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Report/Article Title Trip reports for Alvin L. Young (dated 12 November 1975 for trip to Eglin AFB, Florida, 15-17 October 1975) and Lorris G. Cockerham (dated 30 December 1975 for trip to Eglin AFB, Florida, 13-21 December 1975)

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Descripton Notes Duplicate is of Cockerham trip report only.

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DEPARTMENT OF THE AIR FORCE
DEPARTMENT OF CHEMISTRY AND PHYSIOLOGY
USAF ACADEMY, COLORADO 80840

REPLY TO ATTN OF: DFCP

12 November 1975

SUBJECT: Trip Report, Eglin AFB, Florida, 15-17 October 1975

TO: DFCP (Colonel Lamb)
DFCP (L/C Klinestiver)

1. All of the undersigned participated in a TDY to Eglin AFB, Florida, 15-17 October 1975 in support of the Herbicide Orange Project. The purpose of the trip was to transport and establish a population of beach mice onto selected sites of Test Area C-52A, Eglin AFB Reservation. Four locations were selected on the southern fringe of the one-square mile sampling grid and three locations were selected on a control area (see attch 1, map). A total of 315 beach mice were released in the late afternoon and early evening of 16 September. Each animal had been weighed and tagged. The animals were then randomly released as pairs (male and female) within the seven selected sites.

2. A TDY is planned to Eglin AFB for 14-20 December 1975 during which time a re-trapping program will be undertaken on those animals released on 16 October 1975. Each animal captured will be weighed and necropsied. Pelts and livers will be submitted for TCDD analyses and all remaining tissue will be prepared for histological examination.

3. Dr. Joe Farmer and Mr. Don Harrison of the Environics and Human Factors Office, Eglin AFB, coordinated the proposed study and furnished support to us while at Eglin AFB. In addition, Mr. Harrison relayed a completed draft of a joint USAFA/Eglin technical report on the 1974-75 ecological studies (see summary, attch 2) to AFATL/STENO.

4. Funds for this TDY were furnished by AFLC under Obligation Authority S76-51, Organization Code 824SP and totalled $961.02.

