1985

"Rite in the Rain"
WEATHERPROOF

LEVEL

NOTEBOOK NO. 311

G. BALAZS & ALAN KAM

NATIONAL MARINE FISHERIES SERVICE
P.O. BOX 3830
HONOLULU, HAWAII 96812
TEL (808) 943-1221

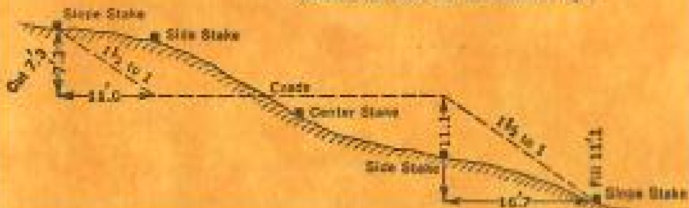
KAWELA BAY
OAHU

TAGS 8400s HIMB
+ 8700

DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING

Roadway of any Width. Side Slopes 1½ to 1.

In the figure below: opposite 7 under "Cut or Fill" and under .3 read 11.0, the distance out from the side stake at left. Also, opposite 11 under "Cut or Fill" and under .1 read 16.7, the distance out from the side stake at right.



Cut or Fill	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	Cut or Fill
	Distance out from Side or Shoulder Stake										
0	0.0	0.2	0.3	0.5	0.6	0.8	0.9	1.1	1.2	1.4	0
1	1.5	1.7	1.8	2.0	2.1	2.3	2.4	2.6	2.7	2.9	1
2	3.0	3.2	3.3	3.5	3.6	3.8	3.9	4.1	4.2	4.4	2
3	4.5	4.7	4.8	5.0	5.1	5.3	5.4	5.6	5.7	5.9	3
4	6.0	6.2	6.3	6.5	6.6	6.8	6.9	7.1	7.2	7.4	4
5	7.5	7.7	7.8	8.0	8.1	8.3	8.4	8.6	8.7	8.9	5
6	9.0	9.2	9.3	9.5	9.6	9.8	9.9	10.1	10.2	10.4	6
7	10.5	10.7	10.8	11.0	11.1	11.3	11.4	11.6	11.7	11.9	7
8	12.0	12.2	12.3	12.5	12.6	12.8	12.9	13.1	13.2	13.4	8
9	13.5	13.7	13.8	14.0	14.1	14.3	14.4	14.6	14.7	14.9	9
10	15.0	15.2	15.3	15.5	15.6	15.8	15.9	16.1	16.2	16.4	10
11	16.5	16.7	16.8	17.0	17.1	17.3	17.4	17.6	17.7	17.9	11
12	18.0	18.2	18.3	18.5	18.6	18.8	18.9	19.1	19.2	19.4	12
13	19.5	19.7	19.8	20.0	20.1	20.3	20.4	20.6	20.7	20.9	13
14	21.0	21.2	21.3	21.5	21.6	21.8	21.9	22.1	22.2	22.4	14
15	22.5	22.7	22.8	23.0	23.1	23.3	23.4	23.6	23.7	23.9	15
16	24.0	24.2	24.3	24.5	24.6	24.8	24.9	25.1	25.2	25.4	16
17	25.5	25.7	25.8	26.0	26.1	26.3	26.4	26.6	26.7	26.9	17
18	27.0	27.2	27.3	27.5	27.6	27.8	27.9	28.1	28.2	28.4	18
19	28.5	28.7	28.8	29.0	29.1	29.3	29.4	29.6	29.7	29.9	19
20	30.0	30.2	30.3	30.5	30.6	30.8	30.9	31.1	31.2	31.4	20
21	31.5	31.7	31.8	32.0	32.1	32.3	32.4	32.6	32.7	32.9	21
22	33.0	33.2	33.3	33.5	33.6	33.8	33.9	34.1	34.2	34.4	22
23	34.5	34.7	34.8	35.0	35.1	35.3	35.4	35.6	35.7	35.9	23
24	36.0	36.2	36.3	36.5	36.6	36.8	36.9	37.1	37.2	37.4	24
25	37.5	37.7	37.8	38.0	38.1	38.3	38.4	38.6	38.7	38.9	25
26	39.0	39.2	39.3	39.5	39.6	39.8	39.9	40.1	40.2	40.4	26
27	40.5	40.7	40.8	41.0	41.1	41.3	41.4	41.6	41.7	41.9	27
28	42.0	42.2	42.3	42.5	42.6	42.8	42.9	43.1	43.2	43.4	28
29	43.5	43.7	43.8	44.0	44.1	44.3	44.4	44.6	44.7	44.9	29
30	45.0	45.2	45.3	45.5	45.6	45.8	45.9	46.1	46.2	46.4	30
31	46.5	46.7	46.8	47.0	47.1	47.3	47.4	47.6	47.7	47.9	31
32	48.0	48.2	48.3	48.5	48.6	48.8	48.9	49.1	49.2	49.4	32
33	49.5	49.7	49.8	50.0	50.1	50.3	50.4	50.6	50.7	50.9	33
34	51.0	51.2	51.3	51.5	51.6	51.8	51.9	52.1	52.2	52.4	34
35	52.5	52.7	52.8	53.0	53.1	53.3	53.4	53.6	53.7	53.9	35
36	54.0	54.2	54.3	54.5	54.6	54.8	54.9	55.1	55.2	55.4	36
37	55.5	55.7	55.8	56.0	56.1	56.3	56.4	56.6	56.7	56.9	37
38	57.0	57.2	57.3	57.5	57.6	57.8	57.9	58.1	58.2	58.4	38
39	58.5	58.7	58.8	59.0	59.1	59.3	59.4	59.6	59.7	59.9	39
40	60.0	60.2	60.3	60.5	60.6	60.8	60.9	61.1	61.2	61.4	40

