

\$-0005-100-62-6

AFHQ
COMMUNICENTRÉ

41

JUN 6 00 15 '63

6.6.90
DMS
APY
AEM 2
Pm

NNNNVV PCA218 TWC005 KWA155 UU

MM.RCCSBM RCCPMR RCCPFZ RCCABC

DE RCWTKW 116/05

M 052300Z

FM STN COLD LAKE

TO RCCABC/CHIEF SUPERINTENDENT DRCL SHIRLEY BAY OTTAWA ONTARIO

INFO RCCPMR/CANAIRMAT

RCCSBM/CEPE UPLANDS

RCCPFZ/CANAIRHED

RBDIXN/CANAIRLON

BT

UNCLAS Q2826 5 JUN

EACH 2 5W 2314 ROTARY ACTUATORS SHIPPED TO YOU IN ERROR

ON MY IV B3007 28 JAN OGS 2237 RECEIPTED BY MR HALEY PD

REQUEST YOU FORWARD THESE ITEMS TO CEPE UPLANDS FOR

CLEARANCE OF LOAN FROM RAF AS PER AMC LOGD8863 2 MAY PD

FOR AMC REF YOUR LOGD8666 30 MAY PD ITEMS WERE RECEIVED

THIS UNIT WITHOUT COVERING VOUCHERS 23 OCT 1961 AND WERE

BOC BY CRV AS HAVING BEEN RECEIVED DRO DRCL SHIRLEY BAY

PD A COVERING ISSUE VOUCHER WAS RECEIVED FROM STN UPLANDS

ON 25 OCT 1961 AND ORIGINAL CRV WAS CANCELLED BUT CONSIGNOR

①

0005-62-C
C/405-100-62-C

W02
Winnipeg
53-002

③ CR-1A
CPE checked for accuracy
with the data
125-63
Dre sh
AEM-2-3
2-8593

② ~~AEM 2~~ DAED
This has been receiving the
circular treatment. Apparently
it refers to your msg
AEM 390 d 6 Dec 62 I discovered
with AMCHA.

PAGE TWO RCWTKW 116/05 UNCLAS

COLUMN IN INWARDS LOAN REGISTER WAS NOT AMENDED PD EQUIPMENT

WAS RETURNED BY CEPE AAED AND VOUCHER TO DRCL IN ERROR PD

FOR DRCL REQUEST YOU ADVISE ALL CONCERNED ACTION TAKEN

BT

05/2324Z

Panch 2
MP4-3,
Ejine 28575
8/4/63

42/

DEPARTMENT OF NATIONAL DEFENCE

MINUTE SHEET

SECURITY CLASSIFICATION

FILE NUMBER

TD

REFERENCE

DATED

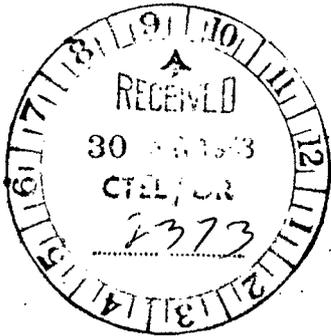
REFERRED TO

REMARKS

(To be signed in full showing Appointment, Telephone Number and Date)

DNP/m14-2 ④
Air Sec Q 106 30 AM passed to
you 2 days.

J. J. [Signature] HC
DNP-4
27242
5 Jun 63



AFHQ
COMM CENTRE
MAY 29 00 34 '63

NNNNVVZ2 PCB018BQIO0EA111
EEJBA315UU
RR RCCPMR RCCSBM RCWTKW RCCPFZ
DE RBDIXN 1450/28
R 281548Z
FMCANAIRLON
TO RCCPMR/CANAIRMAT
INFO RCCSBM/CEPE UPLANDS
RCWTKW/CEPE DET AAED COLD LAKE
RCCPFZ/CANAIRHED
BT
UNCLAS
Q. 138
28 MAY
YOUR LOGD 8863 2 MAY CEPE DET COLD LAKE Q 65 6 MAY MY Q 106
30 APR PD ADVISE RE RETURN OF EACH TWO 5W/2314 ROTARY
ACTUATORS TO RAF
BT
28/1625Z MAY RBDIXN

9.6.40

ROUTINE

[Handwritten initials]

DMS
Referred to
File No.....
Msgd to.....

*unclassified 21042
27/10/63*

*③ DMS 3-4
Q106 was
sent to you
A Beauchamp
C Tel/O R
26773
4 June*

*② CTR/O R
pls pass this message to
whenever you passed message
Q106 - 30 Apr
TMC 31. M. L. W. R.
2.0806
4 June 5012
L. 000211*

32686 *Speed*

NRNV

ORIGINAL AS IS

VV PCA27W FEB012V 0EA853DAEGA#23

EJBA147

EHMA017

FM RCCPMB RRCPTZ RCGSBM NOVTEV

DE RBDIXN 1244/30

M 301052Z

FM CANAIRLON

TO RCCPMB/CANAIRMAT

INFO RRCPTZ/CANAIRHED

RCSBM/CEPE UPLANDS

RCWTKW/CEPE DET MAED COLD LAKE

BT

UNCLAS

Q106 30 APR REF YOUR LOGS635 8 NOV 63 RE EXTENDED LOAN OF EA2

RAF 5W/2314 ROTARY ACTUATOR PD ADVISE IF PROJECT TERMINATING

SHORTLY AND IF EQPT BEING RETURNED

BT

30/10552 APR RBDIXN

31

DMS

NNNNVVVV PCB229TWC189KWA074

CONFIDENTIAL

1905-100-62-6 41

FM RCCSBM RCCPMR RCCPFZ

MAY 7 09 34 '63

DE RCWTKW 62/07

M, 062330Z

CP 15.5.51

<i>DMP</i>
<i>PC</i>
<i>AEM 4</i>

FM CEPE DET COLD LAKE

TO RCCPMR/CANAIRMAT

INFO RCCSBM/CEPE UPLANDS

RCCPFZ/CANAIRHED

RBDIXN/CANAIRLON

BT



1905-100-62-6

UNCLAS Q65 6 MAY

(1)

YOUR UNCLAS LOGD8863 2 MAY PD EA 2 RAF SW/2314 ROTARY ACTIVATORS

RETURNED TO CHIEF SUPERINTENDENT DRCL SHIRLEY BAY OTTAWA IN ACC/W

AFHQ AEM390 DATED 6 DEC 62 PD ITEMS SHIPPED SERVICE AIRCRAFT 7 JAN

AWB OD1058 STN COLD LAKE IVB3007 OGS2237

BT

06/2354Z

② DMP/MP4

*To note & PA ps
These apps are used
on nuclear debris sample*

16 May 63

*See sh
AEM 4
20540*

Nuclear Debris

See 5

670K

AFHO
COMM CENTRE

APR 30 14 02 '63

NNNV

100
1005-62-6

VV PCA270V PEB012V OEA053DAEGA023

EJBA147

EHMA017

UU

MM RCCPMR RCCPFZ RCCSBM RCWTKW

DE RBDIXN 1244/30

M 301052Z

FM CANAIRLON

TO RCCPMR/CANAIRMAT

INNO RCCPFZ/CANAIRHED

RCCSBM/CEPE UPLANDS

RCWTKW/CEPE DET AAED COLD LAKE

BT

UNCLAS

Q106 30 APR REF YOUR LOGD8635 8 NOV 62 RE EXTENDED LOAN OF EA2
RAF 5W/2314 ROTARY ACTUATOR PD ADVISE IF PROJECT TERMINATING
SHORTLY AND IF EQPT BEING RETURNED

BT

30/1055Z APR RBDIXN

2595
AEM-349 6 Nov.

Refer AEM 349-6 Nov

31
<i>D-MS MS 3-4</i>
<i>MP 4-2</i>
<i>AEM 4</i>

2 CR-PA
has been advised
with the return eqpt
over
Apr 4
2-0542

S. Am. 132686

Sutto 02545

376K

DEPARTMENT OF NATIONAL DEFENCE

MINUTE SHEET

Referred to

REMARKS
To be signed in full showing Appointment, Telephone Number & Date

CR

CZPE letter 1905-62/93 (STE) dated 14 Dec 62 has been removed from this file and placed in file 004-74/34 TD2331 because the original request from DRB and all other correspondence on the subject is on that file.

[Signature]
A 004-2
21-0548

20 Dec 62.

*Noted with
26-12-62
AK*

MESSAGE FORM

FOR COMMEN/SIGNALS USE

NUMBER

PRECEDENCE - ACTION	PRECEDENCE - INFO	DATE - TIME GROUP	MESSAGE INSTRUCTIONS
DEFERRED	DEFERRED	10:1340	
FROM	CANAI RHED		PREFIX GR
TO	CEPE UPLANDS		SECURITY CLASSIFICATION UNCLAS
INFO	CEPE DET COLD LAKE STN UPLANDS		ORIGINATOR'S NUMBER DMS 371 ¹⁸ DEC

FURTHER TO AFHQ AEM 390 6 DEC F DASH 57 SAMPLING ASSEMBLIES
 ARE TO BE SHIPPED BY MOST ECONOMICAL MEANS TO MCCLELLAN AFB

PAGE OF PAGES	REFERS TO MESSAGE	DRAFTER'S NAME	OFFICE	TEL.					
			3141	2-7442					
CLASSIFIED YES <input type="checkbox"/> NO <input type="checkbox"/>									
FOR OPR'S USE	DATE	TIME	SYSTEM	OPERATOR	DATE	TIME	SYSTEM	OPERATOR	RELEASING OFFICER'S SIGNATURE
R					D				<i>[Signature]</i> (A CUNNINGHAM) F/L

DEPARTMENT OF NATIONAL DEFENCE

1905-62-6 (ADDN)

MINUTE SHEET

ADN 390 6 Dec.

