. A Press statement was written, and released after it had been approved by ██████████, ██████████, External Affairs; Appendix 5. In conversation, ██████████ also agreed that nothing could be done to safeguard the public if high levels arose. He said it would possibly be desirable to meet the Sardauna of the Northern Region (although subsequently this did not happen).

Wednesday 30th September

Visited the [REDACTED] [REDACTED]. The main discussion was over the visit to [REDACTED] [REDACTED] at Ibadan University, that we were to make later in the day. It was thought that [REDACTED] might make a request that he, or his department should "frisk" the samples before they were returned to U.K., and [REDACTED] gave advice on how to conduct the meeting.

(A note giving the points discussed with H.E. is attached as Appendix 6).

Then we visited Ibadan University with [REDACTED]. The question about "frisking" did not arise, but the proposed Anglo-Nigerian Joint Scientific Committee was discussed. It had been felt beforehand, that [REDACTED] would be one of the "Nigerian" members and his views were asked on any other members. He suggested [REDACTED] and this was noted.

We also met [REDACTED] of University College of Accra, who was visiting Ibadan, who mentioned that his University was setting up detection apparatus. It was vaguely suggested at this point that we formally call on [REDACTED] to discuss this matter, when we passed through Accra, but this did not materialise.

Thursday 1st October -

Reported to H.E. on visit to Ibadan. (Appendix 7 is a copy of the report).

After a visit to Queens College, we saw [REDACTED] at Yaba Technical College. [REDACTED] had spent some years at A.E.R.E. doing active work, so he appeared (on paper) to be a suitable person to do the frisking. He is anxious to work on low level activity measurements in fish, milk and vegetables, quite independently of the French Test, but he also made the suggestion that the actual analysis of the fallout samples was done at Yaba. This offer was declined.

"Frisking" was not mentioned, and it was felt that technically, [REDACTED] was the most suitable person we had met, but that in his personality, he was unsuitable.

A short meeting was then held with [REDACTED], [REDACTED] and his staff. Cloud effects and the possible contamination of civil aircraft were discussed at length and it was also pointed out that the matter is being taken up with the U.K. Ministry of Transport and Civil Aviation.

A 24 hour air sample had been taken at Ikeja, and this was monitored for Rn and Tn with a 1320. The results, along with the results of a similar measurement made at Kano, appear in Appendix 8.

A document was drawn up, which was to be issued to the staff at each Meteorological Station, giving full instructions in the procedure to be followed. A copy of this is attached as Appendix 9.

Friday 2nd October -

Flew to Kano and demonstrated the fallout equipment. Several faults discovered, and these, together with the faults discovered at other stations, are listed in Appendix 10.

Saturday 3rd October -

Flew to Maiduguri, installed the station without incident, and returned to Kano. [REDACTED] [REDACTED] (B.W.A. Met. Services) was present.

Sunday 4th October -

Started an air sample (at Kano Airport) which was to be monitored with a 1320 immediately on completion on the next day (Monday).

Monday 5th October -

Before flying to Sokoto, the air sample was monitored with the 1320. (See Appendix 8). The installation at Sokoto went smoothly and, later in the afternoon, we flew to Kaduna.

Tuesday 6th October -

Apart from a faulty motor, the Kaduna installation went smoothly. The Air sampling is delayed at this station until a new pump is obtained.

Flew to Port Harcourt late in the afternoon.

Wednesday 7th October -

Equipment installed satisfactorily at Port Harcourt but with a pump that must be considered unreliable.

Flew that afternoon to Lagos.

Thursday 8th October -

A summary report on the installation of the Nigerian stations was written. See Appendix 11.

██████████ at H.Q., was instructed in pump maintenance. He will attempt to repair any faulty pumps returned to H.Q. by any of the outstations. The two 1320 monitors were left at H.Q. pending a decision on future policy.

Left by air for Freetown (via Accra), in the afternoon and were met at Accra by ██████████ of Ghana Meteorological Services. Night stop at Accra.

Friday 9th October -

Flew to Freetown (Lungi), and were met by ██████████ ██████████ of Meteorology. Inspected the equipment that had arrived by sea. One diaphragm was changed.

Saturday 10th October -

Met in Freetown, ██████████, ██████████, Ministry of Communications and ██████████, Ministry of Communications, With these gentlemen, we discussed the pattern of fallout, and once again, decided that no course of action could be followed if high levels of fallout were detected.

It was decided that the second station in Sierra Leone would be at Bo.

██████████ said he wanted to release a Press statement, and we discussed with him the form it should take. He agreed to send us a copy of the statement for vetting, but so far (23.10.59) none has been received.

We then met ██████████, ██████████ to agree with him a procedure to follow in the returning of the samples as diplomatic mail. This procedure has been detailed in an instruction sheet that was issued to the Met. Station operators, and a copy is included as Appendix 12.

Sunday 11th October -

Free day.

Monday 12th October -

After changing the condenser in the Lungi pump, the station was completely installed.

Tuesday 13th October -

Flew to Bo and installed the station. This went smoothly. On arrival we met the [REDACTED] ([REDACTED]) and discussed with him the U.K. opinions that no fallout was expected in Sierra Leone.

Returned to Lungi that afternoon.

Wednesday 14th October -

Flew to Bathurst in the Gambia. In the afternoon met [REDACTED] [REDACTED] [REDACTED] of Meteorological Services. Later visited the station at Yumdum and agreed on siting.

Thursday 15th October -

Installed the station satisfactorily. In the afternoon, [REDACTED], [REDACTED] of Public Works, along with [REDACTED] were instructed in pump maintenance. Meanwhile, [REDACTED] met [REDACTED], [REDACTED] (Admin.) to discuss diplomatic bag procedure. An instruction sheet was then written and left with [REDACTED] for reproduction. (A copy is to be sent to S.R.I.).

Friday 16th October

Met [REDACTED] and [REDACTED] and generally brought him up-to-date with what we had done in the Gambia.

Left for London, via Dakar and Paris, that afternoon. Plane delayed overnight in Dakar.

Saturday 17th October -

Flew to Paris, and thence to London.

T.O.Y.

(2)

Appendix 1.

In conjunction with Messrs. [REDACTED] and [REDACTED] it was agreed that the chances of recording high levels of radioactive fallout were less than slight; it was agreed that the only form of helpful action which could be taken would be a radio broadcast advising people to wash themselves, and it was ^{for} the political consideration ^{whether} that this would be justified.

2. Discussing radioactive contamination of aircraft overflying the Desert, it was agreed that the matter should be taken up with N.T.C.A. in conjunction with the [REDACTED] it having been explained by [REDACTED] that the [REDACTED] [REDACTED] specifically raised this point at Harwell.