KAWELA BAY OAHU
28.8
PL 72.7 1985
hand capture 10:15

(S) 92.0 x 69.2
Notch
(C)
PL 8468
Head 12.3 8469
Tail 20.0 8470
RFL width 14.6 8471

Bone sample No
No stomach photo eye

Right hind
Lots of
Skin bones
No algae

Pterocladia stillar breakwater ::

Need ?? SPRAY PAM

- Louis De Silva
- ~~photo patchoff tank~~
- ~~Thermometer~~
- Intensity of LIGHT ?
- ~~Salve for tele probe.~~
- ~~photo entering H_2O~~
- ~~photo of pump~~ - Machinery
- photo of net placement
- photo close-up of SKIN BARNS
- photo of stomach contents in frig container
- ~~watch for turtles further along breakwater~~
- ~~need several water samples for salinity~~

♀ outside net set, middle

8472 - LFL   8473 - LFL tri   8474 - RFL   8475 - R. HIND webbing 3rd/4th

(>) Notch

(C)

PL 71.2

HEAD 11.8

TAIL 22.0

RFL width 14.8

+ skin barn, 6 turtle barn. ventral L. margin

burrowing barn. in FFL and HIND FL

BONE notch sample - 10 L. marginal

S 90.2 X 63.9

N 89.9

① Bright pink collagen on carapace

② a few Small turtle barns

newstone net 8478 - R. HIND
8476 - RFL 8477 - LFL

(S) 84 x 62.3
Notch none
(C)
PL 66.9
Head 11.5
Tail 13.7
RFL width 12.9
+ skin barnacles neck & pelvis
Bone sample - 10 L. marginal

orange color PL, red algae on skin

Lots of food
much flatter body-type

Hard to pull up & put back

reasons for low capt. rate?
30+ inch
but 8-10"

2 aggregation
food & thermo

MAX COLEMAN
FreemanGoard

6/20 AM
Hard capture
27.6 C deep body

8479 - LFL 8480. RFL 8481 - LEFT R. HIND
(S) 71.8 x 55.9
Notch 71.1
(C) 76.0 x 69.0
PL 56.8
HEAD 10.5
TAIL 12.5
RFL WIDTH 12.9
BLOOD SAMPLE ☑ YES
BONE SAMPLE ☑ 10 Rt. MARGINAL
small hole 1st Rt Lateral ~~pit~~
dorsal tail skin burn - few
red/green algae skin of neck
scummy carapace
PC in carapace
27.6°C after 20 minutes
27.5°C after 25 min
27.2°C after 30 min (probe removed for several min.)

