

4 - BIG ISLAND

+ 9/21/88 VNP

Helicopter Survey

G.H. BALAZS

Some Kittolo (cont.
from Bk 3)

BALAZS

1984

1987-88

KIHULO - 7-10 AUGUST 1984 (continued from p4-9 Book 3)

20-24 AUGUST 1984 p13-
KAALUALU - MAP P.27
KAMEHAME - MAP P.29
O.R.'s
KALANKEA Pt. - map p.31

28 - 31 AUGUST 1984 - p36-53
PUNALUU WATER SAMPLES w/ALANKAM
KIHULO

EXP. 8 23 - 25 MARCH 87 - P. 56-66
PUNALUU - MOP

EXP. 9 21 - 23 MARCH 88
(Robert Forsyth)
PUNALUU, MOP P.66-72
[8918-19 8922-23
8920-21]

PHOTOS - - PAGE 118



COMPOSTION BOOK

9 1/4 IN. x 7 1/2 IN. (24.8 cm x 19 cm)

AVAILABLE AS	SHEETS	RULING
No. 09-9130 (1130)	60	COLLEGE & MARGIN
No. 09-9132* (1130-P)	60	COLLEGE & MARGIN
No. 09-9134 (1143-X)	100	COLLEGE & MARGIN

* PAGED

MADE IN U.S.A.

BOORUM & PEASE CO. ELIZABETH, N.J. 07208 U.S.A.

LIST OF TURTLES TAGGED . . . P.98

20-21 September 88
VOLCANO NATIONAL PARK
HAWKSBILL SURVEY

P.74-77

1
- PUNALUU PAY PHONE - 928-9944

Randy Nevins - 935-8059 ; 959-9964

Bill Brooks - 969-1596

NISHIMOTO - 961-7501

A. HOWARD - 928-8156

KIM - 959-7762

DIANE - Home 935-9260

Peterson - 254-3028

MOP - 961-9544

HARPER - 969-1478

("ELMER" - MANAGER)

Rolle
Jim =

DOCARE HILO - 961-7291

DOCARE Hotline = 548-5918 ^{supr called -}
3/17/87

HILO HOTEL - 961-3733; PAY PHONE 961-9976

MID PACIFIC - HILO - 961-6626

Nat. Sci. Div - 961-9383

Mr. HIND - 329-8981

G. Martin - 293-2633

CRAIG HINDLE - 965-7839

SRN Box 237

PAHOA, HI 96778

KRISTEN O'BRIEN - Home 959-4031

ABBOTT (1947) Pac. Sci. "All species of
Gelidium are named "limu loloa"
or "limu ekahakaha"

9-11-84 Janette Howard reported that "KAUIA"
spring pond was where turtle net is
now set in bay. Sand was in
in front of it. Clothes washed
there. 1946 Tidal wave changed it to
the way it is now!

Ki Holo 7-10 AUGUST 84
(CONTINUED FROM P. 117, BOOK 4)

TAG DATA OF 22 TURTLES CAPTURED (20 INDIVIDUALS)
APPEARS ON PAGES 98-117, BOOK 3.

8-9-84 No captures during the day. At
Thursday 6pm I watched net alone - 6:30pm
saw a turtle hit -- acted like a
ray at first, since it didn't surface for
at least 5 minutes. Between
6:30 - 8:15 am, caught 7 turtles total
in net - Bill and I handled
them. Included 1 tag recovery
with heavy growth.

NIGHT 2 10 total caught - 2 repeats from
night 1; 1 long term recovery.

Snoorkled entire pond edge again
(lava rock side only) - Bill & I
caught 1 turtle, and missed 1.

TOTAL
NET FISHING
TIME =

30 HOURS

Following snorkel, Bill & I took
nets out at 1:30 am by big
lead & floats together and coiled into
tube. Slept from 2-6 am;
remaining smaller sailboat left 2-3 am
on flow-high tide.

In the afternoon of 8-9 Thursday a
very small ray was found in the
"island peninsula" side of net - I
untangled it - swam away
abnormally.

8-10

FRIDAY

At 6:30 am I worked up

note - Mosquitos at night under ironwood tree
while sleeping in cab of Bronco.

8-10
Friday

the turtles - joined by Bill Brooks at
~9 am. Finished about 11 am.
Ate breakfast and packed all gear.
Saw Cardy Stanley, who came down to picnic
with a large group. Stan Swerdloff due to
arrive later.

Departed ~ 12:30 pm - to keys back to
Mr. Hird's house - son was there
and commented about seeing 10 white
diving at night in pond - sent a week
there.

No sign of "grafts" seen on any of the
small "mudrow" turtles.

Looked for Nishimoto's ^{fishing} place in Haiku
district, where painted turtle was sighted.
Couldn't figure out how to get to the coast
through sugar cane.
Unpacked gear and departed on
Midpac's flight 6 pm, arrived in
Honolulu at 7 pm.

TAGGING Summary

8-10 AUGUST 84

KIHOCO

DATE	TAG NOS.	SL x SW	kg WT.
① 8-8-84 Wed. 8-9-84	3313 LFL; 3314 RFL	53.4 x 43.0	(29.1 kg) 64 lbs
		3/21/80 42.3 34.5 53 MONTHS	0.209 cm 2.51 cm/YR 0.987 IN/YR
② 8-8	7751 RFL; 7752 LFL	38.3 x 31.2	(10 kg) 22 lbs
③ 8-8	7753 LFL; 7754 RFL	38.4 x 30.9	(10 kg) 22 lbs
④ 8-8	7755 RFL; 7756	42.7 x 35.7	(12.7 kg) 28 lbs
⑤ 8-8	7757 LFL; 7758 RFL	50.6 x 39.2	(19.1 kg) 42 lbs
⑥ 8-8	7759 LFL; 7760 RFL	53.6 x 42.2	(25.5 kg) 56 lbs
⑦ 8-8	3496 LFL; 3497 R2S	62.3 x 49.1	(37.3 kg) 82 lbs
	7761 RFL (new)	10/17/80 52.9 41.1 46 MO.	0.965 IN/YR 0.204 CM/MO 2.45 CM/YR 51 lbs 23.2 kg
⑧ 8-8	3478 LFL; 3479 R2S 3480 R1S	69.6 x 53.3	(45.5 kg) 100 lbs
		10/15/80 58.5 49.0 46 MO.	0.241 CM/MO 2.90 CM/YR 1.14 IN/YR
⑨ 8-8	7762 RFL; 7763 LFL	56.0 x 43.1	(24.5 kg) 54 lbs
⑩ 8-8	7764 LFL; 7765 RFL	62.6 x 50.0	(35.9 kg) 79 lbs
⑪ 8-8	3487 LFL; 3488 RFL	68.0 x 52.2	(39.5 kg) 87 lbs
		10-16-80 57.9 44.3 46 MON.	0.220 CM/MO 2.63 CM/YR 1.04 IN/YR
⑫ 8-8	7766 RFL; 7767 LFL	48.3 x 36.2	(17.3 kg) 38 lbs
⑬ 8-9/8-10 THURS.	7768 R2S; 7769 LFL	42.1 x 34.3	(14.1 kg) 31 lbs

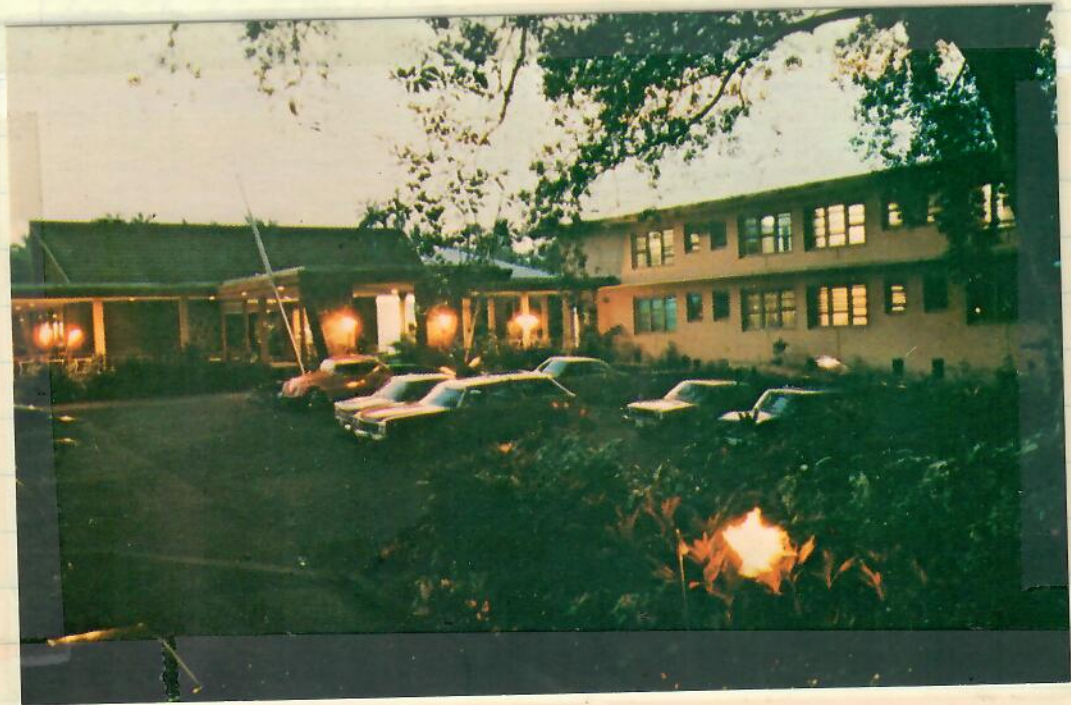
8
1984

<u>DATE</u>	<u>TAG NOS.</u>	<u>SL x SW</u>	<u>kg wt.</u>
⑭ 8-9/810 Thurs.	7770 R2S; 7771 LFL	38.0 x 31.9	(10 kg) 22 lbs
⑮ 8-9	7772 RFL; 7773 LFL	53.0 x 44.2	(20.9 kg) 46 lbs
⑯ 8-9	7774 FL; 7775 FL	53.0 x 41.3	(23.6 kg) 52 lbs
⑰ 8-9	7776 RFL; 7777 LFL	52.8 x 41.1	(20.9 kg) 46 lbs.
⑱ 8-9	7778 RFL; 7779 LFL	57.8 x 47.0	(28.6 kg) 63 lbs.
⑲ 8-9	7780 RFL; 7781 LFL	65.7 x 52.9	(40.0 kg) 88 lbs.
⑳ 8-9	<u>RECOVERY</u> 3317 RFL; 3318 LIS 7782 L2S	3-21-80 (TAKEN OFF) 53 MON. 49.4 x 37.7 63.5 x 48.3	(35 kg) 77 lbs 1.26 in/yr 3-19 cm/yr

10

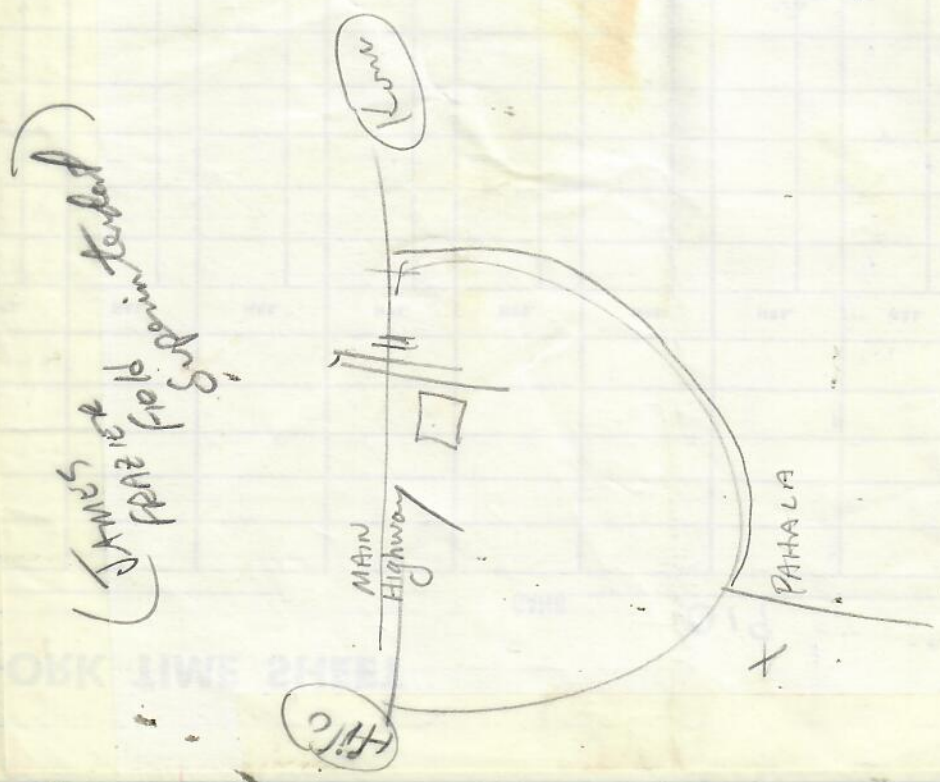
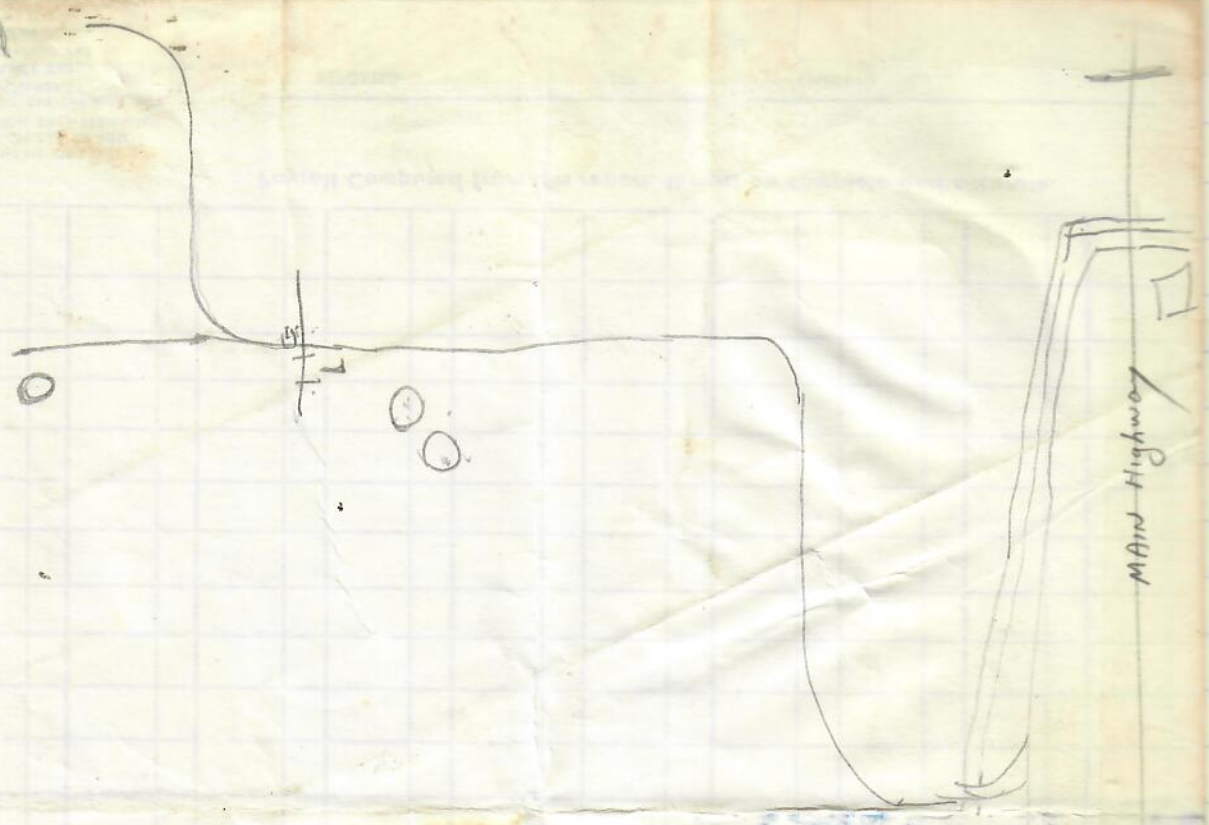
Toward
Volcanoes Park