28th September, 1959. [REDACTED]

Appendix 2.

MINISTRY OF COMMUNICATIONS AND AVIATION
METEOROLOGICAL DIVISION

Telegrams :

METEOR LAGOS

Telephone :

LAGOS 20118

Our reference MET/ 0505RA

Your reference

Letters :

METEOROLOGICAL SERVICE

LAGOS

NIGERIA



29th September, 1959.

[REDACTED],
Meteorological Service,
Kano/Ikeja.

[REDACTED],
Meteorological Service,
Maiduguri/Port Harcourt,

[REDACTED]
Meteorological Service,
Sokoto/Kaduna.

Fallout Sampling

Preliminary information was given in the News Letter last week that some stations for measuring radioactive contamination would be set up in Nigeria and run by this Service. The equipment for these stations has arrived, and [REDACTED] and [REDACTED] from the United Kingdom Atomic Energy Authority, who have come to instal the equipment and generally make all necessary arrangements for its use, reached Lagos on 27th September.

2. The equipment comprises three parts:-

- (a) an electric pump which draws air through a filter paper, thus depositing a sample of atmospheric contamination on the filter paper,
- (b) an area of sticky paper laid out horizontally in the open, on to which larger particles from the atmosphere will fall and stick,
- (c) bottles to collect samples of rainwater.

3. The first set of equipment was erected at Ikeja on 28th September.

4. [REDACTED] and [REDACTED] are flying round Nigeria with members of the staff to instal the other sets of equipment as follows:-

Friday, 2nd October

Early morning - Lagos to Kano, with [REDACTED] and [REDACTED]. Set up equipment at Kano in the afternoon.

Saturday, 3rd October

Early morning - Kano to Maiduguri. Set up station at Maiduguri in conjunction with [REDACTED]. Return Maiduguri to Kano late afternoon with [REDACTED].

/Monday

Monday, 5th October

Early morning Kano to Sokoto with [REDACTED].
Set up equipment at Sokoto. Late afternoon fly
Sokoto to Kaduna.

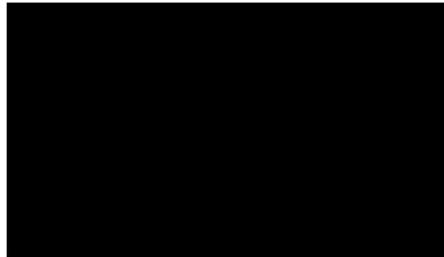
Tuesday, 6th October

Morning set up equipment at Kaduna. Afternoon fly
Kaduna to Port Harcourt with [REDACTED].

Wednesday, 7th October

Morning set up equipment at Port Harcourt.
Afternoon return to Lagos with [REDACTED].

5. Messages have already been sent to all stations concerned to arrange accommodation and transport.
6. The party will take to each station full written instructions for all aspects of the work. I am sure I can count on all members of the staff to cooperate to the full.



Appendix B.3

INVENTORY OF CONTENTS
OF THE 2 RADIOACTIVITY BOXES

- 1 3/16" Whitworth Box Spanner
- 1 6BA Spanner with handle
- 2 Screwdrivers
- 1 Metal Plate
- 3 'Ever Ready' Razor Blades
- 1 Pair of Scissors
- 1 Steel Rod 10" long
- 1 Tommy Bar
- 1 Pair of Forceps
- 2 Rubber Diaphragms (Black)
- 1 Fallout Tray
- 4 Clips
- 1 Air Pump
- 1 Cardboard box containing 100 clean sample papers and envelopes
- 108 Aluminium Discs
 - 1 Roll Narrow Sticky Tape
 - 1 Roll Wide Sticky Tape
 - 1 Rubber Tubing (Black)
 - 1 Copy of Instruction Manual
- 24 Poly-Tainer Bottles
 - 3 Plastic Funnels (one at 10" diameter, one at 6½" and one at 4½")
 - 1 Transit Envelope containing 24 clean pink cards
 - 1 Large Funnel Wooden Stand

[REDACTED]
Meteorological Services.

The attached draft instructions are based on two assumptions

- (a) that the WAAC management will accept certain ad hoc arrangements which I have made with the [REDACTED] at Airways House (who in turn has undertaken to put the Senior Station Officers at Kano and Ikeja into the picture), and
- (b) that the [REDACTED] Colonial Office, will accept certain deviations from the recognized procedure regarding which I have had no opportunity to consult him.

I have no reason to anticipate any difficulty, but the possibility exists and certain adjustments to the instructions might subsequently be necessary.

2. You will note one major variation from our preliminary plan for channelling samples from Maiduguri, Sokoto and Port Harcourt. It is now suggested that the Senior Meteorological Officer at Kano might be spared the additional work of receiving, rebagging and documenting the Maiduguri and Sokoto bags by having these addressed direct to the Colonial Office from source. There is an added advantage in that we have no suitable bags in any quantity and at such short notice, to accommodate three samples, one each from Maiduguri, Sokoto and Kano at any one time.

It would appear from table 2 of the current WAAC timetable that Port Harcourt service to London via Kano would ensure fresher samples arriving for analysis. It is therefore suggested that Port Harcourt bags should also be addressed direct to the Colonial Office and wherever possible be routed via Kano (as opposed to Ikeja/Kano). This may safely be left to the Duty Traffic Officer, Port Harcourt.

3. Would you please let me know to-day if there are any objections to the proposals in paragraph 2 above, since this will affect my letter to the Colonial Office.

[REDACTED]

Draft Instructions for the Transmission of Samples from
Fall-out Sampling Stations in Nigeria to the Colonial Office.

Note: For technical and administrative reasons it has been agreed that samples are transmitted throughout as diplomatic mail. It should, however, be borne in mind that the following are ad hoc instructions which fall short of the minimum security requirements for the transmission of diplomatic mail.

1. Maiduguri and Sokoto/London (via Kano).

- (1) Envelope and carton should be enclosed in a single bag which should be labelled as per Specimen 'A' attached, tied with strong string and the knot sealed, preferably with lead otherwise with wax.
- (2) It is essential that labels are endorsed C/O PILOT in red as illustrated and diagonally crossed in blue on the reverse side. The date-stamp of the originating office must also appear on the reverse side of the label as illustrated; this is particularly necessary because in order to reduce paper work to the absolute minimum the Colonial Office has been requested to waive the necessity for schedules of contents to accompany each bag. Where practicable, the weight, expressed in kilos, should be entered on the reverse side of the label for accounting purposes (see note attached).
- (3) Diplomatic waybills, as per Specimen 'B' attached, should be prepared in quadruplicate. Since this is a special arrangement, it is imperative for accounting purposes, that each waybill bears the endorsement "Nigerian Federal Govt. a/c." To dispense with additional record at the Sampling Station, the Despatch Number should be left blank and the Bag Number should correspond with the serial number of the envelope enclosed in the bag.
- (4) The sealed bag, together with the diplomatic waybills, should be handed to the Duty Traffic Officer at the airfield and a Diplomatic Mail/Precious Cargo Receipt obtained.