Alvin L. Young

Alvin L. Young, Capt, USAF
Project Officer
Associate Professor of Physiology

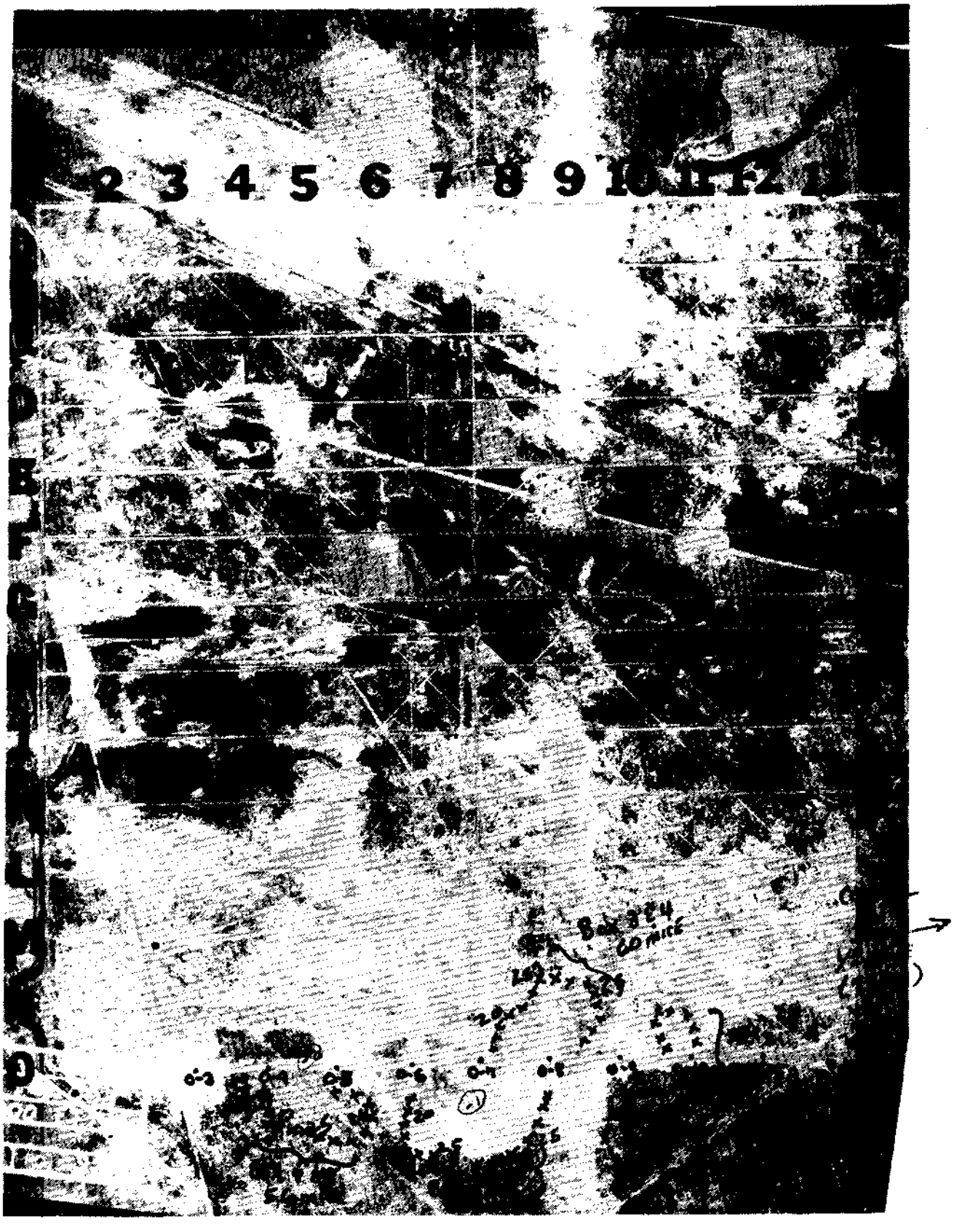
Charles E. Thalken

CHARLES E. THALKEN, Major, USAF
Project Scientist
Associate Professor of Physiology

Lorris G. Cockerham

LORRIS G. COCKERHAM, Major, USAF
Project Scientist
Assistant Professor of Physiology

2 Attch
1. Map
2. Summary



Photograph of Test Area C-52A Showing MICE-RELEASE LOCATIONS, 16 OCTOBER 1975.

DEPARTMENT OF THE AIR FORCE
DEPARTMENT OF CHEMISTRY AND PHYSIOLOGY
USAF ACADEMY, COLORADO 80840

REPLY TO ATTN OF: DFCP (Major Cockerham) 30 December 1975

SUBJECT: Trip Report, Eglin AFB, Florida, 13-21 December 1975

TO: DFCP (Col Lamb)
DFCP (L/C Klinestiver)
IN TURN

1. In mid-October 1975, the undersigned, Major Thalken, and Captain Young, released 315 tagged beach mice (Peromyscus polionotus) on Grid I and an adjacent control area of Test Area C 52A, Eglin AFB, Florida. The present TDY was taken in an attempt to recapture the animals two months after their release.

2. A total of 205 havahart traps were placed in four locations on, or immediately adjacent to, Test Grid I, while 80 traps were placed in four locations on the control area. In seven days of trapping, only 14 animals were captured. As a consequence, on the last day of the trapping program, 22 mouse burrows were excavated. These burrows yielded an additional 15 live animals. Of the total 29 beachmice obtained, eight were pups; and 21 were adults. Field and necropsy data for all animals are provided in Table I (atch). Only five of the 29 animals were tagged. Two were from control locations; three were from the test site. Comparing location of capture with location of release, only one animal was found in the immediate proximity of release (70 yards). The animal found farthest from release was a male released on Test Site I and recovered in a control area (a distance of approximately 1,000 yards). All biological samples were prepared for histological examination (attachment 2) and TCDD analysis (attachment 3).

3. Tentative results from this field study suggest that: (1) the low recovery rate of tagged animals, 5/315, or 1.6% may not, in fact, represent a measure of survival or predation, but rather that the location of trap placement (e.g. at the site of release) did not account for animal movement; (2) it would appear from observations of one of the tagged males (having chewed ears) that beach mice have a territorial instinct, and thus, many of the animals released at a specific site were forced to move (or else fight for survival) into areas of low population density and thus, out of "claimed" territory. Undoubtedly, this "forced" movement

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subjected the animals to potential predation from the red-tailed hawks, Mississippi kites, skunks, red fox, and snakes, and thus reduced the number of animals surviving; (3) liver levels of TCDD from the tagged animals captured on the test grid may not reflect contamination from soil in the immediate vicinity; and (4) data in a previous report by Young, Thalken, and Ward showing TCDD contamination of control animals, may now be explained by confirmed movement of mice from treated to control sites.