FENCE LINE

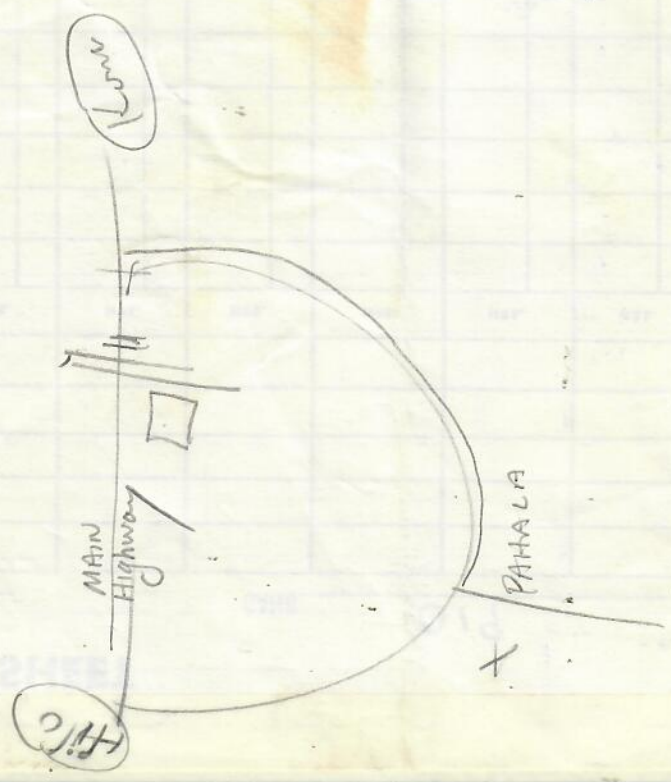


Hilo HOTEL

KAMEHAME MAP by BOB DOTY
8/84



TRAILS
FIELD
Spermin
Kauai



MAIN Highway

PAHALA

Hilo

Kona

AUGUST, 1984

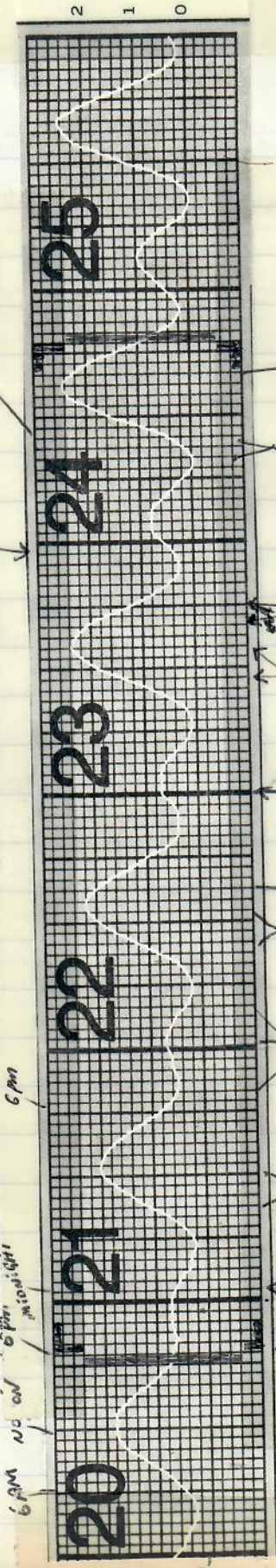
For tide time at following places, add or subtract from Honolulu time.

PORTS	Hrs.	Min.	Hrs.	Min.	
HANALEI BAY, KAUAI	-1	40	KAUNAKAKAI, MOLOKAI	-0	09
NAWILIWILI BAY, KAUAI	-0	32	KAHULUI, MAUI	-1	48
PORT ALLEN, KAUAI	-0	32	KIHEI, MAALAE BAY, MAUI	-0	14
HALEIWA, OAHU	-1	36	HILO, HAWAII	-0	59
HANAUMA BAY, OAHU	-0	55	HONUAPO, HAWAII	-0	24
KANEHOHE BAY, OAHU	-1	35	MAHUKONA, HAWAII	-0	24
LAIE, OAHU	-1	48	KEALAKEKUA BAY, HAWAII	-0	16
WAIANAE, OAHU	+0	16			
WAIMANALO, OAHU	-1	15			

MOON PHASES

FIRST QUARTER AUG 3	FULL MOON AUG 11
LAST QUARTER AUG 19	NEW MOON AUG 26

MONDAY
TUESDAY
WEDNESDAY
THURSDAY
FRIDAY
SATURDAY



21 AUGUST = ADMISSIONS DAY
STATE HISTORICAL

20 AUGUST 1984 MONDAY Depart for Hilo 6:05pm
 Mid-Pacific Airlines; Fin drove me
 to the airport.

Arrive Hilo 7:15pm - Harger's Bronco
 waiting at the airport lot. Checked in to
 Hilo Hotel - #665 - Room 8 in the back is
 decent.

21 AUG. ^{9AM} Met Bill Brooks and Diane at MOP office -
 TUES. Randy stopped by to say he couldn't go.
 Loaded gear at Boat House, got ice,
 shopped at KTA (#22.00) and picked
 up 12V that had been on charges. Left
 for Koolaua ~ noon. Arrive

at 2:30pm at Bay. - road is basically
 the same as 4 years ago - perhaps in
 better condition. Need to check on
 exit though "left fork gate - mistakenly
 walked with Russell - also on
 return of this trip. 6-7 cars
 on shore sheltered with side of "inlet";
 2 cars by old house causing other.

Most of the cars were apparently for
 surfing - not staying overnight. Relatively
 large shoreline surf - right at prime
 turtle netting site near old house.
 Photos taken. Drove around to
 "Muki Cow" site - 2 tents, several hooks
 camping there - Haven't caught fish, but
 mentioned seeing a couple turtles when asked.

21 AUG. 84

TUES.

Boulder beach here also has surf rolling in on it. Sometimes there is a very large wave set. In between it is very flat - almost no wind off shore. Slightly to the south (right of shelf extending out in narrow band underwater) the effects of surf are much reduced for some reason. Perhaps due to direction/pangle of swell. We sat here and watched for ~30 minutes, considering this as a site to set nets. Thereafter, we (Diane & I) snorkeled to survey bottom. Coarse medium boulder bottom quite shallow (at least deep). Seemed like lots of place for net to hang up. Also, when in the water it was apparent that the swell is pronounced to be of hazard, especially when having to walk on intertidal, slippery boulders. Pterocladia intertidal on boulders. Abandoned idea. While watching here, Diane saw a small (green) surface ~ 5 times - obviously foraging. We drove further along (coast) and in an adjacent cove saw a very small juvenile foraging close to shore. Turned around and drove back near the house, where

NEEDS:

- 961-0754
- ① 6V Batteries
 - ② Film
 - ③ AA Batteries
 - ④ 2 D-cells
 - ⑤ Samples to Dennis Russell
 - ⑥ Ship back gear (compressors & nets)
 - ⑦ Charge 12V battery (or use Bronco?)
 - ⑧ Leon Dive Luako? ~~⑨ KINGSTON~~ - Call Bud Doty
 - ~~⑩~~ "Penny Brown" JACKSON telephone
 - ⑪ DIVE HORSESHOE
 - ~~⑫~~ See Nishimoto site
 - ⑬ wet suit glue
 - ⑭ Alamo plan "KA"
 - ⑮ more Lino photos
 - ~~⑯~~ Call JACK HARPER - then Bill
 - ⑰ RAG to cover NET
 - ⑱ STICK
 - ⑲ Call JOCARO
 - ⑳ N-P at Puna ^{HAWI}
 - ㉑ Another folding chair?
 - ㉒ MONROE WOLLARD - 889-6343
 - ㉓ DIANE - BRING centrifuge labor day ^{EDWIN}
 - ~~㉔~~ GET NEON AT MOP
 - ㉕ Note to RALPH ^{EDWIN}
 - ㉖ Check Doty photos ^{IN ALBUQU}
 - ㉗ Letter to AGEIBUSINESS ^{RAU} (Maui Kaula) ^{concern of Toy Co.}
 - ㉘ Bumper sticker (cost?)
 - ㉙ Award certificate
 - ㉚ Lit. to Lutken House
 - ㉛ Lit. to P. Brown
 - ~~㉜~~ Lit. to JANET Kakehano
 - ~~㉝~~ Lit. to Woodfield
 - ㉞ Craig's last name?
 - ㉟ Cardboard box
 - ㊱ ISABELLE bird - "6 MONTHS IN THE SANDWICH IS."
 - ㊲ Janet - kaula - turtle article in Mid-Pacific
 - ㊳ Stewart Kearnston
 - ㊴ Scuba from Lapahoe

21 AUG 84 Diane and I snorkled, starting in
 TUES. calmer waters of inlet. Noted
 small gillnet nearby, presumably
 tended by someone around now. Water
 very turbid, as at last site. Algae
 cover, and coral, seemed less than
 the previous times I dove here.
 Swam out away, but stopped short
 of where the rolling breakers began.
 Didn't see any Pteropodia, but
 probably this was due to not having
 swam out far enough to where
 it occurs. This is why we
 never set the net within inlet (?).
 Drove on around to sheltered
 camping area, then back up
 the road to Punaluu, arriving
 at dark. Stopped at Waialeale
 pay phone to call home and
 to Bud Doty to arrange for
 Kamehame Key. At Punaluu we
 drove in to Johnson's Ford site.
 No wind, heavy overcast, and
 white-water waves breaking heavily
 all along shore. Johnson's Ford
 appeared too rough to snorkel.
 Doubted if turtles could be sleeping in
 here under such conditions. Horsehead
 had very large tent structure camped
 near it, so didn't survey there for

21 AUGUST
84

possible dining. Prepared dinner ("Victory Dinner")
of steak, scallops, Macaroni & cheese - took photos.
Light short rain; slept in cab
of Bronco. Heard frogs at pond.
Swatted one mosquito. Mongoose and
small rats ate food scraps.

22 August
Wednesday

Up ~ 6:15 am - ate breakfast
and left for Pahala - stopped
at Pavilions - no one around; stopped
at concession and noted bamboo pole in
rock - larger than 8'. At Pahala
I went to field supervisors office -
met ^{Bob} Smith - 12 years ago he
lived in Pahala for 3 years - has
been in Maui. Previously lived on
Kauai - knew Linda Mamiarty and
family. Used to take turtles
off Anini - where they slept.
Said something to the effect that it
was a shame the ease and way
they were killed. He also said that
his feeling is that there are more
turtles along Kau now than when
he lived there before.
Bud told about the "turtle back" in the
cave. A man from Boston specializing in
petroglyph came and saw it - felt that
what was previously thought to be
defacing with initials was actually
ancient markings. He plans to

22 AUG 84

Wed.

come back in March for more research.
A Ruth Hanner of Hawaii is doing
a book on petroglyphs.

Met James Frazer - Field Superintendent
who signed permit. This man seemed
interested in turtles - had anchored
his boat off Nualobhai.

Did not meet, but Bud wrote down
the name of - IAN BOWMAN

P.O. Box 130
PAHALA 96777
TEL. 928-8311

Mgr. & Vice President
Kauai Agribusiness Inc.

Should write letter to him.
Bud mentioned that a "Sato"
goes to Kamehame a lot to fish.
He will ask him to watch for
turtle activity.

4 miles
from
highway
~45 minutes

Followed Bud's map and drove down
dirt road - followed barbed fence
straight to hill and sea -
photos along the way. Pahala and
mountains are an attractive view.
Also, grass area with monkey pod
looks like Africa savannah.

At point where fence reaches
ocean, we followed trail to the left
for $\frac{1}{2}$ mile at the most, where it
seemed to head inland. We
stopped bronco here and walked to
the sea - found a stout bamboo

22 AUG 84
WED.

19

hole possibly used to take turtles.
Threw it in the ocean. Noted
white coral pieces, and smooth
rock extending well inland - presumably
thrown there by storms - tidal
waves. Drove back to fence - parked
and walked across the lava flow
 $\frac{1}{2}$ mile to Kamehame Hill.
Area photos taken. Saw a small juvenile
presumably feeding close to shore.
Heavy Juaves on beach and rock
island just offshore. Dried algae
debris line revealed some Pterocladia
and Amansia. No fresh tracks
or digs found, but under Kaupapa
patch there were 2 excavations -
looked old -- possibly even from
last year. Small fragment of egg shell
found at the surface. Hiked over
Hill - old fishcracker on top.
On other side (closest to Lunaluu)
lots of footprints were present. Black/
green sand is here, but
large, rocky approach must prevent
nesting attempts. No signs of nesting.
On return over hill, noted overhang
where people sometimes sleep/stay -
in this beach area, also saw footprints
of cat or mongoose. Bill thought that a
fig trail existed through hole koa,

22 AUG 84

Wednesday near nesting site under Naupaka. Pigs, cats, or mongoose dig up and eat eggs? Shell fragment from predation? Hiked back out to Bronco and drove out. Picked several "wild cucumbers" along the way. Read in book that Cit was introduced from Arabia for its "curious fruit" - propagates by seeds.



Returned key at Palala and drove to Hilo. Stopped for ice cream cones. Unloaded gear at Boat House and MOP office. Checked in to Hilo Hotel and traded Bronco for ^{TOYOTA TERCELY} compact car. Drove to Richardsons and Puhi Bay treatment plant (Pt. of land). Watched for turtles feeding, late afternoon - saw nothing. Many tents on Hawaiian Homes park. Looked at 2 fishponds on Kalaniana'olaha St. (house across from 1373 address)

22 AUG, Larger pond has large amounts of
 Wednesday floating algae. Smaller turtle seen
 swimming - larger one hauled way up
 on bank separating 2 ponds - plates
 peeled somewhat (from fresh water?). Apparently
 the turtles can, and do, go back and forth
 between the ponds. Both turtles look to be
 about the same size, as when I first
 saw them (check photos). Note - Diane
 reported again about turtle being taken along Keekaha
 and Hilo Bay front. Returning to hotel I
 noted large pile of dredged material taken
 from channel entrance to Swisan.
 Children seen playing on pile. Evidence
 that material is gradually being
 taken away. Sold as top soil?
 Arsenic content? Tested for?
 Levels in turtles in the bay?
 Need fat & bone samples.
 - Message from Howard Takata (935-300R)
 to contact (959-9155B)

DAN LUTENHOUSE (935-4703)
 248 KAHOA RD.
 HILO 96720

23 AUG - Telephoned him - 9am; - 6 yrs ago
 Thurs. he started a Botanical Gardens at
 ONOMEA valley-bay. A nature preserve.
 When first purchased, he stopped
 people from shooting turtles from
 the cliffs - "weed spot"

23 AUG 84
THURS.

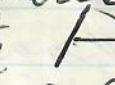
Terry Tekini is caretaker -
wife Theresa operates entrance
desk (964-5233).