/2. Kano/London.

2. Kano/London.

- (1) Envelope and carton should be enclosed in a single bag labelled as per Specimen 'C' attached, tied with strong string and the knot sealed preferably with lead otherwise with wax.
- (2) It is essential that labels are endorsed C/O PILOT in red as illustrated and diagonally crossed in blue on the reverse side. The date-stamp of the originating office must also appear on the reverse side of the label as illustrated; this is particularly necessary because in order to reduce paper work to the absolute minimum the Colonial Office has been requested to waive the necessity for schedules of contents to accompany each bag. Where practicable, the weight, expressed in kilos, should be entered on the reverse side of the label for accounting purposes (see attached note).
- (3) Diplomatic waybills, as per Specimen 'D' attached, should be prepared in quadruplicate. Since this is a special arrangement, it is imperative for accounting purposes, that each waybill bears the endorsement "Nigerian Federal Govt. a/c." To dispense with additional record at the Sampling Station, the Despatch Number should be left blank and the Bag Number should correspond with the serial number of the envelope enclosed in the bag.
- (4) The sealed bag, together with the diplomatic waybills, should be handed to the Duty Traffic Officer at the airport and a Diplomatic Mail/Precious Cargo Receipt obtained.

3. Port Harcourt/London (via Kano or Lagos depending on most expeditious service available).

- (1) Envelope and carton should be enclosed in a single bag labelled as per Specimen 'E' attached, tied with strong string and the knot sealed preferably with lead otherwise with wax.
- (2) It is essential that labels are endorsed C/O PILOT in red as illustrated and diagonally crossed in blue on the reverse side. The

/date-stamp

(3)

date-stamp of the originating office must also appear on the reverse side of the label as illustrated; this is particularly necessary because in order to reduce paper work to the absolute minimum the Colonial Office has been requested to waive the necessity for schedules of contents to accompany each bag. Where practicable, the weight, expressed in kilos, should be entered on the reverse side of the label for accounting purposes (see note attached).

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-
- (3) Diplomatic waybills, as per Specimen 'F' attached, should be prepared in quadruplicate. Since this is a special arrangement, it is imperative for accounting purposes, that each waybill bears the endorsement "Nigerian Federal Govt. a/c." To dispense with additional record at the Sampling Station, the Despatch Number should be left blank and the Bag Number should correspond with the serial number of the envelope enclosed in the bag.
- (4) The sealed bag, together with the diplomatic waybills, should be handed to the Duty Traffic Officer at the airport and a Diplomatic Mail/Precious Cargo Receipt obtained.

4. Ikeja/Governor-General's Office.

-
- (1) Envelope and carton should be enclosed in a single bag labelled as per Specimen 'G' attached, tied with strong string and the knot sealed, preferably with lead otherwise with wax.
- (2) No waybills are required in this instance.
- (3) The sealed bag should be handed to the Police Courier authorized to collect diplomatic mail will be instructed to collect this bag from the Senior Meteorological Officer, Ikeja, who might wish to devise a simple form of receipt.

C/O PILOT
(via Kano)

O.H.M.S. Specimen 'A'

MAIL BAG No. 14 939

The Right Honourable
THE SECRETARY OF STATE FOR THE COLONIES,
Colonial Office,
The Church House,
Great Smith Street,
GOVERNOR-GENERAL, LONDON, S.W.1

FEDERATION OF NIGERIA

LAGOS

29th Sept. 19 59

Specimen B

Form Ref. No. BA15-543

DIPLOMATIC WAYBILL



It is hereby certified that the officially sealed bags detailed below contain only official correspondence.

Signed

FROM **The Officer Administering the Government of the Federation of Nigeria,**

LAGOS

BY AIR TO **(via Kano)**

**The Secretary of State for the Colonies,
Colonial Office, The Church House,
Great Smith Street, London, S.W.1.**

Official Stamp and Date	Despatch No.	Bag No.	Weight in Kilogrammes	
	-	14 939	-	5

FGP M 690

.....
Signature of Despatching Officer

.....
Rank or Status

INCLOSURE CONT. A/a.

C/O PILOT

O.H.M.S.

Specimen C

MAIL BAG No. 14 939

The Right Honourable

THE SECRETARY OF STATE FOR THE COLONIES,

Colonial Office,

The Church House,

Great Smith Street,

GOVERNOR-GENERAL,

LONDON, S.W.1

FEDERATION OF NIGERIA

LAGOS

29. 9. 19 59

Form Ref. No. BA15-543

DIPLOMATIC WAYBILL



It is hereby certified that the officially sealed bags detailed below contain only official correspondence.

Signed

FROM **The Officer Administering the Government of the Federation of Nigeria,
LAGOS**

BY AIR TO **The Secretary of State for the Colonies,
Colonial Office, The Church House,
Great Smith Street, London, S.W.1.**

Official Stamp and Date	Despatch No.	Bag No.	Weight in Kilogrammes	
	-	14 939	-	5

FGP M 690

.....
Signature of Despatching Officer

.....
Rank or Status

NIGERIAN FEDERAL GOVT. A/c.

C/O PILOT

via Kano or Lagos as most expeditious

O.H.M.S. Specimen 'E'

MAIL BAG No. 14.....939....

The Right Honourable

THE SECRETARY OF STATE FOR THE COLONIES,

Colonial Office,

The Church House,

Great Smith Street,

GOVERNOR-GENERAL,

LONDON, S.W.1

FEDERATION OF NIGERIA

LAGOS

29th Sept. 19 59



It is hereby certified that the officially sealed bags detailed below contain only official correspondence.

Signed

FROM **The Officer Administering the Government of the Federation of Nigeria, LAGOS**

BY AIR TO **via Kano or Lagos as most expeditious
The Secretary of State for the Colonies,
Colonial Office, The Church House,
Great Smith Street, London, S.W.1.**

Official Stamp and Date	Despatch No.	Bag No.	Weight in Kilogrammes	
	-	14 959	-	5

FGP M 690

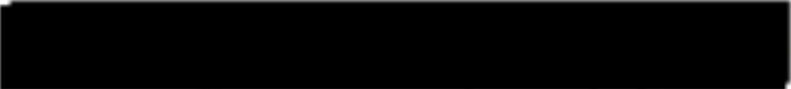
Signature of Despatching Officer

Rank or Status

BY POLICE
COURIER

O.H.M.S.