Referred to

REMARKS

To be signed in full showing Appointment, Telephone Number & Date

DMS /ms

3-4 of the F-57 sampling assemblies referred to in min ① and the 6 modified T 33 tip tanks obtained from the USAF on loan for this project. 3 are of CEPE hybrid and 3 of CEPE det Cold Lake.

2/ As discussed, would you please arrange to have these units returned to the USAF at Ave Clellan AFB California.

As logged folio below refers.

[Signature]
 6 Dec 62.
 2-0548

MESSAGE FORM

FOR COMM-CEN/SIGNALS USE

FILE

NUMBER

PRECEDENCE - ACTION ROUTINE	PRECEDENCE - INFO DEFERRED	DATE - TIME GROUP 06	MESSAGE INSTRUCTIONS
FROM CANAIRED			PREFIX GR
TO CEPE UPLANDS			SECURITY CLASSIFICATION UNCLAS
INFO CEPE DET COLD LAKE			ORIGINATOR'S NUMBER AEM 390 6 DEC

REF PARA 3 MY LETTER S1905 DASH 162 DASH 6 AEM 5 DEC CLOSING T AND
 BY 62 SLASH 6 PD ALL SCIENTIFIC EQUIPMENT OBTAINED ON LOAN FROM DRB
 FOR PROJECT IS TO BE RETURNED TO CHIEF SUPERINTENDENT DRCL SHIRLEY
 BAY OTTAWA PD UNUSED FILTERS ALSO TO BE RETURNED TO DRCL PD EXPOSED
 FILTERS MAY BE DESTROYED OR DISPOSED OF AT YOUR DISCRETION PD
 F DASH 57 SAMPLING ASSEMBLIES WILL BE RETURNED TO USAF AT MCCLELLAN
 AFB CMM DETAILS FOR DISPOSAL AND SHIPMENT THESE ASSEMBLIES WILL
 FOLLOW ON SEPARATE SUPPLY MESSAGE

PAGE	OF	PAGES	REFERS TO MESSAGE	DRAFTER'S NAME	OFFICE	TEL.					
			CLASSIFIED YES <input type="checkbox"/> NO <input type="checkbox"/>	<i>(Handwritten Signature)</i> (JH BYRAN) P/L	AEM 4-2, 2-0548						
FOR OPR'S USE	R	DATE	TIME	SYSTEM	OPERATOR	D	DATE	TIME	SYSTEM	OPERATOR	RELEASING OFFICER'S SIGNATURE
											<i>(Handwritten Signature)</i> (JH BYRAN) P/L

file

~~SECRET~~
SI905-162-6 (AMTS)

Ottawa Ontario

DEC - 5 1962

Commanding Officer
Central Experimental and Proving
Establishment
RCAF Station Uplands
Ottawa Ontario

Research Projects - T&DI 62/6
Nuclear Debris Sampling Flights

1 The value of subject project, both to DNB and to the USAF, has decreased to the point where continuation will produce only marginal results. The Defence Research Board therefore recommended that the project be discontinued, which recommendation is concurred in.

2 I would like to pass on the many thanks the RCAF has received for the part they have played in this program, particularly from the USAF, who found the collection effort in the early stages invaluable in view of their apprehension over their own sampling capability. The Defence Research Board has also expressed sincere thanks for the continued quality and efficiency of RCAF support under especially trying conditions.

3 This project may now be closed; disposal instructions for sampling equipment held on loan will be forwarded under separate cover.

Original signed by:
(RH BRAY) A/C
(NW Boon) A/N/AI
for GAS

Am. Copy 4 Dec 62
S/L AM Conley/WVP

2-0548

AMTS

CAE

orig

circ

loc

file

000219

DEPARTMENT OF NATIONAL DEFENCE

MINUTE SHEET

45

Referred to

REMARKS

To be signed in full showing Appointment, Telephone Number & Date

AMTS

- 1 For your signature please.
- 2 Flagged letter from the Chairman DRB expresses gratitude for RCAF co-operation and support during the nuclear debris sampling project flights performed over the past decade.
- 3 Letter for signature reiterates these thanks and officially closes the project.


 (RH Bray) A/C
 CAE
 2-6273

DEPARTMENT OF NATIONAL DEFENCE

MINUTE SHEET

Referred to

REMARKS

To be signed in full showing Appointment, Telephone Number & Date

ME-14

1. We spoke some time ago.
2. Will you prepare MPTS letter to terminate project, dispose of sampling equip & materials, and command CEPE on behalf of USMF, DRB, & AFHQ.
3. Discuss aircraft establishment with me.

Richard Buck
AAEM
3 Dec 62

CONFIDENTIAL 430

DEPARTMENT OF NATIONAL DEFENCE

OFFICE OF CHIEF OF THE AIR STAFF

Chief of the Air Staff

(2)

4.2.2.1962

SIGNED BY E.M. REYNOLDS
D/V CAS - [Signature]

AMTS (then VCS) (and COPS - CPROG/DAI - RCD etc)

1. The CAS has seen and agrees.
2. For your action, please.

[Signature]
CAS/EA
21 Nov 26175

(3) CAK

Occ. action

to Beau AM/2
AMTS
to 2nd/62

(4)

AAEM

For you please

RHB

3 Dec

C O N F I D E N T I A L
DRBTS 1680-09
DSI Ref: F-463



DEPARTMENT OF NATIONAL DEFENCE
DEFENCE RESEARCH BOARD

OFFICE OF THE CHAIRMAN
OTTAWA

19 November, 1962.

Referred to *CAE*
NOV 26 1962
File No. 1905-100-62-6
Chg'd. to

Chief of the Air Staff

NUCLEAR DEBRIS SAMPLING FLIGHTS
CANCELLATION

You will be aware that since 1951 the RCAF has cooperated with DRB on a programme of nuclear debris collection.

This program was originally set up to assist the U.K. and the U.S. It involved the RCAF flying certain aircraft specially fitted with filters to catch nuclear debris and a radio-chemical analysis unit operated by DRB at its Chalk River laboratory.

As a result of the intensive Soviet nuclear testing which began in 1961, the U.S. increased their collection capabilities to such a degree that the Canadian effort was no longer essential. In turn, the U.S. provided the U.K. with superior nuclear debris samples to those provided by Canada due to the improved equipment which had been developed by the U.S.

Since our lack of knowledge of the more advanced techniques now used in nuclear weapons has meant that we were unable to reconcile our radio-chemical analysis of the nuclear debris collected to that of specific improvements in our enemies nuclear weapons, and since these results were no longer required by the U.S. nor the U.K., DRB closed this phase of the program in April of this year.

It was only recently that we obtained formal notification from the U.S. that the requirement for the further collection of nuclear debris samples was no longer required.

We would therefore ask you to consider this letter as our formal request to terminate your portion of this joint project which is defined in your RCAF Test and Development Instructions 62/6 issued under your 1905-62-6 (CAE).

I would like to take this opportunity to bring to your attention the efficient and cooperative attitude demonstrated by the RCAF aircrews and staff during this programme. They made maximum use of the equipment provided under all types of conditions some of which were very trying indeed. Many took a keen personal interest in the success of the flights. I am therefore pleased, in closing this project, to express the appreciation of the Defence Research Board for the effective support and enthusiastic cooperation of all the RCAF personnel who were involved in nuclear debris collection operations.

[Signature]
Chairman.

Chief of the Air Staff,
Air Force Headquarters,
Ottawa.

RECEIVED
21 NOV 1962
OFFICE OF THE
CHIEF OF AIR STAFF
1186

RESTRICTED
1905-62-6 (CAE)
004-74/34

DATE: 28 Aug 62

ROYAL CANADIAN AIR FORCE

AIR FORCE HEADQUARTERS

TEST AND DEVELOPMENT INSTRUCTION 62/6

ROUTINE AND SPECIAL NUCLEAR DEBRIS

SAMPLING FLIGHTS FOR DRB

ISSUE 2

INFORMATION

- 1 The RCAF has accepted the responsibility for providing support to DRB, which will include aircraft flights, for the collection of nuclear debris over Canadian territory.
- 2 CEPE will be responsible for providing suitably modified aircraft and the crews to collect these samples and will exercise control of aircraft flights. The project is an annual requirement for which a new T&DI will be issued each year.
- 3 Sampling flights will be on a routine and special basis; the special flights will normally be flown in Western Canada in the Cold Lake area.
- 4 This Issue 2 of T&DI 62/6 replaces T&DI 62/6 dated 19 Jul 62.