Requested info on turtles. He will
send brochure which mentions turtles
(and Turtle Pt. they have named).

Telephoned Janet Howard to describe
events after I last saw her. Young
people know that police were at
Enriques' house. During conversation,
the following were mentioned - 'take
turtle for mother & father to eat',
'gave meat away', 'expected something
to happen - police to come' - 'got rid
of tags and meat'. Howard - a
turtle taken one week after
the incident - bamboo pole used
from point between Horseshoe and
Johnson's Pond. Turtles have been
coming right up close there to feed
lately. Anthony Oliveira doing
it - 928-6116 Pahala. Janet's
cousin and her family have been
camped at Horseshoe - saw a
turtle come into their camp -
Name - ^{RICHARD} WAR FIELD. will stay
until Sunday. - 103 ^{KRAUTHRE} (935-0466)

Arnold said likely turtle take
time is when there is a high tide
in the afternoon on a Friday - Sat - Sun.
Why wasn't pole taken as gear used?? At least one could
Other see if a new pole was put there.

Drove to Pahoa and on the

Oris house - entrance now has
nice gate  of natural wood.

Perelope O. Brown

Box 14

Pahoa, HI - 96778

Described the following:

12 July 84 man down the way claimed he saw
the turtle in "broad daylight" "laying eggs".

17 July - new tracks seen +

23²

24 July - new tracks, + photos taken
+ DIGS

8 August - tracks only, - on left side of beach
NO DIGS

17 Aug - new tracks and digs

Lenny said her mother Annette died
March 17, 1983 - it was about that
time that much of the beach departed -
leaving exposed boulders over much of
shoeline - see photos. However, departing
turtle tracks go right to boulders - possible
to crawl over? or then crawled parallel to
sandy entrance? Boulders are large and slippery
smooth. Even at high tide, the boulders may
prevent an obstacle to departing hatchlings.
Awa crabs seen on rocks, but they only have
small claws. Lenny has a snap of

23 AUG 84

THURS -

dig sites - will send me a xerox.
 Most digs are in a "bar" just below the beach heliotropes trees - a favorite place for beach goes because of the shade given. I recommended roping this area ~ 10-15 x 30-40'. On about Sept 10 or later it will be important not to step here, lest the nest caverns be saved in. Mongoose are still present (she feeds them at the house), but states they are not seen down by the water. No evidence of nest predation see after each night of emergence.

Previous hawksbill nestings: _____ 1976
 and _____ 1982.

Went to Jackson Bryans house (lady, Shelby). He used to hunt fish with bow - said turtles come around asking to be shot. Is not aware of (site along this coast where more than a few turtles can be seen at a time. Said the great is "very fine eating" ^{turtles} not often seen off Orr's beach.

~ 3:30pm Depart for Lualaba, arriving about 5pm - Surf still heavy - photos WA at Horseshoe area. Campsite. Still there took photos of where turtle came a

23 AUG 84 Talked to Richard (?) Warfield -
 Thurs. Said turtle came up "4 nights ago"
 Sat. or Sun. night - once at 7:30pm -
 and again at 10:30pm when it got
 "caught" on tent support line. "Chased back
 in". He showed me an excavation
 under Nanpaka, which he feels the turtle
 dug. on both times ashore, not enough
 time would have elapsed for egg
 laying to have occurred. On the next
 morning, he walked along sand cove
 at southern extreme, where lava flow
 begins, and found fresh tracks (probably
 same turtle). I later looked at
 this beach, but found no evidence of
 digs or tracks. Surf had washed
 right to vegetation line. No digs
 seen under in vegetation. Drove to
 beach near concession - 6:00pm
 and watched at least 4 turtles
 feeding in close to the rocks -
 wet areas, and where I saw turtle
 taken. All looked small-medium in
 size.

Went to Sea-Mountain Golf restaurant
 where I found Herb Kane's picture of ^{TURTLE} MAIDEN.
 Told by waitresses that it is moved
 to restaurant by ponds periodically when a
 special event occurs. Hawaiian lady
 who seemed to be a manager said that

23 AUG 84 her and a girlfriend were reprimanded
 Thurs. for "seeing tears" while drinking
 beer. You must look at [it]
 for a long time in order to see
 them. Some people have told her
 lady in the painting looks like her.
 Attention - Janet Kaleohana

SEAMOUNTAIN GOLF COURSE
 P.O. Box 85, PAHALA, HAWAII-96777

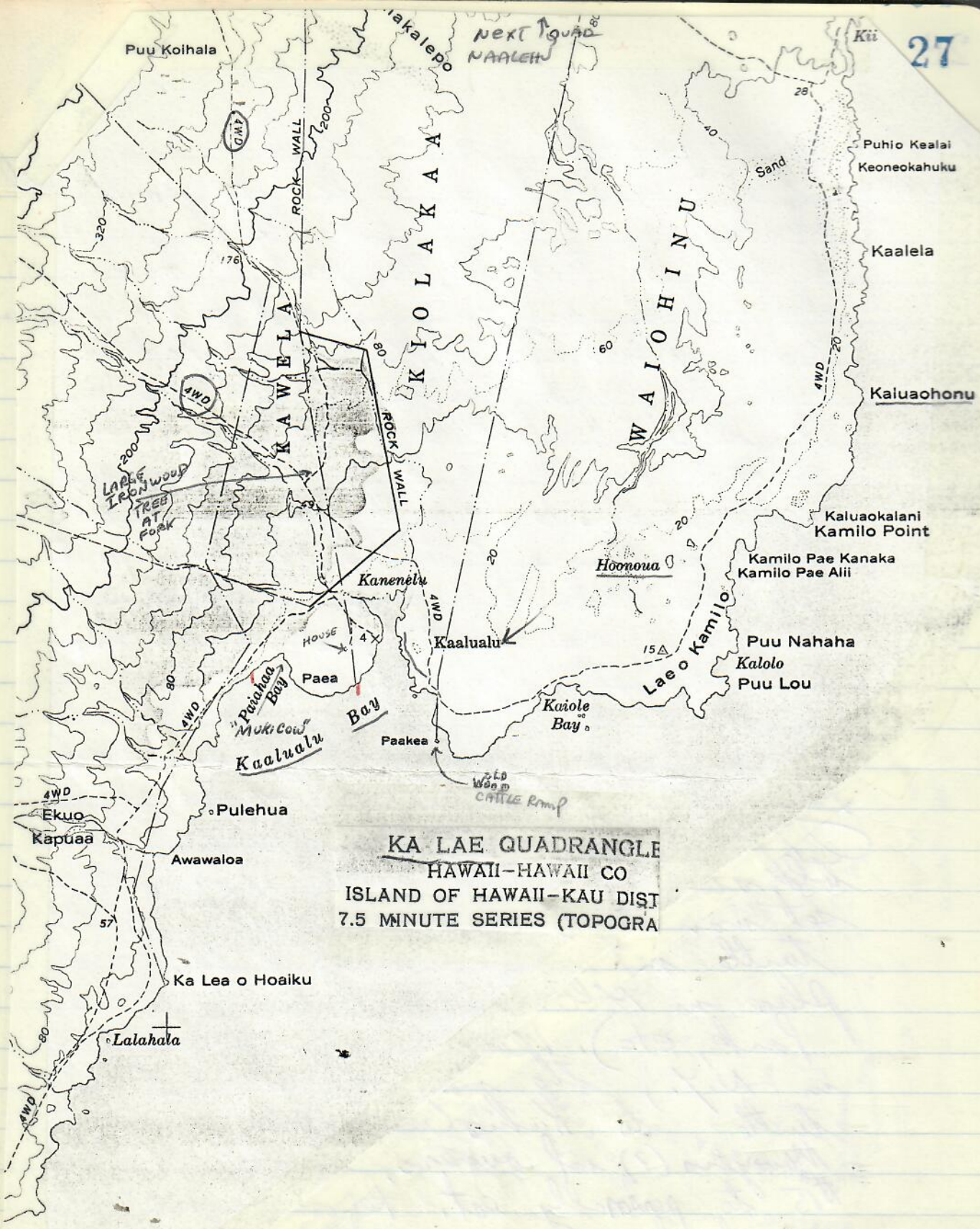
I promised to send literature about leg
 turtles, etc. (Also "Debby")

Departed Punaluu - 6:45 pm to Hilo
 Dinner again at Chinese restaurant #5

24 AUG. 84

FRIDAY

(MILE 20) Met Bob Nishimoto and drove to
 Kaloakea Point where Bob and a
 friend had seen painted "64" or 64
 on July 10, 1984. Drove through
 side road in cane field, then
 hiked down muddy foot path, using
 electrical cable for hand-hold. Saw a
 large turtle surface off the point. Later
 saw 2 other, 1 small & 1 medium.
 Noted Pterocladia growing on rocks of
 point. Photos taken. From here [it]
 enters the water to spear fish.
 The southerly cove where they saw
 the turtle, while sitting on the
 rocks, is 60+ deep.



KA LAE QUADRANGLE
 HAWAII-HAWAII CO
 ISLAND OF HAWAII-KAU DIST
 7.5 MINUTE SERIES (TOPOGRA

inalu

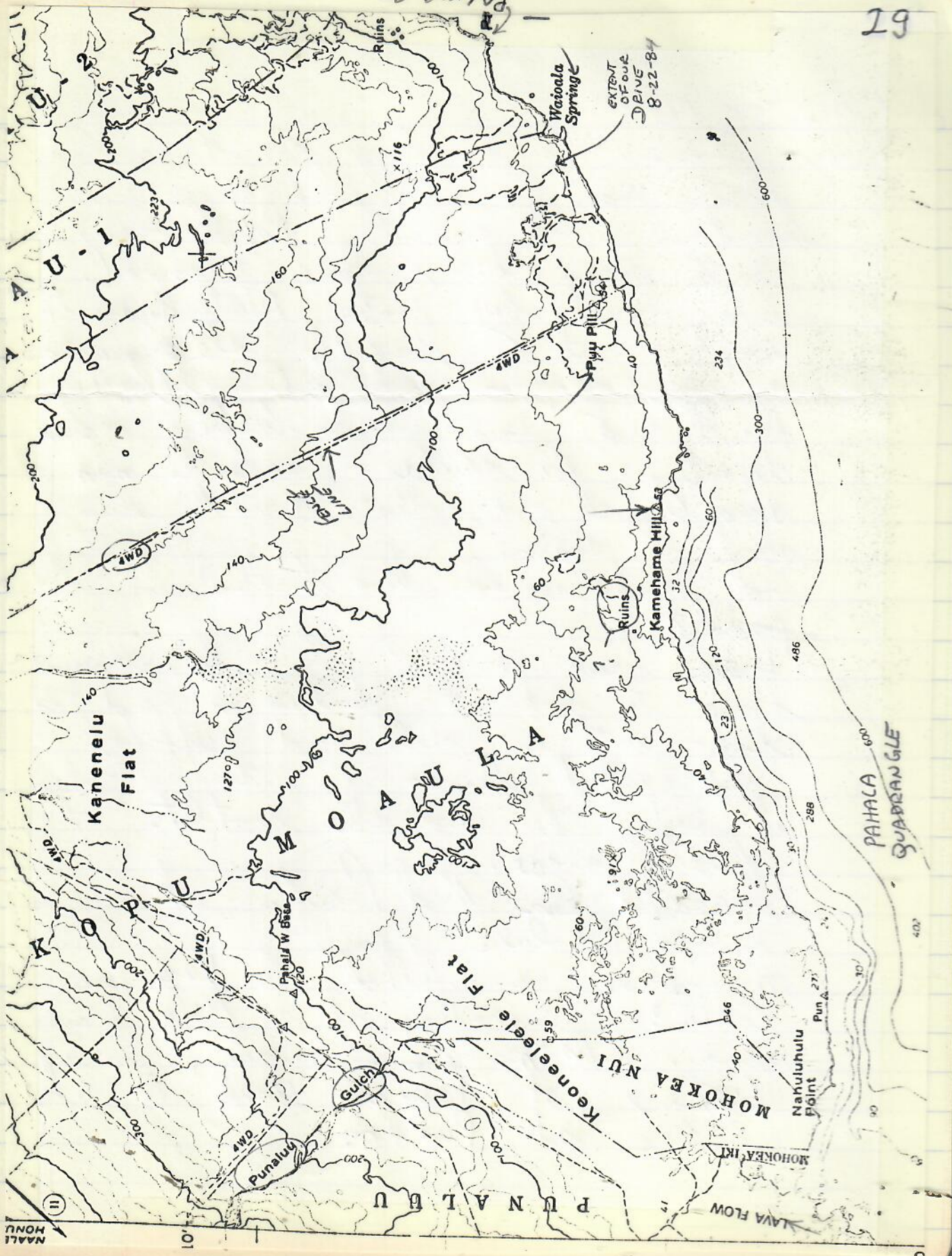
Paakai

24 AUG 84 Lapahoehoe is ~ 1/2 mile away -
 FRIDAY boat ramp there will be ~~impro-~~
 starting in 1985. Possible to pitch
 a small tent on the point - make
 observations early morning and late afternoon.
 Bob mentioned that his father
 used to catch turtles by hand diving.
 He will contact a friend who
 retired recently and was experienced
 catching turtles. He will ask him about
 the significance of turtles at this point.
 Bob said that the younger people are
 not fishing as much, and the older
 people are getting too old.

Drove back to Hilo via "4-mile
 scenic route" - photos overlooking Onome
 Bay. Back at Hilo Hotel ~ 11:30 AM.
 TO MOP office ~ 1 PM - Diane & Loretta
 told about "Iki" - 50 year old Hawaiian beach
 set man who has been setting a
 turtle net all summer at various
 places in Hilo Bay (i.e. Puhi Bay, Pealoha
 Park, etc). While Diane & Loretta were
 in N.Y., the man offered a small
 turtle to Kubio Gardens restaurant
 Managers (?), not owners, bought it for
 \$15 to personally eat. Report to not be
 very fresh.

Drove with Diane to Shipman
 Estate (Blackshear's home) where

PALMA PT



NAALI HONU

24 AUGUST 1984

FRIDAY

Jane is working for Arlo Fast feeding fish in suspended cage and monitoring water quality - Rapid flow into ocean down "Jöluie" channel. - into small bay - photos. Water hyacinth washing out. Possible sleeping areas inside bay, or each side of Ucharge. Recall that Dudley saw turtles when departing for scuba - freshwater mix area. See old notes - or ask him about it again.

Did black bears ever have turtles in the ponds?