4. While visiting personnel of the Air Force Armament Laboratory, it was reported that a drum of Orange Herbicide was found on Test Range 64A. Access and control of this material is presently monitored by the Bioenvironmental engineer, Major Hartman. It was recommended that the drum be sampled for herbicide and TCDD content and then sent to the Herbicide Storage Area, Naval Construction Battalion Center, Gulfport, Mississippi.

5. Funds for this TDY totalled $1,368.81 and were provided from AFLC Obligation Authority S76-51.

Lorris G. Cockerham

LORRIS G. COCKERHAM, Major, USAF
Assistant Professor of Physiology
Associate Investigator

3 Atch

c.c. AFLC/DS (Mr. Merrill)
c.c. AFATL/DLV (Dr. Farmer)

TABLE 1: Field and Necropsied data collected on specimens of *Peromyscus polionotus*, 15-20 December 1975, Test Area C-52A, Eglin AFB, Florida

DATE	LOCATION/NO.	SEX	BODY (wt/gm)	LIVER (gm)	SPLEEN (mg)	ADRENALS (mg)	KIDNEY (mg)	HEART (mg)	LUNG (mg)	COMMENT
15 Dec	Control #375	F	15.836	0.955	56	26	311	149	210	Dead/3 Embryoes-midterm-dead
15 Dec	Test (I) #287	F	13.738	1.221	19	31	318	159	179	One implantation site
16 Dec	Control #CU-1	M	13.105	0.718	12	29	270	140	135	Dead
16 Dec	Test (I) #TU-1	M	10.818	0.728	20	29	231	121	113	Dead
16 Dec	Test (I) #TU-2	M	11.396	0.621	10	26	205	157	76	Live
16 Dec	Test (III) #TU-3	F	17.452	1.102	20	25	285	153	112	Live/3 Embryoes ~15 Days
17 Dec	Control #168	M	13.523	0.895	10	49	273	129	137	Dead
17 Dec	Test (I) #TU-5	M	8.556	0.540	15	13	172	87	119	Dead
17 Dec	Test (III) #TU-4	M	9.366	0.559	14	15	199	105	118	Dead
17 Dec	Control #CU-2	M	13.108	0.899	16	32	262	131	135	Live
18 Dec	Control #CU-3	F	10.268	0.693	22	19	230	133	105	Dead
18 Dec	Test (III) TU-6	F	15.670	1.133	43	23	315	163	130	Live/Pregnan embryoes
18 Dec	Test (IV) TU-7	M	10.97[illegible]	0.795	[illegible]	17	206	117	113	Live
18 Dec	Test (IV) TU-8	M	11.099	0.829	17	31	221	138	105	Live

TABLE 1: Field and Necropsied data collected on specimens of *Peromyscus polionotus*, 15-20 December 1975, Test Area C-52A, Eglin AFB, Florida

DATE	LOCATION/NO.	SEX	BODY (wt/gm)	LIVER (gm)	SPLEEN (mg)	ADRENALS (mg)	KIDNEY (mg)	HEART (mg)	LUNG (mg)	COMMENT
20 Dec	Test (IV) #TU-9	M	12.256	0.749	15	20	236	125	92	Live
20 Dec	Test (II) #TU-10	M	12.269	0.723	24	22	223	141	90	Live
20 Dec	Test (II) #299	F	17.320	1.095	22	28	314	156	131	Live/Four Embryoes
20 Dec	Test (IV) #302	M	12.950	0.983	6	38	252	137	151	Live
20 Dec	Test (IV) #TU-11	F	12.974	1.018	21	53	313	127	95	Nursing Female
20 Dec	10-Day Old Pups	M	3.961							Pups of TU-11
		M	3.884							
		F	4.392							
		F	4.166							
20 Dec	Test (II) #TU-12	F	6.457	0.507	21	9	113	77	81	Month-old pup of TU-16
20 Dec	Test (II) #TU-13	M	6.976	0.578	33	9	130	126	74	Month-old pup of TU-16
20 Dec	Test (II) #TU-14	M	6.654	0.481	28	9	129	93	65	Month-old pup of TU-16
20 Dec	Test (II) #TU-15	M	6.322	0.576	16	8	138	82	55	Month-old pup of TU-16
20 Dec	Test (II) #TU-16	F	15.420	1.304	22	16	363	168	116	Nursing Female
20 Dec	Control #CU-4	F	10.518	0.693	26	15	220	112	98	Live