INTENTION

- 5 CEPE, in co-operation with the DRB co-ordinator, is to provide support for high level, routine and special, nuclear debris sampling flights.

METHOD

General

- 6 Nuclear debris sampling flights will be carried out using T33 aircraft fitted with F57 filter assemblies provided by DRB.

Routine Flights

- 7
 - (a) The Cold Lake UE T33 fitted with the F57 filter assembly will carry out routine sampling flights from Cold Lake every two weeks, 3000 feet below the tropopause.
 - (b) The two UE T33 aircraft from CEPE Uplands equipped with the F57 filter assembly will carry out routine sampling flights from Uplands every two weeks above the tropopause.
 - (c) On routine flights sampling will be done along the meridian. Since the predominating path of radioactive clouds is from west to east a more representative sample is obtained if flights are carried out along the meridian.

0002

RESTRICTED

- 2 -

Special Flights

8 Special flights will be carried out with the objective of obtaining one good sample from each nuclear cloud to be intercepted during a series of nuclear tests. DRB will be responsible for ensuring that all relevant information on which operations can be planned and conducted is provided to CEPE. On demand for special flights, the CEPE sampling operations officer (SOO) and 1 T33 and supporting ground crew will deploy from CEPE Uplands to Cold Lake. The Cold Lake UE T33 aircraft and the CEPE Uplands T33 will operate from Cold Lake under the operational control of the SOO. If necessary, the second T33 from CEPE Uplands will also deploy to Cold Lake. Meteorological and ground tracking data will be relayed directly to the SOO at CEPE Detachment Cold Lake. AFHQ/AAEM is to be advised of all special requests requiring flights from a base other than Cold Lake (reference para 10).

9 CEPE is to take the necessary steps for radiation protection of personnel and decontamination of equipment and aircraft.

10 Deployment of aircraft and support facilities for sampling operations from locations other than Cold Lake is to be taken only on the approval of AFHQ/AAEM.

11 All samples from routine flights and those active samples from special flights requiring no further measurement, as directed by the DRB co-ordinator, are to be shipped to Chief Superintendent, Defence Research Chemical Laboratories, Shirley Bay, Ottawa. Each sample is to be suitably labeled so that it can be identified in respect to particular explosion or sampling flight. The best samples from each special flight, provided it is sufficiently active, will be shipped according to instructions from DSI. A total count instrument will be provided to CEPE for the purpose of measuring the radiation count of filters after each flight.

SUPPLY

12 Additional aircraft other than those detailed in paragraph 7 will be arranged by AFHQ as required.

13 DRB shall be responsible for:

- (a) Supplying all scientific equipment required by the RCAF for the efficient conduct of this project. This includes sampler assemblies to be installed in the aircraft, airborne direct reading detection equipment, and laboratory radiation measuring equipment.
- (b) Ensuring that an ample supply of unexposed filters and screens are available for use.

PRIORITY

14 This project is allotted "C" priority and routine flights are to take precedence over all other "C" priority projects. Special flights are allotted "B" priority. Specially requested flights are to take precedence over other "B" priority projects.

SECURITY

15 The existence of this project and this directive are classified RESTRICTED. Some aspects of the project are classified higher than

...3

RESTRICTED

RESTRICTED; these will be the subject of separate correspondence. Generally, information concerning sample counts and their relation to specific nuclear explosions is classified SECRET.

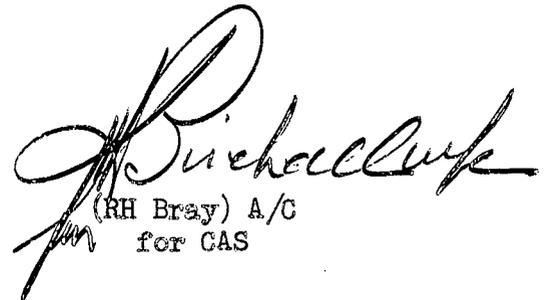
CO-ORDINATION

16 Individual responsibilities are assigned to:

- (a) DRB/DSI which is the DRB co-ordinator for this project and which will fulfill the DRB responsibilities under this T&DI. Direct communication between DSI and CEPE on scientific matters is authorized. Copies of all correspondence in this respect are to be sent to AFHQ/AAEM and CO CEPE Uplands. The DRB Project Officer is Dr. R.S. Eaton, Room 4609, "B" Building, Ottawa, telephone 2-5635; Home Telephone, TA8-2193. The CEPE Sampling Officer is 32144 F/L Wright, W.A., Hangar #10, RCAF Stn Uplands, Telephone 5-3235, Home Telephone TA2-0524.
- (b) CEPE. Direct liaison on scientific matters is authorized between CEPE and the DRB co-ordinator.
- (c) AFHQ/CAE/AAEM. AFHQ co-ordination will be provided by AAEM who will deal with DRB/DSI on the details of policy matters pertaining to this program.

REPORTS

17 CEPE is to maintain flight statistics including route and timing, hours flown, aircraft used, and frequency of flights on all routine and special air sampling flights, and is to submit a report in two copies to AFHQ/CAE/AAEM annually, by the 1st of March following the project period. Teletype reports will be sent to AFHQ/AAEM and copies to DRB/DSI on each day on which routine or special flights take place, stating flight particulars, sample count and sample disposal.



(RH Bray) A/C
for CAS

References: T&DI 61/6 and CEPE Report 1619.

DISTRIBUTION

CEPE Uplands	21
AMTS Circ	1
CAE	1
DRB/DSI	4
AEM4	1
ADCHQ	2
AMC/DCLD/IC/P	2
COR/Co-ord	1
DNDO	1
AHFE	1
File	2

MESSAGE FORM

FILE 20-438 (Inmate)

FOR COMMEN/SIGNALS USE

NUMBER

21905-100-62-6

PRECEDENCE - ACTION DEFERRED	PRECEDENCE - INFO DEFERRED	DATE - TIME GROUP 06	MESSAGE INSTRUCTIONS
FROM CANATHED			PREFIX GR
TO CANATHAT			SECURITY CLASSIFICATION UNCLAS
INFO CEPE UPLANDS			ORIGINATOR'S NUMBER AEH 349 6 Nov
<p>YOUR LOG 3686 1 NOV PD T AND DI 62 SLASH 6 CONTINUING BUT EARLY TERMINATION INDICATED PD SUGGEST FURTHER SIX MONTH LOAN PERIOD</p>			

PAGE OF PAGES	REFERS TO MESSAGE	DRAFTER'S NAME	OFFICE	TEL.					
	CLASSIFIED YES <input type="checkbox"/> NO <input type="checkbox"/>	(AM CONLEY) S/L	AEH 4	2-0548					
FOR OPR'S USE	DATE	TIME	SYSTEM	OPERATOR	DATE	TIME	SYSTEM	OPERATOR	RELEASING OFFICER'S SIGNATURE
R					D				(AM CONLEY) S/L

file

AFHQ
COMM CENTRE

Nov 3 06 59 '62

	31
	CAE/AAEM 4

PA 1905-62-6

VV PCB161MRB100 UU

MM RFEMBM RFEPFZ RFWEKW
 DE RFEPMR 691/01
 M 012100Z
 FM CANAIRMAT
 TO RFEPFZ/CANAIRHED
 INFO RFEMBM/CEPE UPLANDS
 RFWEKW/CEPE DET AAED COLD LAKE
 RNDPXN/CANAIRLON

BT

FL BORDEN
32-545

①

UNCLAS LOG3686 1 NOV

FOR CAE AA EM ADVISE IF PROJECT EP 62/6 TO CONTINUE PD INFO REQUIRED
 AS CANAIRLON QUERYING RETURN OR EXTENSION OF LOAN EA2 RAF 5W/2314
 ROTARY ACTUATORS PD IF PROJECT TO CONTINUE EXTENSION OF LOAN WILL BE
 REQUESTED PD FOR CANAIRLON YOUR Q407 29 OCT REFS PD CEPE T779 30 OCT

BT

01/2120Z

② CR-PA

On AEm 349 this
late advise further smooth

6 Nov 62

ged
AEm-4
20548

5-11-40

DEPARTMENT OF NATIONAL DEFENCE

MINUTE SHEET

SECRET

Referred to

REMARKS

To be signed in full showing Appointment, Telephone Number & Date

AEM 4
(thru CAS/SA)

Min (3)

1 You will have received my Min (3) on file C3-3306(DAI) dated 9 Oct which was written as a result of verbal information received. Min (1) is much more specific.

2 On the strength of Min (1), there is no point in the RCAF continuing air sampling unless or until completely new arrangements are made. I intimated in my earlier Min that this matter may be discussed with the USAF thru the office of the Scientific Adviser to the CAS. Depending on the outcome of any direct negotiations with USAF (AFTAC) the RCAF decision regarding a sampling programme will be taken.

3 In my Min it was suggested that we might retain the T-33 scoops. This is contrary to the instruction listed at Min (1). Since they were obtained thru DRB liaison and on behalf of the DRB programme, there would appear to be no option but to return them to the USAF.