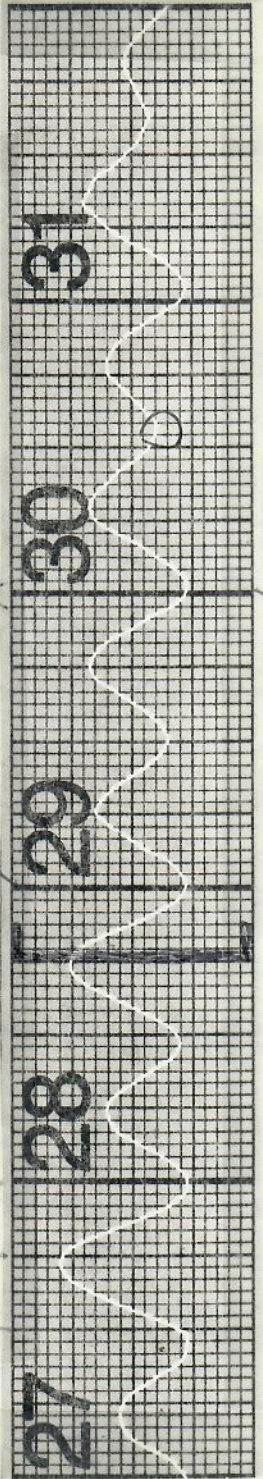
Drove back to MOP, then to Kalaniana'ohle house to look at turtles in pond. Tide high - both in right pond. Watched and photoed larger of 2 turtles - saw it eating the underside "rootlets" of floating algae.

Departed on Mid-Pacific at 6pm - arrived Honolulu 7pm - on airplane I talked to Veronica Tallin^{et}(?) - secretary at a Hilo travel agency. Both ~~_____~~ Garcia, is a fisherman at Pahala. Used to catch turtles at Puako.



AUGUST 1984

MOON PHASES		For tide time at following places, add or subtract from Honolulu time.	
FIRST QUARTER	FULL MOON	Hrs.	Mins.
AUG 3	AUG 11	-1 40	0 09
AUG 19	AUG 26	-0 32	-1 48
LAST QUARTER		PORTS	
NEW MOON		KAUNAKAKAI, MOLOKAI	-0 09
		KAHULUI, MAUI	-1 48
		KIHEI, MAALAEA BAY, MAUI	-0 14
		HALO, HAWAII	-0 59
		HONOLULU, HAWAII	-0 24
		MAHUKONA, HAWAII	-0 24
		KEALAKEKUA BAY, HAWAII	-0 16



Hilo HOTEL

MON MIDNIGHT

TUES

WED

THURS

FRIDAY

MIDNIGHT
Hilo
JANET

KIHALO

Sweetie
Nancy
Cheryl
Linda
5 others

28 AUGUST 1984
TUESDAY

Depart 6:05 pm Mid-Pacific Airlines for
Hilo/Alan ^{Arrive} 7:15. Picked up 1982 Buick
Regal wagon waiting at airport. Checked
in at Hilo Hotel \$22.00. Went to MOP
to get key - loaded gear from boat house -
then shopped at KTA until 10 pm -
Ate dinner at Chinese restaurant.

29 AUG, WED. UP 6:15 - departed for Punalu'u ~ 7 am
arrive 8:30 am - Checked Southern black
sand beach for signs of hawksbill nesting - none.
Found velleta washed up - photos taken.
Checked Horseshoe - throw-nets to the
left and right. photos of black sand roadway where
Howard found turtles crawling to rest.
Drove to beach to check on fresh water
seeps - which became prominent with low
tide. One found coming from between small
rocks.

Drove to Golf course restaurant where we
drank coffee and read directions for "Hach"
Nitrate and Phosphate kits. Took flash
photos of turtle painting - promised to send
one to Janita.

sent
9-18-84

10:45 am water sample taken at fresh
"seep" near net site #1.
Temperature - 18.5°C - Alan's thermometer
- 19.0°C - mine

29 AUG
WEDNESDAY

SAMPLE #1 Freshwater see ^{TEST}
NITRATE ANALYSIS - 0-10 mg/L =
No red color - ∴ no detection

^{TEST}
0-1 mg/L = 0.14

PHOSPHATE 0-50 mg/L = light
blue - barely visible

0-5 mg/L =
EST. 5 < 10 on wheel

Screw cap vial saved for salinity test.

~ 12 noon - knee deep off "seep" - net
site #1 - just inside of boulders where
Pteriscladia was collected.

Screw cap vial of seawater for salinity.
- 1 pm - test made while parked at Horwage.

SAMPLE #2 (Seawater)

NITRATE 0-1 mg/L test =
0.04 - 0.06 mg/L

SAMPLE #2
PHOSPHATE

0-1 mg/L test =

est. 5 ≤ 10 mg/L

15 too dark on wheel
10 seems about right
05 too light

29 AUG 84 Arrived at Kiholo ~ 3:30pm -
WED

set up camp near ironwood tree.
Blue power boat, and tarp-camp,
on peninsula.

At small beach we met -

PAUL & BARBARA GANLEY

1582 St. Louis Drive

HONOLULU, HI 96816

TEL. - PAUL MULLIN GANLEY, ATTY.
CHUN, KERR & DODD - 531-6575

Daughters Shauna & _____ Interested
in turtles. Daughter of H. Porteus -
visited here during the summer when
growing up. Remembers seeing
many turtles entering & leaving inlet-
heads in bay. Heard of nesting
in Kiholo in the past.

Paul expressed interest in establishing
a nesting area here - making a
beach, bringing in eggs. (Some by Paul) 10 yrs
ago, turtles were put in ponds -
kept ponds clean of algae - thought
to be the case by the caretaker
of that time. Turtles disappeared
from ponds - people told them
they would crawl out - to the
ocean, especially when it was
"mating time". Barbara said that
boop fishing, and sometimes
shooting, used to be
seen at times when they

29 AUG

visited Kiholo.

Steak for dinner cooked over campfire.
Rain, heavy at times, constant between
9-11 pm.

Snorkeled inlet 11-1 AM.

Caught 5 turtles (fit them all into the tube).
4 were recaptures from 8-10 AUG 84 trip.
Saw 5 others - 3 swimming when
first seen - 2 in sleeping but
came out rapidly (one ^{fast} large est. > 100 lb
grabbed, but couldn't hold on.)

overcast - black out - got dizzy at
times due to cloudy viewing with
small flashlight.

Fish barged into our heads -
possible hazard from pointy beak of
stick fish.

30 AUG 84 Collected data on turtles 6:45 am -
Thursday 8:30 am on sand beach with
Granley's assistance.

Ate lunch wrote up notes -

At 12 noon low tide we probed
the perimeter of the entire inlet, including
ocean (peninsula side). Upper layer of
fresh water very visible - cloudy
saltwater underneath - "peaks" of
rocks reaching into freshwater
look like mountains above clouds -
like a view from a high altitude

30 AUG 84 KILTOLO
Thursday

recap 8-8-84
① 3496, 3497, 7761

SL - 62.1 cm
SEX = FEMALE * Blood obtained

recap 8-9-84
② 7768, 7769

SL - 42.1 cm
unable to obtain blood

recap
③ 7766, 7767 8-8-84

SL - 48.2 cm
SEX = MALE * blood obtained
(many skin barnacles)

recap
④ 7751, 7752 8-8-84

SL - 38.5 cm
unable to obtain blood
2 photos WA

⑤ (next page)

30 AUG 84 -
new capture

7783 LFL

S - 40.0 x 33.5

Notch - 39.5

7784 RFL

C - 41.6 x 37.7

PL - 32.9

HEAD - 6.6

TAIL - 7.0

weight - 22 lbs

Photos w/group

Unable to obtain blood.

30 AUGUST 84
THURSDAY

jet. In the very back of the inlet we found a couple of freshwater discharges boiling to the surface. No turtles seen - no evidence of turtles having swam out, seeing one before we saw them. ^{ie.} Also, two signs of cloudy area.

Stopped and talked to 2 men coming fishing boat - mentioned seeing large turtle offshore - and that nets (for skate?) were frequently set off end of peninsula & across channel entrance. Man commented that they surely catch turtles. Lobster season starts tomorrow - wary expected to be ramping here starting tomorrow - Friday. Along the peninsula the water was much clearer - but still a prominent freshwater layer. Drop off is fairly steep in many places but no turtles seen at the bottom.

Slept for an hour+ between 2-3 pm. (also)
Set 1 section of net at 5 pm (net combination) Starting ~ 6 pm
caught 4 turtles total, 3 untagged
1 tag recovery old. Net taken out ~ 9 pm ∴ 4 hours fishing total.
Tag recovery transported in tub

LAVA FLOW OF ?

Hou Point

BAY

KIHOLO

Kiholo

Spring

Spring

Keonalele Waterhole

Lua hine wai

Wataalepe

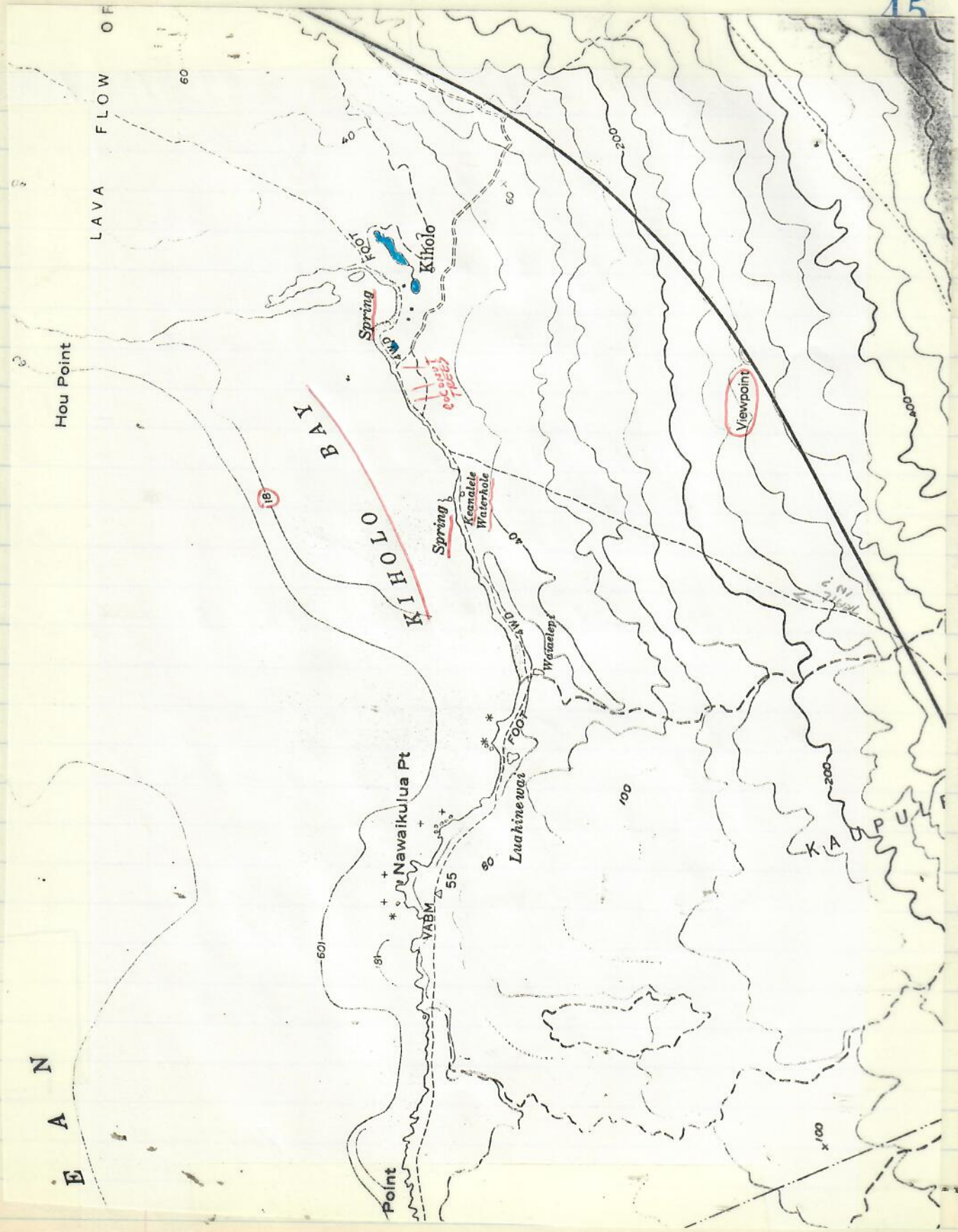
Viewpoint

Point

Nawaikulua Pt

KAPU

E A N



8/30 to ironwood tree. Remaining
Thursday turtles left on black sand
beach - processed, shortly after
first light. With the start of
Labor Day weekend, I was
concerned about someone coming in
across the lava flow to camp
and finding turtles. UH sign
left by turtles. Earlier this
afternoon, several boats pulled in
and 2 large "blue-top" campsites
were set up. 2 + lights (electric?)
were brilliant from sunset
on.

8/30/84 net
Thursday

S-59.0

Recovered HPA#7
5/4-5/5/89

S-51.2 x 39.8
(Notch-50.9)

C-62.5

7785 LFL

C-54.0 x 48.0

7786 RFL

PL-41.9

HEAD-8.4

TAIL-10.5

66 lbs

WEIGHT - 49 lbs (kg)

- small number of platy. skin barns
- red & green PL algae
- "Swirls" seen in carapace

Recaptured HPA #10
April 1990

49

8-30-84 net
Thurs.

S - ^{58.0} 51.2 x 41.0
(notch - 51.0)

7787 RFL C - 55.5 - 2 x 49.3
63.5

7788 LFL PL - 41.3 47.2
HEAD - 8.7
TAIL - 10.0

WEIGHT - 49 lbs (22.3 kg)
61 lbs

SEX = MALE

- blood obtained
- Scum & silt on carapace
- green alga on PL
- 2 steps burrowing on PL diameter
(cutout) largest - 7mm 1 hole
- 3mm foot
- "swirls" on carapace.

8-30-84
Thursday

net

S - 59.8 * 46.7
(notch - 59.3)

7789 RFL

C - 63.2 * 55.7

7790 LFL

7791 L3S

PL - 47.7

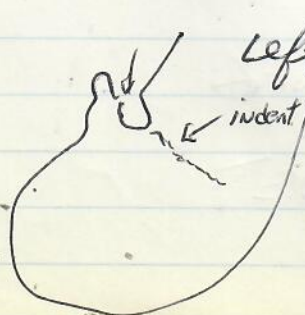
HEAD - 9.4

TAIL - 13.5

WEIGHT - 57 lbs (kg)

- PL fairly clean
- swifled
- a few small-sized skin barns - pe
- 1 Burrowing barn in premental (cut out)

left hind flipper
indent
all healed -
likely old wound from fishing
wrapped around there?



8-30-84 ~ 6 pm net TAG Recapture
 Thursday 10/18/80 Pond-net S-57.8 45.4

3499, 3500, 3501 (46 months) S-66.3 x 53.0

(notch 65.7)

3499 RFL (Photos)

+ 8.5 cm

0.185 cm/mo or 2.21 cm/yr
 or 0.87 in/yr

3500 L2S (molluscs & algae for ID)

C-71.0

x 65.5

C-61.3

53.8

3501 LFL

SEX = FEMALE

PL- 54.1

47.1

HEAD - 10.2

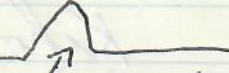
8.9

TAIL - 15

11.5

WEIGHT - 88 lbs (kg)

59 lbs
 (+29 lbs)

R 3-4 webbing = 
 size 49 old tog site?

