

H.B. Stewart, Jr.
~~Ocean Dumping~~
~~Cruise - Gulf of~~
~~Mexico, July 1977~~
I M 17 - T 2 T
Aug 1979
and
March 1984
&
Granada

7530-222-3521
FEDERAL SUPPLY SERVICE
(GPO)

629 Arch St
St. Geo

440-2207

~~H. B. Stewart, Jr.~~
Institute of
Marine Affairs

Chaguanas

Trinidad

P.O. Bag 135

St. James Post Office

St. James

Trinidad & Tobago, W.I.

Coastal Zone -

Follows US OZM

guidelines now in
resource inventory - land
use phase -

Barbados & Jamaica doing

some coastal planning -

Resource gp in Jamaica

met. been control activities

7 wetland resources dupl

in Jamaica -

Phyllis Yawc King

~~43-384~~

62-43384

9 Cascade Rd.

662-5466

J. S. Menny

IMA-62-51021

x 351

Zaleena Chin. Yuen. Kee.
Public Information Officer.

Airport - Hotel(s) 35.00

Quincy Park 43.30

Taxi to IMA 25.00

Lunch 8/16 46.00

Bkfst 8/17 6.00

8/17 Drinks w/ Doug
Leitch & Bruce 20.07

8/17 Dinner 28.00

Sat 18		
Taxi in		2.00
Dinner		70.00
8/19 Taxi out		30.00
8/19 Bus w/ Ramsey		10.00
8/20 Bkfst w/ Doon		9.00
" Ram Sing		15.00
8/21 Lunch		4.50
8/21 Wreck & Bus		27.00
8/22 Bkfst -		5.70
8/22 Ram Sing		27.00
8/23 Bkfst		6.00
8/23 Lunch w/ Michel & Lanna		19.00

DATA ACQUISITION

Doon - Sherry -

Guatacara River - near

Texaco Refinery.

Stations in Gulf of P.

Fish Sampling.

COASTAL ZONE MANAG.

Clement Lewis -

PLIP DECO -

Point Lisas Industrial

Development Corp.

West Coast

Hazel Murnih -

Avril Siang

Eugene Rancharan.

San Diego current

Survey paper # -

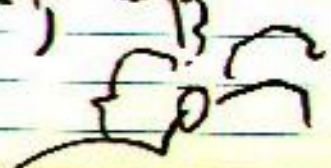
LED I. HEILEMAN
DATA ACQUISITION PROGRAMME
INSTITUTE OF MARINE AFFAIRS

Cruz -

VAP -

14 minutes

T- Boat?

also echinoderma,
crinoids, ophiuroids


Fri. 17th -

Mr. Hadley - Admin

Sen'l Oceans # 2010

have 4 -

ca. 500 us

1/3 photo-

Samples to Caribini

Send dope on

1m decora meters

plus read-out info
~~esp readout~~

Sends Doon. Salmon's

address on re fish kills

methodology on the
design studies —

Shake Minkin —

NOS to send
Peter Gaye types
info. to Doon

where were the
Trinidad gages —

Can B&S identify
sponges, polychaetes — how
preserved — puts on it?

Pro due Yivity ?
Can sample plankton
but not intentionally
them,

Ask Bullis about
approach to stock
assessment for T&T
marine fishery

Mr IAN LAMBIE
Member of Board of
Management
Customs Officer.

Prof May Richards
Chmn, IMA Council

Prof. Henry Phelps
Chmn of Board

BoA Engng. UWI

Get copy of the
Compilation of marine
laws to Legal Op.

Lennox Bullo
Person Sec. extnl Affair

Tune of Lemon Tree
Trinidad Calypso (chorus)
Frank and Mary make
good music,

Come to Trinidad to play

All night long they sing
the love songs,

sleep and make the love
(cara knee) all day.

Scarlet ibis she is pretty
streak ^{the} Caroni sky with red
Unless we stop ~~at the~~ pollution
Scarlet ibis will be dead,

Build new dams up in the
mountains
Bring the water to Port of
Spain

Good for drinking & for fountains
Make good use of heavy rain.