Min 4
agree with Min. 3.
There will be a visit to AFTAC (USAF) next month & it might be worth delay in return of T-33 scoops until 10 Oct 62 then.

L. C. Dilworth
(LC Dilworth) G/C
DAI
2-3598

AE M 4

Serial number 4846

TRANSIT SLIP

C. 3-3306

File reference.....

Charge to..... Date 10-10-62

Directed to

Registry Point	Staff Officer PA or BF	Date	Initials
DAI		10-10-62	[Signature]
CAS/SA		10-10-62	[Signature]
AE M 4		12/10	[Signature]

If new file required designate subject

Transit Slips are to be treated in exactly the same manner as files.
Transit Slip is not to be buried under other correspondence.

SECRET

MINUTE SHEET

to DRBTS 1680-09
DSI Ref: F418

Dated: 5 Oct 62

Referred to

REMARKS

To be signed in full showing Appointment, Telephone Number & Date

Min (2)

DAI

1 Further to discussion on this subject, minute one would appear to suggest terminating this project altogether. In view of the fact that DRB are no longer analysing the debris, perhaps the RCAF cannot continue with samplings unless a new analysing center is found.

2 For your comment please add further direction.

AM Conley

(AM Conley) S/L

AEM 4

(2-0548)

9 Oct 62

RECEIVED
DAI OR
DATE <u>OCT 10 1962</u>
FILE <u>C3-3306</u>
REFERRED TO <u>DAI</u>
TS No. <u>4846</u>

TOP SECRET	
SECRET	X
CONFIDENTIAL	
RESTRICTED	
UNCLASSIFIED	

SECRET

Chief of Aeronautical
TO: - Engineering,
RCAF HQs, Ottawa.

5 October 1962

Attn: W/C K. Birchall, Rm. B3090

QUANTITY	REFERENCE NUMBER	DESCRIPTION
1	DSI F-418	Letter re Nuclear Debris Sampling Flights RCAF Test and Development Instruction 62/6.

RECEIPT ACKNOWLEDGED <i>Alan Conly</i> SIGNATURE <i>19 Oct 62</i>	FROM AND RETURN TO: DSI/DRB Rm. 4603 "A" Bldg. DEFENCE RESEARCH BOARD, DEPT. OF NATIONAL DEFENCE, OTTAWA, CANADA. <i>R. Wilkins</i> SIGNATURE
---	--

2-0548

CONSIGNEE'S COPY

DEPARTMENT OF NATIONAL DEFENCE
CANADA

DEFENCE RESEARCH BOARD

Ottawa 4, Ontario,
5 October 1962.Chief of Aeronautical Engineering,
RCAF Headquarters, Ottawa.

Attn: W/C K. Birchall, Rm. B3090

Nuclear Debris Sampling Flights
RCAF Test and Development Instruction 62/6

1. Since the inception of the joint RCAF/DRB nuclear debris sampling project, DSI has from time to time reviewed the effectiveness of these operations and attempted to evaluate the usefulness of the Canadian debris sampling and analysis programme. This has always been done in close consultation with the agencies responsible for this type of activity in the U.S. and U.K. Since Canada does not have access to nuclear weapons diagnostic information, DRB is not able to evaluate properly nuclear debris analytical data in the context of Soviet weapons composition, efficiency and design. Therefore the justification for the Canadian sampling and analysis programme has always been based primarily on its value to the U.S. and U.K.

2. Recent discussions and correspondence with the USAF agency responsible for nuclear test detection have made it quite clear that, although the Canadian effort was greatly appreciated in the past, particularly during the period when this agency considered its coverage inadequate, the Canadian programme is no longer considered essential as a contribution to the U.S. programme. Increasing Soviet use since 1957 of their Arctic test area for high-yield weapons tests has created a situation such that the majority of "first-time-around" debris trajectories have passed well north of the operating capability of the RCAF aircraft assigned to the project. In addition the increasing heights of burst and yields of the more recent Soviet test series have caused the bulk of the debris to be deposited at such high altitudes that only aircraft with extreme altitude capabilities have a reasonable chance of sampling it anywhere in the world on its first time around. Thus the U.S. found itself forced to expand greatly the extent and frequency of its Arctic sampling flights, to rely more and more heavily on U-2 aircraft, and to investigate other possible means of sampling at extreme altitudes. They feel now that their coverage of all approaches to North America is as good as can possibly be provided by aircraft and gives them virtually 100% assurance of intercepting any Soviet debris deposited in the lower stratosphere.

3. In addition to the decreasing usefulness of our sampling activity, we have also been informed recently that our radiochemical analyses are no longer providing data of any use to the U.S. At the same time the U.K. have informed us that they expect to be adequately supplied with debris samples by the U.S. and hence have no requirement for Canadian samples any more. In view of the above, DRB has recently disbanded its analytical team at Deep River. We have now been instructed to advise the RCAF that neither DRB nor the U.S. and U.K. have any further requirement for

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- 2 -

Canadian nuclear debris samples and that arrangements should be made to formally terminate the project. We have also ascertained that there is no longer any requirement for routine sampling flights and arrangements for terminating these can be made immediately.

4. All scientific equipment provided by DRB to the RCAF should be returned at the earliest practicable date to the Chief Superintendent, Defence Research Chemical Laboratories, Shirley Bay, Ottawa. Unused filters should also be returned to DRCL; however all exposed filters may be destroyed or otherwise disposed at the discretion of local personnel. The F-57 sampling assemblies obtained on loan from the USAF should be returned to their place of origin. It is suggested that shipment by rail freight would be adequate for this purpose.

5. We would like to take this opportunity of expressing our sincere thanks to all RCAF personnel who provided support for the debris collection programme in past years. The declining value of the programme in the past year or so in no way reflects upon the quality and efficiency of RCAF support. We understand that an official expression of gratitude in this regard will be passed to the Chief of the Air Staff by the Chairman of the Defence Research Board.



J. Koop,
for
Director of Scientific Intelligence.

DEPARTMENT OF NATIONAL DEFENCE

C3-3306 (DAI)

MINUTE SHEET

SECRET

Referred to

REMARKS

To be signed in full showing Appointment, Telephone Number & Date

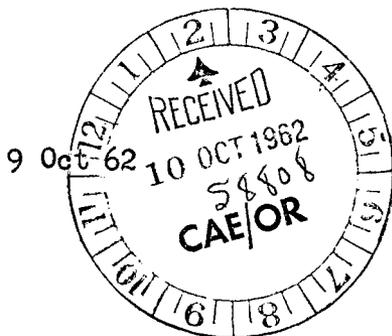
AAEM

Min (3)

1 Attached for your information are copies of correspondence between DSI, the JIC and the Air Force Technical Applications Centre (AFTAC) regarding Canadian participation in the Nuclear Air Sampling Programme.

2 You will note that the JIC has encouraged continuation of a programme. The Chairman DRB required reassurance that our present activities were actually required by AFTAC before providing funds for the modification of the air scoops. This was not forthcoming from AFTAC and the decision has now been taken by DRB that they will discontinue participation in the programme.

3 It would appear that the only way that the RCAF programme could be meaningful would be to establish a bilateral arrangement with the USAF which controls AFTAC. The feasibility and desirability of such a bilateral programme will be explored in the near future through the office of the Scientific Adviser to the CAS. In the meantime, it is suggested that we retain the scoops recently acquired from the USAF but take no further action to implement a programme.



L. C. Dilworth

(LC Dilworth) G/C

DAI

2-3598

DEPARTMENT OF NATIONAL DEFENCE

MINUTE SHEET

4/10/62

Referred to

REMARKS

To be signed in full showing Appointment, Telephone Number & Date

Min. (2)

Cpl Rintoul
DAI

1. Re telecons Rintoul / Koop 3 & 4 Oct 62.
 Hereunto a copy of our letter to
 Sec JIC, with appropriate attachments,
 for retention by DAI.

2. Re para 3 of letter to JIC.
 We have delayed advising the RCAF,
 in order to give members of the JIC
 time to note & possibly comment on
 the DRB decision. In the absence
 of comments to date, we now intend
 to formally advise RCAF Hqs that
 DRB has no further requirement for
 nuclear debris samples.

Koop
DSI

Ends (Secret)

(2 000236)

HRBFS 1680-09
DSI Ref: F-372

Ottawa 4, Ontario,
5 September, 1962.

Secretary,
JIC.

Nuclear Debris Collection
USN/ROCAF Programs

At the 900th Meeting of the JIC, DSI explained to the members that in view of the current austerity programs DSI could not provide the funds necessary to modify the nuclear debris collection equipment fitted to RCAF aircraft without strong justification for the continuing need of the project. Members unanimously agreed to the continued requirement for nuclear debris collection and the views of the JIC were expressed to CDRB in a letter, copy of which is attached as Appendix A.

2. Notwithstanding this re-affirmation by the JIC, the Acting Chairman considered it desirable to ascertain the value which the US attaches to the Canadian project by writing to the Chief, APTAC, USAF. A copy of this letter is attached as Appendix B. The reply from General Rodenhauer, Chief APTAC, which is copied as Appendix C, makes it quite clear that he does not consider it essential that Canada continue its programs in this field, at least as far as a contribution by Canada to the US program is concerned.