Specimen G

 of Oversea
Communications,
Office of the Governor-General,
LAGOS

Mail No. 14 939

dd.29.9.59

Note re weighing of diplomatic bags for accounting purposes.

Rough conversion table pounds to kilos is as follows:-

2 lbs.	.906
1 lb.	.453
<hr/>	
15 ozs.	.427
14 ozs.	.398
13 ozs.	.370
12 ozs.	.342
<hr/>	
11 ozs.	.313
10 ozs.	.284
9 ozs.	.256
8 ozs.	.228
<hr/>	
7 ozs.	.200
6 ozs.	.171
5 ozs.	.143
4 ozs.	.114
<hr/>	

Bags in excess of one kilo should be shown to the next half kilo, i.e.

1.2 kgs.	=	1.5 kgs.
1.6 kgs.	=	2.0 kgs.

Bags weighing less than one kilo should be shown to the nearest one tenth (1/10th) of a kilo., e.g.

.445	as	.4 kg.
.450	as	.5 kg.
1.960	as	2.0 kgs.

This is not as confusing as it would at first sight appear to be and is essential for accounting purposes, particularly in connection with the ad hoc arrangements tentatively accepted by W.A.A.C.

(4)

Appendix 5

Press release

██████████ and ██████████, of the United Kingdom Atomic Energy Authority, arrived in Nigeria on 27th September. The primary purpose of their visit is to set up equipment to take samples of airborne dust and rain at six locations in Nigeria during the proposed French atomic test. These locations will be Kano, Sokoto, Maiduguri, Kaduna, Lagos and Port Harcourt. The equipment will be operated by the Meteorological Division of the Ministry of Communications and Aviation, who will send the samples obtained to the United Kingdom for analysis.

Meetings were held on Monday with various officials concerned with this project, and will continue today. Sampling equipment was set up at Ikeja on Monday afternoon. A visit is expected to be made to University College, Ibadan, on 30th September, and Messrs. ██████████ and ██████████ accompanied by an officer of the Meteorological Division, will start a tour by air to establish the other stations on Friday, 2nd October. They are expected to be in Nigeria for about a fortnight before proceeding to Sierra Leone to set up similar stations there.

The sampling stations are similar to those which were set up in Australia and the Pacific during the United Kingdom nuclear tests there.

29th September, 1959.

Appendix C.

Points of a Meeting with H.E.

1. Preliminary test of samples for high radioactive content at Kano by either one of [redacted] physicists or a physicist out from U.K.
2. The chance of recording high levels of radioactivity in fallout in Nigeria appear less than slight; the only form of helpful action which could be taken in the unlikely event of a high level being recorded would be a radio broadcast advising people to bath and wash themselves; this is likely to reach a very small proportion of the population and might spread alarm, and it was recommended that no action should be taken.
3. The question of radioactive contamination of aircraft overflying the Desert soon after an explosion is being taken up with the U.K. Ministry of Communications and Aviation in conjunction with the [redacted]
4. For some time past quarterly samples of rainwater have been sent to Harwell from Lagos for assessment of radioactivity to give values of the background level. Owing to the entirely different climatic conditions at Kano with extensive airborne dust over paths up to 1,000 miles, it is proposed to submit similar quarterly rainfall samples from Kano, and also to continue the fallout and airborne dust sampling there. Arrangements will be made direct between the [redacted] Meteorological Services and Harwell. *for 1/4 by sampling only.*
5. The fallout sampling stations now being installed will cease operation three or four weeks after the French test if there is no news of further tests, but the equipment will be retained in Nigeria so that it can be brought into use again at short notice, *except Kano which will be maintained.*
6. Immediately an atomic explosion has taken place fallout samples from the six stations in Nigeria should ideally be flown to the U.K. daily. With present air services this can be done from Kano and Ikeja, but only at frequencies

/varying

N.B.

Handwritten signature

Points of a Meeting with H.E.

varying from two to five times a week at other stations. Because the chances of recording any appreciable rise in radioactivity are thought to be very slight, and because daily samples will be flown from Kano and Ikeja, it is not proposed to arrange for daily submission of samples from the other four stations as this would involve extensive revision of air services, the cost of which would be considerable.

7. The Prime Minister's Office is notifying Kaduna of the visit of Messrs. [redacted] and [redacted] there on 5th to 6th October so that the Premier of the Northern Region can arrange for them to see him if they so wish.

30th September, 1959.

Anglo-Nigerian Joint Scientific Committee

N.B.

5. The fallout sampling stations now being installed will cease operation three or four weeks after the French test if there is no news of further tests, but the equipment will be retained in Nigeria so that it can be brought into use again at short notice, except that it will be maintained. 6. Immediately an atomic explosion has taken place fallout samples from the six stations in Nigeria should ideally be flown to the U.K. daily. With present air services this can be done from Kano and Ikeja, but only at frequencies

varying ...

6

Appendix 4.

Visit with Atomic Weapons Research Establishment Officers to University College, Ibadan.

In company with Messrs. [redacted] and [redacted] I visited [redacted] at University College, Ibadan, on 30th September.

We explained how six fall-out sampling stations were being installed in Nigeria, the samples from which would be measured in the United Kingdom. There was no suggestion by anyone during the meeting of preliminary measurement in Nigeria.

Mention was made of the proposed Anglo-Nigerian Scientific Committee, and it was stated that although its terms of reference were not known, it was assumed that [redacted] would be invited to sit upon it. When asked for suggestions as to other possible members, [redacted] suggested that perhaps [redacted] might be useful on it, and that there should be a medical representative - for which [redacted] might be best suited. These suggestions were noted for consideration when the terms of reference of the committee had been decided.

M

[redacted] own current work has no particular connection with nuclear physics, but one of his staff, [redacted], has just completed some nuclear physics research at Leicester University, and will no doubt be anxious to continue in that line when he returns to Nigeria. [redacted] present idea is that he might do some work on the radioactive content of bones, herbage, food-stuffs and vegetables, but no firm arrangements have been made.

M

[redacted], professor [redacted] at the University of Ghana, was also at Ibadan, and stated that the Ghana Government had decided to install one fallout sampling station at the University. The planning of it seemed very vague, and I undertook to inform [redacted] when Messrs. [redacted] and [redacted] would be passing through Accra so that he could consult them further.

1st October, 1959. [redacted] Meteorological Services.

1320 Capabilities

Copy of some notes on the 1320 supplied by [REDACTED] (NIS/SRI)

Efficiency of the β probe is approximately 6% for energies ~ 1 MeV. With the window ~~closed~~, efficiency is approximately 1% which gives rise to ~ 90 cps from ~ 1 m μ /hr of Radium²²⁶.