Sample: scum/algae from carapace

"STOCK STILL" used for control

6/20 PM beach dweller
THURSDAY David to
ulva fish catch

— Pavillion leave out
"whole school"
— took off
George YANAGI — came down to see Tamura
H_2O ① 27°
② pool 30°
③ outfall 30.3 — Mark Tsuda
④ off pad #1 31°

~~check algae at low tide~~

5:50 pm fish both nets
set
6:30 saw 2 fishers

Bits of algae drifting in columns

Pad #1 32.2°C slower drifting

7:14 first seen
~ 20' other side of
4 heads

731 head in
plume pool!

8:10 capture & swam out — only tangled floater
extreme left
end — INSIDE net

need to summarize captures

8:13 splash
IN center

8:17 (2)
Big splashes
Right end inside net
But not caught
8:24 dark enough -
first time I
Could see outside
net w/ Binoc.

By 10 pm
the 3rd swam out after
I checked Tayle
Center caught inside net
8471 +3
♀ (Hind Flipper entangled
swam out &
released her.

6/20 But first R&D
85 checked pool for boat
capture
Saw 3 Bj
1 small juvi (always gunk off)
Tried grabbing
2 of the Bj ones (both ♀)
flipper came out of end of
boat faster than I are
could see!

Took 2 other captures
consecutively out of net
both ♀. Second are
too Bj to list of 6
3 tiderogers came by. 12/5
Second has numerous
small polyp TMRS
all over. 60

2nd Capture ♀

P - 68.4
H - 11.8
T - 20.3
RFF - 15.5
SC - 86.0 X 65.5

8482 - LF
8483 - LF 3-4 web
8484 - RF
8485 - RH

Lots of Skin & Burrowing Barnacles
Bone Sample taken 10th left Marginal
Stomach Samples taken

electro used

3rd Capture

SC - 97+ X 73.0
P - 78.0
H - 14.1
T - 28.0
RFF - 16.6

8486 - RF 3-4 web
8487 - RH
8488 - LF distal

3rd & part of 4th Scale Missing on left front flipper
Burrowing Barnacles
Turtle barnacle on head
Bone Sample Taken 9th R Marginal
Mucus + many small (new growth) all over flesh areas
2 Photo in tube.

4th Capture

other hrs not used on Monday

Small from outside net

8456 - RFL 8457 - LFL

(S)	44.8	x	35.7
Notch	44.6		
(C)	47.0	x	41.5
PL	35.4		
HEAD	7.0		
TAIL	6.5		
RFL Width	7.8		

Bone Sample ☐ None!
Blood sample ☐ Nope!
PC on carapace
Skin barn. on pelvis, small size
Borrowing barn. forward edge FFL
Green algae on PL

Stomach sample

(1) ✓ 8493 - RFL 8494 - LFL

PAINT = 1

(S)	40.8	x	34.0
Notch	40.4		
(C)	43.9	x	39.5
PL	33.0		
HEAD	~~7.3~~		6.9
TAIL	7.5		
RFL WIDTH	7.9		

Blood sample ☑ Yes
Bone sample ☐ NO
PC on PL
skin barn. on neck & pelvis

red fruity mouth
Stomach sample ☒ ~~Yes~~ NO

(2) 8502 R HIND 8503 - RFL 8504 - LFL

✓ PAINT = 2

(S)	67.7	×	54.7
Notch	67.3		
(C)	73.0	×	66.5
PL	56.2		
HEAD	10.0		
TAIL	12.5		
RFL WIDTH	10.4		

red frothy mouth
Red algae on pelvis + neck
Skin burn on neck & pelvis
BLOOD SAMPLE ☑ YES 2 VIALS
BONE SAMPLE ☒ 10cc R. MARGINAL

white scum, pericpate?, on carapace.

STOMACH SAMPLE ☒ YES

(3) 8499 - R.HIND 8500 - RFL 8501 - LFL

PAINT = 3

(S)	60.9	×	46.6
Notch	60.6		
(C)	65.0	×	56.5
PL	47.9		
HEAD	9.0		
TAIL	14.0		
RFL WIDTH	10.0		

BLOOD SAMPLE ☑ 2 vials
BONE SAMPLE ☒
Polysiphonia on pelvis + neck
red frothy mouth
Skin burn on pelvis
P.C. on carapace
Scum on carapace like #2
PHOTOS: taken of blood sample

Stomach oil

(4)