3. Consequently, DSI has been instructed to discontinue support of this project and will so advise the RCAF.

4. The JIC is invited to note the decision by DSI to discontinue this program.

Original Signed by
L. GUY EON

L. Guy Eon,
Director of Scientific Intelligence.

Attachs.

002X

APPENDIX "A"

in reply please quote

No. CSO 1485-1 (JIC)

DEPARTMENT OF NATIONAL DEFENCE

JOINT INTELLIGENCE BUREAU

SECRET

OTTAWA, 26 July, 1962.

Chairman,
Defence Research Board.

Attention: DSI

CANADIAN NUCLEAR DEBRIS
COLLECTION PROGRAM

At its 900th meeting of the 25th July 1962, the JIC considered your request to review the need for the Canadian program for the collection of nuclear debris by aircraft filter system.

2. Since the JIC last reviewed this project in 1960, we have had the experience of collected samples from the 1961 series of Soviet nuclear tests. This series showed that its geographical position gives Canada an opportunity to make unique contributions from time to time in this program. The JIC further considers that the cost of completing the equipment made available by the U.S. should be assumed by Canada and not referred back to the United States Air Force since the equipment required is no longer manufactured and would require special procurement action by the USAF.

3. The JIC estimates that another series of Soviet nuclear tests is imminent and that action should be taken urgently to complete the modernization of our collection arrangements.

4. The JIC accordingly reaffirms the importance it attaches to the continuation of this program and of the need to modernize the collection equipment involved.

Original Signed by

G.K. Grande,
Acting Chairman,
Joint Intelligence Committee.

**Pages 239 to / à 241
are withheld pursuant to section
sont retenues en vertu de l'article**

13(1)(a)

**of the Access to Information Act
de la Loi sur l'accès à l'information**

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RFEMBM/CEPE UPLANDS

RFWEKW/CEPE DET AAED COLD LAKE

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UNCLAS LOGD8635 8 NOV

CANAIRLON Q384 OCT 9 AND Q407 OCT 29 PD REQUEST LOAN FOR EA2 RAF
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TO TERMINATE WITHIN THIS PERIOD PD FOR AFHQ AEM349 6 NOV REFERS

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FOR AFHQ ATTN AAEM CMM FOR DRB ATTN DSI PD T AND DI 62/6 28 AUG PD
 AMEND T AND DI AS FOLLOWS CLN PARA 16 SUB PARA A DELETE LAST
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A/1905-100-62-6

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1905-62-6 (CAE)
004-74/34

DATE: 28 Aug 62

ROYAL CANADIAN AIR FORCE

AIR FORCE HEADQUARTERS

TEST AND DEVELOPMENT INSTRUCTION 62/6

ROUTINE AND SPECIAL NUCLEAR DEBRIS

SAMPLING FLIGHTS FOR DRB

ISSUE 2

INFORMATION

- 1 The RCAF has accepted the responsibility for providing support to DRB, which will include aircraft flights, for the collection of nuclear debris over Canadian territory.
- 2 CEPE will be responsible for providing suitably modified aircraft and the crews to collect these samples and will exercise control of aircraft flights. The project is an annual requirement for which a new T&DI will be issued each year.
- 3 Sampling flights will be on a routine and special basis; the special flights will normally be flown in Western Canada in the Cold Lake area.
- 4 This Issue 2 of T&DI 62/6 replaces T&DI 62/6 dated 19 Jul 62.

INTENTION

- 5 CEPE, in co-operation with the DRB co-ordinator, is to provide support for high level, routine and special, nuclear debris sampling flights.

METHOD

General

- 6 Nuclear debris sampling flights will be carried out using T33 aircraft fitted with F57 filter assemblies provided by DRB.

Routine Flights

- 7
 - (a) The Cold Lake UE T33 fitted with the F57 filter assembly will carry out routine sampling flights from Cold Lake every two weeks, 3000 feet below the tropopause.
 - (b) The two UE T33 aircraft from CEPE Uplands equipped with the F57 filter assembly will carry out routine sampling flights from Uplands every two weeks above the tropopause.
 - (c) On routine flights sampling will be done along the meridian. Since the predominating path of radioactive clouds is from west to east a more representative sample is obtained if flights are carried out along the meridian.

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- 2 -

Special Flights

8 Special flights will be carried out with the objective of obtaining one good sample from each nuclear cloud to be intercepted during a series of nuclear tests. DRB will be responsible for ensuring that all relevant information on which operations can be planned and conducted is provided to CEPE. On demand for special flights, the CEPE sampling operations officer (SOO) and 1 T33 and supporting ground crew will deploy from CEPE Uplands to Cold Lake. The Cold Lake UE T33 aircraft and the CEPE Uplands T33 will operate from Cold Lake under the operational control of the SOO. If necessary, the second T33 from CEPE Uplands will also deploy to Cold Lake. Meteorological and ground tracking data will be relayed directly to the SOO at CEPE Detachment Cold Lake. AFHQ/AAEM is to be advised of all special requests requiring flights from a base other than Cold Lake (reference para 10).

9 CEPE is to take the necessary steps for radiation protection of personnel and decontamination of equipment and aircraft.

10 Deployment of aircraft and support facilities for sampling operations from locations other than Cold Lake is to be taken only on the approval of AFHQ/AAEM.

11 All samples from routine flights and those active samples from special flights requiring no further measurement, as directed by the DRB co-ordinator, are to be shipped to Chief Superintendent, Defence Research Chemical Laboratories, Shirley Bay, Ottawa. Each sample is to be suitably labeled so that it can be identified in respect to particular explosion or sampling flight. The best sample from each special flight, provided it is sufficiently active, will be shipped according to instructions from DSI. A total count instrument will be provided to CEPE for the purpose of measuring the radiation count of filters after each flight.

SUPPLY

12 Additional aircraft other than those detailed in paragraph 7 will be arranged by AFHQ as required.

13 DRB shall be responsible for:

- (a) Supplying all scientific equipment required by the RCAF for the efficient conduct of this project. This includes sampler assemblies to be installed in the aircraft, airborne direct reading detection equipment, and laboratory radiation measuring equipment.
- (b) Ensuring that an ample supply of unexposed filters and screens are available for use.

PRIORITY

14 This project is allotted "C" priority and routine flights are to take precedence over all other "C" priority projects. Special flights are allotted "B" priority. Specially requested flights are to take precedence over other "B" priority projects.

SECURITY

15 The existence of this project and this directive are classified RESTRICTED. Some aspects of the project are classified higher than

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- 3 -

RESTRICTED; these will be the subject of separate correspondence. Generally, information concerning sample counts and their relation to specific nuclear explosions is classified SECRET.

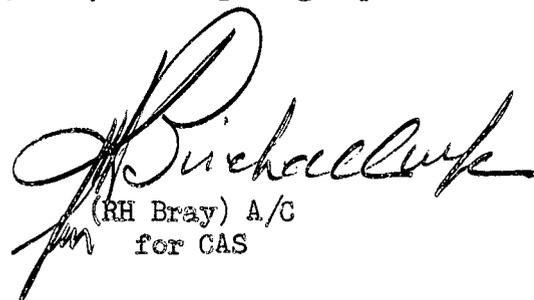
CO-ORDINATION

16 Individual responsibilities are assigned to:

- (a) DRB/DSI which is the DRB co-ordinator for this project and which will fulfill the DRB responsibilities under this T&DI. Direct communication between DSI and CEPE on scientific matters is authorized. Copies of all correspondence in this respect are to be sent to AFHQ/AAEM and CO CEPE Uplands. The DRB Project Officer is Dr. R.S. Eaton, Room 4609, "B" Building, Ottawa, telephone 2-5635; Home Telephone, TA8-2193. The CEPE Sampling Officer is 32144 F/L Wright, W.A., Hangar #10, RCAF Stn Uplands, Telephone 5-3235, Home Telephone TA2-0524.
- (b) CEPE. Direct liaison on scientific matters is authorized between CEPE and the DRB co-ordinator.
- (c) AFHQ/CAE/AAEM. AFHQ co-ordination will be provided by AAEM who will deal with DRB/DSI on the details of policy matters pertaining to this program.

REPORTS

17 CEPE is to maintain flight statistics including route and timing, hours flown, aircraft used, and frequency of flights on all routine and special air sampling flights, and is to submit a report in two copies to AFHQ/CAE/AAEM annually, by the 1st of March following the project period. Teletype reports will be sent to AFHQ/AAEM and copies to DRB/DSI on each day on which routine or special flights take place, stating flight particulars, sample count and sample disposal.



(RH Bray) A/C
for CAS

References: T&DI 61/6 and CEPE Report 1619.