BIOLOGICAL SPECIMENS FOR HISTOLOGICAL ANALYSIS
EGLIN AFB, FLORIDA
14-20 DEC 1975

The following histological specimens were collected for analysis from control or test (TCDD-exposed) sites on the Test Area C-52A, Eglin AFB, Florida, 14-20 December 1975.

TU-1	Test Animal	16 December 1975
TU-2	Test Animal	16 December 1975
TU-3	Test Animal	16 December 1975
TU-4	Test Animal	17 December 1975
TU-5	Test Animal	17 December 1975
TU-6	Test Animal	18 December 1975
TU-7	Test Animal	18 December 1975
TU-8	Test Animal	18 December 1975
TU-9	Test Male	20 December 1975
TU-10	Test Male	20 December 1975
TU-11	Test Female	20 December 1975
TU-16	Test Female	20 December 1975
CU-1	Control Mouse	16 December 1975
CU-2	Unmarked Control Male	17 December 1975
CU-3	Control Female	18 December 1975
CU-4	Control	20 December 1975
#162	Control Male	17 December 1975
#237	Test Mouse	15 December 1975
#299	Test, Site II	20 December 1975
#302	Test Male	20 December 1975
#375	Control Mouse	15 December 1975

BIOLOGICAL SPECIMENS FOR TCDD ANALYSIS
EGLIN AFB, FLORIDA
14-20 DEC 1975

The following biological specimens were collected from control or test (TCDD-exposed) sites on the Test Area C-52A, Eglin AFB, Florida, 14-20 December 1975.

Beachmice Samples

1. Liver, Test, Tagged, Male/Female, Site I/IV, 15-20 Dec.
2. Skin, Test, Tagged, Male/Female, Site I/IV, 15-20 Dec.
3. Liver, Test, Unmarked, Male/Female, Site I/IV, 15-20 Dec.
4. Skin, Test, Unmarked, Male/Female, Site I/IV, 15-20 Dec.
5. Liver, Test, Tagged, Male/Female, Site II/III, 15-20 Dec.
6. Skin, Test, Tagged, Male/Female, Site II/III, 15-20 Dec.
7. Liver, Test, Unmarked, Male/Female, Site II/III, 15-20 Dec.
8. Skin, Test, Unmarked, Male/Female, Site II/III, 15-20 Dec.
9. Liver, Control, Tagged, Male/Female, Control, 15-20 Dec.
10. Skin, Control, Tagged, Male/Female, Control, 15-20 Dec.
11. Liver, Control, Unmarked, Male/Female, Control, 15-20 Dec.
12. Skin, Control, Unmarked, Male/Female, Control, 15-20 Dec.
13. Whole Bodies, 4 x 10-Day-Old Pups, Test, Site IV, 20 Dec.
14. Bodies (less skins), 4 x 30-Day-Old Pups, Test, Site II(N-9)20Dec
15. Skins (less bodies) 4x30-Day-Old-Pups, Test, Site II(N-9)20 Dec

Other Organisms

16. Insects (Crickets/Cockroaches) Test (Grid 1/2),30.3 gms,17 Dec
17. Grubs (Coleoptera), Test, Site IV, 5 gms., 19 Dec.
18. Snake (Wrights Brown Snake), Test, Site I, 14 Dec.
19. Spiders (Wolf), Test, Site II/III, 5.1 gms., 20 Dec.
20. Toad, Test, Site I, 46.6 gms., 20 Dec.

Nests

21. Control, Southwest Corner, 19 Dec.
22. Test, Site I, 18 Dec.
23. Test, Site II (N-8), 18 Dec.
24. Test, Site II (N-8/9), 18 Dec.
25. Test, Site III, 18 Dec.
26. Test, Site IV, (0-4, Family-Sample #13), 20 Dec.
27. Test, Site IV (0-4), 20 Dec.