Island girls they play the
net-ball
Better than in wildest
dreams

Enter the big competitions
And beat all the other

Trinidad is lovely island, Teams
Set in midst of lovely sea
We must look more &
towards the ocean

That is where our
future be

Must learn to manage
sea resources
oysters, shrimp, and fishes
too.

The supply will be
depleted

And be gone unless we
do.

—
People like to use the
beaches

And to dive on Boca
reef

We must keep them all
protected
or their lifetime will
be brief

Everyone they love this
island
So with you we leave
this plea
Because your ocean is
important
Learn to wisely use the
Sea,

Lush green hills and
shining waters
They are Trinidad to me
But for our children
and their children
We must turn unto
the sea

Hard to get a
nation in motion

When many people
say "who cares?"

One group worried
about your ocean

The future of Marine
Affairs

Tattoo

~~Halt~~

Talaloo

It bush + care
+ account m/f -

What methods do
you use for
Amonia?

To help + mtl
on stan dardization

Cupros formal paper
to Lec -

1/mo -

7 sta

Chug emu

17 of 5,

Sept. 10, 20, 30 m
high bottles

Send hydroplankton
dupe to Doon

T, %O₂, Ph DO

Light pen - (geochi)

Turbidity -

Hydro carbon

Phosphides

Heavy Metals - 176 Mg. du,
do,

Nitrates

Nitrates

Phosphates

chlorides

Iron on re

Cyanide

wind speed

sea level

tide

air Temp.

Send samples @ each

Legal

Carlisle Williams

monitor for oil & grease

sulfides, phenols,

cod, ammonia pH, DO

DO Temp - on the

River.

current pole -

drogues & 3-pt fix

Send Tech Syllabus

pub to Mrs. Harris

+ pollution tech. cong. -

Tray of ed -

Structure but pollution,
municipal lib - uses up

the ocean for N. 9

+ field trips of CG

Museum -

Booj for programming,

junior of Secor duty -

Seminars for Teachers

in Soc. Sci, geol, science

Seminars on how to run

a field trip -

Mrs. Hemming + 5

Send any material
on editing to Mrs.

Harris -

Hand books in preparation
on shells, fish,

algae -

of 14 guides - Voss

to Mrs. Harris

Annette di-Silva
Girl Broadcasting Unit
"Doon's Girl"

Lecture
Thurs 2:30

Glenda
1702 Charles - Harris
~~By~~ editing Pgm.

Nevil Palmer
Legal Pgm. -

Regular Sta -

~~Be~~ Dragon's mouth

Mid-Gulf

Soldado pt. Lisag

~~anyman~~ Brighton
Pos

Now 1 per mo -

Limited by sample

analytical error - Caribin;

should add at Chugarrumag

sta 1/hr for 24 hrs

1/week for one month

to get a feel for the

range of temperature

Techniques

Diognes
Current Pole

Plans—

ROMÉ

offshore IS,

Gulf Storm Energy

Storm Surge

Ortner's Pan

Lecture—

Mesa fish kill

Ceratium

Acoustics

Loop Current
Frita

Coprostanol

Harvey's hydrocarbons

Fee's diurnal temps

Duncan's waves

Ro-tap & sieves

Drying oven

balance -

Settling tube data

to Doon

USIV II hydrographic

manual

Wave gauge -

Tom Van't Hof

P.O. Box 154

Bonaire

Phone 8224 off.

8684 home

Peter Samuels

Lands & Surveys Dept.

for datum & HT line

Legal

demolition Williams -

looking @ pollution

being of other countries

management of resources
from nat'l & intl laws.

Pollution, conservation,
and shipping laws

Possible TIT tanker
fleet - possible LNG

tanker - Arb. talking
of getting into a
merchant fleet -
effect of transport on
the environment -

Could satellite file
TEIT into the big
data documentation

med. check by
Andy Remover on't

Nat'l Inst. of
Higher Education

(Res. Sci. & Tech)

Send EIPIT's enabling
legislation - functional doc.