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AHFE	1
File	2

AFHQ
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FOR AAED ATTN FL BELL CMM FOR AFHQ ATTN AAEM PD

T AND DI 62/6 PD EXPECT AMENDMENT ACTION SHORTLY

REFLECTING CHANGES REQUESTED IN AAED R419 15 AUG

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1905-62-6 (CAE)

~~001-7/7/84~~

DATE: 19 Jul 62

ROYAL CANADIAN AIR FORCE

AIR FORCE HEADQUARTERS

TEST AND DEVELOPMENT INSTRUCTION 62/6

ROUTINE AND SPECIAL NUCLEAR DEBRIS SAMPLING FLIGHTS

FOR DRB

INFORMATION

1 The RCAF has accepted the responsibility for providing support to DRB, which will include aircraft flights, for the collection of nuclear debris over Canadian territory.

2 CEPE will be responsible for providing suitably modified aircraft and the crews to collect these samples and will exercise control of aircraft flights. The project is an annual requirement for which a new T&DI will be issued each year.

3 Sampling flights will be on a routine and special basis; the special flights will normally be flown in Western Canada in the Cold Lake area.

INTENTION

4 CEPE, in co-operation with the DRB co-ordinator, is to provide support for high level, routine and special, nuclear debris sampling flights from Cold Lake.

METHOD

5 Nuclear debris sampling flights will be carried out using T33 aircraft fitted with F57 filter assemblies provided by DRB. Sampling flights will normally be undertaken within the operational limits of the aircraft and will be conducted alternately from CEPE Uplands and CEPE Detachment Cold Lake fortnightly.

6 Routine flights will be carried out twice a month, alternatively above the tropopause and 3,000 feet below it. On routine flights, sampling will be done along a meridian.

7 Special flights will be carried out with the objective of obtaining one good sample from each nuclear cloud to be intercepted during a series of nuclear tests. DRB will be responsible for ensuring that all relevant information on which operations can be planned and conducted is provided to CEPE. Information on each nuclear explosion for which debris collection is required will be passed to the CEPE Sampling Operations Officer (SOO) by DRB/DSI. In addition, meteorological and cloud tracking data will be relayed directly to the CEPE Detachment Cold Lake as arranged by DRB. The decision to attempt a requested intercept will rest with CEPE. On occasion, DSI may request a special sampling flight to be undertaken at a high priority. Such flights would probably be carried out from Cold Lake although another base could be specified. AFHQ/AAEM is to be advised of all special requests requiring flights from a base other than Cold Lake (ref para 9).

RESTRICTED

- 2 -

8 CEPE is to take the necessary steps for radiation protection of personnel and decontamination of equipment and aircraft.

9 Deployment of aircraft and support facilities for sampling operations from locations other than Cold Lake is to be taken only on the approval of AFHQ/AAEM.

10 All samples from routine flights and surplus samples from special flights are to be shipped to Chief Superintendent, Defence Research Chemical Laboratories, Shirley Bay, Ottawa. Each sample is to be suitably labeled so that it can be identified in respect to particular explosion or sampling flight. The best sample from each special flight, provided it is sufficiently active, will be shipped according to instructions from DSI. A total count instrument will be provided to CEPE for the purpose of measuring the radiation count of filters after each flight.

SUPPLY

11 CEPE Detachment Cold Lake UE T33 aircraft will be used for this project. CEPE Uplands will provide back-up as required and will modify two UE T33 aircraft for this purpose. Additional aircraft and other requirements needed for special flights will be arranged by AFHQ as required.

12 DRB shall be responsible for:

- (a) Supplying all scientific equipment required by the RCAF for the efficient conduct of this project. This includes sampler assemblies to be installed in the aircraft, air-borne direct reading detection equipment, and laboratory radiation measuring equipment.
- (b) Ensuring that an ample supply of unexposed filters and screens are available for use.

PRIORITY

13 This project is allotted "C" priority and routine flights are to take precedence over all other "C" priority projects. Special flights are allotted "B" priority. Specially requested flights are to take precedence over other "B" priority projects.

SECURITY

14 The existence of this project and this directive are classified "RESTRICTED". Some aspects of the project are classified higher than RESTRICTED; these will be the subject of separate correspondence. Generally, information concerning sample counts and their relation to specific nuclear explosions is classified SECRET.

CO-ORDINATION

15 Individual responsibilities are assigned to:

- (a) DRB/DSI which is the DRB Co-ordinator for this project and which will fulfill the DRB responsibilities under this T&DI. Direct communication between DSI and CEPE on scientific matters is authorized. Copies of all correspondence in this respect are to be sent to AFHQ/CAE/AAEM and CO CEPE Uplands. The DRB Project Officer is Dr. R.S. Eaton, Room 4609, "B" Building, Ottawa, telephone 2-5635; Home Telephone, TA8-2193. The CEPE Sampling Officer is 32144 F/L Wright, W.A., Hangar #10, RCAF Stn Uplands, Telephone 5-3235, home telephone TA2-0524.

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- 3 -

- (b) CEPE. Direct liaison on scientific matters is authorized between CEPE and the DRB co-ordinator.
- (c) AFHQ/CAE/AAEM. AFHQ co-ordination will be provided by AAEM who will deal with DRB/DSI on the details of policy matters pertaining to this program.

REPORTS

16 CEPE is to maintain flight statistics including route and timing, hours flown, aircraft used, and frequency of flights on all routine and special air sampling flights, and is to submit a report in two copies to AFHQ/CAE/AAEM annually, by the 1st March following the project period. Teletype reports will be sent to AFHQ/AAEM and copies to DRB/DSI on each day on which routine or special flights take place, stating flight particulars, sample count and sample disposal.

G. W. Southland s/c
(Mr Bray) A/C
for CAS

References: T&DI 61/6 and CEPE Report 1619.

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AMC/DCLD/LC/P	2
COR/C ^o -ord	1
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AHFE	1
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DEPARTMENT OF NATIONAL DEFENCE

MINUTE SHEET CEPE 1905-62/60 (CO) 15 Jul 62

Referred to

REMARKS

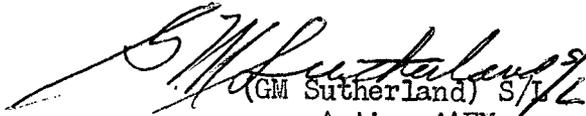
To be signed in full showing Appointment, Telephone Number & Date

Minute (3)

CAE

- 1 Attached memos are respectively:
- (a) A proposal to COps to substitute a T33 aircraft for presently established CF100 at Cold Lake.
 - (b) A direction to DOE to delete above CF100 from CEPE UE.
- 2 This action was requested by Min (1) para 4 and is concurred in both from a workload point of view and from the consequent reduction in maintenance requirements.
- 3 For your signature please.

20 Jul 62


(GM Sutherland) S/12
Acting AAEM
2-6947

4

Corrections made see min ②


CR-PA

RESTRICTED

Our file ref. 1905-62/6(CO).....



DEPARTMENT OF NATIONAL DEFENCE

ROYAL CANADIAN AIR FORCE

Ottawa Ont
13 Jul 62

Ref Your S1905-162-6(AAEM) 7 Jun 62

Chief of the Air Staff
Air Force Headquarters
Department of National Defence
Ottawa 4 Ontario

Attn: CAE/AAEM

Referred to...	AAEM
File No.	S1905-100-62-6
Chg'd to...	

Routine and Special Nuclear Debris Sampling Flights
for DRB - T and DI 62/6 Draft

1 Draft T & DI 62/6, together with your covering letter S1905-162-6(AAEM) dated 7 Jun 62, has been reviewed and the following comments are submitted.

2 For purposes of planning, control and security, sampling flights of a special nature will be under the direct control of a CEPE Sampling Operations Officer. This officer has been designated from the CEPE Uplands staff and during those periods when special flights are required to be flown from Cold Lake, or such other base as AFHQ/AAEM may designate, he will proceed from Uplands to exercise direct operational control over such special flights. These flights will be supported by a CEPE Uplands T-33 and such air or ground crew as may be required.

3 In addition, to ensure continuity in the retention within CEPE Uplands of essential technical knowledge and control relative to nuclear debris sampling activities, this establishment prefers that the routine flights be conducted alternately from CEPE Uplands and CEPE Det Cold Lake fortnightly as is presently done. Therefore, the draft T & DI should be amended as follows:

- (a) Para 3 - to read: "Sampling flights will be on a routine and special basis; the special flights will normally be flown in Western Canada in the Cold Lake area."
- (b) Para 5 - second sentence to read: "Sampling flights will normally be undertaken within the operational limits of the aircraft and will be conducted alternately from CEPE Uplands and CEPE Det Cold Lake fortnightly."
- (c) Para 7 - third sentence to read: "Information on each nuclear explosion for which debris collection is required will be passed to the CEPE Sampling Operations Officer (SOC) by DRB/DSI."

② From T&DI
issued this date
see the
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195262 2-0548

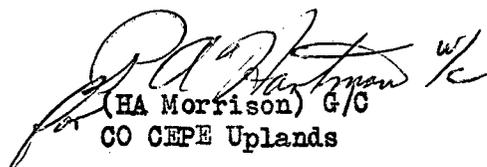
RESTRICTED

- 2 -

- (d) Para 15, sub-para (a) - third sentence: delete all after "Uplands."
- (e) Para 15, sub-para (b) - add sentence: "The CEPE Sampling Operations Officer is 32144 F/L Wright WA, Hangar #10, RCAF Stn Uplands, telephone 5-3235; home telephone TA 2-0524."
- (f) Para 16 - first sentence to read: "CEPE is to maintain flight statistics including route and timing, hours flown, aircraft used, frequency of flights on all routine and special air sampling flights and is to submit a report in two copies to AFHQ/CAE/AAEM annually, by the 1st March following the project period."