8497 - LFL 8498 - RFL

PAINT: 4

(S)	47.6	x	37.9
Notch	47.4		
(C)	50.2	x	45.6
PL	37.8		
HEAD	7.8		
TAIL	10.0		
RFL WIDTH	8.0		

PC: large patch on PL, small and PC carpus
Acetothisizer used on animal w/out tags

Blood Sample ☒ Yes
Bone Sample ☐ No
Red frothy mouth
Small w.d. skin burn on neck + pelvis
Green algae on PL

STOMACH SAMPLE ☒ Yes

(5)

8495 - RFL 8496 - LFL M1 3 4 scale

PAINT = 5

(S)	44.9	x	36.8
Notch	44.7		
(C)	47.0	x	42.5
PL	~~47.5~~		35.9
HEAD	7.8		
TAIL	8.0		
RFL WIDTH	8.0		

P.C. on carapace
red frothy mouth
Blood sample ☑ Yes
"Stockshill" used w/out tags connection (skin folds)
PC on PL
Red algae on neck, green algae on neck
Skin burn on pelvis + neck

SAVED as sample

LFL - natural - reduction of skin fold (missing a scale, only 5)
Stomach Sample ☒ Yes

MISSING are here - both sides

(1) Kawela

7/3/85 Wed

8761 - LFL
8762 - missing HIND
8763 - RFL
recapture 8505 - L HIND (replace)

X

(S) 64.5 X 52.3
NOTCH 64.0
(C) 69.7 X 63.5
PL 51.6
HEAD 9.6
TAIL 13.2
RFL WIDTH

BLOOD SAMPLE ☒ 3 vials/test
BONE SAMPLE ☐ NO
Skin barnacles on neck + pelvis

PAINT [6]

Stomach sample ☒

TAG NOS. 8506 - RFL (2)
8507 - L HIND
[redacted]

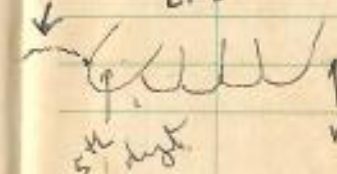
X

(S) 67.0 X 52.8
NOTCH 66.9
(C) 70.9 X 65.1
PL 52.9
HEAD 10.0
TAIL 13.0
RFL WIDTH 11.2

BLOOD SAMPLE ☒ 2 vials/test
BONE SAMPLE ☒ 10th R. marginal

PAINT [7]
Distal on 2nd digit, broken after capture
Stomach sample ☒ small int.
Red algae on neck + pelvis
P.C. on carapace
also distal 4-5 trailing edge is cut away

Note: gouge long scratch crossing 2-3 L. Laterals



(3) X

8779 - LFL
8780 - RFL
8778 - RHIND

Recapture

S 54.6 x 45.3
notch 54.3

C 58.5 x 54.0

PL - 44.9
HEAD - 9.2
TAIL - 10.0

Abrasion L. ventral FFL, partially healed
P.C. on carapace

PAINT: [8]

Blood sample [X] 2 vials / test
Stomach sample [X]

Red algae neck & skin

TAG NOS. 8508 - LFL
X 8509 - RFL

(4)

S - 43.4 X 33.8
(notch) - 43.0

C - 45.5 x 39.0

PL 34.6
Head 7.3
Tail 7.2

RFL width 7.2

Blood sample [X] ½ vial - test
Stomach Sample [X]

PAINT [9]
skin burn on neck and pelvis
P.C. on PL, and on carapace
Lifting scute on carapace 3 Lat. Left

(5) X

8510 - RF 8511 - LF

S - 50.2 x 40.2
Notch 50.0

C - 53.0 X 47.1

PL - 40.4
HEAD - 7.8
TAIL - 9.5

RFF - 8.8

Blood Sample ☒ 2 vials / test
Stomach Sample ☒ small amt
red algae on pelvis
PAINT - [10]

Pink Coralline on carapace
Scummy carapace

(6) 4:45
+1 out ~ 6'
+ Splash 5'

8512 - LFL
8513 - RFL

S - 52.9 x 40.1
notch 52.5
C - 56.5 x 48.5

PL 41.7

Head 8.1

Tail 8.5

RFL width 8.7
Blood sample ☒ 2 vials / test
Stomach sample ☐

PAINT - [11]