Town & Country
Planning

may have coastal

land use maps

may be the C.E.'s

page @ Communicating

room @ Coast Guard

Don't have lab for

dupe film used in

your report work to P. Wood

Send Pennikamp, e'
Key Largo Sanctung
rules, e' regs to
Carlisle Williams

Carlyle

Williams

Legal Pgm.

Talk with Tom

Along on the - it -

For Cruz - Van
for water quality &
pollution anal equip -
met data too -

Possible candidates
for UN experts to

Cruz

Plastic inflatable

pools 1-2' walls

5-6' diam -

Clement ~~Koo~~

Lewsey

C Z 14 -

will be in DC

4 or 5 Sept - full

Knecht

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Follows US OZM

~~guidelines~~ now in
resource inventory - land
use phase -

Barbados & Jamaica doing

some coastal planning —

Resource gp in Jamaica

met. been control activities

with various resources dupl

in Jamaica —

Education Mtl.

Would you write
your name and
address, and I will
send some material
to you —

MRS. FRANKA Alexis - Johnson

Dept. of Science & Tech.

Ministry of Education

Young Street

St. Georges.

Chement will call
this week - for
Kment's no.

Gemma wants to
know new search
charges for document
system

Correct request

Mutunhu
moo too nos

→ rel any curricula to

→ Mrs. Charles - Harris -

50% can't swim

any slides or teaching

material - Teaching aids

film list - MONTH?

Any portable programs

for training -

Falmouth program?

Soldado

pt. Lisas

Brighton

Sam Fernando

Tell Janh Ford

that no word from ^{Carthage} pul

TEI T Gov. to host ^A

workshop - would
cost 6-8 K (TEI T)

Prem Mandel

Training programs for
pollution - TEI's to us
and any portable ones

Cruz Lacey to D.S

for C.2. - not Miami

For HBS reports -

Inter criteria by Pooni

Soap box

Board etc Hully IFMog

Review

GCFI Coastal Zone paper

HBS ppts from each Rpts? -



GLEND A CHARLES-HARRIS
Programme Supervisor
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DOON RAMSAROO BSc., Ph.D.

**DATA ACQUISITION
PROGRAMME**

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Ext.: 351, 491, 492, 493.

3/29/84

Merrin Was. - Commander

Jocke - - CG -

Shevon - Driver

Doon - 36-45' boat
needed - Per Min Fish

Exchange of Staff
to get res. experience

10.3 A 12 1/2 hr.

Canou - 120 ppl.

— Money Down —

Needs in SET
for Dev. in Caribbean
nations — BOSTID

no esolane research

res. on pollution, ecosystems, envt

fisheries, EIA, coastal
area reef planning —

Research Reports —

for Ministers —

then sci papers from them.

occasional papers reviewed

outside — IBS will do. —

Advisory Service Subs —

New Gibony — 25M FF²

Fleet of small boats

1st whale
20 @ 25 Make + others

1/2 ev R/Kanawa

4 Fellowships post-grad level

25M FF — access to

IMF no contract —

Foster coop. studies

Terms locals — possible research

anything research done

Prof. Richards -

• Norbert Masson

- New Dir. -

PhD Engng. -

Word Processor

Xeroxing -

3 draftsmen

Photo. Lab. -

Need Shoreside Facil. -

Needs bldg for apts. for
visiting scientists -

Ed & Tony better & ~~✓~~

UN/ECH # - sessions May

Masson of Island Mar. Labs

in Aug. -

~~Zaleena~~

Zaleena Chin-Yuen-Ke

\$ to get 2 to URI?

Raman - 5 hollow water
seasonic ^{reflection} records, interpretation
need an expert only. -

They have the gear

Huffman at Smithsonian to
be here 2 wks - for sponge
taxonomy -

Fisheries - pol, reef, shrimp, etc

Max Starck - + almost PhD RSMAS

Ram - Coastal Swamps -

George Levy - any nutrient
regeneration work in your
Big Dismal?