4 As noted in your referenced covering letter, CF100 aircraft #18508 will no longer be required at CEPE Det Cold Lake for the future conduct of routine and special sampling flights. Therefore, it is strongly recommended that the CF100 aircraft be deleted from the CEPE Det Col Lake UE and replaced by a T-33 aircraft as soon as possible.

5 All IRB sampling equipment used with the Dakota aircraft will be returned to IRB in the immediate future as per instructions. The remaining equipment previously used on CF100 and T-33 aircraft will be retained in use on the T-33s because it is not known at this time when the modified tip tanks, recently received by CEPE for use on the T-33 aircraft, will be suitably modified to accommodate the F57 filter assemblies.


(HA Morrison) G/C
CO CEPE Uplands

MESSAGE FORM

FILE 1905-225 (A&B)

FOR COMM-CEN/SIGNALS USE

NUMBER

1905-225
2/1905-100-62-6

PRECEDENCE - ACTION ROUTINE	PRECEDENCE - INFO DEFERRED	DATE - TIME GROUP 28	MESSAGE INSTRUCTIONS
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FROM CANADIAN	PREFIX GR
TO CAPE UPLANDS CANADIAN	SECURITY CLASSIFICATION RESTRICTED
INFO CAPE DET COLD LAKE STN HERRICK COLD LAKE	ORIGINATOR'S NUMBER ASN 166 28 MAY 62

CC: DUDO (BY HAND)

T AND DI 62 SIASH 6 PD FUTURE OPERATIONS TO BE COVERED BY REWRITS OF
 T AND DI 61 SIASH 6 WILL REPAIR USE OF TOTAL COUNT INSTRUMENT AT A&D
 PD USE OF THIS INSTRUMENT AND HANDLING OF FILTERS WILL REQUIRE
 INSTRUCTION ON OPERATION C&M MAINTENANCE AND SAFE HANDLING TECHNIQUES
 PD DRB SIASH DRCL OTTAWA WILL PROVIDE THIS INSTRUCTION FOR ONE DAY
 FOR TWO PEOPLE FROM A&D AND ONE FROM CAPE UPLANDS DURING WEEK OF 4
 JUN PD CONTACT AT DRCL IS DR HUBBIEY OR MR HIDE PHONE 24431 PD ADVISE
 NAMES OF PERSONNEL SELECTED AND ARRIVAL DATE IN OTTAWA PD PERSONNEL
 SHOULD BE THOSE DIRECTLY ASSIGNED TO 62 SIASH 6 PD ASN 156 18 MAY
 NOTAL ALSO REFERS PD FOR ADC C&M APHQ DUDO RECOMMENDS STN COLD LAKE
 NUCLEAR DEFENCE OFFICER ACCOMPANY CAPE PERSONNEL FOR FAMILIARIZATION

PAGE 1 OF 2 PAGES	REFERS TO MESSAGE	DRAFTER'S NAME	OFFICE	TEL.					
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FOR COMMCEN / SIGNALS USE

NUMBER

PRECEDENCE - ACTION ROUTINE	PRECEDENCE - INFO DEFERRED	DATE - TIME GROUP 28	MESSAGE INSTRUCTIONS
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FROM: CANAIHQD	PREFIX GR
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TO: CEPE UPLANDS CANAIHQD	SECURITY CLASSIFICATION RESTRICTED
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INFO: CEPE DET COLD LAKE STN UNIDENT COLD LAKE	ORIGINATOR'S NUMBER AEM 166 28 MAY
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CC: INDO (BY HAND)

PURPOSES DIRECTED TO FUTURE ADVICE AND ASSISTANCE TO CEPE IN THIS PROJECT PD REQUEST YOU ARRANGE PD FOR CEPE CHARGE TO FE 205002 PD FOR ADC CHARGE TO FE 205001

PAGE 2.2 OF PAGES	REFERS TO MESSAGE	DRAFTER'S NAME <i>J. Spatley</i>	OFFICE	TEL.
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CLASSIFIED YES NO

(JH SPATLEY) S/L AEM 4 2-0548

FOR OPR'S USE	DATE	TIME	SYSTEM	OPERATOR	DATE	TIME	SYSTEM	OPERATOR	RELEASING OFFICER'S SIGNATURE <i>Michael</i> (K BIRCHALL) S/C
R					D				



DEPARTMENT OF NATIONAL DEFENCE
CANADA

DEFENCE RESEARCH BOARD

IN REPLY PLEASE QUOTE

DRBTS 1680-09

DSI Ref: F-214

SI 1905-162-6

2149

Ottawa, Ontario,
24 May, 1962.

AAEM
SI 1905-100-62-6

CAS,
Air Force Headquarters,
Ottawa, Ontario.

ATTENTION: AAEM

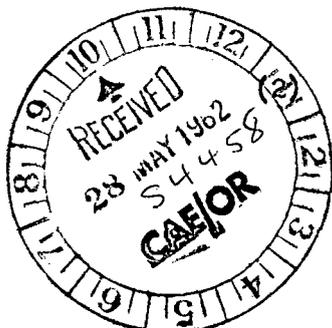
NUCLEAR DEBRIS COLLECTION PROGRAM
CEPE REPORT 1619 AND T&DI 62/6

Reference your memorandum SI1905-161-6 (AAEM) of
13 March, 1962.

2. We regret the delay in replying to your memorandum of above reference. This was due to the fact that in conjunction with DAI we have investigated ways and means of improving the Canadian nuclear debris collection program. On the understanding that T-33 aircraft are available for this purpose, we have arranged with the USAF for the loan of 6 F-57 collecting ducts to be fitted to T-33 aircraft. We have further discussed our intelligence requirements with DAI and are now in a position to restate them, taking into account the results of the collection program during the last series of Soviet tests and the new collection equipment that is to be used in the future.

3. It is essential to the intelligence community that Canada maintain a capability to collect by aircraft radioactive debris from nuclear explosions occurring in the USSR and possibly China, and to monitor the degree of radioactivity in the atmosphere between periods of nuclear testing. The attached draft T&DI, which is submitted for your consideration, specifies the flight requirements:

- (1) Fortnightly monitoring flights from Cold Lake alternating between altitudes above and below the tropopause.



Special flights from Cold Lake to attempt to obtain one good sample from each nuclear explosion in series of intelligence interest. These attempts will be limited by the location, nature and yield of the explosions, the course and altitude of the debris clouds, and the limitations of the sampling aircraft. The decision to attempt to intercept and sample each cloud will rest with the CEPE officer responsible for these operations. Arrangements will be made whereby DSI will provide information on each nuclear explosion for which debris collection is desired directly to CEPE Detachment Cold Lake. Arrangements are also being made whereby the USAF meteorological and cloud tracking data center will pass relevant information directly to CEPE Detachment Cold Lake probably from Alaska.

File with
See letter SI 1905-162-6
(AAEM) & forward to
CEPE comming
draft T&DI.
J. Spratley
AAEM
b/6

.../2

S E C R E T

.../2

- (3) Request flights which may infrequently be requested by the USAF, through DSI, whenever they have need for our sampling facilities to complement or supplement theirs. These flights would probably be based on Cold Lake although they might require operating from another location. They would need to have top priority since they may provide the only good samples of the debris from a particular explosion.

4. There are few points of detail which remain to be determined or completed:

- (1) Arrangements for the safe handling of radioactive equipment and the safe expedition of samples to the USAF analysis laboratory or to Defence Research Chemical Laboratories, Ottawa. This includes the provision by DRB of a total count instrument, including a scaling device and a lead castle to be installed at Cold Lake and operated by the RCAF.
- (2) Training of RCAF technicians at DRCL who in turn could train other RCAF personnel involved. These technicians will be indoctrinated by DRCL on the reading, handling and disposal of active filters and the determination of the minimum level of sample activity which will justify shipment to the USAF.
- (3) Channels for direct communications between DSI and CEPE Detachment Cold Lake and between USAF special meteorology office, probably in Alaska, and CEPE Detachment Cold Lake.
- (4) The possible installation on T-33 aircraft of the I2B continuous monitoring system which would greatly improve the chances of obtaining high count filters.