- Monofilament fish line on right shoulder - Many photos. Cutoff and saved.
- 11 burrowing in PL - mostly midline seam (removed).
- Many skin barnacles
- Green and red algae on PL

31 AUG 84 Following data work-up and
FRIDAY release of turtles, we analyzed
water samples taken:

1. Sluice runway - seaward of
Makaha: J - 10 AM

NITRATE - 0.15

PHOSPHATE - 8

SALINITY - 24.5‰

TEMPERATURE - 24.5°C

2. Kiholo - ocean 10:30 AM -
off rocks in front of ironwood

NITRATE - 0.04

PHOSPHATE - 2-3 (?)
(only faint blue visible)

SALINITY -

TEMPERATURE - 27°C

31 AUG 89 Between 11am 12 noon I hiked alone
Friday to the far end of inlet - photos taken.

3/4 distance at 11:00am temperature of
visible seep was 19°C . ^{tasted some salt.}
3/8 in seep bubbling from bottom - 26°C

Crack seep at end - 23°C
same salt tasted, but certainly drinkable.

Notes: black lava - very hot - radiant heat.
- when tide rises, does ocean water
percolate up from seeps?

- Farthest seep - water sampled + photo - 23°C

NITRATE - 0.18

PHOSPHATE - 1 (?)
(almost no blue)

SALINITY -

Departed Kiholo and returned key
to HIND'S house. Drove to Hilo via
Hamakua coast. Stopped at TEX JENSEN.
Centrifuged blood at MOP office -
unloaded at boat shed.
Returned station wagon at Harper - departed
on M.D. PACIFIC at 6 pm -

NEEDS

- 1. Freshwater plane 50km out "Sea Grant pub. by Disk Young"
- 2. Subayan 935-3916 P.O. Box 1956, H1
- 3. La Motte phosphate
- 4. Harper "Diana"
- 5. DVICE - 2 T-shirts to Robin
- 6. Check name of Johnsons pond
- 7. Follow-up note to Ralph, paine
- 8. Flash photos of the same by chain this trip.
- 9. Bore samples/saw turtle being brought in by students
- 10. Subapo travel bag
- 11. Aelbert tel. - 929-9101
- 12. "None larger than 76cm" - Owens
- 13. Snipers for cutting net on turtle
- 14. Kaniila wood
- 15. Sautipro bay
- 16. Mailmen's line
- 17. Selimister
- 18. Set nets by boat camp?
- 19. Invite MOP panora or to accompany to Ruvavu
- 20. Black sand for Barbara Plemm
- 21. Bow Doty - Kaniitahie
- 22. See Kepa Netai
- 23. Table of ty loss on prop
- 24. Chain of short-term reserves (have any been lost?)
- 25. Note to Doty w/ self collected asking about access to Kamehame - (4-wheel needed?)
- 26. Note to Kapa about Hilina Pali w/ the fetra. (Petition women's bathroom) stand
- 27. Call Hind
- 28. Sumida's Res. - leatherback photo - need inquiry on Diane?
- 29. Note to Almarja
- 30. White housing with USA for Honolulu and station photos in Honolulu
- 31. Call Jim
- 32. Scrap description on shells - check what's on?
- 33. Note cable for flash + dust cap
- 34. Print up award certificates of appreciation (CEE or Waikiki Aquarium?)
- 35. Wet-suit blue
- 36. Note to Jim on
- 37. Walk to
- 38. Send Jim info to Ernest Adams

- 1. Check + PBS letter
- 2. Rubber paint for dive gear
- 3. Miles mopicket
- 4. Cancel Miles after March
- 5. WA lens for Punaluu
- 6. Photos of restaurant
- 7. Reserve Van & Pavilion April 15-18
- 8. Formalin
- 9. Condo (Response) Address
- 10. Brewer - Sea Mountain - Address
- 11. Note to HERB KANE - Lady copying
- 12. Points to mention to Fishing Teams
- 13. Interview Roxanne
- 14. Clothes at KENALO
- 15. Request results from LISA
- 16. Collect algae/invertebrates
- 17. April/May Tidecharts
- 18. dissect neck of turtle
- 19. weight by report - read it
- 20. water analysis
- 21. More brochures for tourists + poster for wall
- 22. Postcards to ...
- 23. Fine sand paper
- 24. Pappy - sign
- 25. manding line
- 26. Photo from cemetery
- 27. Kaniila sign
- 28. coking down the hill
- 29. MARIANA SOCIETIES SUGAR
- 30. Johnsons pond
- 31. Show everyone painting in Atouapea
- 32. Call Saue
- 33. work to bus line; restaurant
- 34. KAV news?
- 35. Scalpel blades
- 36. Lecture Thurs. night 4/12
- 37. Glass vial - + small vials for for Atkman
- 38. Nat. Hist. Lecture at Punaluu
- 39. Larger field book
- 40. Note - remind about the quality
- 41. Short note for Twilison
- 42. Dive Homopav - mile due here?
- 43. Sell wet suit pants & Imperial jacket
- 44. Kona Village - Fred Jones
- 45. Shipman
- 46. Halolea
- 47. See Paulson - 3 - contact
- 48. April Tide Chart
- 49. POs for Hapa & Greenis
- 50. visit N. Kohala
- 51. "Turtle Back" - PATTACA
- 52. Subayan article
- 53. Aerial survey
- 54. Vasee print - Luki; book
- 55. Pahalua residents know about
- 56. Get Manual ed. I back
- 57. Manim - Luako
- 58. Taken off tag 3/89?
- 59. 3-2-1 - contact Magojine
- 60. Kamehameha - Bow Doty
- 61. Scuba Tagging nos. without me
- 62. Gas reimbursement
- 63. Bow Doty
- 64. TAGGING - WACRE
- 65. TOTAL NO. PRU on 928 - tagged in old expedition
- 66. Light at Santa Fe Agency
- 67. MBS, PULHAM 8301

Project Needs

- 1. ^{COY} FOLDING CHAIRS
- 2. PAINT
- 3. Biopsy kit for fat
- 4. NEED FROM BOOK I
- 5. BROCHURES TO HAND OUT (TOURISTS)
- 6. ADDRESSES OF GENEVA & SAMU
- 7. CARD TO MRS. HOWARD
- 8. KEYRINGS
- 9. PRIMER PACKS?
- 10. K-RATIONS
- 11. Midpac coupons #150 + car
- 12. Slides for will
- 13. JA to walk
- 14. buy detergent for FFS
- 15. Mark slides last trip
- 16. Cook at nautical of Hilo for relief spots
- 17. Call Haugen - reprints ever mention release?
- 18. Trumpback whale brochures
- 19. Turtle poster for pete's concession; mail
- 20. Lecture
- 21. Request info through Salazar
- 22. invite note for Bulletin Board
- 23. DIME - Red Permit for CO2 vest
- 24. Allen Wrench
- 25. Trailer Hitch
- 26. Telephoto lens for ^{slings show} need
- 27. JA Report to Walt + CBS, PBC, 2-way radios
- 28. Suisun?
- 29. Dry Ice in Hilo?
- 30. Cages
- 31. those for fat/algae etc
- 32. lead con
- 33. Shunk list to Bob, miles, will
- 34. Stampes Vm 3/22?
- 35. State PD's - want accept
- 36. Reconc package
- 37. Train papers to Darrell
- 38. Inflatable stool at Richardson?
- 39. Walkout tent to buy
- 40. water pay meters
- 41. Collect algae
- 42. Schyman letter
- 43. Film copy
- 44. Key (CONTINUED p. 50)

Photo needs - Rock outcrops where they feed; boulders with Pt. low tide; turtle in nest - fresh - Ithella; nest site across road + concession;

- Needs for Feb. exp. ^{NO.}
- 1. confirm Harper
 - 2. Food PD
 - 3. Review Pavilion I
 - 4. Keys for net
 - 5. host table?
 - 6. walkout turtle Bay
 - 7. water parameters
 - 8. T-shirt design
 - 9. spray paint
 - 10. Gloves as per Darnell (t-stripe)
 - 11. Tarp
 - 12. Cargo net for weighing turtles
 - 13. invite Bart Funder + Tribune Herald + team news
 - 14. larger, turtle - research sign
 - 15. Motor or walk to same home + trawer
 - 16. More blood sampling + cooler
 - 17. call Haugens
 - 18. state RISK of working in project - health plans?
 - 19. Anchor line & end line for nets
 - 20. boys - anchors to set 3 pieces
 - 21. Call Schyman
 - 22. Charge up battery
 - 23. Contact Bob Wish, moto & Howard Taketa
 - 24. Make prints from slides - charge to project
 - 25. Notify Suge - DOCAE
 - 26. Tag on the Hind Flipper too
 - 27. Temperature profile of Bay
 - 28. Lubricate 1-month ahead?
 - 29. TDSH \$25 - next like
 - 30. Change of amount, up or down, requires a change form

- 31. Hazel - ~~Harold's~~ reference
- 32. Coy sawshed for K. H. G.
- 33. Note to Kama about Poaching - Awareness of turtles needed at Punaluu - Concessions out by?
- 34. PSA in tourist publications - Turtle Seal Photo
- 35. Quantity distilled H₂O
- 36. Sample below as trifluoromethylates phosphate
- 37. Qnd. to Dave
- 38. Bird sent to Miller?
- 39. TOPOS in Hilo - NANTON: KACOE, PANINA
- 40. More Limu Photos
- 41. Collect for himself to ID.
- 42. BATHENS KTA
- 43. Slugs
- 44. Plan to heat H₂O
- 45. Dist. H₂O
- 46. TEL. & map to Alameda
- 47. Prints for landy & bill

MARCH 1987

FRIDAY

THURS.

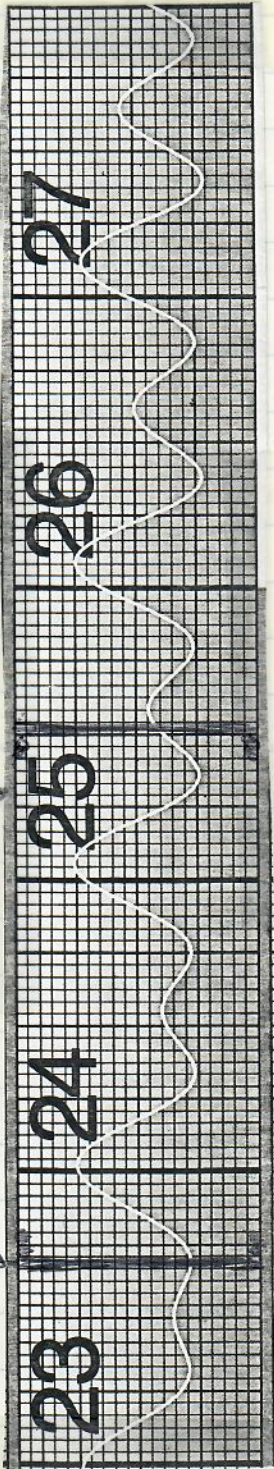
WED

TUES

MON

net in

net in



MOON PHASES

FIRST QUARTER MAR 7	FULL MOON MAR 15
LAST QUARTER MAR 22	NEW MOON MAR 29

For tide time at following places, add or subtract from Honolulu time.

PORTS	Hrs.	Mins.	Hrs.	Mins.
HANALEI BAY, KAUAI	-1	40	-0	09
NAWILIWILI BAY, KAUAI	-0	32	-1	48
PORT ALLEN, KAUAI	-0	32	-0	14
HALEIWA, OAHU	-1	36	-0	59
HANAUMA BAY, OAHU	-0	55	-0	24
KANEHOHE BAY, OAHU	-1	35	-0	24
LAIE, OAHU	-1	48	-0	24
WAIANAE, OAHU	+0	16	-0	24
WAIMANALO, OAHU	-1	15	-0	16
KAUNAKAKAI, MOLOKAI				
KAHULUI, MAUI				
KIHEI, MAALAE BAY, MAUI				
HILO, HAWAII				
HOKUAPONO, HAWAII				
MAHUKONA, HAWAII				
KEALAKEKUA BAY, HAWAII				

Monday

3/23/87

Caught

2050 hours

8:50 pm

9826 - RFF Proximal

9827 - RF Distal

Plastron - 63.5

9828 - LF Prox.

Head - 11.9

9829 - RHF^{IND}

Tail - 22.5

Burrowing & Skin barnacles

SC - 80.8 X 62.1

NO weights, OR curved measurements taken. NO PAINT APPLIED.

7:55 AM Aloha Airlines to Hilo w/ Robert Fraith

23 MARCH 87 Arrive Punaluu ~ 1 pm. 60 X 10 &

Monday

60 X 8 joined net set out to iron hoop from Pavillin-side lava rock reef. Student p. 107.

Gear list sent air cargo p. 106.

Turtles caught at

3 captures

- 8:50 pm 80.8 cm

- 10:30 pm 59.7 cm

- Midnight 85.7 cm (A tag recovery)

Net not set out very well - "S" shape. Floats wadded-up bad by first capture. Watch shifts included 4 people each running for 3 hours each starting at 7 pm (7-10 pm; 10-1 am; 1-4 am; 4-7 am)

∴ four shifts. In addition, Robert and I provided the 5th person, splitting the night - 9 pm - 1:30 am (cont. p. 59)

58

Net in water 4pm 3/23 Mon.
 out 7AM 3/24 TUES. > 15 Hours
 TOTAL FISHING TIME.

Monday
 3/23/87 2230


9830-RFP 9831-LFP

Head - 9.5

Plastron - 48.9

Tail - \approx 10.0

SC - 59.7 X no width taken
 \approx 62 \rightarrow Measured to 11th marginal Right
 healed crack across PC's - "hinged" effect.

Groove in upper beak. 

Right side of carapace worn off, but healed

Skin & burrowing barnacles

Post centrals cracked all the way across

8 centrals - 5 laterals right

net in water 6pm 3/24 TUES.

out 6:45pm

HARD RAIN ALL

3/25 WED.

3/24/87 12:00 Midnight

7736 L Distal
7735 L Proximal
7734 R "

Plastron 67.9
Head 12.2
Tail ~24.0
SC 85.7X 62.7

Numerous scratches on Plastron
" skin barnacles
Burrowing barnacles on plastron

and 1:30 - 6 AM (4 1/2 hours each).
Spotting station set up from table
on bluff by pavilion. Very convenient
location. High powered NAPA
spot-light used w/ new marine battery
purchased by MOP.

3/23 Cool overcast day - pleasant. Night
was cool but not bone-chilling cold.

3/24 ^{TUES.} Shortly after 7am net out it rained
hard for about 1 hour.

Upon arrival to Luvaluu 3/23 ~2pm
(TO PAGE 64)

CAPTURES - Second DAY

Turtles 1 - 10:30 pm 3-24 (TUES.)
 Turtles 3 - 5:30 am 3-25-87 (Wed.)
4 total

TUES.

3/24 10:30 PM

Plastron 49.1

Head 9.3

Tail ~ 11.0

SC 60.9 x 47.8 N-60.5

9832 - LFP

9833 - RFP

coralline algae on beak - Photographed.
 skin barnacles

~~9834~~

WED.
3/25/87 0530

PL - 58.2

Head - 10.7

Tail - ~15.0

SC - 75.1 X 57.6 N - 74.9

9834 - LFP

9836 - RFD

9835 - RFP

9837 - RH

Burrowing Barnacles - removed 57 from plastron
Skin Barnacles " 3 each hind flipper

WED,

3/25

0530

Tag Recovery

Plastron - 72.0

Head - 12.1

Tail - 41.0

SC - 89.7 X 68.6

N - 89.5

~~9837~~ 7632-LD

7630-RFP

~~9837~~ LP torn out

7631-RFD (3-4th)

Skin Barnacles

7633-RH

Burrowing Barnacles

New 9838-applied healed

4 removed on Plastron

hook Left Proximal

3rd Central & 3rd lateral right
 healed area (bang stick mistfire?)