Ramcharan

~~Faber~~

Tabebuia - Poil' Poui

Caroni Swamp, up sed. pb/m₂

Care - ah-nee

nutrient regeneration -

now looking @ sediment taking

in the floras; fauna recruitment

how far up does pollution go?

Tobago - Swad' gul 100 ft (TFT)

Reef -

Caroni -

Geol - Derek Hudson -

Rocky Bay -

A. Adolf Ting - Chem. anal

Natl Inst for Sci & Hydrom

Limnology

Gov. all economists -

Thomas Edwards - nutrient balance
for the Gulf

Peter Norman -

1-2 mos - on organic nutrient
products -

Alchem auto analysis
en route -
Ni - Si - Pcl

Trace metal - anal. -
straight flame for Hg. -
Graphite furnace

Dissolved hydrocarbon Compd

Has a water HPLC -

Chetron vs. Human fecal
material = high coliform
Send Coprostanol Profs to
Robert King, Canal Pmn

Meeting w. Commodore

Itamar Weiss, Director, T&T

Defense Forces whom I'd met
in 1972 as Commandant of T&T CO -

"The bunker is not insurmountable"

lunch w/ him and his staff and

discussions on Venez/T&T/Granada

EEZ boundary plans

To T&T Itets base of CDP

Seck Weiss, Commandant - TV w/

WI/Australia contact,

Memor Luceroix plus 4 from
Fisheries DR + 1 from ITM of
Foreign Affairs. imp'd in stock
assessment assistance

T&T CA wants to ~~reactivate~~ reactivate
C&S tide station

Fish. Div. wants Pan Am tender
vessel.

CA Backway rpt. to Jack
Williams on corp. pollution
studies (Ed Canon)

Mervyn La Croix

Boris Fabres - white

Krishna Gooringsingh - long hair

Mrs. Sita Kurvillia - short "

Mrs. Ushwanie Varajh - long "

Arthur Gray? MEA.

Stephanie Cur - a mimosa

Adolf King to Hamilton -
wants Ciprosterol refs
from Gus Harvey -

22 March meeting with
Ministry Representatives (IMM)

Projects planned in advance -

Zulema Chm Yuen (Team Fish)

Guido Ferri - Secretary

IMM doesn't need pub. clearance -

They would check out anything

then up the - stock assessment as

major stumbling - others

must get permission to
fish in T&T EEZ, but T&T
doesn't know how much is

Mina -

Oil spill paper by George
Klaning to Door -

~~Who is Eugene?~~

- Zakaria
- Parnicharan
- Ferzi
- Duncan
- Doon

Doon will ask for the
clearance -

US Embassy will get the
request & fwd. it to External
Affairs who then checks w/
Natl Security.

Dong traffic ↑ in T, so dog
traffic high on priority list -

Illegal immigrants too -

Ferzi "U.S. gov supports this
concept" - would like to see
more of this coop. work"

Fisheries Division

- 1) Stock Assessment #
entire stock - if too much,
do it on most heavily
exploited of underutilized
- 2) Spanish mackerel - sizes
diminished overfishing?
- a) shrimp - naturally T&T but
Venez for taking
- b) snappers/croakers
- c) lobster - underutilized? where
are they? quantity?
- E coast demersals? Nile
fish snappers

- a) Tuna off Tobago - how
much rec. fish \neq feasible?
what game fish are there? How
many? - in re tourism industry
what is game fish resource
- d) effect of tourism on the
rescue artisanal fishing - a
real problem, they come in
clubs, almost wipe out the
pot fisheries, both T&Venez -
small tourists use finer mesh
e. the large ones - what
should T&T do on it?

Such rez as made are
arbitrary -

- 10) Sand mining on Tobago
at Plymouth - effects on?
Possible impact on Turtle
nesting areas -

Effect of mining of sand
and gravel on Tern of Tobago

what alternative sites are
possible? How much can be
taken? mariculture.

- 11) Productivity of oil rigs for
fishing -

- 12) Locating artificial reefs -

types of cons - where? what

are criteria for location
and formation -

- 13) Aquaculture - need advice on
assessment of post development
Dredging fresh water swamp for
salt water mariculture -

- 14) Home aquaculture possibilities?
IATA w/ artificial reefs of aquaculture

- 15) Estab. management plan for
Bucco Reef or Tobago -
Survey now in progress -

Develop ment of a total management
plan for Tobago.