5. Meanwhile, we can now state that we have no further requirement for CF-100 or Dakota flights with the equipment used to date. The sampling equipment belonging to DRB can now be returned for disposal. There is a possibility that the rotary actuators used with the previous filters might be of use with the new equipment: if not, we would appreciate being advised as soon as possible so that we may terminate our maintenance and replacement contracts. Nor is there a requirement for flights from Uplands. However, fortnightly flights for background level count may be carried out from Uplands if more convenient to CEPE. We have

.../3

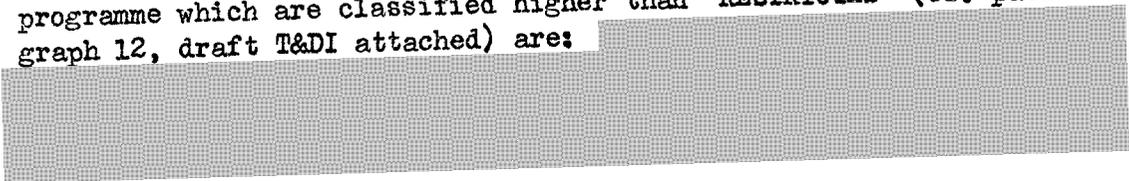
s.13(1)(a)

S E C R E T

.../3

terminated the arrangement for a Western area DRB coordinator to advise locally. Scientific assistance will be provided by DSI who will coordinate with DRCL and other establishments as required. ||

6. The security aspects of nuclear debris collection programme which are classified higher than "RESTRICTED" (cf. paragraph 12, draft T&DI attached) are:



R. Martineau,
for
Chairman, Defence Research Board.

Attach.

1905-62-6 (CAE)
S505-100-74/34

R E S T R I C T E D

ROYAL CANADIAN AIR FORCE

AIR FORCE HEADQUARTERS

DRAFT TEST AND DEVELOPMENT INSTRUCTION 62/6

INFORMATION

1. The RCAF has accepted the responsibility for providing air support to DRB for the collection of nuclear debris over Canadian territory.
2. CEPE will be responsible for providing aircraft and aircrew to collect these samples. The project is an annual requirement for which a new T&DI will be issued each year.
3. Sampling flights will normally be flown in Western Canada by CEPE Det Cold Lake.

INTENTION

4. CEPE, in cooperation with the DRB coordinator, is to provide air support for high level special and routine met flights from CEPE Detachment Cold Lake.

METHOD

5. High level routine and special met flights will be carried out by jet aircraft. The routine met flights will be carried out twice a month, alternatively above the tropopause and 3000 feet below it. On routine flights sampling will be done along a meridian.
6. Special met flights will be carried out with the object of obtaining one good sample from each nuclear cloud to be intercepted. DRB will be responsible for ensuring that all relevant information on which operations can be planned and conducted is provided to CEPE Det Cold Lake. The decision to attempt an intercept will rest with CEPE Det Cold Lake. On occasion, DSI may request a special sampling flight to be undertaken at a high priority. Such flights would probably be carried out from Cold Lake although another base could also be specified.
7. CEPE is to take the necessary steps for radiation protection of personnel and decontamination of equipment and aircraft.

R E S T R I C T E D

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8. Deployment of aircraft and support facilities for sampling operations from locations other than Cold Lake is to be taken only on the approval of AFHQ/AAEM. All samples from routine flights and surplus samples from special flights are to be shipped to Chief Superintendent, Defence Research Chemical Laboratories, Shirley Bay, Ottawa. The best sample from each special flight, provided it is sufficiently active, will be shipped according to instructions from DSI.

SUPPLY

9. CEPE UE aircraft will be used for this project. Additional aircraft and other requirements needed for special flights will be arranged by AFHQ as required.

10. DRB shall be responsible for:

- (a) Supplying all scientific equipment required by the RCAF for the efficient conduct of this project. This includes sampler assemblies installed in the aircraft, airborne detection equipment, and laboratory radiation measuring equipment.
- (b) Ensuring that an ample supply of unexposed filters and screens are available for use.

PRIORITY

11. This project is allotted "C" priority and routine flights are to take precedence over all other "C" priority projects. Special flights are allotted "B" priority and specially requested flights are to take precedence over other "B" priority projects.

SECURITY

12. The existence of this project and this directive are classified "RESTRICTED". However, some aspects of the operations are further classified and queries on those aspects should be referred to RCAFHQ or DRBHQ for reply.

COORDINATION

13. Individual responsibilities are assigned to:

- (a) DRB/DSI which provides overall project control of the nuclear debris collection program -
Coordinator - Dr. R.S. Eaton, Room 4609 "A"
Building, Telephone 2-5635. Home Tel: TA8-2193.

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R E S T R I C T E D

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- (b) CEPE. Direct liaison on scientific matters is authorized between CEPE and the DRB coordinator.
- (c) AFHQ/CAE/AAEM. AFHQ Coordination will be provided by AAEM who will deal with DRB/DSI on the details of policy matters pertaining to this program.

REPORTS

14. CEPE is to maintain flight statistics including course, time and hours flown, aircraft used, frequency of flights, on all routine and special air sampling flights and is to submit a report in two copies to AFHQ/AAEM annually, by the 1st March following the project period. Teletype reports will be sent to AFHQ/AAEM and copies to DRB/DSI on each day on which routine or special flights take place, stating flight particulars, sample count and sample disposal.

(RH Bray) A/C

for CAS

References: T&DI 61/5
CEPE Report 1619

DISTRIBUTION

CEPE Uplands	15
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MESSAGE FORM

FOR COMM/CEN/SIGNALS USE

NUMBER

1905-2
A 1905-100-62-6

PRECEDENCE - ACTION PRIORITY	PRECEDENCE - INFO DEFERRED	DATE - TIME GROUP 18	MESSAGE INSTRUCTIONS
FROM: CANALISED			PREFIX GR
TO: CEPE UPLANDS			SECURITY CLASSIFICATION RESTRICTED
INFO: CEPE DET COLD LAKE			ORIGINATOR'S NUMBER AEM 156 18 MAY 62

T AND DI 62 SLASH 6 ATMOSPHERIC SAMPLING PD DRB HAS ARRANGED LOAN OF SIX MODIFIED T33 TIP TANKS TO PERMIT MORE EFFICIENT SAMPLING UNDER THIS PROJECT PD THESE TANKS ARE AVAILABLE FOR PICK UP AT MCCLELLAN AFB CALIF AND ARRANGEMENTS HAVE BEEN MADE FOR ATC AIRLIFT ON 22 MAY PD CEPE PROJECT OFFICER FL WA WRIGHT TO ACCOMPANY THIS FLIGHT AS ARRANGED CIM TO OBTAIN DETAILS OF TECHNICAL INSTALLATION AND OPERATION OF TANKS ON T33 PD TD APPLICATION FOR FL WRIGHT ORIGINATED BY THIS HQ AND TD APPROVAL WILL BE FORTHCOMING PD ON RECEIPT OF TANKS CEPE IS TO UNDERTAKE TRIAL INSTALLATION ON ONE UE T33 AIRCRAFT PD DRAWINGS APPLICABLE THERETO ARE AVAILABLE FROM DR HUBLEY OF DRCL AND WILL BE PROVIDED ON REQUEST PD CONCEPT OF OPERATIONS FOR THIS PROJECT WILL BE COVERED IN NEW DIRECTIVE TO BE ISSUED SHORTLY PD DISCUSSIONS FL WYMAN FL WRIGHT SL SPATLEY REFER

PAGE OF PAGES	REFERS TO MESSAGE	DRAFTER'S NAME	OFFICE	TEL.					
	CLASSIFIED YES <input type="checkbox"/> NO <input type="checkbox"/>	(JH SPATLEY) S/L	AEM 4	2-0548					
FOR OPR'S USE	DATE	TIME	SYSTEM	OPERATOR	DATE	TIME	SYSTEM	OPERATOR	RELEASING OFFICER'S SIGNATURE
R					D				(K BURCHALL) W/C

CAFB 1719 (JSF) (REV 3/59)
 CNS 1320 B (REV 3/59)
 RCAF 542 (REV 3/59)
 7530 - 21 - 562 - 1557

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DEPARTMENT OF NATIONAL DEFENCE

RCAF RESEARCH & DEVELOPMENT PROJECTS

NUCLEAR DEBRIS COLLECTION PROGRAM

RCAF

FOR CROSS REFERENCES SEE INSIDE COVER

ROUTING				P.A. & B.F. ENTRIES				REGISTRY ONLY
REFERRED	REMARKS	DATE OF PASS	INITIALS	DATE OF P.A.	INITIALS	DATE OF B.F.	CANCEL B.F.	DATE RECEIVED
AAEM	WITH PAPERS OF JUL 16 1962		AB					
CAE	Mem (3)	24/7/62	AB					
Cyp	Mem	25/7/62						
CAE	(2)	26 Jul 62	WJ	20 Jul 62				JUL 30 1962
AAEM/4	PER REQUEST CR. OCT 17 1962		AB	18 Oct 62				OCT 18 1962
Cops	WITH PAPERS OF NOV 26 1962		AB					
CPhand		27 Nov	RP					
DRI	✓	27/11	BR					
AMTS	✓	29/11	ZCA					
CAE	(3)	3/12	AB					
AAEM/A		3 Dec	AB					
CNE		4 Dec	AB					
AMTS	memo sig	4 Dec	AB					
CAE		5/12	AB					
DMS/ms 3-4	(2)	6 Dec 62	AB	10 DEC	je			DEC 10 1962
AAEM/4	WITH PAPERS OF DEC 19 1962		AB					
CR	Min	20 Dec 62	AB	24/12/62	WX			DEC 26 1962