WED,

3/25/87 0530

Plastron - 37.8

Head - 7.3

Tail - ~8.0

SC - 46.3 X 36.0 N-46.0

9839 - RFP

9840 - LFP

Burrowing Barnacles Removed 40 from
Skin Barnacles plastron

(Continued from p. 59)

turtles were regularly seen feeding very close to shore -- heads popping up. Arnold Howard said that many were present in November. Not as many now, however they come into the bay during the day. While setting the net, I noted a near absence of *Pterocladia* along lava reef where offshore anchor was set. Smooth rocks, boulders in very nearshore waters off sand beach hosted P.C. growth, but not in abundance. Areas near boat ramp and second previously used netting site was not surveyed underwater (see p. 94).

Gene Witham visited project work period. I reported to him Howard's comments about (1) Skin diving at night - likely spearing of turtles along with Mullet. (2) Dried plaster from ~75cm turtle in recess prep. cement slabs (not more than 6-12 mo old).

66

HONOLULU

MARCH 1988

3-18-88
FRIDAY

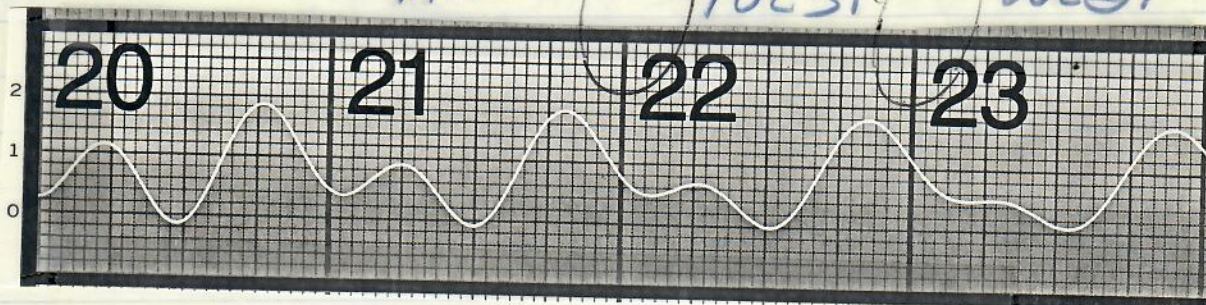
8 AM

JOHN HILLO

called Marilyn to notify about
research permit - + U. Honolulu
"Elsee"

MARCH 88
 Robert Forsyth, Walter Dudley
 + Mof Student

MON. TUES. WED.



For high tide at following places, add or subtract from Honolulu time.

PORTS	Hrs. Mins.		PORTS	Hrs. Mins.	
HANAIE BAY, KAUAI	-1	28	KAHULUI, MAUI	-1	53
NAWILIWILI BAY, KAUAI	-0	27	KIHEI, MAALAEA BAY, MAUI	-0	01
PORT ALLEN, KAUAI	-0	36			
HALEIWA, OAHU	-1	02	HILO, HAWAII	-1	04
HANAUMA BAY, OAHU	-0	59	HONUAPO, HAWAII	-0	26
KANEHE BAY, OAHU	-1	46	HONOKOHAU, HAWAII	-0	26
LAIE BAY, OAHU	-1	45	MAHUKONA, HAWAII	-0	26
WAIANAÉ, OAHU	+0	20	KAWAIIHAE, HAWAII	-0	04
WAIMANALO, OAHU	-1	15	KEALAKEKUA BAY, HAWAII	-0	16
KAUNAKAKAI, MOLOKAI	-0	05	MANELE, LANAI	+0	02



CAPTURE DATE/TIME:
TAG RECOVERY YES NO

TAGS - RFL LFL
TAGS OTHER SITES =

STRAIGHT LENGTH x WIDTH
" NOTCH

CURVED x

HEAD -
TAIL -
RF Flipper -

PLASTRON -
WEIGHT -

DESCRIPTIVE REMARKS (ie tumors, abnormalities,
graft spot, epizootes, etc.) =

SAMPLES -
STOMACH -
BLOOD -
FECES -
TISSUE -
EPIZOITES -

USE PENCIL ONLY
PLEASECAPTURE DATE/TIME: 3/21 1630
TAG RECOVERY YES NOTAGS - 8918 RFL 8919 LFL
TAGS OTHER SITES =

	LENGTH	x	WIDTH
STRAIGHT	64.1		50.9
" NOTCH	64.5		

CURVED	69.0	x	68.5
--------	------	---	------

HEAD - 9.4

TAIL - 12.0 cm

R.F. Flipper - 10.6

PLASTRON - 51.8

WEIGHT -

DESCRIPTIVE REMARKS (ie tumors, abnormalities,
graft spot, epizootes, etc.) =Many burrowing barnacles in inguinal & neck area
a few in the plastron• large notch between 10th & 11th left marginal

Samples -

STOMACH -

BLOOD -

FECES -

TISSUE -

EPIZOITES -

CAPTURE DATE/TIME: 3-22-88
 TAG RECOVERY YES NO caught by fisherman

TAGS - RFL 8920 LFL 8921

TAGS OTHER SITES =

	LENGTH	x	WIDTH
STRAIGHT	42.6		38.2
" NOTCH	no notch	56.5	44.0

CURVED	53	x	45
	61.0		52.5

HEAD - 7.5 9.1

TAIL - 12 15.7

RFFlipper - 8.4 10.5

PLASTRON - 39.4 45.7

WEIGHT - 36 lbs 65 lbs

DESCRIPTIVE REMARKS (ie tumors, abnormalities, graft spot, epizootics, etc.) =
 burrowing barnacles

Samples -

STOMACH - ~~percolated~~ taken

BLOOD -

FECES -

TISSUE -

EPIZOOTICS -

4/10/90
 PUNAWU
 daytime
 hand
 capture

CAPTURE DATE/TIME: 3-23-88
 TAG RECOVERY YES (NO)

TAGS - RFL 2922 LFL 8923
 TAGS OTHER SITES =

	LENGTH	x	WIDTH
STRAIGHT	45.7		37.6
" NOTCH	48.4		

CURVED 52 x 47

HEAD - 7.6

TAIL - 12

RFFlipper - 9.2

PLASTRON - 38.4

WEIGHT - 37lbs

DESCRIPTIVE REMARKS (ie tumors, abnormalities,
 graft spot, epizoides, etc.) =
 burrowing barnacles

Samples -

STOMACH - taken

BLOOD -

FECES -

TISSUE -

EPIZOITES -

VOLCANOES NATIONAL PARK
HAWKS BILL SURVEY

20 SEPT 1988

TUESDAY

Depart Aloha Airlines Flight. 64
7 pm for Hilo

Arrived 4:45 pm - Budget Rental
\$13.95 Special. Drove to Volcanoes
House - arrive ~ 6 pm. Telephoned
Farry Katahira. Discussed sea
turtles with Jim ~ 7:30 pm. Drove
nearby to house used by volunteers
from W. Germany Marnette & Michael.
Worked on Jata III data table.
Bed ~ 10:30 pm -

UP 5:30 AM

21 SEPT. Picked up by Farry at 6:15 am -

WEDNESDAY TO Volcano village store.

TO Storage buildings to put on flight

suit, gloves, helmet.

TO Helicopter pad. Misty, light

rain, very cool - cloudy. 4000'

elevation. Met BILL LACY

helicopter pilot. Took over business

from his father. Flies out of

Waiwea. TOOK doors off

for better view. \$460.00 hours.

Depart ~ 7:15 am. - me behind

pilot on the left; Farry in front

right - Howard behind Jim next

to me. Flew to the southeast

to the coast, and south along

Need
to
send
literature

21 SEPT
1988 Wed.

coast to park boundary-fence
line [GREAT CRACK... but I don't
remember seeing it) Coastline
all along there is a rocky
cliff (estimate ~ 25') where lava
brokers - breaks into sea
with rocks - boulders in
nearshore waters - breakers.
Good view of shallow water
near shore. No turtles seen.
Arrived at flat sandy area
to the north of Kamehame
Hill - this is where I
drove in w/ Dianne MOP students
using C. Brewer key through
Bill Doty. Palmyra Point supposed
satellite launch point just north
of here. Proceeded to
Kamehame Hill... immediately
noted fresh tracks at South
end of Hill - Several photos taken.
Tracks seemed to go to rocky
overhang (need to check photos).
Returned to North end of Hill
and noted tracks in corner area
(where nesting previous documented)
and also to the north leading
up and into rocky overhang.

21 Sept 88

JI MAP

TABLET MAP

Forkell counts
scatter map

Fortunate that turtle didn't get
 stuck here. Human footprints also
 noted in abundance, but not
 as much rubbish as other times.
 Eggs shells noted in digs under
 mangrove -- broken before
 hatching -- by predators, or
 other turtles' nesting.
 Faded here - photos taken.
 Found juvenile green - healthy
 vigorous, but with nicks in
 precentral, partly buried in sand
 in intertidal zone - low tide?
 TIDE =

Photos taken by Larry of me w/ turtle.
 Proceeded reconnaissance of coastline
 noting sites that hawksbill
 nesting was possible, or marginal.
 Net debris noted. Larry said this
 was common.
 Saw Palina Pt. before entering
 park boundary again.
 Came to Halape - noted sand
 is cream colored - not black.
 Many photos, included crack
 where turtle fell in. Saw
 remains of station.

21 Sept
Wednesday

77

Continued along coast line - Larry
marking all sites on his
large topo maps.

Signs of nesting tracks seen
at Waipoua point. Photos taken.

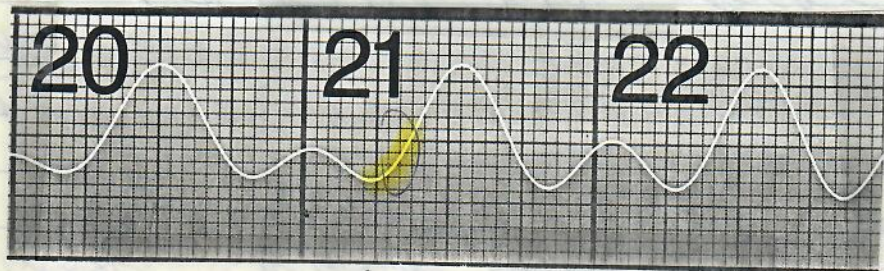
We found an abandoned dig
under Naupaka. The only
sign of nesting seen
besides Kanehame Hill.
Naupaka important for lawbill
nesting? Flew back to
airport arriving at 9:15 AM.

Met Margo —, Quinten Jamick's
daughter. Also, back country
ranger, and Dan Taylor.
Had lunch w/ Dan and Larry.

Depart Park 12 noon
FL 355 Aloha depart 1:30 pm
Arrive Honolulu 2:15 pm
Honolulu.

BACKNOTES:
Was told that many large turtles
feed right in front of gift store at
Luncheon. People don't put
mullet nets in the bay because
of turtles.
Years ago there were more nesting at Kanehame.