? Dowridge - Min. of Finance ✓

16) Studies of coastal tourism
as parks, beaches, launching
ramps.

17) Safe operational practices of
artisanal fisheries - p. 9.
too large motors on small
boats, need for safety gear,
float plans, etc.

~~Desmond~~

Gulf coast @ low tide - boats
can't get in - can dredging
help? Gulf is a nursery area
& effects of dredging -

on mud flats offshore of fishing
villages -

Desmond Ali CARICRI -
Caribbean Industrial Research
Institute.

18) Fishery marketing practices,
preservation, distribution plans,
health aspects. - primarily
needed is a massive educational
program

Technology
Nutritionals, Div. of CARICRI
Anti toxicity & pollution -

Economic importance of
West Coast fisheries - how
has development impacted
the fisheries.

Physical env't inventory plus
a socio-economic inventory
to be finished in mid-June.

1) W. Coast ^{Clemens} under pressure for
port facilities specialized, what
is demand, can coast support
them, level of the need,
utilization of existing ports?

2) Solid waste disposal in wetlands
studies needed

Stock assessment
3) Coastal fisheries economic
analysis

80 out of 100 species edible,
but they eat only 4 or 5

4) mechanical net support system
10 - Education program -

5) Land reclamation proposals
need a national policy -
study needed

— Chad Nichols —

Photos

Queen's Park Savannah
in AM

elephant cars tree

Hupok Tree - House

Door -

Adolf King -

Desmond King - D. Dr. CIRRIAD
and Zuberba 43

House -

Savannah
Savannah

Granada 3/23/84

Ms

curly sands - North

5m

15 & 15.01

D. Pitt -

Fresh stacks -

pollutants -

erosion -

Coastal erosion 1.4 - 2m/yr
over 26 yrs.

0.5 avg. for Caribbean.

- 1) NE beach was 120m, now
back to 2nd line of palms -
- 2) sitting of 2 hotels & 1 nightclub
- 3) Photos of dead corals, on 2 reefs,

2 major sewage outfalls
introduced @ hotels, Spire St

Proposed 60 m setback -

Need to know why erosion -

→ ~~line~~ a tide gauge -?

94 - Gov Royal w/ garbage
disposal

1) Need a short-term yes
or no

2) Need longer term studies -

Need to get Grandparents
to U.S. universities

Environmental education gap -
want it for secondary

Need someone to introduce
main sci into curriculum -

Alan Duncanson's address

Secret Harbor sewage goes
directly into the bay -

Sewerage treatment suggested
as one requirement for the
granting of hotel building
permits -

Roberto Ambros
Director, OAS
P.O. Box 123
St. George's, Grenada

Mrs. Franka Alexis-Johnson
Dept. of Science & Technology
Ministry of Education
Young Street
St. George's, Grenada

Angelm B. Clouston
Senior Crown Counsel
629 Archibald Ave.
St. George's, Grenada

Dr. James De Vere Pitt

Grant - Ann Ples [unclear]
Cathy Hooper

FRG lab on Carriacou
abandoned -

ODU & [unclear] lab?

for [unclear] 10 [unclear] -

Waste disposal

Think em Jenny

between Carriacou & [unclear]

Pekin, meibergs,
Pisa Portman
nutmeg, lavender
mango, banana

OPU farms to
Angel for
HID fellowships

A very bumpy ride

Baffle & cherry

Fish / crunch

Mitsubishi -

Steam laundry

Netkles

Head H2O2S

Levinsmale in name of
drying or the bush

Jim Findley
Fisheries officer
Min of Ag.

Pearls Airport

D~~ist~~
Beach w/ Anselm - Levern Bay at NE
corner
Fish market - Grenville, E coast
Barron reef S of Grenville
Loundonall - near St. David's
Airport & bldgs @ ? -
Out @ beach Great Anse Beach -

Education Mtl.