The α probe has an efficiency of $\sim 17\%$. This gives a figure of 4 cps for 10^{-5} - which is a tolerance in a clean area for Pu²³⁹, and 40 cps for 10^{-4} μ c/cm² - tolerance in a red area.

Owing to the energy response of the phosphor the efficiency for Uranium is $\sim 12\%$, but tolerances are higher. As a guide, 50 cps - tolerance in a clean area (10^{-4} μ c/cm²) and 10 x this for red. This assumes direct measurement.

If a smear is being sampled, it is well to double the answer to get the actual ~~contamination~~ contamination, as it has been found that $\sim 50\%$ is transferred to the paper.

Always leave the instrument on Check 2 position for 1 minute before deciding to operate on ON 1 or ON 2.

Rotating the batteries periodically helps keep the contacts clean.

Background here is normally ~ 40 cpm β (no sunlight, darkroom preferably)
and ~ 0 α (light is source)

Phosphor is Ag activated ZnS.

Area seen by β probe is ~ 30 cm² ~~(14.6)~~

I have quoted the 1320 as being capable of detecting particular amounts of activity on air samples and sticky papers, utilising a 10% efficiency. These sensitivities will have to be multiplied by 10/6 as it is in fact only 6% efficient.

Sensitivities are now:-
Air Sample 6.1×10^{-11} μ c/o.c.
Sticky Paper 1.5×10^{-1} μ c/m² (~~cm²~~)

Both of these will give ~ 2 cps.

The "standard" supplied with each monitor is a Uranium (Nat) sheet $\sim 1/16$ " thick, ~ 9 cm square, giving a total mass of ~ 240 g.

Specific Activity is 1.5×10^6 g/c, and Body Burden (ICRP) is 0.01 μ c.

Each standard is ~ 160 μ c.

The oxide layer has been "rolled in", so no flaking of the surface oxide layer should occur.

Table 14

Air Conc. Fig. for 60 hrs is $80.5 \mu\text{c}/\text{m}^3$ (A), $1610 \mu\text{c}/\text{m}^3$ (B)

(O ← 26/59) i.e. $8.05 \times 10^{-5} \mu\text{c}/\text{cc}$ (A), $1.61 \times 10^{-3} \mu\text{c}/\text{cc}$ (B).

This would give a count rate on the 1320 of :- $\frac{2 \times 8.05 \times 10^{-5}}{6.1 \times 10^{-11}}$ cps

$$= \frac{2.64 \times 10^6}{\text{cps}} \quad \times$$

Table 4

Ground Conc figures are, 60hr, (A) $3.2 \times 10^3 \mu\text{c}/\text{m}^2$, (B) $1.92 \times 10^5 \mu\text{c}/\text{m}^2$.

A¹ gives a count rate on the 1320 of $\sim \frac{2 \times 3.2 \times 10^3}{1.5 \times 10^{-1}}$ cps
(These are for whole body β irradiation).

$$= \frac{4.27 \times 10^4}{\text{cps}} \quad \times$$

Final figure for ground contamination (including dose to feet and ankles) is given by (60 hr values).

$$A^1 = 2.1 \times 10^3 \mu\text{c}/\text{m}^2. \quad B^1 = 1.20 \times 10^5 \mu\text{c}/\text{m}^2.$$

A¹ here gives 1320 count of $\frac{2 \times 2.1 \times 10^3}{1.5 \times 10^{-1}}$ cps

$$= \frac{2.8 \times 10^4}{\text{cps}} \quad \times$$

Using [redacted] figure of 1 - 3 $\mu\text{c}/\text{m}^2$ of F.P.'s on days 2 - 3 to give a MLIK hazard, count rate on 1320 will be -

$$\frac{2 \times 2}{1.5 \times 10^{-1}} \text{ cps} = 26.7 \text{ cps}$$

* The actual count rate that would be observed at $t = 60$ hrs will be those quoted, but multiplied by $t^{-1.2}$, $t = 60$. This is a factor of 7.3×10^{-3} .

∴ Air Conc (A)	=	$2.64 \times 10^6 \times 7.3 \times 10^{-3}$	→	1.93×10^4 cps	}
Ground Conc(A ¹)	=	$4.27 \times 10^4 \times 7.3 \times 10^{-3}$	→	3.12×10^2 cps	
" " inc	=	$2.8 \times 10^4 \times 7.3 \times 10^{-3}$	→	2.04×10^2 cps	

Radon and Thoron in Air - complications therefrom

In U.K. (A.W.R.E.) ~ 15 minute samples have produced β count rates giving 75,600 dph

e.g. 4940 lin.ft. across 25 cm² area : \rightarrow 75,600 (β) dph

$$\begin{aligned}\text{Vol. of air sampled} &= 4940 \times 12 \times 2.54 \times 25 \text{ cm}^3 \\ &= 3.76 \times 10^5 \times 10^4 \text{ cc} \\ &= 3.76 \times 10^6 \text{ cc}\end{aligned}$$

$$\begin{aligned}\beta \text{ activity} &= 7.56 \times 10^4 \text{ dph} = \frac{7.56 \times 10^4}{3.6} \text{ dps} \\ &= 21 \text{ dps}\end{aligned}$$

Thus, an activity (on filter paper) of $\frac{21}{3.76 \times 10^6}$ dps/cc of sampled air is indicated

i.e. 5.6×10^{-6} dps on paper/cc of sampled air

The activity found, fluctuates widely, and up to twice this is found.

It has been found in practice, that the activity decays with half-life of ~ 20 min, 3.6 day and ~ 20 day, with > 90% of the activity disappearing with the 20 min. half-life.

Samples have been taken also for times from 5 min. to 24 hrs. and no increase in activity of the paper has been found with sampling time over ~ 20 min sampling time.

Thus, it would appear that a 24 hour sample is not required.

If the sample lasts 20 min, volume of air sampled is :-

$$20 \times 17 \times 10^3 \text{ cc} = 3.4 \times 10^5 \text{ cc}$$

$$\begin{aligned}\therefore (\beta) \text{ dps on paper may be } &5.6 \times 10^{-6} \times 3.4 \times 10^5 \\ &= 1.9 \text{ dps} \\ &= 2 \text{ dps}\end{aligned}$$

I conclude that this will be undetectable with (at most) 6% efficiency, and background count of ~ 0.6 cps.

Conclusions. Milk Hazard () when 1320 count on sticky paper is 27 cps (day 2-3).

Level A¹ conditions when 1320 count on sticky paper, 60 hours after bang, is 300 cps.

Level A conditions when 1320 count of filter paper, 60 hours after bang, is 20,000 cps.