SEPT 88

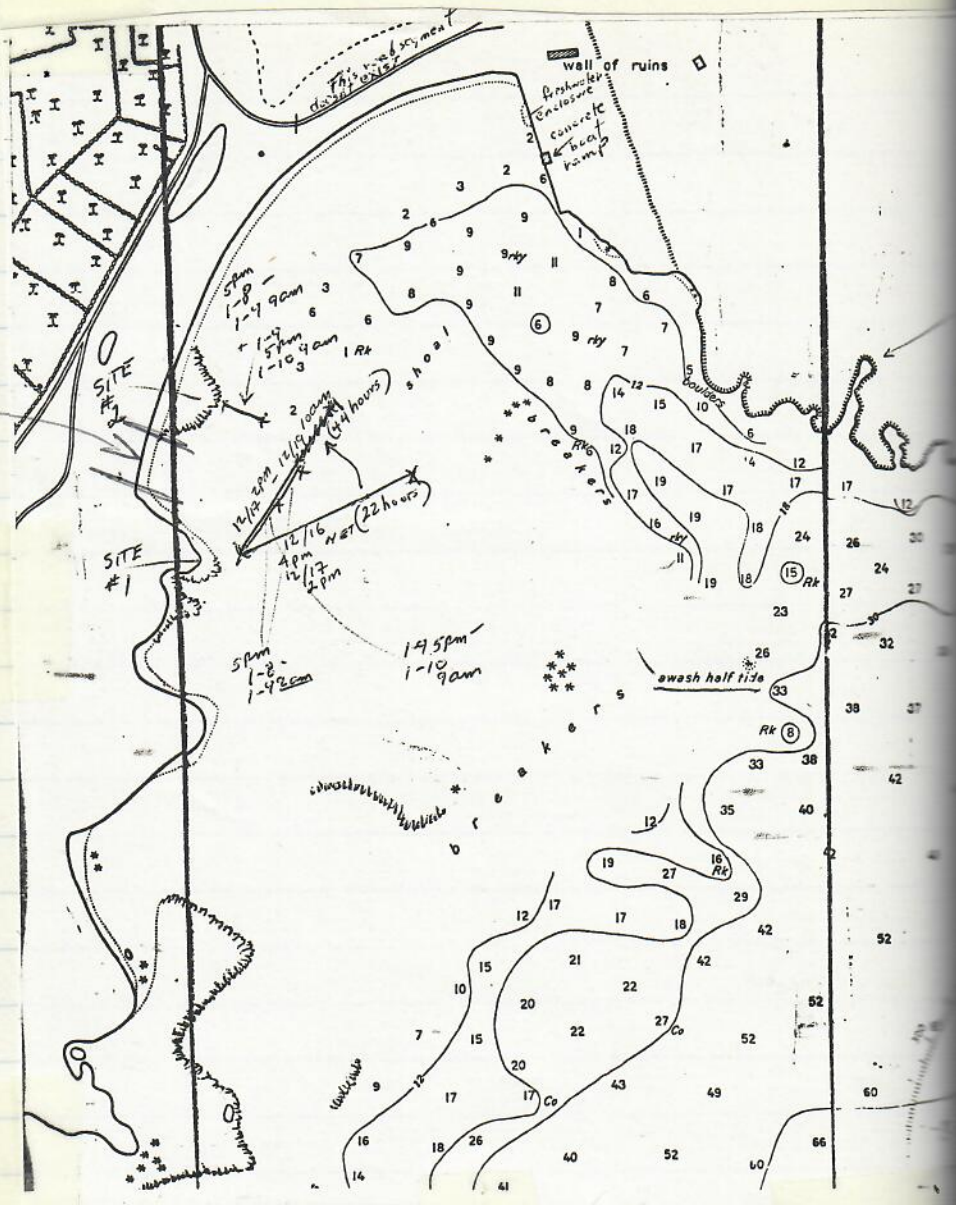


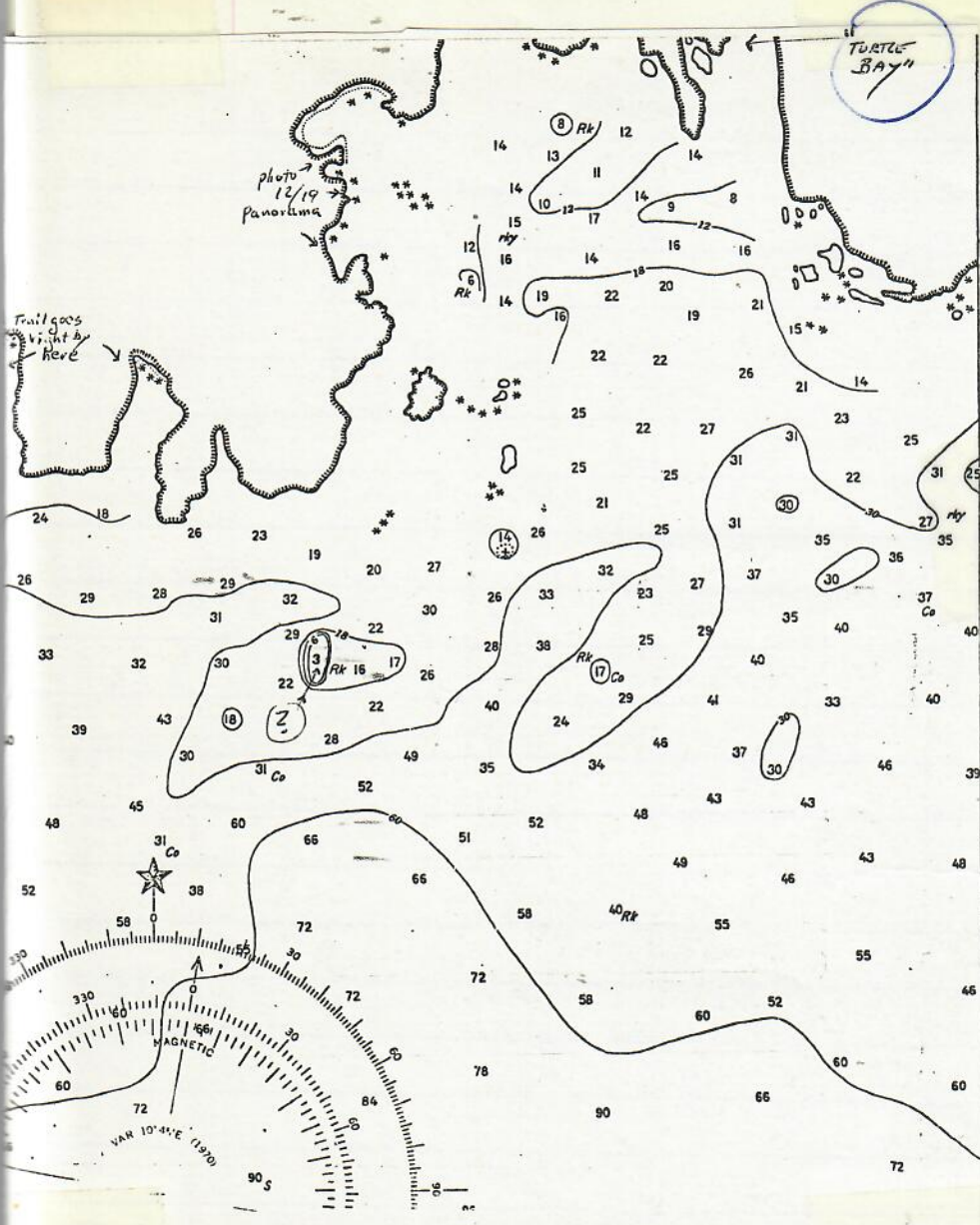
WEDNESDAY

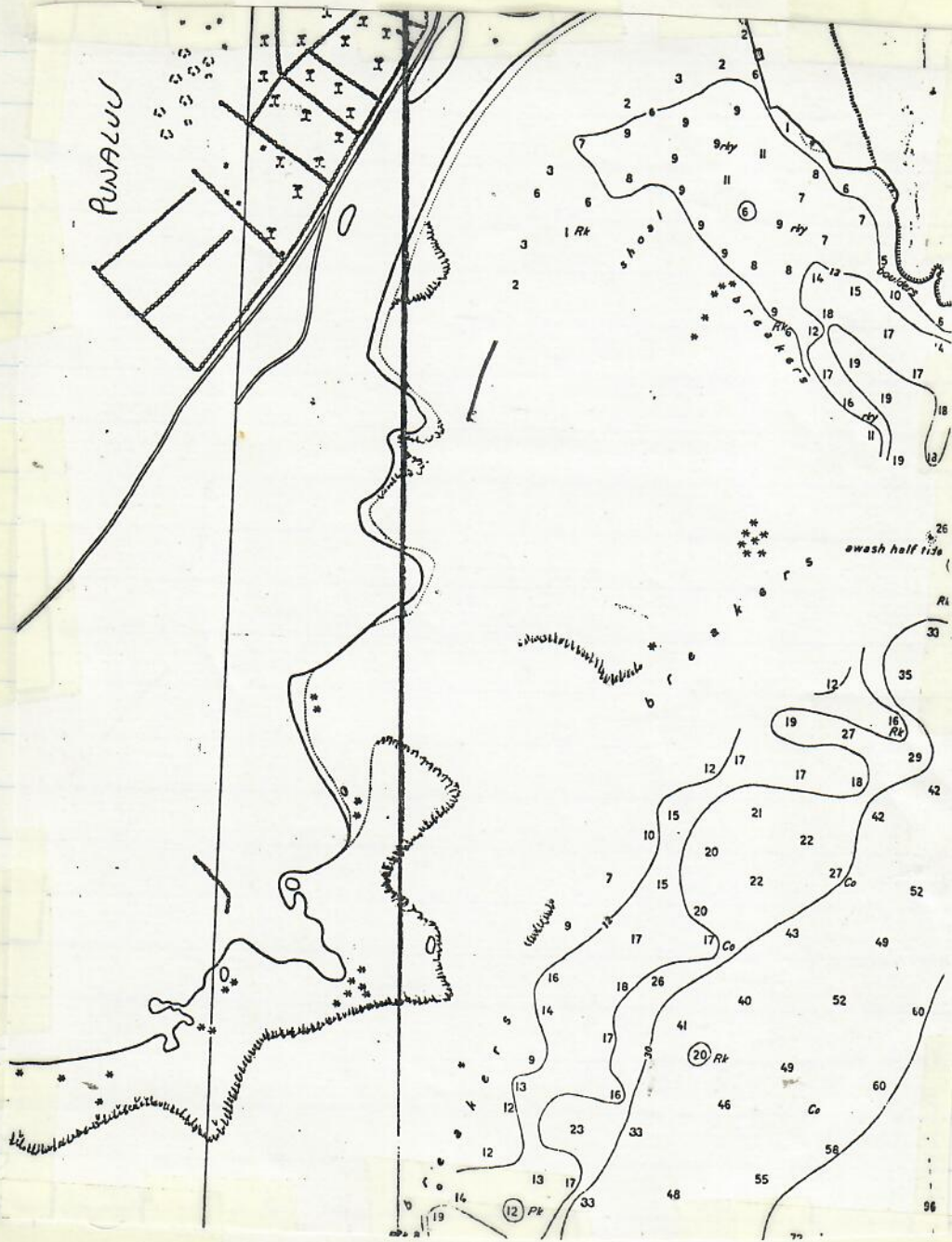
HELICOPTER
SURVEY

Bill Lacy
LACY HELICOPTER
BOX 5
WAIMEA, HI 96743
Tel. 885-7272

Sand pocket
Spring discharge
noticeably
here.







Report for Scientific Collecting Permit No. SCP 84-18
Submitted to State of Hawaii, Division of Aquatic Resources

Date	Tag No.	Sex	Straight-line carapace (cm)		Location
			Length	Width	
11/5/83	6707-08		55.0	45.3	Lelewi Pt.
11/9/83	6709-10	M	47.5	42.8	Lelewi Pt.
11/9/83	7209-12		84.1	62.7	Lelewi Pt.
9/24/83	7213-16		69.8	53.3	Lelewi Pt.
11/26/83	6711-13	M	80.3	--	Punaluu
11/26/83	6714-17		71.1	56.3	Punaluu
11/26/83	6718-21		69.3	54.3	Punaluu
11/27/83	6722-25		73.3	57.5	Puhi Bay
12/03/83	7528-30		45.4	34.8	Puhi Bay
12/15/83	3519-20		62.3	58.9	Punaluu (hawkbill released from the Waikiki Aquarium)
12/15/83	7529-32		61.0	50.4	Punaluu
12/17/83	2877, 2879, 7533	♂	60.2	48.7	Punaluu
12/17/83	7534-36		68.2	52.8	Punaluu
12/17/83	6711-13	M	80.3	--	Punaluu (recapture from 11/26/83)
12/17/83	7537-39		56.1	42.7	Punaluu
12/17/83	7540-42 x 4-11-89		56.3	45.2	Punaluu
12/17/83	7543-46		73.7	58.5	Punaluu
12/18/83	7547-49		63.9	53.1	Punaluu
12/18/83	7550, 7570-71 4/90, 1/90		66.4	52.0	Punaluu
12/18/83	7573-74	M	--	--	Punaluu
12/19/83	7572, 7575-77	M	85.2	66.8	Punaluu
12/19/83	7578-80	F	85.8	66.0	Punaluu
1/08/84	2514-15, 7593-94		78.0	61.8	Punaluu
1/08/84	7595-96		46.7	38.6	Punaluu
1/08/84	7597-98		58.8	56.5	Punaluu
1/08/84	4966-69		69.0	56.5	Punaluu
1/09/84	7589-92	M	79.1	63.6	Punaluu
1/09/84	7585-88	F	89.3	73.0	Punaluu
1/09/84	7581-84	M	81.2	63.3	Punaluu

x Rec. 7/9/86 FAS
EAST-N
Marilyn
Major

Date	Tag	Weight	Sex	Recapture/Recovery Date	Weight
1/09/84	7537-39				
1/09/84	7599, 7600	4~11-89			
1/09/84	5501-04				
1/09/84	7534-36				
1/10/84	7601-03				
1/09/84	7604-05				
2/17/84	7624-25				
2/17/84	7622-23	7/18/90 Recap			
2/17/84	7620-21				
2/18/84	7613-16				
2/17/84	7617-19				
2/17/84	7606-09				
2/18/84	7630-33		M		
2/18/84	2875-76, 7638				
2/18/84	7639-40				
2/18/84	7641-43				
2/19/84	7634-37		M		
2/19/84	2523-24, 7644				
3/17/84	7645-47				
3/24/84	2877, 2879, 7533				
3/24/84	7601-03				
3/24/84	7648-50				
3/24/84	7652-53				
3/25/84	7654-56				
3/25/84	7657-59				
3/25/84	4966-69				
3/25/84	7660-62				
3/25/84	7663-64				
3/25/84	7665-67				
3/25/84	7672-73				
3/25/84	7668-71				
3/25/84	7674-77		M		
3/25/84	7604-05				
3/26/84	7681-83				
3/26/84	7678-80				

Date	Weight	Sex	Recapture/Recovery Date	Weight
	51.6			
	75.3			
	62.8			
	48.4			
	41.3			
	47.7			
	45.2			
	73.5			
	62.0			
	68.0			
	88.8			
	61.5			
	44.1			
	63.5			
	84.5			
	65.5			
	53.3			
	61.1			
	63.3			
	73.2			
	61.9			
	71.6			
	63.8			
	69.3			
	74.5			
	55.0			
	77.6			
	44.5			
	78.9			
	84.0			
	48.7			
	58.0			
	61.9			

54

3/26/84	7622-23	47.9	36.9	~Punaluu (recapture from 2/17/84)
3/26/84	7684-85	52.4	42.0	Punaluu
3/26/84	2896-97	69.5	--	Punaluu
3/26/84	6714-17	71.8	56.2	~Punaluu (recapture from 11/26/83)
3/26/84	2523-24, 7644	66.2	52.7	~Punaluu (recapture from 2/19/84)
3/26/84	2885, 7686-88	75.7	60.0	Punaluu
3/26/84	7689-91	68.1	54.0	Punaluu
3/26/84	7692	38.1	30.1	Punaluu
3/27/84	7693-96	77.6	63.9	Punaluu
3/27/84	7697-7700	89.5	66.0	Punaluu
3/27/84	7701-02	59.0	47.5	Punaluu
3/27/84	7572, 7575-77	--	--	~Punaluu (recapture from 12/19/83)
3/28/84	7703-06	81.5	62.5	Punaluu
3/28/84	7707-10	75.7	60.9	Punaluu
3/31/84	7711-12	52.1	41.9	Honolii
3/31/84	7713-14	41.2	33.5	Honolii
4/13/84	7749-50	55.8	--	Punaluu
4/13/84	7639-40	44.5	--	~Punaluu (recapture from 2/18/84)
5/14/84	7715-16	39.8	30.9	Punaluu
5/14/84	7715-18	41.0	32.5	Punaluu
5/14/84	7721-22	57.4	46.0	Punaluu
5/14/84	7719-20	51.2	41.4	Punaluu
5/14/84	7634-37	--	--	~Punaluu (recapture from 2/19/84)
5/15/84	7723-24	51.9	41.2	Punaluu
5/16/84	4966-69	69.8	57.0	~Punaluu (recapture from 1/8/84 and 3/25/84)
5/17/84	7678-80	62.2	52.6	~Punaluu (recapture from 3/26/84)
5/17/84	7620-21	46.1	38.2	~Punaluu (recapture from 2/17/84)
5/17/84	7725-27	63.2	51.8	Punaluu
5/17/84	7728-29	37.8	32.0	Punaluu

7/18/90 Recap

Date	Time	Day	Location	Weight	Notes
6/26/84	7630-33	M	Punaluu (recapture from 2/18/84)	--	
6/26/84	7581-84	M	Punaluu (recapture from 1/9/84)	--	
6/26/84	7730-31		Punaluu	044.5	
6/26/84	7732-33		Punaluu	043.6	
6/27/84	2523-24, 7644		Punaluu (recapture from 2/19/84 and 3/26/84)	53.4	
6/27/84	6182, 6242, 6260	F	Punaluu (recapture from French Frigate Shoals)	91.1	
6/27/84	7537-39		Punaluu (recapture from 12/17/83 and 1/9/84)	43.7	
6/27/84	7738-39		Punaluu	30.5	
6/27/84	7740-41		Punaluu	47.2	
6/28/84	7734-37	F	Punaluu	--	
6/28/84	7578-80	F	Punaluu (recapture from 2/19/84)	--	
6/28/84	7742-44		Punaluu	68.2	
6/28/84	7745-47		Punaluu	66.7	
8/08/84	3313-14		Kiholo	53.4	
8/08/84	7751-52		Kiholo	38.3	
8/08/84	7753-54		Kiholo	38.4	
8/08/84	7755-56		Kiholo	42.7	
8/08/84	7757-58		Kiholo	50.6	
8/08/84	7759-60		Kiholo	53.6	
8/08/84	3496-97, 7761		Kiholo	62.3	
8/08/84	3478-80		Kiholo	69.6	
8/08/84	7762-63		Kiholo	56.0	
8/08/84	7764-65		Kiholo	62.6	
8/08/84	3487-88		Kiholo	68.0	
8/08/84	7766-67		Kiholo	48.3	
8/09/84	7768-69		Kiholo	42.1	
8/09/84	7770-71		Kiholo	38.0	
8/09/84	7772-73		Kiholo	53.0	
8/09/84	7774-75		Kiholo	53.0	
8/09/84	7776-77		Kiholo	52.8	

6/27

6/28

START KIHLO

TRAGED 6/82

45

Punaluu-26

8/09/84	7778-79	57.8	47.0	Kiholo
8/09/84	7780-81	65.7	52.9	Kiholo
8/09/84	3317-18, 7782	63.5	48.3	Kiholo
8/09/84	3313-14	--	--	Kiholo (recapture from 8/8/84)
8/09/84	3478-80	--	--	Kiholo recapture from 8/8/84
8/30/84	3496-97, 7761	62.1	--	Kiholo (recapture from 8/8/84)
8/30/84	7768-69	42.1	--	Kiholo (recapture from 8/9/84)
8/30/84	7766-67	48.2	--	Kiholo (recapture from 8/8/84)
8/30/84	7751-52	38.5	--	Kiholo (recapture from 8/8/84)
8/30/84	7783-84	40.0	--	Kiholo
8/30/84	7785-86	51.2	39.8	Kiholo
8/30/84	7787-88	51.2	41.0	Kiholo
8/30/84	7789-90	59.8	46.7	Kiholo
8/30/84	3499-3501	66.3	53.0	Kiholo

Long distance
Recaptures
(FFS)

LONG TERM
RECAPTURES
from Punaluu

TOTAL
CAPTURES

SHORT TERM
RECAPTURES

NO.
TURTLES

Lelewi -	4			
Hondii -	3			
Punaluu -	75			
Kiholo -	25			
PUHI -	2			
				109

	4			
	3			
	96	(of which 3 were recap. twice)		
	31	(of which none were recap. twice)		
	2			
				136
				27 (24 turtles)

IMMATURE TURTLES

NO. Turtles - 97

Recap. - 18

ADULTS

NO. Turtles - 15

(♂ - 9)

(♀ - 6)

RECAP. - 6

(♂ - 5)

(♀ - 1)

4/12/85 - 77 turtles Punaluu
(of which 14 adults -
6♀ 8♂)

Green turtles captured and tagged at Punaluu Bay, Kau, Hawaii
on 23-25 March 1987.