++ PC on carapace, PC on PL
red algae neck + skin

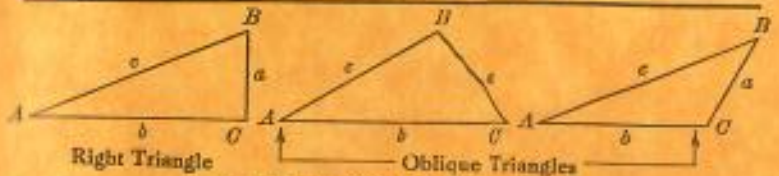
NOTE CALL 'DIANE' (Hawaii)
re "TURTLE SIGN"

4:30am relief

6:30 net out

depart 10:30am

TRIGONOMETRIC FORMULÆ



Solution of Right Triangles

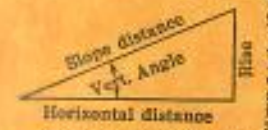
For Angle A. $\sin = \frac{a}{c}$, $\cos = \frac{b}{c}$, $\tan = \frac{a}{b}$, $\cot = \frac{b}{a}$, $\sec = \frac{c}{b}$, $\operatorname{cosec} = \frac{c}{a}$

Given	Required	
a, b	A, B, c	$\tan A = \frac{a}{b} = \cot B, c = \sqrt{a^2 + b^2} = a\sqrt{1 + \frac{b^2}{a^2}}$
a, c	A, B, b	$\sin A = \frac{a}{c} = \cos B, b = \sqrt{(c+a)(c-a)} = c\sqrt{1 - \frac{a^2}{c^2}}$
A, a	B, b, c	$B = 90° - A, b = a \cot A, c = \frac{a}{\sin A}$
A, b	B, a, c	$B = 90° - A, a = b \tan A, c = \frac{b}{\cos A}$
A, c	B, a, b	$B = 90° - A, a = c \sin A, b = c \cos A$,

Solution of Oblique Triangles

Given	Required	
A, B, a	b, c, C	$b = \frac{a \sin B}{\sin A}, C = 180° - (A + B), c = \frac{a \sin C}{\sin A}$
A, a, b	B, c, C	$\sin B = \frac{b \sin A}{a}, C = 180° - (A + B), c = \frac{a \sin C}{\sin A}$
a, b, C	A, B, c	$A + B = 180° - C, \tan \frac{1}{2}(A - B) = \frac{(a-b)\tan \frac{1}{2}(A+B)}{a+b}$, $c = \frac{a \sin C}{\sin A}$
a, b, c	A, B, C	$s = \frac{a+b+c}{2}, \sin \frac{1}{2}A = \sqrt{\frac{(s-b)(s-c)}{bc}}$, $\sin \frac{1}{2}B = \sqrt{\frac{(s-a)(s-c)}{ac}}, C = 180° - (A + B)$
a, b, c	Area	$s = \frac{a+b+c}{2}$, area $= \sqrt{s(s-a)(s-b)(s-c)}$
A, b, c	Area	area $= \frac{b\,c \sin A}{2}$
A, B, C, a	Area	area $= \frac{a^2 \sin B \sin C}{2 \sin A}$

REDUCTION TO HORIZONTAL



Horizontal distance = Slope distance multiplied by the cosine of the vertical angle. Thus: slope distance = 319.4 ft. Vert. angle = 5° 10'. From Table, Page IX, cos 5° 10' = .9959. Horizontal distance = 319.4 × .9959 = 318.09 ft.

Horizontal distance plus = Slope distance minus slope distance times (1 − cosine of vertical angle). With the same figures as in the preceding example, the following result is obtained. Cosine 5° 10' = .9959. 1 − .9959 = .0041. 319.4 × .0041 = 1.31. 319.4 − 1.31 = 318.09 ft.

When the rise is known, the horizontal distance is approximately: the slope distance less the square of the rise divided by twice the slope distance. Thus: rise = 14 ft., slope distance = 302.6 ft. Horizontal distance = $302.6 - \frac{196 \times 14}{2 \times 302.6} = 302.6 - 0.33 = 302.28$ ft.

NOTE CALL 'DIANE' (Hawaii)
for "TURTLE SIGN"

4:30am relief

6:30 net out

depart 0:30am

a product of

J. L. DARLING CORPORATION

TACOMA, WASHINGTON 98421 U.S.A.

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