INSTRUCTIONS FOR FALLOUT SAMPLING

1. Apparatus for fallout sampling is being installed at Kano, Ikeja, Maiduguri, Port Harcourt, Sokoto and Kaduna. This equipment is listed in the Inventory at Appendix A to these Instructions.
2. Any unserviceability of the equipment which may develop or requests for consumable stores in this connection should be notified to Headquarters as they arise.
3. The best possible local arrangements should be made at each station so that if the power supply to the electric pump fails at any time during the 24 hours, an emergency supply will be brought into operation as soon as possible.
4. The air sampling and fallout tray equipment will be operated in accordance with the Instruction Manual for Continental Fallout Sampling, a copy of which is being sent to each station concerned.
5. The 10 inch plastic funnel will be used at Kano, Sokoto, Kaduna and Maiduguri, and the 6 $\frac{1}{2}$ inch plastic funnel at Ikeja and Port Harcourt. When there is any rain collected in this bottle at the time of observation the bottle will be removed, the top replaced tightly and the bottle with the pink card duly completed are put in its carton; a new bottle will be placed under the funnel. When no rain has collected in the funnel, it will be left undisturbed for a subsequent day.
6. The daily routine for sampling is summarised briefly in Appendix B.
7. One of the labels provided, addressed to [REDACTED], U.K.A.E.A.(W), Colonial Office, London, will be stuck on each envelope and carton containing complete samples.
8. In addition to the above equipment, a 5 inch raingauge painted red on the outside to distinguish it from the standard raingauge is being erected. This raingauge will be read at the times stated in paragraph 9 below, and the readings entered on the white and pink cards under Rainfall, and on the card with the sample bottle of water.

9. The observations will be commenced at the following times:-

Ikeja	0700 GMT
Port Harcourt	0830
Maiduguri	0800
Sokoto	1300
Kaduna	0800
Kano	1400

10. Observations will commence at all stations on 8th October, 1959, and continue until further notice.

11. Each week on the following days the completed samples in the envelope and carton will be placed in a mail bag, a supply of which has been sent to each station:-

Sokoto	Thursday
Maiduguri	Wednesday
Kaduna	"
Port Harcourt	Thursday
Kano	"
Ikeja	"

12. These bags will be disposed of in accordance with the following instructions:-

A. Maiduguri, Kaduna and Sokoto

- (i) Envelope and carton should be enclosed in a single bag which should be labelled as per Specimen 'A' attached, tied with strong string and the knot sealed with wax.
- (ii) It is essential that labels are endorsed C/O PILOT in red as illustrated and diagonally crossed in blue on the reverse side. The date-stamp of the originating office must also appear on the reverse side of the label as illustrated; this is particularly necessary because in order to reduce paper work to the absolute minimum the Colonial Office has been requested to waive the necessity for schedules of contents to accompany each bag. Where practicable, the weight, expressed in kilos, should be entered on the reverse side of the label for accounting purposes (see note attached).

/(iii)

- (iii) Diplomatic waybills, as per Specimen 'B' attached, should be prepared in quadruplicate. Since this is a special arrangement, it is imperative for accounting purposes, that each waybill bears the endorsement "Nigerian Federal Govt. a/c". To dispense with additional record at the Sampling Station, the Despatch Number should be left blank and the Bag Number ^{or numbers} should correspond with the serial number ^{or numbers} of the envelopes enclosed in the bag.
- (iv) The sealed bag, together with the diplomatic waybills, should be handed to the Duty Traffic Officer at the airfield and a Diplomatic Mail/Precious Cargo Receipt obtained.

B. Kano

- (i) Envelope and carton should be enclosed in a single bag labelled as per Specimen 'C' attached, tied with strong string and the knot sealed with wax.
- (ii) It is essential that labels are endorsed C/O PILOT in red as illustrated and diagonally crossed in blue on the reverse side. The date-stamp of the originating office must also appear on the reverse side of the label as illustrated; this is particularly necessary because in order to reduce paper work to the absolute minimum the Colonial Office has been requested to waive the necessity for schedules of contents to accompany each bag. Where practicable, the weight, expressed in kilos, should be entered on the reverse side of the label for accounting purposes (see attached note).
- (iii) Diplomatic waybills, as per Specimen 'D' attached, should be prepared in quadruplicate. Since this is a special arrangement, it is imperative for accounting purposes, that each waybill bears the endorsement "Nigerian Federal Govt. a/c." To dispense with additional record at the Sampling Station, the Despatch Number should be left blank and the Bag Number should correspond with the serial number of the envelope enclosed in the bag.

/(iv)

(iv) The sealed bag, together with the diplomatic waybills, should be handed to the Duty Traffic Officer at the airport and a Diplomatic Mail/Precious Cargo Receipt obtained.

C. Port Harcourt (via Kano or Lagos depending on most expeditious service available).

(i) Envelope and carton should be enclosed in a single bag labelled as per Specimen 'E' attached, tied with strong string and the knot sealed with wax.

(ii) It is essential that labels are endorsed C/O PILOT in red as illustrated and diagonally crossed in blue on the reverse side. The date-stamp of the originating office must also appear on the reverse side of the label as illustrated; this is particularly necessary because in order to reduce paper work to the absolute minimum the Colonial Office has been requested to waive the necessity for schedules of contents to accompany each bag. Where practicable, the weight, expressed in kilos, should be entered on the reverse side of the label for accounting purposes (see note attached).

(iii) Diplomatic waybills, as per Specimen 'F' attached, should be prepared in quadruplicate. Since this is a special arrangement, it is imperative for accounting purposes that each waybill bears the endorsement "Nigerian Federal Govt. a/c" To dispense with additional record at the Sampling Station, the Despatch Number should be left blank and the Bag Number should correspond with the serial number of the envelope enclosed in the bag.

numbers

(iv) The sealed bag, together with the diplomatic waybills, should be handed to the Duty Traffic Officer at the airport and a Diplomatic Mail/Precious Cargo Receipt obtained.

D. Ikeja

(i) Envelope and carton should be enclosed in a single bag labelled as per Specimen 'G' attached, tied with strong string and the knot sealed, with wax.

/ii)

- (ii) No waybills are required in this instance.
- (iii) The sealed bag should be handed to the Police Courier, authorised to collect diplomatic mail who will be instructed to collect this bag from the [REDACTED], Ikeja, who might wish to devise a simple form of receipt.

13. At some future date a signal may be sent to each station saying "send daily fallout samples henceforth". From receipt of that signal each daily sample will be put in an individual mail bag and transmitted in accordance with the above instructions with the least possible delay.

Soboto - 1 a/c per wk is continuing after bang.
Maiduguri - 2/wk.