Date	Time	Tag No.	Sex	Straight-line carapace (cm)	
				Length	Width
1. 3/23/87	2050	9826-29	F	80.8	62.1
2. 3/23/87	2230	9830-31	--	59.7	--
3. 3/23/87 (Originally tagged at Punaluu on 6/28/84, 2 years, 9 months ago, at which time it measured 85.1 cm S-LC. Growth rate was 0.22 cm per year.)	2400	7734-36	F	85.7	62.7
4. 3/24/87	2230	9832-33	--	60.9	47.8
5. 3/25/87	0530	9834-37	F?	75.1	57.6
6. 3/25/87 (Originally tagged at Punaluu on 2/18/84, 3 years, 1 month ago, at which time it measured 88.8 cm S-LC. Growth rate was 0.29 cm per year.)	0530	7630-33; 9838	M	89.7	68.6
7. 3/25/87	0530	9839-40	--	46.3	36.0

23-25 MARCH 87

7 CAPTURE w/2 RECOVERIES

- BANG STICK camera/flash/film - SIDE CUTTERS
 - LINE FOR (clothes line)
 - ANCHORS
 - LIGHT NEON (Sears)
 - Buy propane in Hilo (MOP?)
 - FOLDING CHAIRS
 - AIR MATTRESS - sleeping bag
 - MILEAGE PLUS
 - NOVA CAP
 - BINOCULARS
 - STOMACH TUBES
 - LINDA
 - TAGS
 - PROPEL torch from Home
 - CHECK GSA BAG
 - LIGHT? - 2-AA
 - ROBT-
 - Small tubes formalin

- 2 Tubes + 7-8 floats
 #1
 1 box - large box (2) - 10' x 60' 12' worth + 12 chain
 - Bedding for Robert

#2
 9' x 74' cylinder float + oval floats
 7' x 80' all oval floats
 2 Danforth + chain
 2 Swivels
 2 lengths of rope

#3
 6' x 78'
 5' x 60'
 2 Swivels
 4 lengths of rope
 2 length short - jock lines

#4
 8' x 60'
 2 coal anchors + chain
 - 1 TRAP
 - ROPE + Jock lines
 - TENT

→ Red cooler ICE CHEST
 - FIRST AID - T.P.
 - SPRAY - PAINT - TAGS
 - PLIERS - CB RADIO - TOOLS
 - HANDOUTS TO TOURISTS +

University of Hawaii
Hilo

MARINE OPTION PROGRAM



"TURTLE TAGGING LIST"

	ESTIMATE. SWIMMING SKILLS	WET SUIT		U/W LIGHT	EMERGENCY #
		MASK, SNORKEL, FINS	WET SUIT		
1. Akiona, Bill	excellent	no wet suit	no	no	935-7831- Chrissy Lassiter
2. Ambrose, Liz	excellent	yes	yes	yes	924-3361- Carol or Gary
3. Bock, Melanie	fair	none	no	no	935-5143- Johnnie
4. Christensen, Dave					
5. Duffy, Brion	good	no suit/fins	no	no	961-9224- Suzi or Dexter
6. Ebersole, Bill	excellent	yes	no	no	966-9216- Jessie
7. Hodge, Jon	excellent	yes	no	no	964-5431- Britta
8. Nevins, Randy	fair	no wet suit	no	no	935-6128- Maurice
9. O'Brien, Kristen	very good	yes	no	no	935-7695- Annie or Mr. Aguiar
10. Rodgers, Cindy	fair	no wet suit	yes	yes	961-6148- Tate
11. Rollin, Andre	good	mask	no	no	935-7831- Chrissy Lassiter
12. Slover, Thomas	good to excellent	no wet suit	no	no	959-4779- Gene or Donna
13. Tan, Jung-Swie	good	none	no	no	none
14. Wolff, Scott	excellent	yes	no	no	935-6575 or 966-8085

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(2)

ESTIMATE. SWIMMING SKILLS MASK, SNORKEL, FINS, WET SUIT U/W LIGHT EMERGENCY #

HPA PEOPLE

X 1. Pat, Doyle	excellent	yes	no	no	885-7321- John Colson
Y 2. Guiko, Dave	excellent	yes	no	no	885-4139
X 3. McKevey, Ian	excellent	yes	no	no	885-7321- John Colson

885-7321
Hawaii Preparatory Academy
P.O. Box 448
Kamuela, HI 96743

TAG RETENTION OF SIZE 681 INCONEL TAGS ON IMMATURE

GREEN TURTLES RECAPTURED AT PUNALUU, HAWAII

G. H. Balazs
July 1984

	No. of tags applied	Elapsed time in the wild (years)	Growth in straight carapace length (cm)	No. of tags shed
1.	2	5.3	41.3 → 60.3	0
2.	2	6.0	57.2 → 78.0	1
3.	4	2.4	68.1 → 75.3	0
4.	2	5.5	39.4 → 61.5	0
5.	2	6.1	39.0 → 65.5	0
6.	2	5.6	42.9 → 69.5	0

KIHOLO TAG RECOVERIES

Summary of long-term recoveries of green turtles made at Kiholo Bay, Island of Hawaii.

Tag No.	Tag loss	Date recovery and length (cm)	Date/location originally tagged and length (cm)	Interval		Mean yearly growth rate	
				Months	Years	(cm)	(in.)
3313, 3314	0	8/8/84 (53.4)	3/21/80 Kiholo (42.3)	53	4.4	2.51	0.99
3496, 3497	0	8/8/84 (62.3)	10/17/80 Kiholo (52.9)	46	3.8	2.45	0.96
3478, 3479, 3480	0	8/8/84 (69.6)	10/15/80 Kiholo (58.5)	46	3.8	2.90	1.14
3487, 3488	0	8/8/84 (68.0)	10/16/80 Kiholo (57.9)	46	3.8	2.63	1.04
3317, 3318, 7782	0	8/9/84 (63.5)	3/21/80 Kiholo (49.4)	53	4.4	3.19	1.26

Summary of long term recoveries of green turtles made at Punaluu, Kau District, Island of Hawaii (ND = not determined).

Tag No.	Tag loss	Date recovered and length (Net)	Date/location originally tagged and length	Interval		Increase in carapace length		Mean yearly growth rate		Sex
				Months	Years	(cm.)	(in.)	(cm)	(in.)	
2877, 79 (7533)	0	12-18-83 60.3 (Net)	8-31-78 Punaluu (Horseshoe) (41.3)	63.5	5.3	18.9 14	7.4	3.6	1.4	Male
2514, 15 (7593, 94)	1	1-8-84 78.0 (Scuba)	1-23-78 Punaluu (Bay) (57.2)	72.0	6.0	20.8	8.2	3.5	1.3	ND
5501-04	0	1-9-84 75.3 (Net)	7-28-81 Punaluu (Bay) (68.1)	29.0	2.4	7.2	2.8	3.0	1.2	Female
2875, 76 (7638)	0	2-18-84 51.5 (Net)	8-31-78 Punaluu (Horseshoe) (39.4)	65.5	5.5	22.1	8.7	4.0	1.6	Female
2523, 24 (7644)	0	2-19-84 65.5 (Net)	1-25-78 Punaluu (Horseshoe) (39.0)	73.0	6.1	26.5	10.4	4.3	1.7	Male
2896, 97	0	3-25-84 69.5 (Net)	9-2-78 Punaluu (Hale Loke) (42.9)	66.7	5.6	26.6	10.5	4.8	1.9	ND
2885 (7686-88)	--	3-25-84 75.5 (Net)	8-31-78 Punaluu (Horseshoe) (54.9)	66.8	5.6	20.8	8.2	3.7	1.5	ND

Expedition 1.--- 3 turtles captured, 26 November 1983.
 Expedition 2.--- 12 turtles captured (1 long term and 1 short term recovery), 15-19 December 1983.
 Expedition 3.--- 13 turtles captured (2 long term and 2 short term recoveries), 8-10 January 1983.
 Expedition 4.--- 12 turtles captured (2 long term recoveries), 17-19 February 1983.
 Expedition 5.--- 31 turtles captured (2 long term and 9 short term recoveries), 23-28 March 1984.
 Expedition 6.--- 5 turtles captured (2 short term recoveries), 13-14 April 1984.
 Expedition 7.--- 11 turtles captured (4 short term recoveries), 14-17 May 1984.
 Expedition 8.--- 14 turtles captured (6 short term recoveries and 1 unknown), 26-29 June 1984.

8 Blood Samples sent to
Thane Wibbels on 9-10-84

TAG NO.		DATE	STRAIGHT CARAPACE, cm	kg WT	LOCATION
7730	male	6-26-84	47.0 curved	15.9	Punalu
7537	male	6-27	57.4	26.4	"
7742	male	6-28	68.2	48.2	"
7745	female	6-28	66.7	42.7	"
7766	male	8-30	48.2	17.3	Kiikola
7787	male	8-30	51.2	22.3	"
3496	female	8-30	62.1	37.3	"
3499	female	8-30	66.3	40.0	"

Tag retention data for green turtles recovered at Kiholo Bay, Island of Hawaii, during August 1984.

Recovery	Number of tags applied	Elapsed time in the wild (years)	Growth in straight carapace length (cm)	Number of tags shed
1.	2	4.4	42.3 → 53.4 (11.1)	0
2.	2	3.8	52.9 → 62.3 (9.4)	0
3.	3	3.8	58.5 → 69.6 (11.1)	0
4.	2	3.8	57.9 → 68.0 (10.1)	0
5.	2	4.4	49.4 → 63.5 (14.1)	0
6.	3	3.8	57.8 → 66.3 (8.5)	0

Summary of long-term recoveries of green turtles made at Kiholo Bay, Island of Hawaii.

Tag No.	Tag loss	Date recovery and length (cm)	Date/location originally tagged and length (cm)	Interval		Mean yearly growth rate (in.)
				Months	Years	
1. 3313, 3314	0	8/8/84 (53.4)	3/21/80 Kiholo (42.3)	53	4.4	2.51 0.99
2. 3496, 3497	0	8/8/84 (62.3)	10/17/80 Kiholo (52.9)	46	3.8	2.45 0.96
3. 3478, 3479, 3480	0	8/8/84 (69.6)	10/15/80 Kiholo (58.5)	46	3.8	2.90 1.14
4. 3487, 3488	0	8/8/84 (68.0)	10/16/80 Kiholo (57.9)	46	3.8	2.63 1.04
5. 3317, 3318, (7782)	0	8/9/84 (63.5)	3/21/80 Kiholo (49.4)	53	4.4	3.19 1.26
6. 3499, 3500, 3501	0	8/30/84 (66.3)	10/18/80 Kiholo (57.8)	46	3.8	2.21 0.87

PHOTO RECORD

EARLIER PHOTOS ON ROLL - 2499 IN TRUCK & Release at SLP;

ROLL ^{TUES.} 8/21/84 - Kaalahu, ^{OLD HOUSE,} area photos - especially showing large surf at net site, + wood post in shore line; 8/21 night at ~~Mama~~ Johnson's Pond - "Victory" dinner on the Book of Bronco; 8/22 food to Kamehame ^{WED.}

ROLL 8/22 - Kamehame - area photos; older nests under NIUPAKA; 8/23 Thurs. OPP's beach; resting area; Horseshoe area; Hawkspit "camp site"; 8/24 ~~FRIDAY~~ - Kalaakea Pt. with Bob Nishimoto; ONOMOA Bay; Shipman estate; Turtle in Pond on Kalarareole Street;

METRIC SYSTEM WITH U.S. EQUIVALENTS

METRIC UNIT (1) U.S. EQUIVALENT

LENGTH

millimeter	(mm)	0.04 inches
centimeter	(cm)	0.39 inches
decimeter	(dm)	3.94 inches
meter	(m)	39.37 inches
decameter	(Dm)	32.81 feet
hectometer	(hm)	109.36 yards
kilometer	(km)	0.62 miles
myriameter		6.2 miles

AREA

square centimeter	(cm ²)	0.155 sq. inches
square meter	(m ²)	1.196 sq. yards
are	(a)	119.60 sq. yards
hectare	(ha)	2.47 acres
sq. kilometer	(km ²)	0.3861 sq. miles

WEIGHT

milligram	(mg)	0.015 grains
centigram	(cg)	0.154 grains
decigram	(dg)	1.543 grains
gram	(g)	0.035 ounces
decagram	(Dg)	0.353 ounces
hectogram	(hg)	3.527 ounces
kilogram	(kg)	2.2046 pounds
quintal		220.46 pounds
metric ton		1.1 tons

METRIC UNIT (1) U.S. EQUIVALENT

VOLUME

cubic centimeter	(cm ³)	0.061 cubic inches
cubic decimeter	(dm ³)	0.0353 cubic feet
cubic meter	(m ³)	1.31 cubic yards
cubic decameter	(Dm ³)	13.10 cubic yards

CAPACITY, CUBIC

milliliter	(ml)	0.06 cubic inches
centiliter	(cl)	0.6 cubic inches
deciliter	(dl)	6.1 cubic inches
liter	(l)	61.02 cubic inches
decaliter	(Dl)	0.35 cubic feet
hectoliter	(hl)	3.53 cubic feet
kiloliter		1.31 cubic yards

CAPACITY, DRY

deciliter	(dl)	0.18 pints
liter	(l)	0.908 quarts
decaliter	(Dl)	1.14 pecks
hectoliter	(h)	2.84 bushels

CAPACITY, LIQUID

milliliter		0.27 fluidrams
centiliter		0.338 fluidounces
deciliter		0.21 pints
liter		1.057 quarts
decaliter		2.64 gallons