Would you write
your name and
address, and I will
send some material
to you —

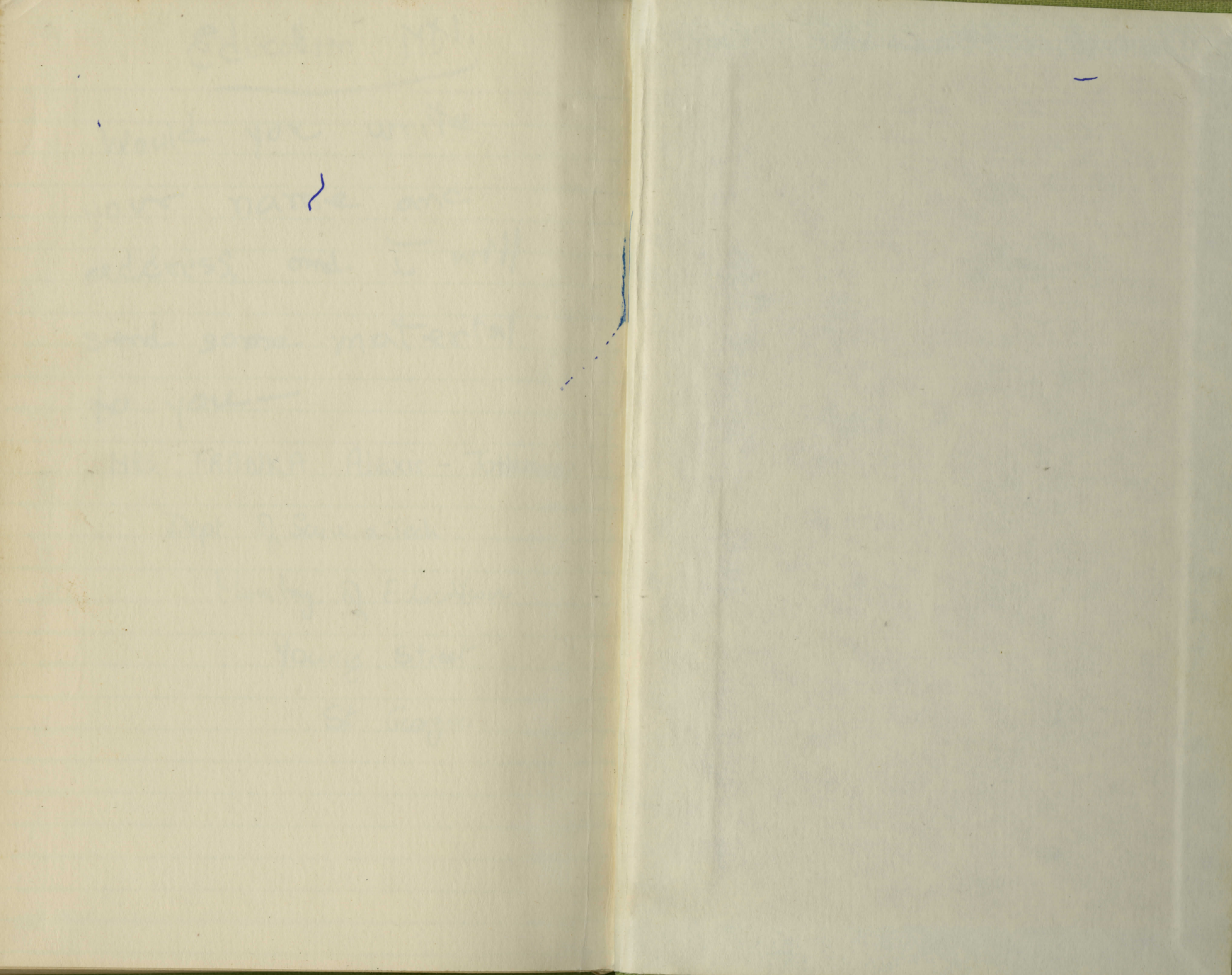
MRS. FRANKA Alexis - Johnson

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