Note re weighing of diplomatic bags for accounting purposes

Rough conversion table pounds to kilos is as follows:-

2 lbs.	.906
1 lb.	.453
<hr/>	
15 ozs.	.427
14 ozs.	.398
13 ozs.	.370
12 ozs.	.342
<hr/>	
11 ozs.	.313
10 ozs.	.284
9 ozs.	.256
8 ozs.	.228
<hr/>	
7 ozs.	.200
6 ozs.	.171
5 ozs.	.143
4 ozs.	.114
<hr/>	

Bags in excess of one kilo should be shown to the next half kilo, i.e.

1.2 kgs.	=	1.5 kgs.
1.6 kgs.	=	2.0 kgs.

Bags weighing less than one kilo should be shown to the nearest one tenth (1/10th) of a kilo, e.g.

.445	as	.4 kg.
.450	as	.5 kg.
1.960	as	2.0 kg.

This is not as confusing as it would at first sight appear to be and is essential for accounting purposes, particularly in connection with the ad hoc arrangements tentatively accepted by W.A.A.C.

INVENTORY OF CONTENTS
OF THE 2 RADIOACTIVITY BOXES

- 1 3/16" Whitworth Box Spanner
- 1 6BA Spanner with handle
- 2 Screwdrivers
- 1 Metal Plate
- 3 'Ever Ready' Razor Blades
- 1 Pair of Scissors
- 1 Steel Rod 10" long
- 1 Tommy Bar
- 1 Pair of Forceps
- 2 Rubber Diaphragms (Black)
- 1 Fallout Tray
- 4 Clips
- 1 Air Pump
- 1 Cardboard box containing 100 clean sample papers and envelopes
- 108 Aluminium Discs
 - 1 Roll Narrow Sticky Tape
 - 1 Roll Wide Sticky Tape
 - 1 Rubber Tubing (Black)
 - 1 Copy of Instruction Manual
- 24 Poly-Tainer Bottles
- 3 Plastic Funnel (one at 10" diameter, one at 6 $\frac{1}{2}$ " and one at 4 $\frac{1}{2}$ ")
- 1 Transit Envelope containing 24 clean pink cards
- 1 Large Funnel Wooden Stand

ABRIDGED ROUTINE FOR FALLOUT SAMPLING

Air Sample:-

First Day

1. Select first envelope, and check that it and the contents have the same serial number.
2. Place the blanking disc in the filter assembly.
3. Open the valve (screw anti-clockwise).
4. Switch on pump, and note pressure.
5. On the white card from the envelope write the pressure reading, the date and time, and draw a line through the words AIR SAMPLE.
6. Switch off pump and close valve, and remove blanking disc.
7. Place the filter paper, number facing up, in the filter assembly, and switch on the pump.

Any Subsequent Day

8. Switch off pump and remove paper using tweezers; place the filter paper on the aluminium disc, number uppermost, and seal with sellotape.
9. Complete details on previous day's card.
10. Continue as from 1, i.e. Select next envelope, etc.

Sticky Paper:-

First Day

1. Enter date, time and score out STICKY PAPER on pink card from first envelope.
2. Load tray with broad sellotape.

Any Subsequent Day

3. Unload the sellotape and seal in the numbered strip.
4. Complete met. details on previous day's card.
5. As from 1. above.

/Water Sample

Water Sample:-

First Day

1. Put out the bottle and funnel and write on bottom of first card - Ser. No. 1.
2. If "no rain" in next 24 hours - no action.
3. At the end of the first 24-hour period in which rain has been registered, seal bottle.
4. Write on first card the date, time, met data (in particular, the measured rainfall).
5. Write on second card - Ser. No. 2.
6. Place first card, together with sealed bottle and cotton wool, in cardboard box.
7. Put out new bottle and same funnel and write on bottom of new card - Ser. No. 2.

etc.

If the size of funnel used is changed, this information must be passed on by writing it on the card.

90

PILOT

Specimen 'A'

ON HER MAJESTY'S SERVICE

The Right Honourable Mail Bag No. 14 939

THE SECRETARY OF STATE FOR THE COLONIES,

Colonial Office,

The Church House,

VIA KANO Great Smith Street,

LONDON, S.W.1

GOVERNOR-GENERAL,

NIGERIA

LAGOS

19

29th Sept. 1959

Specimen B

Form of No. BA15-543

DIPLOMATIC WAYBILL



It is hereby certified that the officially sealed bags detailed below contain only official correspondence.

Signed

FROM **The Officer Administering the Government of the Federation of Nigeria,**

LAGOS

BY AIR TO **(via Kano)**
The Secretary of State for the Colonies,
Colonial Office, The Church House,
Great Smith Street, London, S.W.1.

<i>Official Stamp and Date</i>	<i>Despatch No.</i>	<i>Bag No.</i>	<i>Weight in Kilogrammes</i>	
	-	14 939	-	5

FGP M 690

.....
Signature of Despatching Officer

.....
Rank or Status

NIGERIAN FEDERAL GOVT. A/C.

To PILOT

Specimen C.

ON HER MAJESTY'S SERVICE

The Right Honourable Mail Bag. No. 14 939

THE SECRETARY OF STATE FOR THE COLONIES,

Colonial Office,

The Church House,

Great Smith Street,

LONDON, S.W:1

GOVERNOR-GENERAL,

NIGERIA

LAGOS 29. 9. 19 59.

Specimen D

Form Ref. No. BA15-543

DIPLOMATIC WAYBILL



It is hereby certified that the officially sealed bags detailed below contain only official correspondence.

Signed

FROM **The Officer Administering the Government of the Federation of Nigeria,**

LAGOS

BY AIR TO **The Secretary of State for the Colonies,
Colonial Office, The Church House,
Great Smith Street, London, S.W.1.**

<i>Official Stamp and Date</i>	<i>Despatch No.</i>	<i>Bag No.</i>	<i>Weight in Kilogrammes</i>	
	-	14 939	-	5

FGP M 690

.....
Signature of Despatching Officer

.....
Rank or Status

NIGERIAN FEDERAL GOVT. A.C.

90 PILOT **Specimen 'E'**
ON HER MAJESTY'S SERVICE

The Right Honourable **Mail Bag No. 14 939**

THE SECRETARY OF STATE FOR THE COLONIES,

Colonial Office,

0 **VIA KANO** The Church House,
OR LAGOS Great Smith Street,
LONDON, S.W.1

GOVERNOR-GENERAL,
NIGERIA

LAGOS

19

29th Sept. 1959

Specimen F

Form F. No. BA15-543

DIPLOMATIC WAYBILL



It is hereby certified that the officially sealed bags detailed below contain only official correspondence.

Signed

FROM The Officer Administering the Government of the Federation of Nigeria,

LAGOS

**BY AIR TO via Kano or Lagos as most expeditious
The Secretary of State for the Colonies,
Colonial Office, The Church House,
Great Smith Street, London, S.W.1.**

<i>Official Stamp and Date</i>	<i>Despatch No.</i>	<i>Bag No.</i>	<i>Weight in Kilogrammes</i>	
	-	14 939	-	5

FGP M 690

.....
Signature of Despatching Officer

.....
Rank or Status

17/10

O.H.M.S. Specimen 'G'



 of Oversea
Communications,
Office of the Governor-General,
LAGOS

Mail No. 14 939

dd.19.9.59

List of Faults in Equipment

Ikeja (Ser.111) No faults.

Kano (Ser.112) Pump - all rubber tubing perished; non return valve cracked and leaking; rod for fallout tray too large; sellotape old, wrinkled and tin buckled.

Maiduguri (104) No faults - except found that grease guns too short to reach nipples without first removing baseplate.

Sokoto (107) Only 2 feet of tubing; blanking plate bent and battered; all the screws inside the pump badly chewed.

Kaduna (109) Pump U.S. - faulty bearing.

Pt. Harcourt (108) Pump an unwilling starter (condenser?).

Lungi (101) Very sluggish to start - condenser almost U.S. replaced the condenser, giving big improvement. Motor itself not anchored to base of case.

Bo (105) No faults.

Bo Spare Motor bearing had gross end play: clatter. System would not hold pressure - either gauge leaking, or non-return valve leaking. Had already changed the diaphragm. Brushes very dirty, giving loud interference. Spare sellotape (6") all buckled with age.

Bathurst Spare box had tin of old sellotape - bubbled and wrinkled.

SUMMARY REPORT ON INSTALLATION OF
FALL-OUT DETECTION STATIONS IN NIGERIA

- 2 -

1. All six stations installed as planned. Sampling will commence on 8.10.59. (At Kaduna commencement of air sampling will be delayed a few days because of a faulty pump). Complete details are set out below. Samples will be returned in accordance with "Instructions for Fall-Out Sampling", a copy of which has been left with operators. (See additional note for Port Harcourt.)

2. Lagos (Ikeja) - [REDACTED].

Station installed complete on 28.9.59. Air pump sited on verandah of Upper Air Section. 6½" funnel will be used for rain sampling. Complete sampling can begin on 8.10.59.

9. Station installed on 2.10.59. Pump sited in Met enclosure but awaits permanent power supply and shelter. Fault discovered in valve assembly of air pump. Temporary repair effected. 6" Sellotape of poor quality. 10" funnel will be used for rain sampling. Complete sampling can begin on 8.10.59.

Action: New pump and 6" Sellotape to be despatched to Kano from H.Q. (Lagos). Discarded pump to be returned to H.Q. (Lagos).

4. Maiduguri - [REDACTED].

Station installed complete on 3.10.59. Pump in Met Office. 10" funnel to be used for rain sampling. P. & T. technician instructed in replacement of diaphragm. Complete sampling can begin on 8.10.59.

5. Sokoto - [REDACTED].

Station installed complete on 5.10.59. Pump on verandah at Met Office. At present only 12 hr./day power supply. 24 hr./day supply being arranged. 10" funnel will be used for rain sampling. P. & T. technician instructed in replacement of diaphragm. Complete sampling can begin on 8.10.59. (Note: Power supply only 12 hr./day to begin with).

6. Kaduna - [REDACTED].

Station installed on 6.10.59. Pump in Met Office. P. & T. technician instructed in replacement of diaphragm. Air pump bearing unserviceable. Sticky paper and rain sampling only can begin 8.10.59.

Action: Discarded pump to be returned forthwith to H.Q. (Lagos) for repair and return.

7. Port Harcourt - [REDACTED].

Station installed on 7.10.59. Pump in Control Tower (Ground Floor). Pump left functioning but suspect. 6½" funnel will be used for rain sampling. P. & T. technician not instructed in diaphragm change (in event of failure, pump will be returned to H.Q. (Lagos)). Weekly return of samples will be via Kano. Daily return of samples will be via Kano, except on Wednesday and Saturday when return will be via Lagos. Complete sampling can begin on 8.10.59.

Action: Pump to be replaced as convenient. Discarded pump to be returned to H.Q. (Lagos) for overhaul.

INSTRUCTIONS FOR FALLOUT SAMPLING.

Apparatus for fallout sampling is being installed at Freetown (Lungi) and Bo. This equipment is listed in the Inventory at Appendix A to these Instructions.

2. (Lungi only) Any unserviceability of the equipment which may develop or requests for consumable stores in this connection should be notified to [REDACTED], [REDACTED], [REDACTED], A.W.R.E., Aldermaston, Berks, England, as they arise.
3. The best possible local arrangements should be made at each station so that if the power supply to the electric pump fails at any time during the 24 hours, an emergency supply will be brought into operation as soon as possible.
4. The air sampling and fallout tray equipment will be operated in accordance with the Instruction Manual for Continental Fallout Sampling, a copy of which is being sent to each station concerned.
5. The daily routine for sampling is summarised briefly in Appendix B. Observations will be made at 0900 every day until further notice.
6. Envelopes and cartons will be addressed to [REDACTED], U.K.A.E.A. (W), Colonial Office, London.
7. Observations will commence at both stations on 17th October at 0900 hours.
8. Samples will be disposed of as follows:-
 - 8.1. Bo. On Friday of each week, completed samples in envelopes and cartons will be placed in a mail bag, tied and addressed to [REDACTED], Lungi. The mailbag will then be handed to the Sierra Leone Airways representative in Bo who will deliver the mail bag to the Sierra Leone Airways Aircraft which departs for Hastings at 1235 G.M.T. The time for handover of the mailbag to the Sierra Leone Airways representative will be agreed locally, (together with a completed Air Freight Warrant.)
 - 8.2. Lungi. On Saturday of each week, completed samples from Lungi and Bo will be placed in a diplomatic mail bag for Colonial Office, London. Diplomatic waybills will be completed in sextuplicate. Five copies will be passed together with the diplomatic mail bag to the [REDACTED]. One copy will be retained by [REDACTED], Lungi.
(Note: The mailbag from Bo will be collected at Hastings and passed to [REDACTED] Lungi by Nigerian Airways Staff.)
9. At some future date (to be notified) samples should ideally be despatched daily to the United Kingdom. It is noted that this will not be possible. The best practicable arrangements for expeditious despatch of daily samples will be made by [REDACTED], Lungi, ([REDACTED]) who will inform [REDACTED] on completion of arrangements.